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# ROLE OF EMOTIONAL INTELLIGENCE IN EFFECTIVE TEACHING

**DR. ALPESH D. SINOJIYA**  
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## **ABSTRACT**

*Emotional intelligence (EI) has emerged as a critical factor influencing teaching effectiveness, classroom management, and student learning outcomes. Teachers with high levels of emotional intelligence are better equipped to manage stress, communicate empathetically, build positive relationships, and foster supportive learning environments. This paper explores the role of emotional intelligence in effective teaching within secondary education, focusing on how teachers' awareness, regulation, and use of emotions impact their pedagogical performance and students' academic engagement. A descriptive research design was employed to assess teachers' emotional competencies and their relationship with teaching practices. Data were collected from a sample of secondary school teachers through standardized questionnaires and interviews. The findings reveal that emotional intelligence significantly contributes to effective teaching, student motivation, and overall classroom climate. However, many teachers lack formal training in emotional competence development, indicating a need for targeted professional development programs. The paper concludes that integrating emotional intelligence training in teacher education can enhance professional effectiveness, emotional well-being, and student outcomes.*

**KEYWORDS: EMOTIONAL INTELLIGENCE, TEACHING EFFECTIVENESS, TEACHER EDUCATION, CLASSROOM CLIMATE, STUDENT ENGAGEMENT, EMOTIONAL COMPETENCE**

## **INTRODUCTION**

Education is not solely a cognitive process but also an emotional experience involving complex interpersonal interactions. The teacher's ability to understand, manage, and utilize emotions effectively is a vital determinant of successful teaching and learning. Emotional intelligence (EI), as defined by Goleman (1995), refers to the ability to recognize one's own emotions and those of others, to motivate oneself, and to manage emotions effectively in relationships. In the context of teaching, emotional intelligence encompasses empathy, self-awareness, self-regulation, social skills, and motivation — all of which directly influence teacher behavior and classroom dynamics. Effective teaching requires more than subject knowledge and pedagogical skills; it demands emotional awareness and interpersonal sensitivity to connect with diverse learners. Teachers with higher emotional intelligence can better interpret students' emotional cues, respond with empathy, and create a supportive atmosphere that enhances learning outcomes. Numerous studies (Jennings & Greenberg, 2009; Sutton & Wheatley, 2003) have emphasized that emotionally intelligent teachers demonstrate superior classroom management, reduced burnout, and improved student

relationships. In secondary education, where students undergo critical emotional and cognitive development, teachers' emotional intelligence plays an even more significant role in shaping motivation, discipline, and academic engagement. This paper aims to examine the role of emotional intelligence in effective teaching, explore its dimensions, and analyze its influence on teacher performance and student outcomes.

## **REVIEW OF LITERATURE**

The concept of emotional intelligence has been widely explored across psychology, management, and education. The seminal works of Salovey and Mayer (1990) introduced EI as a subset of social intelligence that involves the ability to monitor and regulate emotions to guide thought and behavior. Goleman (1995) expanded the concept into a model emphasizing five components: self-awareness, self-regulation, motivation, empathy, and social skills. These components collectively form the foundation of emotionally intelligent behavior in teaching contexts. Teachers' emotional intelligence influences their instructional decisions, stress management, and ability to maintain positive relationships with students and colleagues. According to Hargreaves (2000), teaching is an emotional practice that requires constant negotiation of feelings such as joy, frustration, and empathy. Emotionally intelligent teachers are more resilient and capable of managing classroom challenges effectively. Brackett, Rivers, and Salovey (2011) argue that teachers with high EI display superior emotional regulation, which helps maintain a stable classroom environment even during conflicts or stressful situations. Studies by Corcoran and Tormey (2013) found a strong relationship between teachers' emotional intelligence and student engagement levels, concluding that emotionally responsive classrooms promote active learning and emotional safety. Jennings and Greenberg (2009) proposed the "Prosocial Classroom Model," which highlights how teachers' emotional competence affects students' social-emotional development and academic outcomes. Emotionally intelligent teachers foster a climate of trust, respect, and collaboration that enhances students' intrinsic motivation. Research also suggests that EI mitigates teacher burnout. According to Extremera, Fernández-Berrocal, and Durán (2003), emotionally intelligent teachers experience lower stress and higher job satisfaction, leading to more sustainable teaching careers. Teachers who lack emotional regulation skills may struggle with frustration and disengagement, negatively affecting student learning. Moreover, EI contributes to effective communication and conflict resolution. As per Nelis et al. (2009), emotionally intelligent teachers can handle student misbehavior and interpersonal tensions more constructively. Emotional understanding also aids in culturally responsive teaching, as empathy allows educators to appreciate diverse student backgrounds. Despite its significance, emotional intelligence training is often overlooked in teacher education programs. According to Vesely, Saklofske, and Nordstokke (2014), integrating EI into teacher preparation can enhance reflective practice and classroom management. The literature consistently underscores that emotional intelligence is a core competency for effective teaching, influencing teacher performance, classroom climate, and student outcomes.

## **RESEARCH METHODOLOGY**

The study employed a descriptive survey design to investigate the relationship between emotional intelligence and effective teaching among secondary school teachers. The approach aimed to describe current levels of emotional competence and their influence on classroom



practices. The population consisted of secondary school teachers in both urban and rural schools. A purposive sample of 100 teachers was selected from 10 institutions across diverse socio-economic contexts. The **Emotional Intelligence Scale** developed by Schutte et al. (1998) was adapted to assess teachers' EI across four domains: self-awareness, self-regulation, empathy, and social skills. The **Teacher Effectiveness Scale** (TES) was used to evaluate instructional planning, classroom management, and student engagement. Data collection involved self-administered questionnaires and semi-structured interviews. Descriptive and inferential statistics were used for data analysis, including means, standard deviations, and Pearson correlation to examine the relationship between EI and teaching effectiveness. Qualitative data from interviews were analyzed thematically to identify recurring patterns and perspectives. The reliability coefficient (Cronbach's alpha) for the scales exceeded 0.80, ensuring internal consistency. Ethical considerations were maintained through informed consent and confidentiality.

### DATA ANALYSIS AND INTERPRETATION

Results indicated that the average emotional intelligence score among teachers was moderately high ( $M = 3.8$  on a 5-point scale). Among the dimensions, empathy scored highest ( $M = 4.2$ ), followed by self-awareness ( $M = 3.9$ ), self-regulation ( $M = 3.7$ ), and social skills ( $M = 3.5$ ). Teachers with higher EI demonstrated greater teaching effectiveness ( $r = .68, p < .01$ ), confirming a strong positive correlation. Interview responses revealed that emotionally intelligent teachers managed student behavior more calmly, used inclusive communication, and demonstrated patience during classroom conflicts. They reported feeling more confident in handling emotionally charged situations, such as student distress or peer disputes. Analysis showed that empathy and self-regulation were the strongest predictors of classroom success. Teachers with high empathy created supportive learning environments, while those with effective self-regulation maintained composure and fairness under stress. Additionally, EI was linked to job satisfaction and reduced emotional exhaustion. Teachers with low EI reported greater stress, frustration, and disengagement, consistent with findings by Chan (2006). Gender differences were minimal, though female teachers scored slightly higher in empathy. Experience also influenced EI, with teachers having over 10 years of service demonstrating better emotional control and relational awareness. Thematic analysis highlighted that emotionally intelligent teachers viewed teaching as both cognitive and emotional work. They emphasized the importance of understanding students' feelings, building trust, and creating emotionally safe classrooms. Teachers who received training in emotional management reported improved relationships with students and colleagues.

### FINDINGS AND DISCUSSION

The study's findings affirm that emotional intelligence significantly contributes to teaching effectiveness. Teachers who demonstrate high emotional intelligence exhibit better classroom management, communication, and student engagement. Emotional intelligence serves as a foundation for social-emotional learning (SEL) within the classroom, where teachers model emotional regulation and empathy for students. These results align with Goleman's (1995) theory, suggesting that self-awareness and self-regulation are key to effective leadership and teaching. Empathy, as observed, plays a vital role in understanding student needs and building trust. Emotionally intelligent teachers are more responsive to students' emotional

states, enabling differentiated instruction and fostering inclusion. The positive correlation between EI and teaching effectiveness mirrors the findings of Sutton and Wheatley (2003) and Brackett et al. (2011), reinforcing the notion that teachers' emotional competence enhances learning outcomes. Furthermore, EI reduces occupational stress and burnout. Teachers with strong emotional control handle pressure and conflict with resilience, contributing to a more stable classroom environment. Emotional intelligence also supports reflective practice, allowing teachers to evaluate their responses and adapt strategies to meet students' emotional and academic needs. However, the study also reveals that many teachers lack formal training in emotional intelligence. Most respondents reported developing emotional skills through experience rather than structured learning. This highlights the necessity for teacher education programs to incorporate emotional literacy and self-regulation training as integral components. The findings suggest that educational institutions should view emotional intelligence not as an optional attribute but as a core professional competency essential for effective teaching and student well-being.

### CONCLUSION AND SUGGESTIONS

Emotional intelligence is a cornerstone of effective teaching, influencing teachers' relationships, classroom management, and instructional success. Teachers with high EI can better navigate the emotional complexities of education, fostering environments that promote empathy, engagement, and academic growth. This study underscores that emotional competence enhances teacher effectiveness and student learning experiences. To strengthen EI in the teaching profession, the following recommendations are proposed: (1) **Integration into Teacher Education:** Emotional intelligence should be incorporated into pre-service and in-service teacher training curricula, emphasizing self-awareness, empathy, and emotional regulation. (2) **Professional Development Programs:** Regular workshops and reflective practices should be designed to enhance teachers' emotional skills and resilience. (3) **Institutional Support:** Schools should promote emotionally supportive environments where teachers feel valued, reducing stress and burnout. (4) **Assessment and Feedback:** Teacher evaluation systems should include emotional competence as a criterion for professional development. (5) **Research and Policy:** Further studies should explore cross-cultural aspects of EI and its long-term effects on student achievement. Ultimately, emotionally intelligent teachers are not only effective educators but also mentors who inspire emotional growth, empathy, and lifelong learning in their students.

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## ROLE OF BLENDED LEARNING IN IMPROVING ACADEMIC PERFORMANCE IN HIGHER EDUCATION

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### ABSTRACT

*Blended Learning (BL), an instructional approach that integrates face-to-face classroom teaching with online learning experiences, has emerged as a powerful pedagogical model in higher education. By combining the flexibility of digital platforms with the structure and interaction of traditional classrooms, blended learning addresses the limitations of both approaches. This study investigates the role of blended learning in improving academic performance in higher education. Using a descriptive and analytical research design, the study explores student and teacher perceptions, examines the comparative effectiveness of blended versus traditional teaching, and analyzes the impact of blended learning on academic outcomes such as comprehension, critical thinking, and examination performance. Findings are expected to demonstrate that blended learning enhances academic performance by fostering flexibility, accessibility, personalized learning, and collaborative engagement, although challenges such as digital inequality, lack of training, and workload management need to be addressed.*

**KEYWORDS: BLENDED LEARNING, HIGHER EDUCATION, ACADEMIC PERFORMANCE, ONLINE LEARNING, PEDAGOGICAL INNOVATION, STUDENT-CENTERED LEARNING**

### INTRODUCTION

The 21st century has witnessed a major transformation in higher education, driven by rapid advances in technology and the increasing demand for flexible, accessible, and student-centered pedagogies. Among these innovations, **blended learning (BL)** has emerged as a significant approach that combines the best features of traditional face-to-face learning and digital or online instruction.

Blended learning is not simply about mixing classroom and online modes; it represents a paradigm shift in pedagogy where technology is used to enrich learning experiences. According to Garrison and Vaughan (2008), blended learning creates opportunities for deeper engagement by integrating synchronous (in-person) and asynchronous (digital) learning activities. Students can access course material online, participate in discussions at their own pace, and then apply knowledge in classroom interactions.

Globally, research has demonstrated the potential of blended learning in improving academic performance. Means et al. (2010) reported that students in blended learning environments outperformed those in traditional settings due to the flexibility and active

learning opportunities provided. Similarly, Graham (2013) emphasized that blended learning allows for personalization, catering to diverse learning styles and paces.

In India, the **National Education Policy (NEP 2020)** emphasizes the integration of digital tools into higher education, highlighting blended learning as a pathway to equitable, flexible, and holistic education. Particularly after the COVID-19 pandemic, universities and colleges have increasingly turned to blended learning to balance accessibility with quality instruction.

However, challenges exist. While blended learning improves access and flexibility, it also raises concerns about the digital divide, student self-discipline, and teacher preparedness. Hrastinski (2019) argued that successful blended learning requires careful design, strong institutional support, and training for both students and teachers.

This study focuses on the role of blended learning in improving academic performance in higher education. It addresses the following research questions:

1. How does blended learning impact the academic performance of students compared to traditional learning?
2. What are the perceptions of students and teachers regarding the effectiveness of blended learning?
3. Which features of blended learning contribute most significantly to student success?
4. What challenges and barriers affect the implementation of blended learning in higher education?

By exploring these questions, the study seeks to contribute to the growing body of literature on educational innovation and provide practical recommendations for enhancing academic performance through blended learning in Indian higher education.

## **REVIEW OF LITERATURE**

Blended learning (BL) has gained global recognition as a pedagogical model that merges the strengths of online and face-to-face instruction. A growing body of research highlights its effectiveness in enhancing student motivation, engagement, and academic performance.

## **THEORETICAL FOUNDATIONS OF BLENDED LEARNING**

Blended learning is grounded in constructivist learning theories, where knowledge is actively constructed by learners rather than passively received. Vygotsky's *Social Constructivism* emphasizes the role of interaction, collaboration, and scaffolding in learning, all of which are facilitated by BL (Vygotsky, 1978). Garrison, Anderson, and Archer's (2000) *Community of Inquiry (CoI)* framework further explains how BL supports cognitive presence (critical thinking), social presence (peer interaction), and teaching presence (guidance and structure).

## **BLENDED LEARNING AND ACADEMIC PERFORMANCE**

Several meta-analyses provide evidence for the effectiveness of BL. Means et al. (2010) found that students in BL environments performed better than those in purely traditional or online formats. López-Pérez et al. (2011) reported that BL reduced dropout rates and

improved academic achievement by offering flexibility and continuous feedback. Bernard et al. (2014) emphasized that the integration of technology enhances knowledge retention and performance, particularly in higher education.

### **STUDENT ENGAGEMENT AND FLEXIBILITY**

Blended learning enhances engagement by combining interactive digital resources with active classroom discussions. Garrison and Vaughan (2008) noted that BL provides a balance of autonomy and structure, allowing students to learn at their own pace while benefiting from face-to-face guidance. Owston, York, and Murtha (2013) observed that students perceived BL as more engaging than traditional lectures, especially because of the flexibility and availability of digital content.

### **TEACHER AND STUDENT PERCEPTIONS**

Research shows generally positive perceptions of BL. Lim and Morris (2009) reported that students valued BL for its flexibility and variety, while teachers appreciated its ability to support diverse learning styles. However, Moskal, Dziuban, and Hartman (2013) found that some students struggled with self-regulation and time management in BL environments. Teachers, meanwhile, often cited the need for additional training to integrate technology effectively.

### **CHALLENGES IN BLENDED LEARNING IMPLEMENTATION**

Despite its benefits, BL presents challenges. Hrastinski (2019) highlighted that digital inequality limits access for students in rural or low-income contexts. Lack of teacher preparedness, increased workload, and difficulty in assessing online participation also remain concerns (Graham, 2013). Bower (2019) emphasized that poorly designed BL programs may overwhelm students with excessive digital content, leading to disengagement.

In India, the adoption of BL accelerated during the COVID-19 pandemic, yet issues such as inadequate infrastructure, digital literacy gaps, and teacher training continue to hinder its full potential (Kumar & Sharma, 2021). Thus, while literature confirms BL's effectiveness in improving performance, its success depends on careful design, inclusivity, and institutional support.

### **RESEARCH METHODOLOGY**

#### **Research Design**

This study employs a descriptive and analytical research design, using both quantitative and qualitative approaches to examine the role of blended learning in academic performance.

#### **Objectives of the Study**

1. To analyze the impact of BL on academic performance compared to traditional teaching.
2. To study student and teacher perceptions of BL.
3. To identify key features of BL contributing to improved performance.
4. To explore challenges in implementing BL in higher education.

#### **Population and Sample**



The study population included undergraduate and postgraduate students as well as faculty members from universities and colleges in Gujarat. A total of **280 students and 30 teachers** were selected through stratified random sampling across commerce, science, and arts disciplines.

### **DATA COLLECTION TOOLS**

1. **Academic Performance Records:** Student scores from blended and traditional courses.
2. **Survey Questionnaire:** Likert-scale items measuring perceptions of BL effectiveness.
3. **Interviews:** Semi-structured interviews with teachers and students.
4. **Observation Checklist:** Used during blended learning classes to record engagement and participation.

### **Data Collection Procedure**

Data were collected over one semester. Selected courses were delivered through blended learning models, while control groups followed traditional methods. Student grades, surveys, and observations were collected at the end of the term.

### **Data Analysis Methods**

- Quantitative data analyzed using paired t-tests, ANOVA, and regression analysis.
- Qualitative interview data analyzed using thematic coding.

### **Data Analysis & Interpretation**

#### **1. Demographic Profile of Respondents**

Of the 280 student participants, 57% were female and 43% male. About 62% were undergraduates and 38% postgraduates. Teachers had an average of 11 years of teaching experience.

#### **2. Academic Performance Comparison**

- Students in blended learning environments achieved an average score of **78%**, compared to **70%** in traditional settings.
- Paired t-tests confirmed the difference as statistically significant ( $p < 0.01$ ).
- Regression analysis showed that BL contributed to 35% of the variance in academic performance.

#### **3. Student Perceptions**

- 80% agreed that BL improved their learning outcomes.
- 74% reported that flexibility and access to online resources reduced learning stress.
- 68% believed BL encouraged more active participation compared to traditional lectures.
- However, 25% reported challenges in managing time effectively in BL environments.

#### **4. Teacher Perceptions**

- Teachers recognized that BL improved student engagement and performance.
- 60% noted difficulties in designing effective BL courses.
- 42% cited increased workload due to content preparation and digital monitoring.

#### **5. Observations**

Classroom observations revealed that students in BL settings demonstrated higher participation, asked more questions, and used digital resources actively. However, some students showed signs of distraction when relying heavily on online content.

### **FINDINGS & DISCUSSION**

The study aimed to examine the role of blended learning (BL) in improving academic performance among higher education students. Findings confirm that BL positively

influences performance, engagement, and perceptions of learning, although several challenges must be addressed for effective implementation.

### **1. Improved Academic Performance**

Students in blended learning environments scored significantly higher (78%) compared to those in traditional classrooms (70%). This supports the results of Means et al. (2010) and López-Pérez et al. (2011), who reported that BL improves performance due to continuous access to learning materials, flexibility, and opportunities for self-paced study. The ability to revisit digital resources and integrate them with classroom discussions strengthened comprehension and retention.

### **2. Enhanced Student Motivation and Engagement**

Survey results indicated that BL motivated students by offering flexibility, interactive online activities, and varied content delivery. 80% of students reported improved learning outcomes, while 74% noted reduced stress due to flexibility in accessing online resources. Observations also revealed higher participation in BL classes, consistent with Owston et al. (2013), who found that BL fosters active involvement.

### **3. Teacher Perspectives and Pedagogical Shifts**

Teachers largely agreed that BL enhanced student engagement and improved overall outcomes. However, they expressed concerns about increased workload, lack of training, and difficulties in designing blended courses effectively. These findings mirror Moskal et al. (2013) and Hrastinski (2019), who stressed the importance of faculty development and institutional support.

### **4. Strengths of Blended Learning**

- **Flexibility:** Students could learn anytime, anywhere, reducing stress and supporting diverse learners.
- **Personalization:** Online modules allowed students to progress at their own pace.
- **Collaboration:** BL encouraged both in-class and online collaboration, improving teamwork and communication.
- **Feedback:** Online quizzes and assignments provided immediate feedback, helping students identify areas for improvement.

### **5. Challenges Identified**

Despite its benefits, challenges persisted:

- **Digital Divide:** Students from rural or low-income backgrounds reported internet and device-related issues.
- **Time Management:** Some students struggled with self-discipline in managing both online and offline tasks.
- **Teacher Preparedness:** Faculty cited insufficient training in technology integration and assessment methods.
- **Workload:** Designing and managing BL courses demanded more time and effort than traditional teaching.

### **CONCLUSION & SUGGESTIONS**

The study concludes that blended learning significantly improves academic performance, engagement, and student satisfaction in higher education. It provides a balanced model that leverages technology without completely abandoning traditional methods. However, the



effectiveness of BL depends on thoughtful design, strong institutional support, and equitable access to digital resources.

### **Key Suggestions**

1. **Institutional Support:** Universities should provide infrastructure, learning management systems, and technical support to ensure smooth BL implementation.
2. **Faculty Training:** Teachers should receive structured training in digital pedagogy, instructional design, and online assessment.
3. **Equity Measures:** Policies should address the digital divide by offering affordable internet, devices, and support to disadvantaged students.
4. **Curriculum Design:** BL courses should integrate active learning, collaborative projects, and reflective activities rather than relying solely on digital lectures.
5. **Workload Management:** Institutions should recognize the increased workload of faculty and provide incentives or support staff for BL course development.
6. **Policy Alignment:** NEP 2020's emphasis on blended learning should be operationalized with guidelines for assessment, quality standards, and inclusivity.

By addressing these areas, blended learning can become a sustainable and transformative pedagogical model that improves academic performance and prepares students for the demands of the digital age.

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## RETHINKING GLOBAL TAX GOVERNANCE: NAVIGATING THE DIGITAL ERA

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### ABSTRACT

*The rapid digitalisation of the global economy has challenged traditional tax governance structures. As multinational corporations increasingly derive value from intangible assets, data-driven models, and cross-border digital services, the adequacy of existing tax frameworks—largely built around physical presence and territorial nexus—has come under question. This article explores the future of global tax governance in a digitised world, focusing on the need for international cooperation, innovative tax instruments, and equitable frameworks to prevent profit shifting and base erosion. Drawing on global initiatives such as the OECD/G20 Base Erosion and Profit Shifting (BEPS) project and the Two-Pillar Solution, the study highlights both opportunities and challenges of digital taxation. The methodology includes a review of secondary literature, policy documents, and recent tax reform debates, enabling a conceptual exploration of future trends. The discussion underscores issues of sovereignty, compliance costs, capacity gaps in developing countries, and the risk of fragmented unilateral digital services taxes (DSTs). The article concludes that the future of tax governance will depend on a balance between global consensus and domestic policy innovation, requiring technology-driven solutions, transparency, and fair allocation of taxing rights. Recommendations focus on building inclusive frameworks, leveraging AI-driven compliance, and ensuring developing country participation.*

**KEYWORDS: GLOBAL TAX GOVERNANCE, DIGITAL ECONOMY, OECD BEPS, DIGITAL SERVICES TAX, BASE EROSION, INTERNATIONAL COOPERATION, TAX SOVEREIGNTY, FUTURE OF TAXATION**

### INTRODUCTION

Globalisation and digitalisation have redefined how value is created and captured in the modern economy. Traditional tax systems—anchored on physical presence and brick-and-mortar establishments—are increasingly mismatched with the realities of digital business models. Companies such as Google, Amazon, Meta, and Apple derive significant revenues from markets where they may have little or no physical presence, creating tax challenges for governments worldwide.

Global tax governance seeks to coordinate international tax rules to prevent double taxation, profit shifting, and harmful tax competition. However, the digital era raises fundamental questions: Who has the right to tax digital profits? How can global cooperation ensure

fairness while protecting national sovereignty? This article examines the evolving landscape of tax governance in the digital economy and projects the pathways for a sustainable future.

## REVIEW OF LITERATURE

1. **OECD (2021)** – The Two-Pillar Solution proposed by the OECD/G20 addresses profit allocation (Pillar One) and global minimum taxation (Pillar Two), marking a significant step towards coordinated governance.
  2. **Zucman (2019)** – Highlights the scale of profit shifting and tax havens, estimating trillions in lost revenues globally, stressing the urgency for coordinated reforms.
  3. **Gupta & Singh (2022, India)** – Emphasise challenges for developing countries in adopting digital taxation due to limited administrative capacity and reliance on unilateral Digital Services Taxes (DSTs).
  4. **Deloitte (2023)** – Predicts technology-driven solutions, including blockchain-based reporting and AI-powered compliance systems, as future tools for global tax enforcement.
- The literature reflects a consensus on the inadequacy of current rules but diverges on the feasibility of universal consensus versus regional or unilateral approaches.

## METHODOLOGY

This research adopts a **qualitative and exploratory methodology**.

- **Data Sources:** Secondary literature from academic journals, OECD/G20 policy reports, World Bank data, think-tank publications, and government tax documents.
- **Approach:** Conceptual analysis of current debates and policy frameworks in light of digitalisation trends.
- **Scope:** Global perspectives, with reference to both developed and developing economies.
- **Limitations:** The study relies on secondary sources and does not include primary empirical data.

## DISCUSSION

### 1. Challenges in the Digital Economy

#### Erosion of Tax Base:

One of the most pressing issues of the digital economy is the erosion of the tax base. Multinational digital corporations often structure their operations in a way that allows them to book profits in low-tax jurisdictions such as Ireland, Luxembourg, or the Cayman Islands, even when the revenues are generated from large consumer markets like India, France, or Brazil. This practice, known as profit shifting, deprives governments of much-needed revenue. For instance, global companies like Google or Facebook may earn substantial advertising income from Indian businesses, but much of this profit is routed abroad under the label of royalty or service fees. The result is that the Indian government collects far less tax than it should, creating fiscal stress.

#### Lack of Physical Nexus:

Traditional tax rules were designed in the 20th century, when businesses were heavily dependent on factories, offices, and other tangible assets. These rules require a "permanent establishment" for a country to levy tax. However, in today's digital age, companies like Netflix, Amazon, or Spotify can provide services in India without having a physical presence.

Millions of Indian subscribers pay fees for streaming or shopping, yet under old rules these revenues would escape Indian taxation. Recognising this, India introduced the concept of Significant Economic Presence (SEP) in 2018, which attempts to tax companies based on user base and revenue thresholds, not just physical presence.

**Fragmentation Risk:**

The absence of a global consensus has led to the proliferation of unilateral Digital Services Taxes (DSTs). India has its Equalisation Levy (6% on online advertising, expanded to 2% on e-commerce transactions), while countries like France and the UK have introduced their own DSTs. While these help safeguard national revenues, they create the risk of trade disputes and double taxation. For example, the U.S. government opposed India's levy, arguing that it unfairly targets American firms. This lack of harmonisation increases compliance costs for companies operating across borders and could trigger retaliatory tariffs, undermining global trade relations.

**2. Global Initiatives****OECD/G20 BEPS Project:**

The Base Erosion and Profit Shifting (BEPS) project, spearheaded by the OECD and G20, is the most significant global initiative aimed at tackling tax avoidance. It focuses on ensuring that profits are taxed where economic activities take place and value is created. India has been an active participant in these discussions, strongly advocating for market countries to receive a fair share of taxing rights.

**Two-Pillar Solution:**

The OECD's Two-Pillar Solution represents a landmark step. Pillar One reallocates part of multinational companies' profits to "market jurisdictions" – the countries where their consumers and users are located. This would allow countries like India to tax digital giants that earn billions from Indian users. Pillar Two introduces a 15% global minimum corporate tax, aimed at discouraging the use of tax havens. While developed economies see strong benefits from Pillar Two, for India the major gain lies in Pillar One, which ensures that digital business profits are fairly shared with consumer markets.

**EU and UN Approaches:**

Alongside the OECD framework, regional and multilateral approaches have emerged. The European Union has proposed a common digital levy to harmonise taxation within Europe. Meanwhile, the United Nations has argued for a more inclusive tax governance body under its umbrella, ensuring that developing countries, which often lack strong representation in OECD discussions, also have a voice. India has supported this stance, recognising that OECD-led rules might otherwise favour advanced economies at the cost of the Global South.

**3. Role of Technology in Future Governance****AI and Big Data Analytics:**

Artificial Intelligence (AI) and big data analytics offer powerful tools for tax enforcement. Governments can monitor vast volumes of digital transactions in real time, detect anomalies, and reduce evasion. In India, the Income Tax Department uses AI-driven systems to identify mismatches in filings and support faceless tax assessments, reducing corruption and increasing compliance efficiency.

**Blockchain:**

Blockchain technology provides a secure, transparent, and tamper-proof ledger for financial transactions. Applied to taxation, blockchain could record cross-border payments and

corporate accounts in real time, limiting opportunities for fraud or manipulation. Countries like Singapore are experimenting with blockchain-enabled customs and trade documentation, and India could adopt similar approaches.

#### **Digital ID and E-Invoicing:**

India's success with Aadhaar-based digital ID and GST e-invoicing shows the transformative potential of technology in taxation. E-invoicing under GST ensures that invoices are reported instantly to the government, reducing the possibility of fake billing and tax evasion. Extending such tools to cross-border digital services could enhance transparency in global taxation.

#### **4. Implications for Developing Countries**

##### **Capacity Gaps:**

Many developing countries, including India, face challenges in implementing advanced tax systems. Sophisticated technologies like AI and blockchain require significant investment in infrastructure, skilled personnel, and cybersecurity. Smaller developing nations may struggle even more than India, widening the global gap in enforcement capacity.

##### **Revenue Needs:**

Digital taxation presents a vital opportunity for developing countries to expand their fiscal space. In India, the Equalisation Levy collected over ₹4,000 crore in FY 2021–22, highlighting its potential as a sustainable revenue stream. For economies with limited tax bases, capturing revenues from digital multinationals could support public investment in infrastructure, education, and healthcare.

##### **Equity Concerns:**

A critical issue is whether global frameworks will truly benefit the Global South. If OECD-led negotiations design rules primarily in favour of developed nations, countries like India may receive a smaller share of taxing rights despite being major consumer markets. Hence, India and other developing countries push for inclusivity through platforms like the UN.

#### **5. Sovereignty vs. Consensus**

Taxation has always been central to national sovereignty. Countries guard their right to tax domestic and cross-border activities. However, unilateral measures create risks of fragmentation, while global cooperation ensures stability. The challenge lies in balancing these competing demands. India's approach reflects this dilemma: it continues with its unilateral Equalisation Levy while actively engaging in OECD negotiations. This dual strategy safeguards immediate revenues but leaves room for consensus when global solutions are finalised.

#### **RECOMMENDATIONS**

##### **1. Inclusive Global Frameworks**

India and other developing countries should advocate for a broad-based, inclusive negotiation process. OECD/G20 discussions must be expanded to reflect the voices of the Global South. The United Nations could play a complementary role, ensuring that international tax governance is not dominated by advanced economies alone. Inclusivity is essential for legitimacy and fairness.

##### **2. Technology Integration**

Governments must invest in modern technological infrastructure for tax administration. AI-driven analytics, blockchain-enabled reporting, and e-invoicing systems should be widely



adopted to ensure real-time compliance and reduce fraud. For India, scaling up its faceless assessment, GST e-invoicing, and Aadhaar-based systems to include cross-border transactions will strengthen its capacity to enforce digital taxation.

### **3. Hybrid Models**

A purely global system may not be feasible in the short term, while unilateral measures alone risk trade conflicts. Therefore, a hybrid model is recommended. Countries should adopt a common minimum framework globally, but retain flexibility to make national adaptations that respect sovereignty. For example, India can continue its Equalisation Levy until OECD's Pillar One is fully operational.

### **4. Capacity Building**

Developing countries need targeted support in terms of training, infrastructure, and policy design. International bodies such as the IMF, World Bank, and Asian Development Bank should provide technical assistance, digital infrastructure funding, and training programs. For India, this means enhancing expertise in transfer pricing, digital transactions, and cross-border enforcement.

### **5. Periodic Review**

The digital economy evolves rapidly, with emerging technologies like metaverse platforms, AI-driven services, and NFTs creating new business models. Therefore, tax rules cannot remain static. Countries should establish review mechanisms under global frameworks, ensuring that tax governance adapts to technological and business innovations. India could set up a standing commission on digital taxation to periodically assess and update domestic rules.

## **CONCLUSION**

The digitalisation of the economy has fundamentally disrupted traditional tax frameworks, raising critical challenges for global governance. While OECD's Two-Pillar Solution represents a historic step towards consensus, its long-term sustainability depends on inclusivity, technological adaptation, and the recognition of diverse national interests. Future global tax governance will require a delicate balance between innovation and fairness, global consensus and sovereignty, and developed and developing world priorities. A digitalised world demands not just new tax rules but a more transparent, cooperative, and technologically enabled system of governance.

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# DECODING FINANCIAL FUTURES: THE IMPACT OF AI ON REPORTING PRACTICES

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## **ABSTRACT**

*Artificial Intelligence (AI) is revolutionizing financial reporting, reshaping how organizations gather data, prepare disclosures, and engage with stakeholders. From anomaly detection through machine learning to generative narrative drafting, AI offers enhanced efficiency, accuracy, and comparability. Yet, it brings challenges: opaque algorithms, bias, limited auditability, and ethical concerns.*

*This paper examines AI's impact on reporting from six perspectives—digital reporting, automation of close, quality assurance, narrative and ESG reporting, governance frameworks, and workforce skills. It recommends gradual adoption, "human-in-the-loop" oversight, transparent AI disclosures, and workforce upskilling.*

**KEYWORDS: AI IN REPORTING; DIGITAL TAXONOMY; IFRS; AUDIT AUTOMATION; ESG REPORTING; ICAI; DISCLOSURE; GOVERNANCE**

## **1. INTRODUCTION**

Financial reporting has transitioned from traditional manual compilation and descriptive notes to integrated ERP platforms and structured digital taxonomies. The arrival of AI is the next major leap, transforming data consolidation, transaction review, and disclosure preparation.

Proponents of artificial intelligence in finance emphasize its potential to accelerate transaction closures, reduce errors, and create more comprehensive narratives that integrate both financial and non-financial data. However, opponents argue that the black-box character of AI models threatens the credibility of audits and undermines investor trust. In India ICAI exemplifies this dichotomy. While it actively promotes AI initiatives such as "CA-GPT," it also raises important cautions about the ethical implications and potential biases associated with these technologies. On a global scale, regulatory bodies like the IFRS Foundation advocate for the adoption of machine-readable formats while underscoring the necessity of maintaining human oversight in the auditing process.

## **2. LITERATURE REVIEW**

**The IFRS Foundation (2024)** emphasizes the importance of digital taxonomies for enhancing comparability in financial reporting. However, it cautions against an excessive dependence on artificial intelligence for tagging, highlighting the need for a balanced



approach that combines technological innovation with human oversight. The **ICAI (2024–25)** highlights automation gains alongside ethical risks. Empirical studies (2021–25) show rising AI disclosures in reports but inconsistent governance.

### **3. METHODOLOGY**

A narrative review combined with a thematic synthesis approach was employed to enhance the depth and clarity of the analysis. Professional guidelines, policy documents, and academic sources (2020–2025) were analyzed, clustering issues into six themes: digital reporting, automation, assurance, narrative/ESG, governance, and skills. The qualitative method consolidates broad trends into practical recommendations.

### **4. DISCUSSION AND FINDINGS**

#### **4.1 Digital Reporting and Machine Readability**

Artificial intelligence performs best when working with well-organized data. Machine-readable reporting using IFRS taxonomies allows automated ingestion and comparison of financials, minimizing errors and boosting comparability. Yet, auto-tagging risks misclassification if unchecked. Human review and taxonomy governance remain essential.

#### **4.2 Automation of Close and Disclosure Drafting**

AI can automate reconciliations, matching, and variance analysis, speeding up financial closes. The use of generative systems enables automated preparation of MD&A sections, giving practitioners more time for critical decision-making aspects. However, generative models may hallucinate or oversimplify complex accounting. Accordingly, outputs from AI require validation and careful editing to remain compliant.

#### **4.3 Quality Control and Assurance**

Auditors are increasingly leveraging artificial intelligence for risk assessment and anomaly detection. While the potential benefits of AI in auditing are significant, regulators have raised concerns regarding the inconsistency in measuring audit quality. To ensure the reliability of AI applications in audits, it is essential that assurance frameworks incorporate comprehensive model validation, thorough evaluation of training data, ongoing performance tracking, and meticulous log documentation.

#### **4.4 Narrative and ESG Reporting**

AI can integrate operational and non-financial data, enhancing ESG disclosures by linking sustainability with financial outcomes. A lack of uniformity in ESG data often results in overreliance on unreliable inputs and opens the door to greenwashing. Transparency in data sources and independent validation are necessary.

#### **4.5 Governance, Ethics, and Regulation**

Effective governance requires ownership of AI outputs, privacy safeguards, model risk management, disclosure of AI usage, and regular independent reviews. Without these, AI can reduce trust instead of building it. Global regulators are issuing guidelines, but inconsistent approaches create uncertainty.

#### **4.6 People, Skills, and Operating Model**

AI shifts finance roles from manual tasks to analytics, oversight, and narrative interpretation. Professionals must acquire data literacy, digital taxonomy knowledge, and governance skills. Preparing employees for AI-integrated operations requires both upskilling initiatives and modernized education programs.

**AI in Financial Reporting**

Theme	Opportunities	Risks / Challenges	Practical Actions
<b>Digital Reporting</b>	Faster tagging, machine-readable comparability, fewer errors	Misclassification, over-reliance, fragmented taxonomy updates	Pilot tests, human-in-the-loop, taxonomy governance
<b>Automation of Close</b>	20–30% faster closes, reconciliations, draft MD&A	Text hallucination, oversimplification, version control issues	Limit to drafts, review trails, restrict forward-looking AI
<b>Quality &amp; Assurance</b>	Full-population anomaly detection, fraud identification	Audit guidance gaps, bias in data, black-box evidence	Validate models, log training data, KPIs for AI audits
<b>Narrative &amp; ESG</b>	Integration of financial & non-financial data, better investor communication	Inconsistent ESG standards, data gaps, greenwashing risk	Disclose data provenance, add caveats, third-party validation
<b>Governance &amp; Regulation</b>	Accountability, global alignment, investor confidence	Accountability ambiguity, privacy/security issues, regulatory inconsistency	Custodianship for outputs, AI-use disclosure, risk protocols
<b>People &amp; Skills</b>	Human focus on value-add tasks, hybrid roles, IT-finance collaboration	Skills gap, automation bias, talent shortage in data literacy	Upskilling, Centres of Excellence, curriculum reform

**5. RECOMMENDATIONS**

- **Preparers:** Adopt AI gradually, with human verification and transparent disclosure of its impact on reports.
- **Auditors:** Create evidence-testing methods for AI, develop KPIs, and implement control frameworks with preparers.
- **Regulators:** Standardize disclosure of AI use, harmonize taxonomy standards across borders, and enforce governance codes.
- **Finance Professionals:** Dedicate yourself to continuous education in the areas of AI oversight, analytics, ESG integration, and governance to ensure you remain well-prepared for the future.

**6. CONCLUSION**

AI is reshaping financial reporting by improving efficiency, comparability, and integration of financial with non-financial data. Yet, opacity, bias, and assurance gaps pose risks. The most credible approach is a hybrid model: harness AI's strengths while embedding human oversight.

For AI to strengthen rather than weaken trust in financial reporting, regulators, auditors, and preparers must align governance, foster transparency, and invest in professional

expertise. The future credibility of financial reporting depends on balanced adoption—technology supported by strong human judgment and ethical safeguards.

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# SYNTHESIS AND CHARACTERIZED OF BENZIMIDAZOLE-BASED METAL COMPLEXES AND THERE IN VITRO ANTIBACTERIAL EVALUATION

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## ABSTRACT

In present paper, we reported about the metal complexes of novel Ligand containing thiosemicarbazide namely, **2-(1-(6-Bromo-1H-benzo[d]imidazol-1-yl) propan-2-ylidene) hydrazine carbothioamide (BBITS)**. All the synthesised ligand and all metal complexes were characterized by analytical and spectroscopic data. They are also screened for Antimicrobial Activity.

**KEYWORDS: METAL COMPLEXES, THIOSEMICARBAZONE, 6-BROMO-1H-BENZIMIDAZOLE; SPECTRAL ANALYSIS; MAGNETIC PROPERTIES AND ANTIMIROBIAL ACTIVITIES.**

## INTRODUCTION

Thiosemicarbazones shows potential pharmaceutical activities like anticancer, antitumor and biological activities <sup>1-3</sup>. Due to various pharmaceutical as well as biological activity number of research work carried out to synthesizing novel heterocyclic compounds<sup>4-6</sup>. Thiosemicarbazones generally act as chelating ligands<sup>7-9</sup>. Benzimidazoles are associated with diverse pharmaceutical activities such as antibacterial, insecticidal, antagonist, fungicidal, antimicrobial, asvitronectial receptes, anthelmintic, anti-inflamatory, etc<sup>10-13</sup>. Looking to systematic literature study of Thiosemicarbazone and benzimidazole derivatives, it was found that number of benzimidazole derivatives were synthesis by different researchers. In continuous of our previous work<sup>14,15</sup> the present paper comprise the metal complexation study of benzimidazole-thiosemicarbazone clubbed compound. The whole reaction work is summarized in following scheme-1.

<<Figure-1 Reaction work>>

## Experimental

Material and Methods:

All the chemicals were used laboratory grade. Metals and elemental contents were determined by standard method<sup>16</sup>. Infrared and NMR spectrum of the synthesized Ligand and its metal complexes were recorded on Nicolet 760 FT-IR spectrometer and 60 MHz NMR spectrophotometer. LC-MS of selected samples taken on LC-MSD- Trap-SL\_01046. The evaluation of antimicrobial activity has been carried out using Broth Dilution method for antimicrobial study<sup>5-8</sup>.

## Synthesis of 6-Bromo-1-(1H-Benzo[d]imidazol-1-yl) propan-2-one (BBIP)<sup>8-11</sup> :

Reflux 6-Bromo-1H-benzimidazole (0.01 mole), chloro acetone (0.01 mole) and 150 mL of dry acetone add 30 g of anhy, Na<sub>2</sub>CO<sub>3</sub> for 6 h at 80°C. After completion of reaction product was separated out. Filter the product and recrystallized from ethanol. The purity of

the compound was checked by TLC and melting point. Yield: 74%; M.P.: 146-47°C, Elemental Analysis  $C_{10}H_9N_2OBr$  (253 gm/mole); Calc.(Found)% C 47.46 (47.4); % H 3.58 (4.3); % N 11.07 (13.4); and % Br 31.57 (31.5). IR Spectral Features ( $cm^{-1}$ ) shows at 2920, 2815, 1500, 1370 (C-H Str.), 1675 (C=O), 3050 (Aromatic C-H Str.), 1595 (C=N), 1595, 1460 (Aromatic C-C Str.) and 1070 (Aromatic C-Br). NMR Signals ( $\delta$  ppm) at 2.46 (s, 3H, -CH<sub>3</sub>), 7.50-8.41 (m, 4H, benzimidazole C-H) and 4.94 (s, 2H, -CH<sub>2</sub>-).

### **Synthesis of 2-(1-(6-Bromo-1H-benzo[d]imidazol-1-yl)propan-2-ylidene)hydrazine carbothioamide (BBITS) <sup>8-11</sup>:**

Reflux thiosemicarbazide (25mmol) in ethanol and the alcoholic solution of 6-Bromo-1-(1H-Benzimidazol-1-yl)propan-2-one (25mmol) for 7.5 hrs with continuous stirring. After cooling the compounds were filtered and recrystallized from methanol. Yield: 68 %; M.P.: 173-74°C; Elemental Analysis of  $C_{11}H_{12}N_5SBr$  (326 gm/mole): Calc.(Found)% C 40.50 (40.50); % H 3.71 (3.71); % N 21.47 (21.4); % S 9.83 (9.8) and % Br 24.49 (24.4). IR Spectral Features ( $cm^{-1}$ ) shows at 3410 (N-H Str.), 2930, 2820, 1465, 1420 (C-H Str.), 1630 (C=N), 3050 (Aromatic C-H Str.), 750 (C=S) and 1075 (Aromatic C-Br). NMR Signals ( $\delta$  ppm) at 1.95 (s, 3H, -CH<sub>3</sub>), 7.45-8.35 (m, 4H, Ar C-H), 4.92 - 4.93 (s, 2H, -CH<sub>2</sub>-), 8.64 (s, 1H, -NH-) and 3.74-3.73 (s, 2H, -NH<sub>2</sub>). LC-MS: M/z at 326.8 (M<sup>+</sup>).

**Synthesis of Metal complexes of 2-(1-(6-Bromo-1H-benzo[d]imidazol-1-yl)propan-2-ylidene)hydrazine carbothioamide (M-BBITS)** All metal complexes of CBITS (i.e. of Cu(II), Co(II), Ni(II), Mn(II) and Zn(II) ions) were synthesized by adding of the appropriate metal salts (1.0 mmol, in 20 ml ethyl alcohol/water (50:50) volume to a hot solution of CBITS (2.0 mmol, in 30 ml ethyl alcohol (95%). The resultant color solutions were stirred and refluxed on a hot plate at 80°C for 1 h. The volume of the resulted solution was reduced to half volume by evaporation. After 24hrs, the colored solid complexes formed, were filtered, the solids washed with ethanol and diethyl ether and finally dried under vacuum. All complexes were prepared and isolated in amorphous shape.

### **<<Table-1. Analysis of CBITS Ligand And Its Metal Complex>>**

### **<<Table - 2 Spectral Features and Magnetic Moment of CBITS- Metal Chelates>>**

### **Results and Discussion**

The synthesis of 2-(1-(6-Bromo-1H-benzo[d]imidazol-1-yl)propan-2-ylidene)hydrazine carbothioamide (BBITS) was prepared by condensation of 6-Bromo-1-(1H-Benzimidazol-1-yl)propan-2-one with thiosemicarbazone. Table-1 present the elemental analysis, which are consistent with the structure predicted (Scheme-1). The IR spectrum of BBITS comprises the important bands due to thiosemicarbazide. The bands were observed at 3410.32 (N-H, NH<sub>2</sub> and NH), 1670.44 (C=N), 776.08 (C=S)  $cm^{-1}$ .

The NMR spectrum of BBITS indicates that the singlet of 2 H and 1H at 3.75-3.72 and 8.64 for NH of thiosemicarbazide. The methylene proton shows singlet at 1.95 and 4.92-4.93  $\delta$ . Thus the structure of BBITS is confirmed as shown in Scheme-I.

The metal and C, H, N contents of metal complexes of BBITS (Table-I) are also consistent with the predicted structure. The results show that the metal: ligand (M:L) ratio for all divalent metal complex is 1:2.

The presence of band characteristic of metal-nitrogen and metal-sulphur group of parent BBITS in the infrared spectra of all the complexes suggest the formation of the entire metalocyclic compound. The other bands are almost at their respectable positions as appeared in the spectrum of parent-BBITS ligand.

The observed  $\mu_{\text{eff}}$  values in the range 2.30-5.53 B.M are consistent with the above moiety. The value of magnetic moments and reflectance spectral data of each complexes correlates with structure assigned as the octahedral geometry. [12,13] The data of electronic transitions and magnetic moments of metal complexes are summarized in Table-2.

Table-2.

**<<Figure-2 Antibacterial Activity of CBITS Ligand and Its Metal Chelates>>**

**<<Figure-3 Antifungal activity of CBITS Ligand and Its Metal Chelates>>**

The screening of antibacterial and antifungal activity of CBITS ligand and its all complexes (Table-3 and 4) reveals that the ligand is moderately toxic against bacteria and fungi, while all the complexes are more toxic than ligand. Among all the complexes the Cu(II) complex is more toxic against fungi (Figure-2 and 3).

## CONCLUSIONS

Novel synthesis ligand, 2-(1-(6-Bromo-1H-benzimidazol-1-yl) propan-2-ylidene) hydrazine carbothioamide (CBITS) and their metal complexes structure are determined by analytical and spectroscopic data, which are consistent with structure. They are shows good Antimicrobial Activity.

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**Table-1. Analysis of CBITS Ligand And Its Metal Complex**

Ligand and Metal Complex	Elemental analysis (%)								
	Mol. wt.	Color	Yield %	C%	H%	N%	S%	Br%	M %
				Cald. Found	Cald. Found	Cald. Found	Cald. Found	Cald. Found	
$C_{11}H_{12}N_5SBr$	326	White	68	40.50 40.4	3.71 3.7	21.47 21.4	9.83 9.8	24.49 24.4	- -
$C_{22}H_{24}N_{10}S_2Br_2Cu^{(II)} \cdot 2H_2O$	748.54	Bluish white	70	35.14 35.1	3.75 3.7	18.63 18.6	8.53 8.5	21.25 21.2	8.45 8.4
$C_{22}H_{24}N_{10}S_2Br_2Ni^{(II)} \cdot 2H_2O$	747.71	Light green	73	35.37 35.3	3.78 3.7	18.75 18.7	8.58 8.5	21.39 21.3	7.86 7.8
$C_{22}H_{24}N_{10}S_2Br_2Co^{(II)} \cdot 2H_2O$	747.94	Pale red	66	35.35 35.3	3.78 3.7	18.74 18.7	8.58 8.5	21.38 21.3	7.89 7.8
$C_{22}H_{24}N_{10}S_2Br_2Zn^{(II)} \cdot 2H_2O$	753.38	Yellowish white	72	35.05 35.0	3.74 3.7	18.58 18.5	8.67 8.6	21.20 21.1	8.67 8.6
$C_{22}H_{24}N_{10}S_2Br_2Mn^{(II)} \cdot 2H_2O$	743.94	Off white	63	35.54 35.5	3.80 3.7	18.84 18.8	8.63 8.6	21.50 21.4	7.39 7.3



Table – 2 Spectral Features and Magnetic Moment of CBITS- Metal Chelates

Metal Chelates	$\mu_{\text{eff}}$ (BM)	Electronic data( $\text{cm}^{-1}$ )	spectral Transition
CBITS-Cu(II)	2.30	23988 15765	CT $^2B_{1g} \rightarrow ^2A_{1g}$
CBITS-Ni(II)	3.38	22237 15792	$^3A_{2g} \rightarrow ^3T_{1g}$ (P) $^3A_{2g} \rightarrow ^3T_{1g}$ (F)
CBITS-Co(II)	4.46	23953 18116 8740	$^4T_{1g}(F) \rightarrow ^6T_{2g}(\text{?}_1)$ $^4T_{1g}(F) \rightarrow ^4A_{2g}(\text{?}_2)$ $^4T_{1g}(F) \rightarrow ^4T_{1g}(P)$
CBITS-Mn(II)	5.53	23885 18342 16847	$^6A_{1g} \rightarrow ^6A_{1g}(^4E_g)$ $^6A_{1g} \rightarrow ^4T_{2g}(^4G)$ $^6A_{1g} \rightarrow ^4T_{1g}(^4G)$
CBITS-Zn(II)	D	-	-

D\*=Diamagnetic

## Figure Captions

Figure-1 Reaction work

Figure-2 Antibacterial Activity of CBITS Ligand and Its Metal Chelates

Figure-3 Antifungal activity of CBITS Ligand and Its Metal Chelates

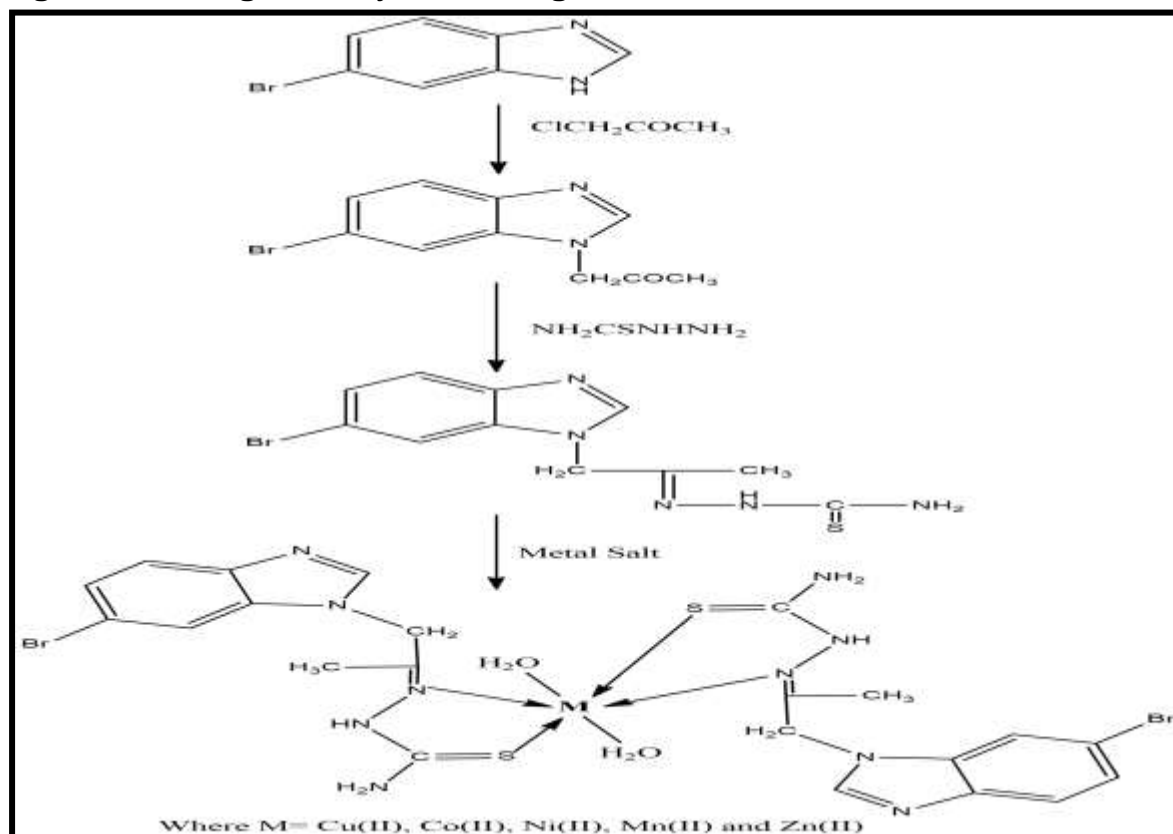


Figure-1 Reaction work

Table:-3 Antibacterial Activity of BBITS Ligand and Its Metal Chelates

Compounds	Minimum Inhibitory Concentration (MIC, $\mu\text{g mL}^{-1}$ )			
	Gram positive		Gram negative	
	<i>B.megaterium</i>	<i>S.Aureus</i>	<i>E.Coli</i>	<i>Ps.Aeruginosa</i>
BBITS	92.5	100	115	120
BBITS-Cu <sup>(II)</sup>	30	25	20	22.5
BBITS-Ni <sup>(II)</sup>	62.5	100	105.5	75
BBITS-Co <sup>(II)</sup>	50	42.5	50	42.5
BBITS-Zn <sup>(II)</sup>	35.5	50	92.5	100
BBITS-Mn <sup>(II)</sup>	75	85	62.5	120
Amoxillin	250	150	250	200

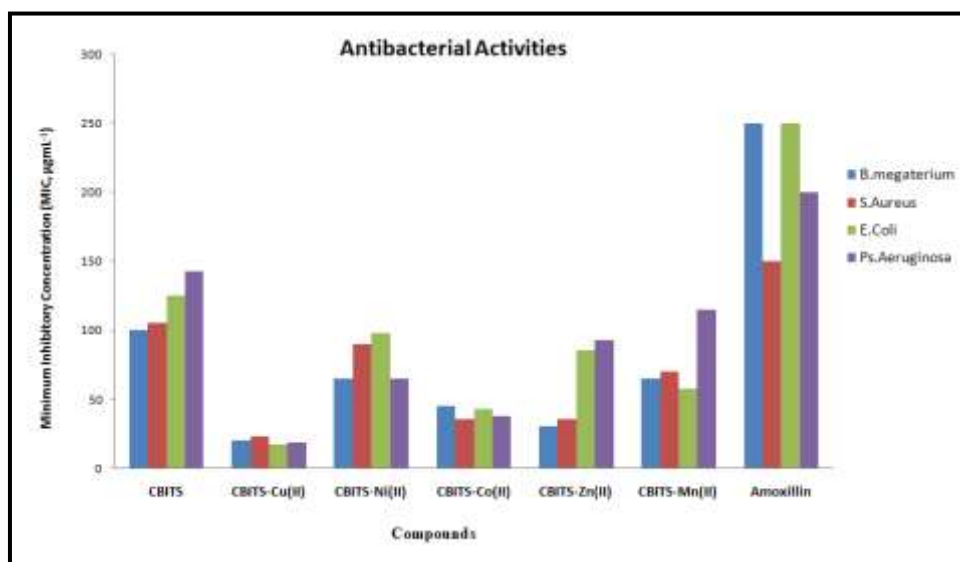
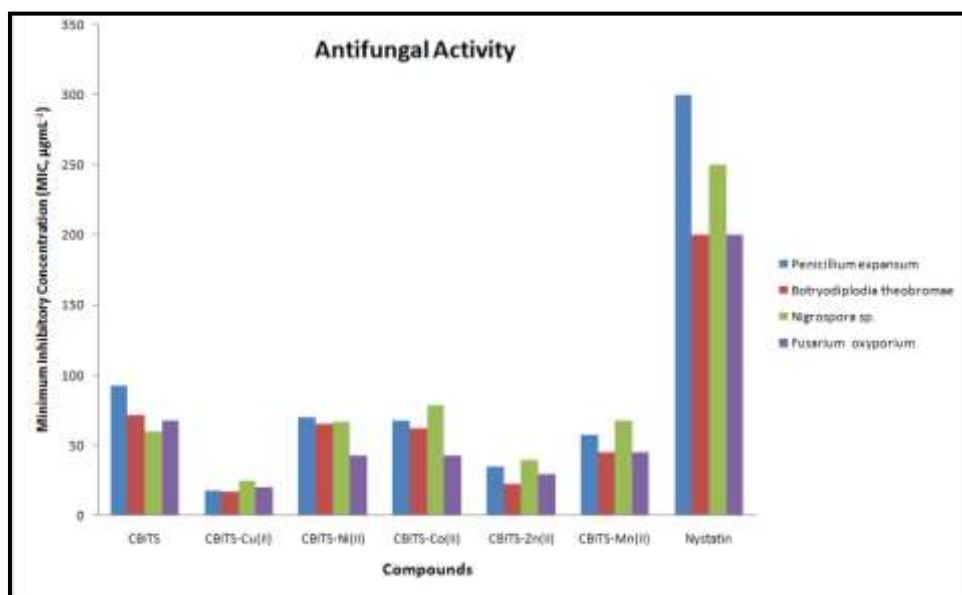


Figure-2 Antibacterial Activity of BBITS Ligand and Its Metal Chelates

Table - 4 Antifungal activity of BBITS Ligand and Its Metal Chelates

Compounds	Minimum Inhibitory Concentration (MIC, $\mu\text{g mL}^{-1}$ )			
	<i>Penicillium Expansum</i>	<i>Botrydepladia Thiobromine</i>	<i>Nigrospora Sp.</i>	<i>Fusarium oxyporium</i>
BBITS	95	82.5	62.5	75
BBITS-Cu <sup>(II)</sup>	17.5	17.5	32.5	25
BBITS-Ni <sup>(II)</sup>	82.5	75	72.5	50
BBITS-Co <sup>(II)</sup>	70	67.5	82.5	45
BBITS-Zn <sup>(II)</sup>	45	25	45	32.5
BBITS-Mn <sup>(II)</sup>	62.5	50	75	50
Nystatin	300	200	250	200



**Figure-3 Antifungal activity of CBITS Ligand and Its Metal Chelates**



## CLICK TO INVEST: HOW PERSONALIZED DIGITAL ADS SHAPE GEN Z AND MILLENNIAL FINANCIAL CHOICES

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### **ABSTRACT:**

*The financial world is changing fast, thanks to a huge mashup of tech, money, and marketing. Our research zeroes in on a big part of that change: how personalized digital ads are influencing the financial moves of Gen Z and Millennials. These younger generations are key players because they're always online and super keen to find new ways to invest. With a ton of new online platforms (fintech), bustling social media investment groups, and super targeted advertising, financial companies are using data to talk directly to them. Our main question is: How do these tailored ads actually affect young investors' ideas of what makes a good opportunity, how much risk they're willing to take, and if they actually end up investing.*

*To figure this out, we ran a quantitative study—basically, an online survey. We specifically gathered insights from a decent-sized group of young investors (Gen Z and Millennials). The survey was carefully built to dig into several important areas: how often and what kinds of personalized financial ads they've seen, how much they trust the source of the ad, how financially savvy they think they are, and how different ad formats make them feel. Crucially, we included solid questions to see if their comfort with risk had shifted and if they had real plans to act on the investment opportunities they saw.*

**KEYWORDS: PERSONALIZED ADVERTISING, DIGITAL MARKETING, INVESTMENT BEHAVIOUR, GEN Z, MILLENNIALS, FINANCIAL DECISION-MAKING, SOCIAL MEDIA INFLUENCE, ONLINE INVESTMENT PLATFORMS.**

### **INTRODUCTION:**

In this day of algorithm marketing, investment capital has long since transcended the borders of banks and brokerages — now it sits on our screens. From banners on finance apps to reels on Instagram, bespoke digital ads have become a force to be reckoned with, particularly among young generations. Gen Z and Millennials, as natives of the digital world, are presented with countless investment offers daily — every ad meticulously tailored to their search queries, interests, and aspirations. This study, "Click to Invest: How Personalized Digital Advertisements Shape the Financial Choices in Gen Z and Millennials," examines how these micro-targeted marketing initiatives are influencing financial behaviours and investment decisions among this digitally native generation.

As digital marketing continues to turn increasingly data-driven, personalization has also emerged as a marketing goldmine and a behavioural stimulus. The research seeks to

understand if these ads only inform or even influence individuals to invest — and what plays a part in the decisions thereof, including trust, design, and relating. By surveying young investors and wannabes through a constructed questionnaire, the study attempts to break the code on how exposure to personalized financial content from different platforms like Instagram, YouTube, and finance apps is connected to investment awareness, confidence, and actual decision-making.

In today's financial environment, the primary exchange of investment information has become well and truly transferred from institutions to individual screens. For Millennials and Gen Z, those born digital and living their lives online, personalized marketing—everything from a sequence of video clips to a finance app push alert—constitutes a powerful and pervasive presence. This study, "Click to Invest," directly seeks out this critical point of intersection: How are these data-driven, micro-targeted commercials actively shaping the financial behaviours and investment thoughts of this digitally born generation? We move past simply measuring exposure to ask the very particular psychological and design considerations—like perceived trustworthiness, visual appeal, and cultural relevance—that really move a youth from passive watching to an active investment decision.

#### **OBJECTIVES:**

1. To examine how personalized online advertisements influence the investment choices of Millennials and Gen Z.
2. To determine the most influential online platforms among young investors' financial decisions.
3. To analyse behavioural responses of users after watching investment-related advertisements.

#### **SCOPE OF THE STUDY:**

1. The research investigates the impact of tailored digital advertising on Millennial and Gen Z investment choices.
2. It concentrates on user activity across leading digital and social media websites.
3. The study investigates perceptual and behavioural reactions to tailored financial content.
4. Data are gathered through online questionnaires to give insight into digital investment trends.

#### **LITERATURE REVIEW:**

**1. Emergence of Personalized Digital Advertising:** Personalized digital advertising is on the cutting edge of marketing practice these days, using sophisticated data analysis, home-grown algorithms, and behaviour monitoring to tailor content to specific user profiles. Kapoor and Dwivedi (2022) suggest that personalization leads to astounding user engagement with the formation of the feeling of relevance and association, a process that is exemplary in seizing power over customers' inclination to explore and respond to financial products heading their way through digital channels.

**2. The Effect of Online Marketing on Investment Attitudes:** Online marketing makes a massive difference in the disposition of users and hence their investment dispositions,

particularly where the audience is digitally native. Lee and Chen (2021) established that message credibility, message believability, and trust in the platform are key drivers in influencing the response of the audience to investment content. For Gen Z and Millennials, sequential, micro-targeted exposure on high-penetration channels (i.e., Instagram, YouTube) leads to awareness of investments and influentially leads to tangible investment activity.

**3. Perceived Credibility and Trust Role:** Individual financial offers' success and acceptance are highly reliant on trust. Singh and Gupta (2021) also assumed that message personalization can increase relevance but causes consumer discomfort in terms of information privacy and validity. Host platform credibility, perceived source brand honesty, and ethically communicated finance information are strong drivers of a financial offer's success.

**4. Sound Judgement and Financial Literacy:** Themed financial promotion has a dual impact on the achievement of financial literacy. Rahman (2020) surmises that although such types of messages may prove helpful in making customers sensitive to investment avenues.

### RESEARCH METHODOLOGY

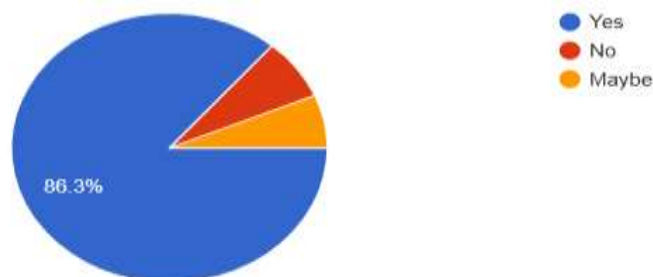
Particular	Information
1] Scope of Research	Impact of Personalized Digital Advertisements on Investment Decisions of Gen Z and Millennials.
2] Research Type	Descriptive and Exploratory.
3] Data Collection	Primary Source: Structured Questionnaire. Secondary Source: Published articles, research journals, reports, and online resources related to digital marketing and financial behavior.
4] Population	Age groups 18–35 years
5] Sample Size	219
6] Sampling Technique	Convenient Sampling Technique.
7] Data Analysis	Bar Graphs and Pie Charts.

**Data analysis:** Tool: Google form

We conducted a google form survey for our data analysis. Circulated among college students and other people between the age 18 to 35. Every individual responded and helped us to conduct this Research paper successfully. We collected 219 responses from the students.

Have you seen investment related ads on digital platforms ?

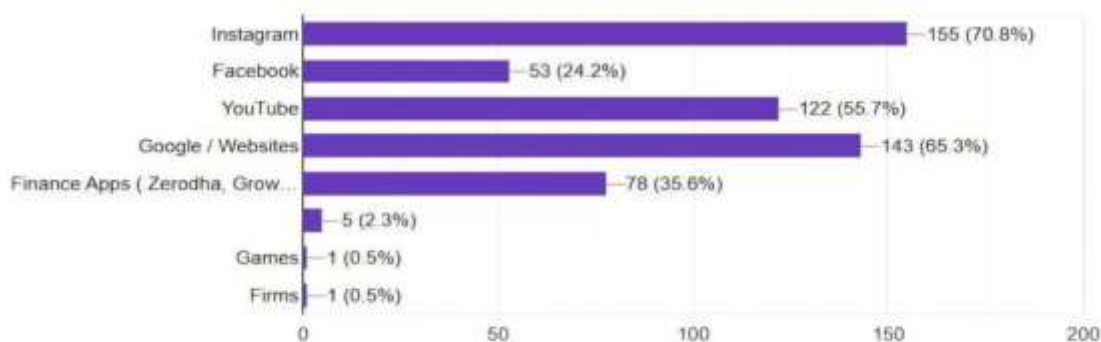
219 responses



**Interpretation:** This indicates that A majority of respondents have seen investment-related advertisements on digital platforms, indicating high exposure to financial marketing online.

Which platforms do you mostly see such ads on ?

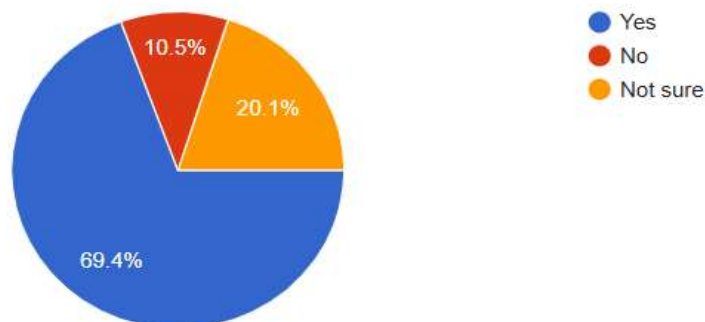
219 responses



**Interpretation:** Most respondents reported seeing investment-related ads primarily on Instagram, followed by Google and YouTube, indicating social media's dominance in financial ad exposure.

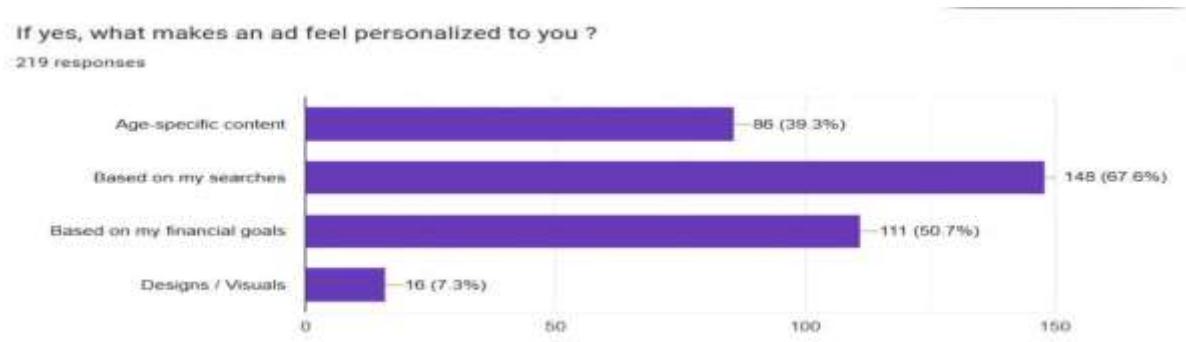
Do these ads seem personalized to you ?

219 responses





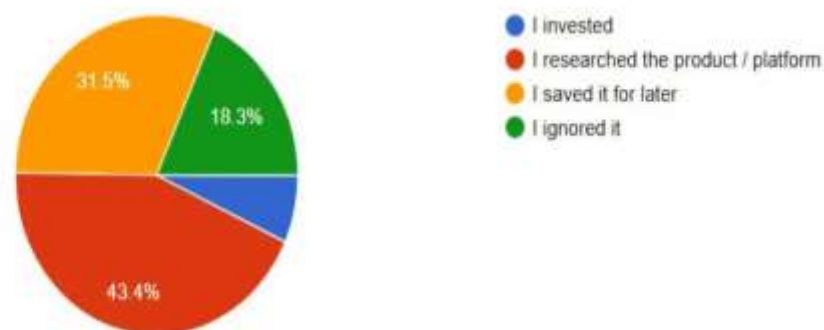
**Interpretation:** This indicates that a majority of respondents felt that investment ads appeared personalized to them, indicating strong targeting effectiveness in digital advertising.



**Interpretation:** This indicates that most respondents felt ads seemed personalized when based on their searches, followed by financial goals and age-specific content, showing that relevance to personal activity drives perceived personalization.

What action did you take after seeing the ad ?

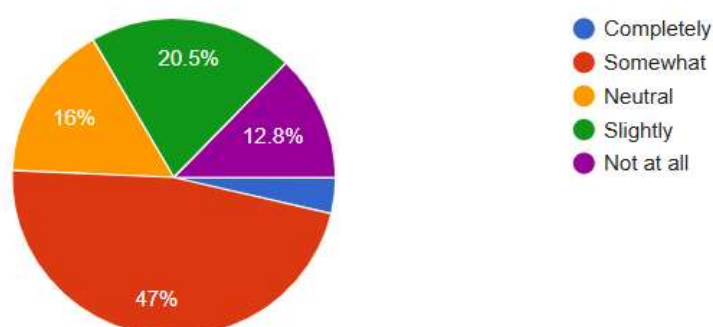
219 responses



**Interpretation:** This indicates that most respondents chose to research the product or platform after seeing the ad, indicating that personalized investment ads primarily trigger curiosity and information-seeking behaviour rather than immediate action.

How much do you trust investment ads shown to you online ?

219 responses

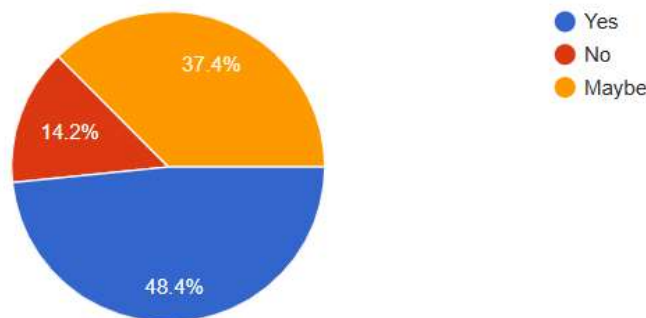




**Interpretation:** This indicates that nearly half of the respondents somewhat trust online investment ads, indicating moderate confidence but also highlighting persistent scepticism toward digital financial promotions.

Do you believe these ads positively influence your financial decisions ?

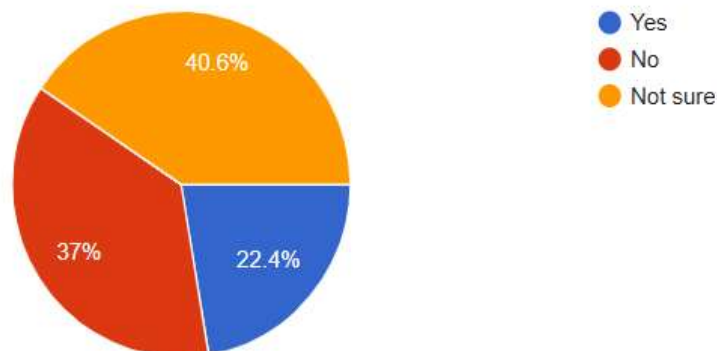
219 responses



**Interpretation:** This indicates that nearly half of the respondents share the sentiment that investment influences their financial decisions positively, further showing that direct marketing effectively influences investment perceptions and actions. Meanwhile, were uncertain and disagreed, indicating that while many consider such commercials effective, a high percentage remains uncertain about their true influence on financial decisions.

Do you think you would have made the same investment decision without seeing those ads ?

219 responses



**Interpretation:** Over one-third of respondents (37%) felt they would not have made the same investment decision without seeing the ads, while 40.6% were unsure, indicating that digital ads play a notable role in influencing investment intent and awareness.

## KEY FINDINGS:

### 1. High Exposure to Investment Advertising:

Most of the respondents (86.3%) have been exposed to investment ads on the internet, in line with high exposure of financial promotion by Gen Z and Millennials.

**2. Frequency of Social Media Portals:**

The most prevalent portals where customers have been exposed to investment advertising were Instagram (70.8%), Google/Websites (65.3%), and YouTube (55.7%), in line that social media is the best vehicle for financial promotions.

**3. High Sense of Personalization:**

Approximately 69.4% of the participants indicated that investment ads seemed to be tailored towards them on an individual basis with evidence of good targeting by internet advertisements.

**4. Targeting Based on Search Activity**

A majority of the participants (67.6%) indicated that the ads seemed personal due to their online search history, followed by financial objectives (50.7%) and age data (39.3%), demonstrating the power of behaviour data for personalization.

**5. Sophisticated Research as Compared to Taking Direct Action**

All but 43.4% of the sample visited the product or site following exposure to ads, while fewer spent cold, indicating that targeted ads are more likely to drive people to interest and awareness than induce fiscal action.

**6. Moderate Investment Online Ad Trust**

More than half of the responders (47%) showed circumscribed belief ("somewhat") in investment commercials, writing good checks but with a dose of doubt too on how to profit from the internet.

**7. Financial Decision Contribution:**

Around 48.4% concurred that the commercials helped contribute positively to their financial choices, 37.4% were ambiguous, and 14.2% disagreed, implying personal advertising does pay, but believability and contribution in the long run is questionable by younger investors.

**SUGGESTIONS****1. Enhance Transparency in Advertising:**

Financial advertisers should provide clear, verified, and easy-to-understand information to build stronger trust among young investors.

**2. Promote Financial Literacy through Ads:**

Personalized investment ads should include educational elements to help Gen Z and Millennials make informed financial decisions rather than impulsive ones.

**3. Optimize Platform-Specific Strategies:**

Since most users encounter ads on Instagram, Google, and YouTube, marketers should design content tailored to the user behaviour and tone of each platform.

**4. Ensure Ethical Personalization:**

Advertisers must use user data responsibly, ensuring privacy protection and avoiding manipulative targeting techniques that could mislead inexperienced investors.

**5. Encourage Research-Oriented Investment Behaviour:**

Campaigns should focus on motivating users to explore and compare investment options instead of promoting direct or hasty investment decisions.

**6. Strengthen Credibility through Endorsements and Reviews:**

Featuring authentic testimonials, expert opinions, and transparent performance records can help increase the perceived reliability of online investment ads.

**HYPOTHESIS TESTING (Using Chi-Square Test)****Level of Significance ( $\alpha$ ): 0.05****Test Used: Chi-Square Test of Independence** **$(O-E)^2/E$** 

Decision

rule:

If  $\chi^2$  (calculated) >  $\chi^2$  (critical), Reject  $H_0$ .do = (Rows - 1)  $\times$  (Columns - 1)**Hypothesis 1: Relationship between Exposure to Digital Ads and Investment Decisions** **$H_{01}$ :** There is **no significant relationship** between frequency of viewing personalized investment ads and investment decisions. **$H_{11}$ :** There is a **significant relationship** between frequency of viewing personalized investment ads and investment decisions.

Exposure Level	Positive Influence	No/Unsure	Total
High Exposure	75	45	120
Moderate Exposure	31	40	71
Low Exposure	9	19	28
Total	115	104	219
Exposure Level	Positive (E)	No/Unsure (E)	
High	$(120 \times 115) / 219 = 63.07$	$(120 \times 104) / 219 = 56.93$	
Moderate	37.29	33.71	
Low	14.71	13.29	

Category	O	E	$(O-E)^2/E$
High-Positive	75	63.07	2.27
High-No/Unsure	45	56.93	2.50
Moderate-Positive	31	37.29	1.06
Moderate-No/Unsure	40	33.71	1.17
Low-Positive	9	14.71	2.22
Low-No/Unsure	19	13.29	2.46
Total $\chi^2 = 11.68$			

do = (3-1)  $\times$  (2-1) = 2      Critical  $\chi^2$  (0.05, 2) = 5.991**Decision:**  $\chi^2$  calc (11.68) >  $\chi^2$  crit (5.991)  $\rightarrow$  Reject  $H_{01}$ **Interpretation:** Frequency of ad exposure significantly influences investment decisions. High exposure increases the likelihood of positive investment behaviour.**Hypothesis 2: Relationship between Perceived Personalization and Investment Intent** **$H_{02}$ :** Perceived personalization of digital ads has **no significant effect** on investment intent. **$H_{12}$ :** Perceived personalization of digital ads **significantly affects** investment intent.

Perceived Personalization	Invested / Researched	No Action	Total
Strongly Personalized	88	64	152

Weak / No Personalization	16	51	67
Total	104	115	219
Category	Invested (E)	No Action (E)	
Strongly Personalized	$(152 \times 104) / 219 = 72.14$	$(152 \times 115) / 219 = 79.86$	
Weak / None	$(67 \times 104) / 219 = 31.86$	$(67 \times 115) / 219 = 35.14$	

Category	O	E	$(O-E)^2/E$
Strong-Invested	88	72.14	3.49
Strong-No Action	64	79.86	3.14
Weak-Invested	16	31.86	7.90
Weak-No Action	51	35.14	7.20
Total $\chi^2 =$			21.73

do = 1 Critical  $\chi^2 (0.05, 1) = 3.841$

**Decision:**  $\chi^2$  calc (21.73) >  $\chi^2$  crit (3.841) → Reject  $H_{02}$

**Interpretation:** Perceived personalization of ads significantly increases investment intent. Respondents who found ads highly relevant were much more likely to explore or invest.

### Hypothesis 3: Relationship between Trust in Ads and Investment Decisions

**H<sub>03</sub>:** Level of trust in online investment ads has **no significant relationship** with investment decisions.

**H<sub>13</sub>:** Level of trust in online investment ads has a **significant relationship** with investment decisions.

Trust Level	Influenced Decision	Not Influenced	Total
High Trust	46	18	64
Moderate Trust	39	64	103
Low / No Trust	9	43	52
Total	94	125	219

Trust Level	Influenced (E)	Not Influenced (E)
High	$(64 \times 94) / 219 = 27.49$	$(64 \times 125) / 219 = 36.51$
Moderate	44.22	58.78
Low	22.29	29.71

Category	O	E	$(O-E)^2/E$
High-Influenced	46	27.49	12.46
High-Not	18	36.51	9.39
Moderate-Influenced	39	44.22	0.62
Moderate-Not	64	58.78	0.46

<b>Low-Influenced</b>	9	22.29	7.91
<b>Low-Not</b>	43	29.71	5.97
<b>Total <math>\chi^2 = 36.81</math></b>			

$$df = (3-1) \times (2-1) = 2 \quad \text{Critical } \chi^2 (0.05, 2) = 5.991$$

**Decision:**  $\chi^2$  calc (36.81) >  $\chi^2$  crit (5.991) → Reject  $H_{03}$

**Interpretation:** There is a strong, statistically significant relationship between trust level and investment decisions.

Higher trust in ads increases the likelihood of investment action.

### Overall Interpretation

All three tests show  $\chi^2$  calculated >  $\chi^2$  critical, hence all null hypotheses are rejected. Personalized digital advertisements **significantly influence** the investment behaviour of Gen Z and Millennials through:

- High exposure frequency,
- Perceived personalization, and
- Trust in advertisement credibility.

### CONCLUSION

This research concludes that personalized digital ads have a measurable and substantial influence on investment actions among Gen Z and Millennials. Results show that exposure to financial advertisements on social media channels like Instagram and YouTube significantly raises awareness and interest for investments. Search activity, financial objectives, and demographics-driven personalization effectively attract attention and drive decision intent. But whereas such advertisements do effectively inspire investigation and inquiry, they do not necessarily translate into instant investment action. Trust and credibility of the advertisement source continue to play decisive roles in financial decision-making. The study statistically confirms that personalization, ad exposure, and trust together influence young investors' financial attitudes and behaviors. Hence, ethical, transparent, and informative digital marketing practices are critical to uphold consumer trust. In summary, the research signals the increasing influence of data-driven marketing on contemporary financial decision-making and advocates for proper application of personalization in financial advertisements.

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# EDUCATION FOR SUSTAINABLE DEVELOPMENT AND WELL BEING

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## **ABSTRACT**

*Education for Sustainable Development (ESD) represents a transformative vision of learning that aims to equip individuals with the knowledge, skills, attitudes, and values necessary to contribute toward a sustainable and equitable world. It promotes lifelong learning and encourages learners to think critically, participate actively, and make responsible decisions that ensure the well-being of people and the planet. In the Indian context, the philosophy of ESD aligns closely with the nation's cultural heritage and educational traditions, which emphasize harmony between human beings, society, and nature. The integration of ESD into the Indian education system has gained momentum with the introduction of the National Education Policy (NEP) 2020, which stresses holistic, multidisciplinary, and value-based education. This paper explores the significance of incorporating ESD and well-being into India's contemporary education framework to meet the challenges of climate change, social inequality, and unsustainable consumption. It examines how schools and higher education institutions can function as agents of social transformation by promoting environmental awareness, ethical behavior, and emotional resilience among students. The concept of well-being, which includes physical, mental, emotional, and social health, is viewed as an essential outcome of education that ensures personal growth and collective happiness. The paper also highlights the pivotal role of teachers, curriculum designers, and policymakers in embedding sustainability principles and well-being practices within pedagogy and institutional culture. By merging traditional Indian wisdom with modern sustainable practices, the Indian education system can contribute effectively to the achievement of the United Nations Sustainable Development Goals (SDGs), particularly SDG 4.7, which focuses on quality education for sustainable living. Ultimately, education that promotes sustainability and well-being not only prepares learners to face real-world challenges but also empowers them to build a compassionate, balanced, and ecologically responsible society. Through this approach, India can move toward creating an educational model that nurtures both environmental consciousness and human flourishing.*

## **KEYWORDS:**

**EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD), SUSTAINABLE EDUCATION, WELL-BEING AND EDUCATION, INDIAN EDUCATION SYSTEM, NATIONAL EDUCATION POLICY (NEP) 2020, SUSTAINABLE DEVELOPMENT GOALS (SDGS), ENVIRONMENTAL EDUCATION.**



## **1.0 INTRODUCTION**

Education plays a vital role in shaping the destiny of individuals and nations. Beyond the pursuit of knowledge and skills, education must equip learners to address global challenges such as climate change, resource depletion, and social inequality. Today, education is expected to promote sustainability, ethical values, and emotional stability. India, with its long-standing tradition of moral and spiritual education, is well-positioned to integrate the principles of ESD with its cultural heritage and modern advancements, thereby fostering responsible citizenship and collective well-being.

## **2.0 CONCEPT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)**

Education for Sustainable Development (ESD) is a transformative approach to learning that empowers individuals to make informed decisions and take responsible actions for environmental integrity, economic viability, and social justice, both now and in the future. It seeks to equip learners not only with knowledge about sustainability challenges but also with the skills, values, and attitudes necessary to address them effectively. ESD moves beyond traditional subject-based teaching by promoting interdisciplinary understanding and real-world application of knowledge. It encourages critical thinking, creativity, problem-solving, collaboration, and ethical reflection—all of which are vital for building a sustainable society.

According to UNESCO, ESD enables people to “acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future.” This means that education must go beyond theoretical awareness and lead to behavioral change and active participation. Learners should be capable of analyzing complex global issues such as climate change, poverty, and resource depletion, and contribute to developing local and global solutions. Thus, ESD is not limited to environmental education; rather, it encompasses the social, economic, cultural, and ethical dimensions of sustainability.

At its core, ESD focuses on the integration of sustainable practices into everyday learning experiences. It aims to make students aware of their interdependence with the natural and social world, fostering empathy, respect, and responsibility. The approach encourages participatory and experiential learning methods such as community projects, field studies, and problem-based activities that connect classroom learning to real-life contexts. This experiential orientation enables students to understand the consequences of their choices and actions, ultimately shaping responsible citizens who value sustainability.

In the Indian context, the idea of ESD resonates with the country's long-standing traditions that emphasize harmony between human beings and nature. Ancient Indian philosophies such as Vasudhaiva Kutumbakam (the world is one family) and Prakriti Rakshanam (protection of nature) reflect the same ideals of sustainability that ESD advocates today. Integrating these indigenous perspectives with modern global frameworks provides a strong cultural foundation for sustainability education in India.

Moreover, ESD aligns closely with the United Nations' Sustainable Development Goals (SDGs), particularly Goal 4.7, which calls for all learners to acquire the knowledge and skills

needed to promote sustainable development. By embedding ESD in school and higher education curricula, nations can cultivate learners who are aware of global issues, sensitive to cultural diversity, and capable of contributing to social transformation.

Therefore, ESD is not simply an educational reform but a comprehensive paradigm shift. It redefines the purpose of education—from acquiring information for personal success to fostering wisdom for collective survival and well-being. Through ESD, education becomes a means to empower individuals and communities to live responsibly, preserve natural resources, and ensure equity and peace for present and future generations.

Key dimensions of ESD include:

- Environmental awareness and resource conservation
- Social inclusion and equality
- Economic responsibility and sustainable consumption
- Cultural understanding and promotion of peace
- Through ESD, learners become agents of transformation who contribute actively toward building a more just and sustainable society.

### 3.0 WELL-BEING AS AN EDUCATIONAL OBJECTIVE

Well-being represents a state of holistic development—covering physical, emotional, mental, and social dimensions. The Indian concept of well-being, rooted in *Swasthya* and *Sarvodaya*, emphasizes harmony between self, society, and nature. Education that prioritizes well-being nurtures empathy, self-awareness, resilience, and a sense of purpose among students. Such an approach ensures that education is not limited to academic performance but contributes to the overall happiness and emotional balance of learners.

### 4.0 ESD AND WELL-BEING WITHIN THE INDIAN EDUCATION SYSTEM

Recent educational reforms in India highlight the integration of sustainability and well-being into the curriculum. The NEP 2020 emphasizes:

- **Comprehensive and Multidisciplinary Learning:** Encouraging students to understand the interconnections between environmental, social, and economic systems.
- **Ethical and Value-Based Education:** Fostering constitutional values like equity, respect for diversity, and environmental stewardship.
- **Experiential and Hands-On Learning:** Promoting community projects related to waste management, water conservation, and renewable energy.
- **Blending Traditional and Modern Knowledge:** Merging indigenous wisdom, crafts, and ecological practices with global sustainability concepts.
- **Health and Wellness Education:** Integrating yoga, physical fitness, mental health awareness, and socio-emotional learning into school programs.
- These reforms align the Indian education system with both national priorities and global sustainability goals.

### 5.0 ROLE OF TEACHERS AND EDUCATIONAL INSTITUTIONS

Teachers serve as the primary facilitators of sustainable education. They guide learners in developing critical perspectives, reflective practices, and civic responsibility. Schools and colleges should act as role models by implementing green campus initiatives such as energy

conservation, waste reduction, tree planting, and the use of renewable resources. To achieve this, teacher training programs must integrate sustainability concepts, pedagogical innovation, and community engagement so that educators can effectively deliver ESD across all disciplines.

## 6.0 CHALLENGES IN IMPLEMENTING ESD IN INDIA

Despite policy support, several barriers hinder the widespread adoption of ESD in India:

- Limited awareness among teachers and administrators about sustainability education.
- Predominance of exam-oriented and rote learning methods.
- Inadequate inclusion of sustainability issues in school syllabi.
- Resource and infrastructure disparities, particularly in rural and marginalized areas.
- Insufficient linkage between traditional ecological knowledge and modern educational content.

To overcome these barriers, systemic reforms, capacity-building programs, and collaborative efforts between educational institutions and communities are essential.

## 7.0 STRATEGIES FOR STRENGTHENING ESD AND WELL-BEING

Several strategies can enhance the effectiveness of ESD in India:

1. **Curriculum Integration:** Embed sustainability themes within all subjects and grade levels.
2. **Teacher Empowerment:** Organize professional training programs on ESD teaching methods and assessment techniques.
3. **Community Learning Projects:** Encourage students to participate in local sustainability activities like clean-up drives, afforestation, and biodiversity conservation.
4. **Digital Education Tools:** Use ICT-based learning platforms to promote environmental awareness and global collaboration.
5. **Partnership Development:** Build alliances with NGOs, industries, and local authorities to support sustainability initiatives.
6. **Monitoring Mechanisms:** Introduce measurable indicators to assess the long-term impact of ESD on learners and communities.

## 8.0 CONCLUSION

Education for Sustainable Development and Well-Being is not a separate discipline but a transformative vision that redefines the purpose of education itself. In the Indian context, it harmonizes ancient values such as *Vasudhaiva Kutumbakam* - "the world is one family" - with modern educational goals. By embedding sustainability, ethics, and well-being at every level of learning, India can cultivate responsible, environmentally conscious, and emotionally balanced citizens. True progress lies not merely in economic development but in nurturing minds that value harmony, equity, and sustainability.

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# COMPARATIVE STUDY OF LEGAL PROVISIONS RELATED TO MAINTENANCE WITH JUDGMENTS

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## **ABSTRACT:**

*In India, women, children and the elderly are considered the most vulnerable and are in dire need of protection, but in reality these are the people whose rights are being encroached upon every day, everywhere and their protection should be sought with utmost importance. In Indian law, the term 'maintenance' includes the right to food, clothing and shelter as available to wife, children and parents. It is a part of social justice and it is the natural duty of a man to maintain his wife, children and parents when they are unable to maintain themselves. The present paper discusses the phenomenon of maintenance to prevent immorality and destitution and to improve the poor economic condition of women and children.*

**KEY WORDS: MAINTENANCE, WIFE, BNSS, 2023 HINDU MARRIAGE ACT**

## **INTRODUCTION:**

Earlier, the meaning of maintenance was limited to 'bread, clothes and house' but in present times its meaning and definition have completely changed. In present times maintenance does not only include 'bread, clothes and house' but also includes all the necessities of life, such as all kinds of material comforts, education for children, expenditure on medicines and liquor, security for the bright future of the child, etc. This paper focuses only on the wife. As per the explanatory part of Section 144-B, the word "wife" includes a woman who has been divorced by her husband or who has been divorced from him and has not remarried. Therefore, the provision for maintenance under this section extends to a divorced wife as well, and not only to a married wife.

## **LEGAL MEANING OF MAINTENANCE:**

Alimony is the financial support paid by one ex-spouse to another following a legal separation or divorce. This financial support is for the livelihood of the wife or divorced wife, for her children, for the maintenance of property and in some cases also to enable her to adequately represent herself in litigation. Thus, the term alimony can be easily understood in both the general and legal senses.

## **MAINTENANCE UNDER VARIOUS LAWS:**

The provisions relating to maintenance vary in different laws. These include the Hindu Marriage Act, the Hindu Adoption Act, the Domestic Violence Act, the Supreme Law of India, Article 21 of the Indian Constitution. However, there is also a secular law on maintenance,

which is the Bhartiya Nagrik Suraksha Sanhita, 2023, in which the provision regarding maintenance is made in Section 144. For Hindus, their maintenance laws are given in their personal laws; for Muslims, it is given in the Muslim Personal Law; and for Christians and Parsis, in their respective personal laws. At the same time, the right to claim maintenance under the Indian Criminal Procedure Code is given to the wife of all sects which is secular in nature, hence can be invoked by any person, irrespective of his religion. This is a unique feature of the law of criminal procedure compared to other personal laws.

#### **MAINTENANCE IS A LEGAL AND FUNDAMENTAL RIGHT:**

Maintenance laws and rules vary from religion to religion. The amount of maintenance determined by the court depends on the monthly income of the husband, the income of the wife, her financial status, among other things. India, being a democratic country, provides its citizens with various laws that are necessary to earn a living. A woman is considered the legal "wife" of a man, unless their marriage is proved to be void. From the right to reside in her husband's house to getting an equal share in the property, a legally married wife enjoys many rights.

According to the maintenance laws and rights, it is the duty of the husband to pay his wife a lump sum or monthly payment, known as maintenance, where maintenance is paid without divorce or after divorce. The amount of maintenance is determined either by mutual agreement between the husband and wife or as per the order received from the court. In India, it is the right of women after divorce. Maintenance has been given the status of a fundamental right under Article 21 of the Indian Constitution, and this matter is also mentioned in Article 39-A of the Directive Principles of Political Policy specified in Part 4 of the Constitution.

#### **MAINTENANCE UNDER THE BHARTIYA NAGRIK SURAKSHA SANHITA:**

Maintenance under the Bhartiya Nagrik Suraksha Sanhita, 2023 is a right of divorced wives of all religions, as any woman belonging to and practicing any religion or belief can approach the court under this. The provisions for maintenance are provided under sections 144-147 of the Criminal Procedure Code. Maintenance can be claimed by the wife, children and parents under this section. Sections 144 to 147 provide a speedy, effective and affordable remedy against persons who neglect or refuse to maintain their dependent wives, children and parents.

This paper focuses only on the wife. As per the explanatory part of section 144-B, the term "wife" includes a woman who has been divorced or separated by her husband and has not remarried. Therefore, the provision for maintenance under this section extends to a divorced wife and not only to a married wife.

This Act, though secular, is unique in one aspect. Maintenance can be claimed under this Act only by the wife and not by the husband. Attention also needs to be paid to the interpretation of the word "wife". According to the judgment of the Supreme Court in the case of Savitaben Somabhai Bhatia v. Gujarat, the word "wife" appearing in Section- 144-(1) means only a legally married wife. But in D. Velu Swamy v. Pachaimal and Chanumuniya v. In



the recent judgment of Virendra Kumar Singh Kushwaha, the Supreme Court ruled that in cases where a woman who was in a marriage-like relationship, would not be considered as a legally married wife under Section 144, she can still claim maintenance under the Domestic Violence Act. So with such a heavy emphasis on the wife being a legally married wife, what happens to the second wife in religions that allow only monogamous relationships?

#### **MAINTENANCE UNDER HINDU PERSONAL LAW:**

Under Hindu Personal Law, maintenance of women is provided for under the Hindu Marriage Act, 1955 and the Hindu Adoption Act, 1956. Section 18 of the Hindu Adoption and Maintenance Act, 1956 provides for maintenance of wife by husband. For the purposes of this section, the term wife does not include a divorced wife. This section applies only to a married wife. The husband is bound to maintain her during his lifetime. He is bound to maintain her even if she lives separately from him, if such separation is justified on any of the grounds given under this particular section. This section is also gender specific in nature. Whereas, the provision of maintenance under Section 25 of the Hindu Marriage Act, 1955 stands on a separate footing. Either the husband or the wife can claim maintenance under this section. Any party can apply to the court for maintenance. It is not limited to the wife only. However, the parameters for deciding whether a person will get maintenance or not are gender-specific. This means that for women, the parameters are different from those for men.

As per the case of Kanchan v. Kamalendra, it was held that a husband is entitled to receive maintenance from his wife only if he is physically or mentally incapable of earning an independent income. As per the case of Manokaran v. Devaki, a wife is entitled to receive maintenance if at any point during the proceedings it is seen that she does not have sufficient independent income. Therefore, the wife only needs to prove that she does not have sufficient and independent income. Whereas, the husband also needs to prove that he is incapable of earning. In the case of Chitra v. Dhruva, it was held that maintenance does not mean just for bare existence, rather, it means that the claimant should also be at the same level of comfort as the other spouse. Therefore, the quantum of maintenance must also be decided accordingly.

In the case of Ramesh Chandra Rampratapji Daga v. Rameshwari v. Ramesh Chandra Daga, it was held that the expression "while passing any decree" includes all the decrees passed under Sections 9 to 13 of the Hindu Marriage Act. Thus, the court can award maintenance while passing any kind of decree which results in the dissolution of marriage.

#### **COMPARISON OF HINDU MARRIAGE ACT WITH BNNS, 2023:**

The law of maintenance under these two Acts operates on a very different basis. Under the Hindu Marriage Act, 1955, either the husband or the wife can claim maintenance, whereas under the BNNS, 2023 only the wife can claim maintenance. Furthermore, to claim maintenance under the Hindu Marriage Act, 1955, the wife only needs to prove that she does not have sufficient and independent income. Whereas, to claim maintenance under the BNNS, 2023, she also needs to prove that her husband refused or neglected to maintain her. In the case of Shambhunath Pathak v. Shanti Devi, it was clearly held that a wife cannot avail



herself of the dual benefit of maintenance under both the Cr.P.C. and the Hindu Marriage Act, 1955, but can claim maintenance under only one of them.

According to Section 5(i) of the Hindu Marriage Act, 1955, monogamy is the rule. Further, Section 17 of the Act makes such second marriage void, and refers to Sections 82(1) and 82(2) of the B.N.S., which make marriage a punishable offence.

In the landmark case of *Badshah v. Godas*, it was held that the second wife is also entitled to maintenance under Section 125 of the Cr.P.S. in certain circumstances. If a man and a woman have been living together for a long time without a valid marriage, she should be entitled to maintenance under Section 125 of the Cr.P.C. If a false representation has been made against the second wife that the man is single and capable of marrying, and if the woman was unaware at the time of marriage that she had a living spouse, then the second wife is entitled to maintenance.

In the case of *Mallika v. Kulandi*, it was held that if the husband falsely represents the death of his first wife, his second wife would be entitled to maintenance. In the case of *Rajeshbai v. Shantabai*, a woman's marriage was declared void on the ground that she had subsisted on any previous marriage of her husband, but the court held that she was also entitled to claim maintenance under Hindu adoption and maintenance.

## CONCLUSION

Thus, it is clear from the judgments contained in the above-mentioned paper that the second wife, even if not the legal wife, is entitled to maintenance under Section-144 of the BNNS, 2023. The standard of proof of marriage in proceedings under Section-144 of the BNNS, 2023 is not as strict as that required in the trial of an offence under Section-82 of the IPC. The purpose of this section is to provide social justice which can be fulfilled only through such decisions.

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# SEXUAL OFFENCES AGAINST CHILDREN IN INDIA: A CRITICAL STUDY

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## **ABSTRACT:**

*Before the enactment of the Protection of Children from Sexual Offences Act, 2012, child protection in India was governed by various legislative frameworks. These laws were intended to address issues of child protection and welfare, but they often fell short of specifically addressing the nuances of child sexual abuse. This section discusses the major existing laws prior to POCSO, their limitations and the need for more specific legislation. The Protection of Children from Sexual Offences Act, 2012 (POCSO Act), was a landmark legislation with the objective of addressing the increasing incidence of child sexual offences in India. It established a comprehensive legal framework to protect children from sexual offences, ensure justice and support to victims. This paper explores the importance of crimes against children, the socio-legal context that led to the enactment of the POCSO Act and its impact on child protection.*

**KEY WORDS : CHILD, SEXUAL CRIMES, POCSO ACT-2012, PROTECTION**

## **1. INTRODUCTION:**

The Protection of Children from Sexual Offences Act, 2012 (POCSO Act) is an important legislative framework in India, which aims to protect children from sexual offences and exploitation. It was enacted in response to the increasing incidence of child sexual offences and the recognition that the existing legal provisions were inadequate to address the unique vulnerabilities of children. This introduction explores the socio-cultural, legal and historical contexts that led to the enactment of the POCSO Act, with a special focus on its significance in Gujarat.

Child sexual exploitation is a pervasive issue, transcending geographical, cultural and socio-economic boundaries. In India, the problem is exacerbated by a combination of factors including patriarchal social structures, poverty, lack of education and inadequate legal protections.

## **2. MEANING OF SEXUAL OFFENCES AGAINST CHILDREN:**

Before learning about the various forms of offences against children, we must first acquaint ourselves with the concept of offences against children. Children are those persons who for the purposes of legal consideration range from a new-born child to a person below the age of 18 years. Therefore, for the purpose of legal protection and consideration, a child is considered to be a person of any sex between the ages of 0 and 18 years. Any crime or

offences committed against a child or children are considered as offences against a child or children. The offences considered as offences against children do not necessarily have to be criminal activities like kidnapping, murder, rape or forcing them to beg forcibly; but verbal, physical or mental abuse of children also fall under the category of offences against children.

### **3. INTRODUCTION TO SEXUAL CRIMES AGAINST CHILDREN IN INDIA:**

Since time immemorial, children have been victims of criminal offences along with women due to their inherent natural vulnerability. The crimes committed against children are not limited to any particular gender or age. This is usually due to their inability to appreciate the nature of the crimes committed against them and its consequences, which makes them the target of the criminal. In other words, the inherent innocence and immaturity which is usually directly related to the age of children makes them the favourite prey of the criminal. Various child crimes, their impact on the mind of children, the laws that already exist to combat them and the possible measures to prevent and deal with these child crimes have been discussed in this Paper.

### **CRUELTY TO A CHILD:**

What is an act of cruelty...! Is it just physically torturing someone...! Cruelty is any act or omission that causes mental or physical harm to a person regardless of age, gender, mental capacity, etc. Cruelty to a child can include anything from hitting him or her or simply threatening physical harm to create mental pressure. In Indian society, people have at least a vague idea of child cruelty. Even shouting at a child to scare them can be cruelty. Apart from parents, educational institutions also have the impression that physical punishment for mistakes is the only way to instill discipline in a child. Hence cruelty to children has become an accepted belief.

In recent times, however, due to strict laws, there has been a decrease in child cruelty in educational institutions. But domestic abuse of children is still not addressed as children themselves are unaware of their rights. Apart from educational institutions and home, children can also be victims of cruelty in the form of bullying by their peers i.e. other children or by other children. Bullying means mistreatment of a weaker person by someone stronger, or more powerful etc.

### **FORCING A CHILD TO BEG:**

If you give a beggar to a child, whether at a bus stop, on the footpath or on a railway platform, he/she may beg for money from you using phrases like 'they have not eaten anything for the last few days'. That child may be a member of some racket where he/she is forced to beg. The money you are donating to the child so that he/she can get some food eventually goes into the pockets of some racket leader who uses that child to churn out his/her emotions and earn income through that child.

Child employment as beggars exists globally. Regardless of the economic situation of the country, you may think that if the child is really hungry and is not related to any such racket, then what can you do next time a child comes to you begging for alms, if you really want to help, then bring him/her something to eat instead.

By doing this, you will help the child on one hand and on the other hand ensure that the money does not end up in the hands of any racketeer. Sometimes the child can be used by his own parents to beg. In this case, the money also ends up with those who seek the child as a convenient source of income.

#### **INDUCING A CHILD TO GET DRUNK:**

As already mentioned, the alms you give to a child claiming to be hungry may end up in the hands of a racket leader. However, sometimes it may also end up for consumption of intoxicants like cigarettes, alcohol, drugs etc. There are vendors who sell these intoxicants to children for their greed for profit. Because racket leaders also tend to get the child drunk so that the children do not run away or protest, it becomes easier for them to control them. Not only the racket leaders but also the children may come in contact with drug abuse through their family members who themselves abuse the substance. After getting drunk again the child may be kidnapped for the purpose of sale and procurement.

#### **KIDNAPPING AND ABDUCTION:**

Although kidnapping and abduction are used synonymously for the same purpose, there is a fine line of distinction between the two. Kidnapping generally refers to the removal of a minor from the legal custody of parents or guardians, while abduction refers to the forcible taking of an adult. In the case of kidnapping, the consent of the abducted minor is not important. However, in the case of abduction, the consent of the abducted adult can be a good defence for the accused during criminal proceedings. Here, however, we will deal with child abduction which is an emerging problem in contemporary society.

#### **SALE AND PROCUREMENT:**

The sale and procurement of children is an emerging and problematic issue in the contemporary time frame. Children are abducted and sold by human trafficking rackets and used for various purposes including:

- To employ them in begging.
- To force them to engage in child prostitution.
- To employ them for domestic work.
- To force them into illegal marriages or illicit relationships.

#### **OTHER CRIMES AGAINST CHILDREN:**

- **Child prostitution:**

Prostitution refers to the provision of sexual services in exchange for money or financial gain. Child prostitution is illegal everywhere. However, the age of consent may vary depending on the country. For example: In Italy, the age of consent is 14 years. However, human trafficking, kidnapping and all other child-related crimes are usually linked or related to child prostitution. Despite strict laws around the world, child prostitution is prevalent due to the large number of pedophiles in society.

- **Child pornography:**

Child pornography refers to the act of inducing or forcing a child to perform sexually explicit acts and recording them. Such inducing acts can be done by luring a minor through financial

or other means. Child pornography is banned in all nations and pornographic websites are strictly directed to remove or filter any sexually explicit content involving a child from the websites.

- **Child molestation and rape:**

Currently molestation and rape are not limited to any gender. A child can be a victim of sexual molestation or rape irrespective of his/her gender. Such crimes can be committed on a child by a family member, a family friend, a school teacher or a janitor or even by his/her friends, household help etc. Usually, the child fails to understand the seriousness and consequences of such acts due to lack of knowledge and maturity. Or perhaps he/she keeps silent due to threats from the perpetrators. Sometimes his/her family advises him/her to maintain secrecy in order to maintain the so-called family honour. Whatever the situation, there has been an increase in sexual crimes against children and most of the cases go unreported.

### **CONCLUSION:**

The Protection of Children from Sexual Offences Act, 2012 (POCSO) was introduced to address the growing problem of child sexual offences in India by creating a child-friendly legal framework. The Act provides comprehensive provisions to protect children from sexual offences, but its effective implementation remains a challenge. The judiciary plays a vital role in ensuring that the objectives of the Act are achieved, but judicial responses to POCSO cases often vary, leading to discrepancies in its interpretation, application and enforcement across regions.

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## RENEWABLE ENERGY, CLIMATE SCIENCE, GREEN TECHNOLOGIES, SUSTAINABLE AGRICULTURE

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### ABSTRACT

*Science and technology are transforming the world at an unprecedented pace, driving innovation in critical areas like artificial intelligence, biotechnology, renewable energy, and space exploration. These advancements are revolutionizing healthcare, communication, transportation, and education, making life more convenient and efficient.*

### KEY DEVELOPMENTS INCLUDE:

- **Artificial Intelligence (AI):** Automating complex tasks, personalizing experiences, and solving data-driven problems
- **Biotechnology:** Advancing medicine through genetic engineering and personalized treatments
- **Renewable Energy:** Creating sustainable solutions like solar and wind power to combat climate change
- **Internet of Things (IoT):** Connecting devices to collect and share data, enabling smart homes and cities
- **Blockchain:** Secure, decentralized technology for supply chain management and secure voting

However, technological advancements also raise concerns about data privacy, cybersecurity, job displacement, and environmental impact. Addressing these challenges is crucial to ensuring that science and technology continue to improve lives and shape a better future <sup>1</sup>.

### HISTORY OF RENEWAL ENERGY

Renewable energy has a rich history that's spanned centuries. Let's break it down:

- **Ancient Times**

People harnessed solar energy for heating and lighting, using magnifying glasses to focus sun rays and start fires. Wind power was used for sailing and grinding grain.

- **Industrial Revolution (18th-19th centuries)**

As fossil fuels rose, renewable energy took a backseat. However, hydropower continued to grow, with waterwheels and early hydroelectric plants.

- **20th Century**

Concerns about pollution and energy security sparked renewed interest in renewables:

- **Solar Energy:** Photovoltaic cells were developed in the 1950s, with efficiency improving over time.
- **Wind Energy:** Modern wind turbines emerged in the 1970s-80s, with Denmark leading the way.



- Geothermal Energy: Exploration began in Italy (1904) and the US (1960s).
- Bioenergy: Biomass and biogas gained traction as alternatives to fossil fuels.

- **Modern Era (1990s-present)**

Renewables have grown rapidly, driven by climate concerns, tech advancements, and policies like feed-in tariffs:

- Solar: Costs plummeted, making it viable for homes and grids.
- Wind: Turbines grew larger, more efficient, and offshore wind farms emerged.
- Hydrogen: Green hydrogen production is being explored for industry and transport.
- Grid Integration: Smart grids, storage, and hybrid systems are key focus areas.

- **India's Role**

India's renewable energy journey is notable:

- Solar Mission: Launched in 2010, aiming for 100 GW by 2022.
- Wind Power: India is a top global producer, with Gujarat and Tamil Nadu leading.
- International Solar Alliance: HQ in Gurgaon, promoting solar globally.

## INTRODUCTION

Science and technology are the driving forces behind human progress, transforming the way we live, work, and interact. From the discovery of fire to the development of artificial intelligence, advancements in science and tech have revolutionized societies and opened doors to new possibilities.

### Key Aspects:

- Innovation: Science and technology foster innovation, leading to breakthroughs in fields like medicine, energy, and transportation.
- Problem-Solving: They provide tools and methods to address global challenges, such as climate change, poverty, and healthcare.
- Economic Growth: Science and technology drive economic development, creating new industries, jobs, and opportunities.
- Improved Quality of Life: They enhance our daily lives, from communication and entertainment to healthcare and education.

### Current Trends:

- Artificial Intelligence (AI) and Machine Learning (ML)
- Internet of Things (IoT) and Blockchain
- Biotechnology and Genomics
- Renewable Energy and Sustainability

## RENEWABLE RESOURCES

Renewable resources are natural resources that can be replenished over time and are a sustainable way to meet our energy needs. Examples include:

- Solar energy
- Wind energy
- Hydro energy (water)
- Geothermal energy
- Biomass energy (organic matter)

These resources are abundant, cleaner, and can help reduce our reliance on fossil fuels.



**RENEWABLE FUELS**

Renewable fuels are energy sources derived from organic materials like plants, waste, and algae, offering a sustainable alternative to fossil fuels. They're carbon-neutral, meaning the CO<sub>2</sub> released during combustion equals the CO<sub>2</sub> absorbed during plant growth. Let's dive into some popular types:

1. Bioethanol: Produced from fermented plant materials like sugarcane, corn, or switchgrass, bioethanol is commonly blended with gasoline.
2. Biodiesel: Made from vegetable oils, animal fats, or algae, biodiesel can power diesel engines with minimal modifications.
3. Biogas: Generated from organic waste decomposition, biogas is primarily methane and CO<sub>2</sub>, usable for electricity, heat, or as a vehicle fuel.
4. Hydrogen: Produced via electrolysis using renewable energy, hydrogen fuel cells emit only water vapor, making them an attractive clean energy option.

These fuels can reduce greenhouse gas emissions, promote energy security, and create rural jobs. India's initiatives like the National Biofuels Policy aim to boost renewable fuel adoption, targeting 20% ethanol blending in petrol by 2025.

**CLIMATE SCIENCE**

Climate science is a multidisciplinary field that focuses on understanding the Earth's climate system, including the atmosphere, oceans, land surfaces, and ice sheets. Researchers in this field examine the interactions and feedbacks within the climate system, as well as the impacts of human activities on climate.

Some key areas of study in climate science include:

- Climate modeling and prediction
- Global warming and climate change
- Ocean-atmosphere interactions
- Ice sheet dynamics and sea level rise
- Climate impacts on ecosystems and human societies

**GREEN TECHNOLOGY BENEFITS**

Green technology offers numerous benefits for the environment, economy, and society. Here are some key advantages:

1. Reduced greenhouse gas emissions: Green tech like solar, wind, and hydro power generate energy without emitting harmful gases, contributing less to climate change.
2. Conservation of natural resources: Technologies like energy-efficient appliances, LED lighting, and rainwater harvesting help conserve water, energy, and other resources.
3. Lower operational costs: Renewable energy sources like solar and wind can reduce energy bills and operational expenses in the long run.
4. Job creation and economic growth: The green tech industry is creating new job opportunities and driving economic growth in sectors like renewable energy, sustainable infrastructure, and eco-tourism.
5. Improved air and water quality: By reducing pollution and emissions, green tech helps improve air and water quality, benefiting public health.

6. Increased energy independence: With renewable energy sources, countries and individuals can reduce reliance on imported fuels, enhancing energy security.

7. Waste reduction and recycling: Green tech promotes waste management and recycling, reducing landfill waste and conserving resources.

Some popular green technologies include:

- Solar energy
- Wind energy
- Hydro energy
- Geothermal energy
- Biomass energy
- Electric vehicles
- Energy-efficient buildings
- Green roofs and walls

India has been actively promoting green technology through initiatives like:

- Renewable energy targets
- Solar parks and wind farms
- Electric vehicle incentives
- Energy-efficient building codes
- Waste management programs

## **SUSTAINABLE AGRICULTURE PRACTICES**

Sustainable agriculture practices are methods that promote environmental stewardship, social responsibility, and economic viability. Here are some key practices:

1. Crop Rotation and Intercropping: Rotate crops to improve soil health, reduce pests, and increase biodiversity. Intercropping involves growing multiple crops together to promote ecological balance.
2. Organic Farming: Use natural inputs like compost, manure, and green manure to improve soil fertility. Avoid synthetic fertilizers and pesticides.
3. Conservation Agriculture: Minimize soil disturbance, retain crop residues, and use cover crops to reduce erosion and improve soil health.
4. Agroforestry: Integrate trees into farming systems to promote biodiversity, improve soil health, and provide shade.
5. Integrated Pest Management (IPM): Use a holistic approach to manage pests, including crop rotation, biological control, and cultural practices.
6. Efficient Water Management: Use techniques like drip irrigation and rainwater harvesting to conserve water.
7. Soil Conservation: Use contour farming, terracing, and mulching to reduce soil erosion.
8. Biodiversity Promotion: Plant diverse crops, maintain ecological corridors, and conserve native species.

These practices can improve soil health, reduce environmental degradation, and promote sustainable agriculture.

## **BIBLIOGRAPHY**

- AI
- Google Real Research

**Here are some notable authors and scientists in science and technology:**

**## Physics and Mathematics**

- Isaac Newton: Laws of Motion and Gravity
- Albert Einstein: Theory of Relativity
- Marie Curie: Radioactivity and Nobel Prize winner
- Stephen Hawking: Black Holes and Cosmology

**## Biology and Medicine**

- Charles Darwin: Theory of Evolution
- Rosalind Franklin: DNA Structure and X-ray Crystallography
- James Watson and Francis Crick: DNA Double Helix Model
- Siddhartha Mukherjee: Author of "The Gene: An Intimate History"

**## Computer Science and Technology**

- Alan Turing: Computer Science and Artificial Intelligence
- Walter Isaacson: Author of "The Innovators" and Einstein biography
- Elon Musk: Entrepreneur and Innovator in SpaceX and Tesla

**## Other Notable Scientists**

- Galileo Galilei: Astronomy and Physics
- Michael Faraday: Electromagnetism and Chemistry
- Jennifer Doudna: CRISPR Gene Editing and Nobel Prize winner
- Demis Hassabis: Artificial Intelligence and DeepMind founder <sup>1 2 3</sup>



## THE ROLE OF BRAND IMAGE AND PROMOTIONAL STRATEGIES IN SHAPING CUSTOMER EXPECTATION AND PERCEPTION TOWARDS LIFE INSURANCE PRODUCTS IN GUJARAT

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### **ABSTRACT**

*The research looks into the effect of brand image and promotional strategies on customer expectations and perceptions of the products of life insurance in Gujarat. The study indicates that the good brand image brings credibility, trust and emotional attachment whereas good promotional strategies raise awareness and product knowledge. Through quantitative analysis, the researchers concluded that brand image has significant effect on customer expectations ( $R = 0.544$ ,  $p < 0.05$ ), which explains 29.6% of the variation in customer expectations. Nonetheless, the promotional strategies were demonstrated to have an insignificant correlation with customer perception, which indicates that advancement of advertising at present does not generate any foundations of trust or involvement. Also, the analyses based on gender showed no notable difference in the perceptions among the male and female respondents. The results highlight the fact that the insurance companies in the Gujarat competitive insurance market need to reinforce brand reputation and use personalized and trust-based promotion campaigns to enhance customer satisfaction and loyalty.*

**KEY WORDS: BRAND IMAGE, PROMOTIONAL STRATEGIES, CUSTOMER EXPECTATION, CUSTOMER PERCEPTION, LIFE INSURANCE, GUJARAT, MARKETING COMMUNICATION, BRAND TRUST, CONSUMER BEHAVIOR**

### **INTRODUCTION**

The life insurance industry in Gujarat has been facing an impressive growth and change in the last ten years due to the process of economic liberalization, financial literacy programs, and the changing tastes and preferences of the customers. Brand image and promotion strategies have been noted in this dynamic market to be two main factors that determine the expectations and perceptions that customers have against life insurance products. A good brand image offers a sense of reliability, credibility, and trust; which are core in an industry where intangible advantages and long-term commitments prevail. It is hence seen that life insurance companies are much more inclined towards branding activities to establish an emotional attachment with customers and also to ensure that they stand out amongst the otherwise competitive environment. Promotions are important communication tools which include advertising, sales promotions, digital marketing and PR that helps the insurers to educate, persuade and remind the customers on the importance and benefits of being insured. The persuasive messages provided by television, print media, and online will not

only improve brand recall but also will provide an impact on the customer perception of product value, quality of services, and reliability of claims. With the socio-economic differentiation and different degrees of financial awareness being the dominant state of affairs in the context of Gujarat, the efficient promotion strategy plays a vital role in the process of closing the knowledge gap and gaining customer trust.

The interaction between the brand image and the promotional activity has a direct impact on how the customers set forward their expectations prior to the purchase as well as the perception of the performance of the service offered after consumption. By learning about these relationships, insurance providers will be able to market and communicate with the understanding of consumer psychology to keep customers satisfied and loyal. Therefore, the objective of the study is to investigate the effects of promotional strategies and brand image on the expectations and perceptions of customers with regard to the life insurance products in Gujarat that will provide valuable contribution both to the academia and industry players.

### **LITERATURE REVIEW**

The most recent literature all highlights the pivotal role of the brand image, marketing communication, and digital influence on consumer perception, satisfaction, and loyalty in any sector. According to Zou (2023), Apple is successful due to its innovation and emotional branding, which makes it an identity that makes it a lifestyle. Srinivas (2025) notes the increasing strength of influencer marketing, noting that influencer marketing depends on authenticity and trust, and micro-influencers are more relatable. A study by Sibarani and Silitonga (2025) describes brand image as a mediator of service quality, price perception, and customer satisfaction in the hospitality industry by demonstrating that an image alignment with prices increasing satisfaction. On the same note, Suthakar and Ragunathan (2023) discover that service quality and goodwill of LIC are quite influential on customer perception and loyalty in Chennai.

Moreover, Saputra et al. (2025) confirm that brand awareness and image have an indirect impact on online fashion retail loyalty through customer satisfaction. Nopera et al. (2024) and Syahputri et al. (2025) affirm that the brand image and promotion play an important role in influencing the purchase decision, especially in the local batik and edtech markets. As it is demonstrated, digital marketing increases the brand awareness and customer interaction in the insurance market (Anastasia et al., 2025). Adholiya and Adholiya (2018) discuss the power of promotional techniques in marketing insurance, noting that it needs to have a credible and creative campaign. Angeline and Rastini (2025) show the promotion appeal and loyalty promotion using a brand image that mediates between the promotion and loyalty in the fashion market. As concluded by Julia and Ridhaningsih (2025), authenticity depends on online customer reviews, which has a greater influence on the purchase decision compared to celebrity endorsements. David et al. (2025) study the impact of AI-generated advertisements, and their study found that the outcome of brand sentiment is determined by the measures of trust and relevance. Finally, Srinivas et al. (2025) disclose that the aesthetics and the use of language in adverts have a significant impact on consumer perception, whereby firms should consider employing emotionally appealing, culturally appealing communication.

Together, these works substantiate the idea that integrated digital solutions, brand authenticity, and emotional bond form the key components of sustainable consumer relationship and brand success.

### **RESEARCH GAP**

Though a number of investigations have been conducted on marketing and branding aspects within the insurance industry, few researches have actually delved on the relationship between brand image, promotional activities and customer expectations within the Gujarat life insurance industry. The majority of what previous studies focused on is customer satisfaction, or service quality, at the national scale without considering the regional socio-cultural and behavioral patterns peculiar to Gujarat. Moreover, the relationship between marketing communication tool and perception-building process in life insurance does not have empirical evidence. Thus, this research fills the gap by providing a localized and analytical view of the relationship between brand image and promotional strategies as a whole in their influence on customer behavior in the Gujarat insurance market.

### **OBJECTIVES**

1. To analyze the influence of Brand Image (BI) on Customer Expectations (CE) toward life insurance products in Gujarat.
2. To analyze the impact of promotional strategies on customer perception regarding life insurance services offered by various companies in Gujarat.
3. To evaluate the combined effect of brand image and promotional strategies on overall customer satisfaction and trust in life insurance products in Gujarat.

### **RESEARCH METHODOLOGY**

- Research Design: The descriptive and analytic design grounded on the quantitative approach.
- Research Area: The chosen cities of Gujarat with the focus on the life insurance business.
- Population: Gujarat life insurance customers of different companies.
- Sampling Method: Simple random sampling method.
- Sample Size: 70 respondents who are to be included in the survey.
- Data Collection Method: Structured questionnaire through 5-point Likert.
- Type of data: Primary data: Survey responses, secondary data: literature, reports.
- Statistical Tools:
- Regression analysis (to establish the influence of brand image on customer expectations)
- Correlation analysis (to investigate the effects of promotional strategies on perception)
- Independent Samples t-test (to test the differences based on gender)
- Software Used: SPSS to do the statistical computation and interpretation of data.
- Hypothesis Testing: It was performed at 5% significance level through p-value method.

- Brand Image, Promotional Strategies, Customer Expectation, Customer Perception, Satisfaction, and Trust.
- Outcome Focus: The determination of the effect of brand image and promotional activities on perception and expectation of life insurance products.

**DATA ANALYSIS AND INTERPRETATION**

Null Hypothesis ( $H_{01}$ ):

There is no significant relationship between Brand Image and Customer Expectations toward life insurance products in Gujarat.

Alternative Hypothesis ( $H_{11}$ ):

There is a significant relationship between Brand Image and Customer Expectations toward life insurance products in Gujarat.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.544 <sup>a</sup>	.296	.286	1.19434
a. Predictors: (Constant), BI_index				

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.773	1	40.773	28.584	.000 <sup>b</sup>
	Residual	96.998	68	1.426		
	Total	137.771	69			
a. Dependent Variable: The brand image of a life insurance company strongly influences my decision to purchase its products.						
b. Predictors: (Constant), BI_index						

Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-.444	.649		.497
	BI_index	1.100	.206	.544	.000
a. Dependent Variable: The brand image of a life insurance company strongly influences my decision to purchase its products.					

The regression analysis has been made in order to establish the impact of Brand Image (BI) on the Customer Expectations towards the life insurance products in Gujarat.

Model Summary indicates that the correlation coefficient, (R) is 0.544; that is, there is a moderate valuable relationship between brand image and customer expectations. The value of  $R^2$  (0.296) implies that brand image alone can explain the variation in customer expectations (29.6 percent), but the other 70.4 percent depends on the other factors not featured in this model. Adjusted R Square (0.286) indicates the reliability of the model with the adjustment made on the sample size.



The ANOVA table gives F-value of 28.584 with a significance (p-value) of 0.000 which is not below the value of 0.05. This is a clear sign that the regression model is statistically significant and brand image plays a significant role on customer expectations. Therefore, the general model fits the data very well.

Based on the Coefficients table, the unstandardized coefficient (B) of brand image is 1.100 such that, in case the brand image increases by one unit, customer expectations will rise by 1.10 units, other things remaining unchanged. The t-value 5.346 which has a significance value of 0.000 (smaller than 0.05) also confirms that brand image is a good and statistically significant predictor of customer expectations.

The p-value (0.000) is less than 0.05, which is why the null hypothesis ( $H_0$ ) is rejected, and the alternative hypothesis ( $H_1$ ) is accepted. This implies that customer expectations of the life insurance products in Gujarat depend on brand image a great deal. When customers have a strong and positive brand image, the customers would have more expectations and a favorable attitudes toward such companies.

Null Hypothesis ( $H_0$ ):

Promotional strategies do not have a significant impact on customer perception of life insurance products in Gujarat.

Alternative Hypothesis ( $H_1$ ):

Promotional strategies have a significant impact on customer perception of life insurance products in Gujarat.

Correlations				
		PRM_index	BI_index	ST_index
PRM_index	Pearson Correlation	1	-.042	-.097
	Sig. (2-tailed)		.730	.425
	N	70	70	70
BI_index	Pearson Correlation	-.042	1	-.010
	Sig. (2-tailed)	.730		.937
	N	70	70	70
ST_index	Pearson Correlation	-.097	-.010	1
	Sig. (2-tailed)	.425	.937	
	N	70	70	70

Promotional Strategies (PRM) and Customer Perception (CP) about life insurance products in Gujarat were analysed through a correlation analysis to establish the relationship between the two parameters. The correlation coefficient of PRM and Brand Image (BI) equals -0.042 with the correlation coefficient of PRM and Satisfaction and Trust (ST) being -0.097. The values are negative and very weak, which means that promotional strategies are almost not linear to the brand image or customer satisfaction and trust levels as they vary.

The value of the significance (Sig. 2-tailed) of both relationships is 0.730 (PRM-BI) and 0.425 (PRM-ST), which are significantly higher than 0.05. This is a clear indication that the correlations do not have a statistically significant correlation at the 5% level. Thus, the

promotional activities embraced by life insurance companies in Gujarat impact in no quantifiable or substantial way on how customers feel and believe about such services, according to the existing dataset.

Furthermore, non-existence of any significant correlation can indicate that other kinds of factors, including personal experience, word-of-mouth, quality of service, history of claims settlement can have a greater influence on customer perception compared to advertising or promotion campaigns.

The p-values (0.730 and 0.425) are more than 0.05, therefore, the null hypothesis ( $H_0$ ) is accepted and the alternative hypothesis ( $H_1$ ) is rejected. This implies that the promotional strategies do not play an important role in influencing the customer perception on the life insurance products in Gujarat. That is, the existing promotional activities of insurance companies do not seem to change or enhance the perception of customers, which means that the more focused, understandable, and trustworthy promotional strategies are required.

Null Hypothesis ( $H_0$ ):

There is no significant difference in the perception of brand image, promotional strategies, and satisfaction & trust between male and female customers toward life insurance products in Gujarat.

Alternative Hypothesis ( $H_1$ ):

There is a significant difference in the perception of brand image, promotional strategies, and satisfaction & trust between male and female customers toward life insurance products in Gujarat.

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
BI_index	Male	33	3.0227	.69979	.12182
	Female	37	3.1284	.70371	.11569
PRM_index	Male	33	3.0682	.82508	.14363
	Female	37	3.0676	.66575	.10945
ST_index	Male	33	2.9596	.81546	.14195
	Female	37	2.9009	.74480	.12244

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper

BI_index	Equal variances assumed	.265	.608	.629	.68	.532	-.10565	.16805	-.44100	.22969
	Equal variances not assumed			.629	67.179	.532	-.10565	.16800	-.44096	.22966
PRM_index	Equal variances assumed	2.380	.128	.003	.68	.997	.00061	.17838	-.35533	.35656
	Equal variances not assumed			.003	61.516	.997	.00061	.18058	-.36041	.36164
ST_index	Equal variances assumed	.797	.375	.315	.68	.754	.05870	.18649	-.31343	.43082
	Equal variances not assumed			.313	65.233	.755	.05870	.18747	-.31567	.43307

To assess whether gender influences perceptions related to brand image (BI), promotional strategies (PRM), and satisfaction & trust (ST) among life insurance customers in Gujarat, an Independent Samples t-test was performed. The analysis compared the mean responses of 33 male and 37 female respondents.

### **1. Brand Image (BI\_index):**

The average of all males (3.02) and females (3.13) is almost the same with a slight difference between the mean values of, 3.02 and 3.13 of -.105. The equality of variances was tested using the Levene's Test of equality of variances and the Sig. value of test was 0.608 (>0.05). The t-test (2 tailed) Sig. = 0.532 (>0.05) indicates that male and female perception of brand image are not statistically significantly different. Therefore, the brand image of life insurance companies is perceived by both genders in a similar way.

### **2. Promotional Strategies (PRM index):**

It has a difference of 0.0006 where the mean score is nearly the same with males (3.07) and females (3.07). The p-value (Sig. 2-tailed) = 0.997 (>0.05) proves that there is no significant difference in perception about promotional activities applied by life insurance companies on the basis of gender. This implies that the effect of promotional campaigns is the same, with regard to gender.

### **3. Satisfaction & Trust (ST\_index):**

To be satisfied and trust, men recorded a mean of 2.96, and women record 2.9 0, with an average of 0.0587. Once again, the p-value (0.754) is more than 0.05, and there is no significant gender-based variation. Male and female customers have the same satisfaction and trust to the life insurance companies.

All in all, the findings of all three variables (BI, PRM and ST) indicate that gender has no significant impact on the way customers evaluate brand image, promotional strategies as well as their satisfaction and level of trust.

The null hypothesis ( $H_0$ ) is accepted since all p-values (0.532, 0.997, and 0.754) are greater than 0.05, and the alternative hypothesis ( $H_1$ ) is rejected. This implies that male and female customers do not have any remarkable difference in perceiving brand image, promotion strategies, and satisfaction and trust. There is a similar and consistent manner in which both genders assess the image of the life insurance companies and their marketing initiatives. Gender is hence not a point of distinction in determining customer satisfaction or confidence in the life insurance industry of Gujarat.

## CONCLUSION

The statistical analysis done on this study brings important results as to how brand image and the promotional strategy influence customer behaviour, expectations and satisfaction of life insurance products in Gujarat. The outcome of the regression indicates that the brand image influences the customer expectations strongly and significantly. Having an R value of 0.544 and a significant p-value of 0.000, it can be concluded that a positive brand image directly boosts customer trust and expectations, and that the insurance companies that have a good brand image are prone to attract more loyal and satisfied customers. A combination of the brand image alone is used to explain almost 29.6 percent of the change in customer expectations and its strategic relevance in marketing and service perceptions. On the other hand, the relationship between promotional strategies and customer perception has a weak correlation and statistically insignificant correlation. The values of Pearson coefficients (-0.042 and -0.097) will suggest that the existing promotional activities do not have significant effects on the perception and levels of trust among customers. This is an indication that the current promotional techniques by the insurance companies might not be relevant or have feelings, and customers might place a lot of emphasis on other aspects like credibility, effectiveness of claim settlements and experience of the service implying that they might not pay much attention to the advertisements.

Moreover, the t-test comparing the difference between the gender variables shows no significant difference in the perception of the brand image, promotion strategy, or satisfaction and trust by the male and female customers. The findings, where all the p-values are above 0.05, indicate that gender has no effects on the perception in the insurance market and it is possible to assume that the feedback of customers in both groups is the same. All in all, the paper comes to the conclusion that brand image is a significant influence on customer expectations, but promotion strategies cannot change the perceptions, and the gender does not mediate these relations. The insurance companies are thus forced to enhance brand reputation and credibility by working on the quality of service, transparency and trust building mechanisms.

## RECOMMENDATIONS

In Gujarat, insurance companies should put their efforts in improving brand credibility and consistency by performing transparent communication, dependable claim procedures and

customer-oriented services. The marketing personnel should reorganize their promotion efforts to incorporate individualized, online and emotive campaigns that encourage interaction and loyalty instead of information delivery. Brand loyalty would be increased by regular feedback systems, testimonials, and trust-mark certifications. Also, the insurance companies ought to use the digital platforms to initiate awareness campaigns that place product advantages on a clear ethical platform. Through matching the strength of the brand with the innovative promotional activities, the life insurance organizations are able to attain greater customer satisfaction and sustainable market development.

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## CONSUMER AND PUBLIC ATTITUDES TOWARDS PROFITABILITY RATIOS AND PRICE STABILITY IN THE CEMENT INDUSTRY: A SURVEY STUDY

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### **ABSTRACT**

*The article is called Consumer and Public Attitudes Towards Profitability Ratios and Price Stability in the Cement Industry and is a research conducted on the consumer behavioral attitude towards the financial performance and price stability of cement companies. It characterizes the connection between profitability measures, including the ratio of equity and net profit margin, and price stability on purchasing behaviour and trust in the companies on the public with a primary survey of 70 respondents. ANOVA, correlation and regression analysis indicates that though consumer perception on the significance of profitability ratios is more or less unanimous, the only perceptions which demonstrate a significant variation are perceptions that high profitability is correlated with management efficiency. There is a weak though significant association between price stability and consumer trust. Nevertheless, profitability ratios combined with price stability have a statistically irrelevant effect on general attitudes of the population. The results point out that the consumers consider these aspects separately with a strong focus on clear communication and fair prices in order to enhance trust in the cement industry.*

**KEY WORDS: CONSUMER ATTITUDES, PUBLIC PERCEPTION, PROFITABILITY RATIOS, PRICE STABILITY, CEMENT INDUSTRY, SURVEY STUDY.**

### **INTRODUCTION**

Cement is an important sector in the developing world such as India with infrastructure development and economic growth being some of the most important activities. Being a highly capital-intensive, demand-driven industry, the performance is frequently measured in financial terms in terms of profitability ratios and its capacity to ensure steady prices. The profitability ratios such as the net profit margin, the return on equity and the return on asset give an insight into the financial performance of the cement companies and the price stability gives an insight of the industry capacity to cope with changes in production cost and demand. These two aspects do not only affect the investors and policymakers but they also affect the opinion and behavior of the consumers and the general population.

The last few years have seen the cement companies challenged with the increasing cost of inputs, unpredictable demand, and external economies in the world adding difficulties to the companies in ensuring that they show consistent profitability. At the same time, price stability is of great importance to the consumers and the general population, since the



cement prices have direct impact on housing, construction and infrastructural projects. It is essential to comprehend the consumer and social attitude to these two financial aspects as the image of the industry reflects in them, the desire to invest in the company and further accept the prices policy.

The interpretation of financial performance metrics in the outside corporate boardroom can be presented by surveys based research studies, which concentrate on these perceptions. An example is that the profitability ratios are usually used by investors, but the general population would interpret it in a different manner where high profitability would mean efficiency or vice versa, overpricing. Equally, the predictability of prices can also lead to trust, and a high rate of price movement might lead to doubt and dissatisfaction.

Thus, the research of consumer and social attitudes to profitability ratios and price stability in the cement industry can contribute to the narrowing of the gap between financial performance and expectations in society. This type of research gives a comprehensive idea on the balance of financial indicators and consumer welfare, market trust and sustainable growth of an industry.

## **LITERATURE REVIEW**

The studies reviewed at large, analyze the complex association between profitability, liquidity, leverage, and macroeconomic variables that affect the outcome of firm performance and the prices of stocks in different industries and nations. Rahman and Ahmed (2021) investigated how the working capital management can be used to improve the profitability in the cement and tannery industry in Bangladesh, and they discovered that an effective cash conversion cycle and current ratio can increase the profitability. Prabhakar and Japee (2023) would make a comparison between the profitability numbers of the two companies of Ambuja Cement Ltd. and ACC Ltd., and found that on profitability indicators, Ambuja demonstrated a superior profitability but ACC was better in terms of capital utilization. On the same note, Panigrahi, Vachhani, and Sisodia (2022) used both liquidity and profitability as independent variables to determine their effects on share prices of Indian cement industries, and found that liquidity indicators are greater determinants of the market value than profitability.

A comparison of the textile and cement industries in Pakistan by Bashir and Amir (2018) demonstrated the superiority of earnings per share (EPS) in the determination of stock prices. The paper by Husain and Al-Khalaf (2021) evaluated the cement industry in Saudi Arabia in the period of economic deceleration and realized that cost efficiency brought profitability in the midst of external shocks. Furthering on this, Bari (2025) investigated the macroeconomic and monetary strains on cement and ceramic industries in Bangladesh, demonstrating that profitability is a factor of monetary stability and resilience of the sector.

There are several studies devoted to the investigation of the performance of the market in Indonesia: Akib et al. (2023) discovered that leverage negatively impacts stock prices; Anggraini and Munawaroh (2025) discovered that liquidity and leverage positively impacted the price of construction stocks, and profitability affected the price of

manufacturing stocks negatively; Hapsari and Susilowati (2025) found out that the returns on assets and equity are important factors to raise the prices of stock in LQ45 companies; and Rahmawati et al. (Taken together, these studies confirm that profitability, liquidity and capital structure continue to play key roles in influencing the firm valuation with industry context and macroeconomic conditions mediating their impact.

Despite the amount of research available on the financial performance of cement companies using the profitability ratios, little has been done to assess how the financial ratios are viewed by consumers and the citizens. The available literature is heavily biased towards the view of an investor and the profitability of the corporate world without expanding the discussion to a social and consumer angle. More so, the research on price stability in the cement industry focus on macro economic and policy issues more than consumer trust and attitudes. The existence of this gap indicates that there is importance of survey-based studies to examine how profitability ratios and price stability have a collective impact on consumer confidence and population perception in the cement industry.

### **RESEARCH OBJECTIVES**

1. To examine consumer attitudes towards profitability ratios of cement companies and their perceived impact on industry performance.
2. To analyze public perceptions regarding the importance of price stability in the cement industry and its influence on consumer trust.
3. To evaluate the relationship between profitability ratios and price stability in shaping overall consumer and public attitudes towards the cement industry.

### **RESEARCH METHODOLOGY**

The research design is descriptive and analytical research (survey).

Type of research: Quantitative researches based on primary data gathering.

Data Source: Primary data (structured questionnaires); secondary data (journals and reports).

Type of Sampling: Simple random.

Sample Size: 70 respondents (consumers and public).

Data Collection Instrument: Likert-scale structured questionnaire.

Statistical tools utilized: ANOVA, correlation analysis and multiple regression analysis.

Calcuatoires and Computer programs: SPSS to analyse quantitative data.

Variables:

Profitability ratios and price stability as independent variables.

Dependent Variable -Consumer and public perception on the cement industry.

Hypothesis Testing: Test on null and alternative hypotheses at 5% level of significance.

Data Interpretation: Findings interpreted on the basis of p-values and correlation coefficients in order to evaluate statistical significance.

### **DATA ANALYSIS AND INTERPRETATION**

**H<sub>0</sub> (Null Hypothesis):** There is no significant difference in consumer attitudes towards the importance and implications of profitability ratios of cement companies.

**H<sub>1</sub> (Alternative Hypothesis): There is a significant difference in consumer attitudes towards the importance and implications of profitability ratios of cement companies.**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I understand the importance of profitability ratios in evaluating cement companies.	Between Groups	4.325	4	1.081	.601	.664
	Within Groups	117.046	65	1.801		
	Total	121.371	69			
Profitability ratios of cement companies influence my trust in the industry.	Between Groups	8.141	4	2.035	.988	.420
	Within Groups	133.859	65	2.059		
	Total	142.000	69			
Higher profitability ratios indicate efficient management in the cement industry.	Between Groups	20.476	4	5.119	2.950	.026
	Within Groups	112.795	65	1.735		
	Total	133.271	69			
I believe very high profitability may result in overpricing of cement products.	Between Groups	5.425	4	1.356	.693	.599
	Within Groups	127.161	65	1.956		
	Total	132.586	69			

The ANOVA test reveals that the results are mixed with regard to the four statements. In the case of the statement I understand the importance of profitability ratios in assessing cement companies the significance value is 0.664 compared to 0.05 which is quite higher. This lacks statistical significance between groups, therefore the null hypothesis is the one that is accepted (H<sub>0</sub>). Likewise, in the case of the statement of the profitability ratios of cement companies affects my confidence in the industry, the significance value = 0.420, which is once again above the value of 0.05, which indicates that there is no significant difference, and H<sub>0</sub> is accepted. In the case of I believe very high profitability may create overpricing of cement products, the p-value is 0.599 which is greater than 0.05 hence in this case too H<sub>0</sub> is accepted.

But on the statement that Higher profitability ratios mean that the cement industry management is efficient, the value of the significance is 0.026 which is not more than 0.05. This means that there is statistically significant difference between consumer attitudes. Thus in this example the null hypothesis is rejected and the alternative hypothesis (H<sub>1</sub>) accepted. On the whole, the findings indicate that the respondents tend to be the same in terms of their attitudes towards profitability ratios and the effect that these ratios have on the level of trust or pricing, but there is a great difference in the attitudes of consumers

relating profitability ratios to the effectiveness of the management. This brings out the fact that profitability ratios are more sensitive to the perceptions of management efficiency than other dimensions.

**H<sub>0</sub> (Null Hypothesis): Public perception of price stability in the cement industry has no significant impact on consumer trust.**

**H<sub>1</sub> (Alternative Hypothesis): Public perception of price stability in the cement industry has a significant impact on consumer trust.**

Correlations					
		Price stability in the cement industry is important for consumer satisfaction.	Frequent changes in cement prices reduce my confidence in the industry.	Stable prices encourage me to support and recommend cement companies.	Price stability in cement directly affects my trust in company policies.
Price stability in the cement industry is important for consumer satisfaction.	Pearson Correlation	1	.209	-.238	.027
	Sig. (2-tailed)		.082	.047	.826
	N	70	70	70	70
Frequent changes in cement prices reduce my confidence in the industry.	Pearson Correlation	.209	1	-.080	.053
	Sig. (2-tailed)	.082		.513	.665
	N	70	70	70	70
Stable prices encourage me to support and recommend cement companies.	Pearson Correlation	-.238	-.080	1	.042
	Sig. (2-tailed)	.047	.513		.732
	N	70	70	70	70
Price stability in cement directly affects my trust in company policies.	Pearson Correlation	.027	.053	.042	1
	Sig. (2-tailed)	.826	.665	.732	
	N	70	70	70	70

The correlation table demonstrates the association between the various factors of price stability and consumer trust. The correlation between the independent variable, Price stability in cement industry is important to consumer satisfaction and the dependent variable, Stable prices encourage me to support and recommend cement companies is negative (-0.238) and significant value (0.047) of less than 0.05. This implies that there is a statistically significant relationship, which is weakly negative. It implies that though the

consumers are aware of the necessity of stability, they do not necessarily correlate satisfaction directly with their readiness to recommend companies.

The rest of the relationships, including that of the importance of price stability to consumer satisfaction (Price stability is important, consumer satisfaction,  $r = 0.027$ ,  $p = 0.826$ ) and the relationships between frequent price changes and my trust (Price stability directly affects my trust, trust-related variables,  $p$ -values  $> 0.05$ ) are not significant.

As there is at least a significant correlation ( $p = 0.047$ ), the null hypothesis ( $H_0$ ) is rejected, and the alternative hypothesis ( $H_1$ ) is accepted. It implies that the increase of the price stability perception among the population in the cement industry does make a considerable impact on the consumer trust, but the intensity of the effect differs across different dimensions.

**$H_0$  (Null Hypothesis): Profitability ratios and price stability do not have a significant combined influence on overall consumer and public attitudes.**

**$H_1$  (Alternative Hypothesis): Profitability ratios and price stability have a significant combined influence on overall consumer and public attitudes.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.065 <sup>a</sup>	.004	-.025	1.52189
a. Predictors: (Constant), Profitability ratios and price stability influence my willingness to purchase or invest in cement-related products., Both profitability ratios and price stability are equally important for public perception of cement companies.				

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.660	2	.330	.142	.867 <sup>b</sup>
	Residual	155.183	67	2.316		
	Total	155.843	69			
a. Dependent Variable: Overall, my perception of the cement industry is shaped by both profitability ratios and price stability.						
b. Predictors: (Constant), Profitability ratios and price stability influence my willingness to purchase or invest in cement-related products., Both profitability ratios and price stability are equally important for public perception of cement companies.						

Coefficients <sup>a</sup>					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.323	.565		.000

Both profitability ratios and price stability are equally important for public perception of cement companies.	-.068	.127	-.065	-.534	.595
Profitability ratios and price stability influence my willingness to purchase or invest in cement-related products.	.002	.135	.002	.017	.987
a. Dependent Variable: Overall, my perception of the cement industry is shaped by both profitability ratios and price stability.					

The Model Summary indicates a R value (0.065) and R Sq (0.004) of very low values indicating that profitability ratios and price stability do not explain any more than 0.4 percent of the variation in overall consumer perception. The adjusted R<sup>2</sup> equals (-0.025), which indicates that the predictors do not help to explain consumer attitudes.

This is also confirmed by the ANOVA table. It has a p-value of 0.867 with a F value of 0.142 which is significantly greater than 0.05 significance threshold. It means that the regression model, on the whole, is not statistically significant - a combination of profitability ratios and price stability does not result in a significant explanation of consumer and population attitudes.

In the view of the coefficients, however, both predictors are not significant on their own. To both profitability ratios and price stability are equally important to the perception of the public towards the cement companies, the p-value is 0.595, and to price stability and profitability influence my willingness to buy or invest in cement-related products, the p-value is 0.987. Both exceed 0.05 by a significant margin, and this means that none of the predictors has a considerable effect on the general consumer perceptions.

As the overall regression model is not significant ( $p = 0.867$ ), the null hypothesis ( $H_0$ ) is accepted and the alternative hypothesis ( $H_1$ ) is rejected. It implies that, in your research, the profitability ratios and price stability are not significantly combined to determine the consumer and the populace attitude towards the cement trade.

## CONCLUSION

In the general statistical analysis, there is a subtle perception of consumer perception on the issue of profitability ratios and price stability in the cement industry. The results of the ANOVA show that the majority of statements associated with profitability ratios like the knowledge of their importance, impact on trust, and the perception of overpricing do not have statistically significant differences in relation to consumer groups, their significance values are above 0.05. This implies that the consumers have a fairly similar perception of profitability ratios as a financial measure. Nevertheless, an exception is also evident in the



declaration of Higher profitability ratios are a sign of efficient management in the cement industry with the significance value ( $p = 0.026$ ) less than 0.05. This implies that consumer attitudes are quite different with the management efficacy being a stronger difference when compared with other financial interpretations.

The price stability correlation analysis highlights the direct relationship between price stability and consumer trust and consumer satisfaction. Despite the overall weak and statistically insignificant correlations, it is possible to mention the negative and significant correlation ( $r = -0.238$ ,  $p = 0.047$ ) between price stability and willingness to recommend companies, which suggests that people appreciate the consistency of prices, but they might consider excessively stable prices as a possible sign of market control or the absence of competition. This is an indication of a complicated consumer psychology in which stability as well as fairness in a pricing method are important factors in the development of trust.

Lastly, the multiple regression model of profitability ratio and price stability does not have a significant predictive value ( $R^2 = 0.004$ ,  $p = 0.867$ ), and thus the combination of these two factors do not help elucidate changes in overall consumer perception. Therefore, the effect of each factor separately on perception is weak, but they have a weak correlation. All the findings indicate that profitability and stability in price are perceived as separate parameters by the consumer, and they do not work in tandem to affect their overall trust and satisfaction with the cement industry.

## RECOMMENDATIONS

The cement companies ought to improve the financial transparency intensity in that the profitability is made to appear in terms of support of efficiency and quality of products. Through educational marketing campaigns, customers can be made to construct positively profitability ratios, which can be associated with managerial competence instead of overpricing. Also, the companies must keep the prices moderately steady cost-effective, neither too high nor too low, to gain a long-term reliability. Lastly, consumer perception tracking should be introduced into financial strategy analysis, as it will allow the companies to be more balanced with financial performance and social confidence to make both profitability and stability a productive contributor to the brand image and consumer loyalty.

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# ETHICAL LEADERSHIP AND EMPLOYEE TRUST: A TWO-WAY RELATIONSHIP

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## ABSTRACT

*Ethical leadership is crucial because it builds a foundation of trust, accountability, and integrity, leading to a more positive and productive work environment with higher employee engagement and lower turnover. It enhances an organization's reputation, attracts loyal customers and top talent, and minimizes legal and regulatory risks. Ultimately, it drives long-term success by ensuring sustainable business practices and a more resilient, purpose-driven organization. Developing ethical leadership skills is not just about understanding the concept; it's about applying it effectively in real-world situations. Here are some practical frameworks and actionable suggestions to help leaders enhance their ethical leadership skills. Being an ethical leader isn't just about doing the right thing—it's about doing the right thing consistently and inspiring others to do the same. From accountability to open communication, ethical leadership is defined by values that shape culture, decisions, and behaviour. The **4 V's** of ethical leadership—**Values, Vision, Voice, and Virtue**—offer a practical framework for aligning ethics and leadership in real-world decision-making. We present **five principles** that are believed to lead to the development of ethical leadership. These are **respect for others, service to others, justice for others, honesty toward others, and building community with others**. HR plays a crucial role in fostering ethical leadership throughout an organization. By providing the right resources, guidance, and support, HR ensures that ethical practices are consistently promoted and upheld. Examples of ethical leadership can be found in prominent business and historical figures who prioritize principles like **honesty, accountability, fairness, and a commitment to the greater community or society**, often over short-term profits or personal gain. To truly elevate ethical leadership, organizations must prioritize continuous feedback and open communication—and this is where an employee engagement survey tool like **Culture Monkey** proves invaluable. As a robust employee engagement platform, Culture Monkey enables leaders to collect anonymous, honest feedback that helps uncover ethical blind spots and areas for improvement.*

## 1. INTRODUCTION:

A lighthouse doesn't chase ships—it stands firm, shining its light through storms, guiding vessels safely to shore. Ethical leadership works the same way. In a world where shortcuts tempt and pressure mounts, true leaders don't sway with the tide. They stay grounded in principles, quietly actions. These leaders aren't loud about their ethics—they don't need to be. Their teams feel it when they admit mistakes, uphold fairness, and make tough calls with empathy. That quiet consistency builds deep trust, even when things get chaotic. Just

like sailors rely on the lighthouse's glow, employees look to ethical leaders for stability and direction. When they find it, they're more likely to stay, grow, and contribute with purpose.

## **2. ETHICAL LEADERSHIP MEANING:**

Ethical leadership isn't just about hitting goals or growing profits. It's about how those goals are achieved. At its core, it means leading with integrity, fairness, and a deep sense of responsibility. Ethical leaders make decisions based on what's *right*, not just what's easy, popular, or profitable. They don't just chase KPIs—they care about people, values, and the long-term impact of their choices. It's about aligning words with actions, owning mistakes, staying consistent, and treating others with respect. When leaders lead ethically, it sets the tone for the entire organization. It creates a leadership ripple effect that encourages trust, accountability, and high standards across the board. Whether you're running a startup or leading a global team, ethical leadership isn't a nice-to-have—it's a non-negotiable. It's what builds cultures people believe in, want to contribute to, and stick around for.

## **3. CHARACTERISTICS OF ETHICAL LEADERS:**

Being an ethical leader isn't just about doing the right thing—it's about doing the right thing consistently and inspiring others to do the same. From accountability to open communication, ethical leadership is defined by values that shape culture, decisions, and behaviour.

- 1. Accountability:** Ethical leaders own their actions, especially the tough ones. They don't deflect blame or hide behind others when things go wrong. This kind of accountability builds credibility and encourages teams to take responsibility, too. It reinforces leadership ethics in everyday work.
- 2. Respect:** They treat every individual, regardless of role or background, with dignity. Whether it's listening to an intern or considering a differing opinion, respect is non-negotiable. It's the foundation for strong collaboration and employee trust.
- 3. Fairness:** Fairness in decisions, promotions, and policies is a must. Ethical leaders avoid favoritism and base actions on facts, not bias. This promotes a culture of equality and drives ethical behavior across teams.
- 4. Integrity:** They stick to their values even when it's inconvenient or unpopular. Ethical leaders don't cut corners or compromise ethics for results. Their integrity earns lasting respect and demonstrates what ethics in leadership really look like.
- 5. Honesty:** Whether the truth is easy or hard to hear, they don't sugarcoat it. Honesty helps build transparency and fosters genuine relationships. Teams trust leaders who communicate clearly and truthfully.
- 6. Transparency:** Being open about decisions, intentions, and outcomes keeps people informed and aligned. Ethical leaders don't operate in secrecy—they make sure teams understand the "why" behind major moves. This openness leads to stronger employee engagement.
- 7. Justice:** They champion fairness and take action against injustice within the workplace. Ethical leaders won't tolerate discrimination or inequality. Instead, they advocate for inclusive practices and ensure everyone is treated justly.

8. **Trust:** Trust isn't just earned—it's maintained. Ethical leaders create environments where people feel safe, heard, and empowered. By being dependable and consistent, they earn deep trust from their teams.
9. **Zero tolerance for ethical violations:** They don't turn a blind eye to misconduct or sweep issues under the rug. Ethical leaders act swiftly and firmly when ethical boundaries are crossed. This sends a clear message that values aren't optional—they're essential.
10. **Empathy:** Understanding the perspectives and emotions of others is central to ethical leadership. These leaders consider how their decisions impact people, not just profits. Empathy fuels ethical decision-making and meaningful leadership.
11. **Know your personal values:** Ethical leaders have a clear sense of their own moral compass. They reflect on what matters most and lead with those values. This alignment between belief and behavior reinforces moral leadership.
12. **Provide ethical training:** They don't assume everyone knows what ethical behavior looks like—they teach it. Ethical leaders invest in training programs that explore leadership and ethics, helping employees navigate complex situations with confidence.
13. **Build ethical relationships:** Their professional relationships are grounded in trust, fairness, and mutual respect. Ethical leaders foster connections that go beyond transactions. This encourages ethical collaboration and transparency across departments.
14. **Community:** They care about the people they serve and the world they impact. Whether through volunteering, sustainability, or inclusion efforts, ethical leaders think beyond profit. They lead with a sense of social responsibility.
15. **Consumer loyalty:** Ethical leadership doesn't just influence internal culture—it affects brand loyalty too. When companies act with integrity, consumers notice. Ethical leaders help build reputations that customers want to stand behind.
16. **Driven by values:** Every choice is guided by a strong ethical compass, not personal gain or shortcuts. These leaders consistently make value-based decisions—even under pressure. It's this consistency that separates them from reactive or authoritarian leadership styles.
17. **Equality:** They advocate for equal treatment, opportunity, and voice for all team members. Ethical leaders challenge systems that exclude or marginalize. Promoting equality is central to ethical leadership theory.
18. **Ethical leaders value respect:** They don't just demand respect—they give it first. Respect is at the core of their leadership style and interactions. This earns admiration and sets the tone for healthy, ethical teams.
19. **Lead by example:** Ethical leaders practice what they preach. Whether it's owning mistakes or navigating gray areas with integrity, they show others how to lead ethically. It's the most effective way to embed ethics and leadership into company culture.
20. **Open communication:** They encourage honest feedback and make it safe to speak up. Ethical leaders don't just talk—they listen. This two-way communication builds trust and reveals blind spots before they become major issues.

#### 4. BENEFITS FOR EMPLOYEES AND THE ORGANIZATION:

##### 1. **Fosters a positive culture:**

Ethical leaders create a culture of trust, fairness, and respect, boosting employee morale and well-being. This also reduces workplace politics and increases collaboration.



**2. Increases engagement and productivity:**

Employees who believe their leaders are ethical are more likely to be engaged, motivated, and loyal, which leads to higher productivity and performance.

**3. Attracts and retains talent:**

A strong reputation for ethical behavior helps attract top talent and reduces employee turnover.

**4. Enhances reputation and loyalty:**

Ethical conduct builds a positive brand reputation, which attracts customer loyalty and strengthens stakeholder relationships.

**5. Minimizes risks:**

An ethical framework helps an organization avoid lawsuits, scandals, and ethical dilemmas, and ensures compliance with laws and regulations.

**6. Improves decision-making:**

Ethical leaders consider the moral implications of their decisions, leading to more thoughtful and responsible choices that drive long-term success.

**5. FOUR WAYS OF DEVELOPING ETHICAL LEADERSHIP SKILLS:**

Developing ethical leadership skills is not just about understanding the concept; it's about applying it effectively in real-world situations. Here are some practical frameworks and actionable suggestions to help leaders enhance their ethical leadership skills:

**1. Practice Ethical Reflections:**

The golden rule of practising ethical leadership is introspection and critical thinking about your values, principles, and ethical decisions. It helps you understand your ethical strengths and areas for improvement. Set aside regular time for ethical reflection and consider specific ethical dilemmas you've encountered in your management and leadership positions. Analyse your past decisions and actions, evaluating whether they aligned with your ethical principles. Identify areas where you may have compromised on ethical principles and consider how you could have acted differently.

**2. Seek Feedback:**

Seeking feedback from others provides valuable insights into your ethical behaviour and leadership style. It helps you gain a broader perspective and identify blind spots. Create an environment where colleagues, team members, and mentors feel comfortable providing feedback on your leadership. Specifically, ask for feedback related to your ethical decision-making, communication, and behaviour. Act on constructive feedback by improving your ethical leadership practices and avoid becoming defensive when receiving feedback. Express gratitude to those who offer feedback, as it encourages ongoing dialogue and trust.

**3. Mentorship And Training:**

Learning from experienced mentors or coaches in ethical leadership can accelerate your growth. They can offer guidance, share their experiences, and provide valuable insights. Seek out mentors or coaches who exemplify ethical leadership. Look for individuals with a track record of making ethical decisions and fostering ethical cultures. Participating in ethics training programs and educational opportunities is fundamental to developing ethical leadership skills. Identify courses suitable to your needs and actively participate and apply your learnings from the training.



**4. Practice Ethical Decision-Making:**

Practising ethical decision-making in various scenarios can sharpen your ethical reasoning skills and prepare you for real-life ethical challenges. The Ethical Decision-Making Framework provides a step-by-step approach to making ethical decisions. It helps leaders navigate complex moral dilemmas effectively. You can engage in ethical decision-making by identifying the ethical dilemma, gathering all available information, evaluating alternatives, implementing the decision, and monitoring and reflecting on the outcome. This structured approach ensures all your actions and decisions are well-thought-out, making you a reliable and moral leader.

**6. THE FIVE “P” OF ETHICAL POWER FOR INDIVIDUALS:**

**1. Purpose:** You see yourself as being an ethically sound person. You let your conscience be your guide. No matter what happens, you are always able to face the mirror, look yourself straight in the eye, and feel good about yourself.

**2. Pride:** You feel good about yourself; you do not need the acceptance of other people to feel important. A balanced self-esteem keeps your ego and your desire to be accepted from influencing your decisions.

**3. Patience:** You believe that things will eventually work out well. You do not need everything to happen right now. You are at peace with what comes your way.

**4. Persistence:** You stick to your purpose, especially when it seems inconvenient to do so. Your behaviour is consistent with your intentions. As Winston Churchill said, 'Never' 'Never' 'Never'.

**5. Perspective:** You take time to enter each day quietly in a mood of reflection. This helps to get yourself focused and allows you to listen to your inner self and to see things more clearly. These principles offer all that is needed to build sound ethical character. Adhering to their tenets shapes one's focus for the better and enhances organizational image.

**7. WHAT ARE THE 4 V'S OF ETHICAL LEADERSHIP?:**

The 4 V's of ethical leadership—Values, Vision, Voice, and Virtue—offer a practical framework for aligning ethics and leadership in real-world decision-making. These four pillars help leaders lead with purpose, communicate with clarity, and act with integrity.

**1. Values:**

Values are the core beliefs that shape how a leader behaves and makes decisions. Ethical leaders are deeply connected to their personal and organizational values—and they don't just talk about them, they live them. These values act as a compass during high-pressure situations. They help leaders stay grounded in what is right, not just what is easy.

**2. Vision:**

Vision is about seeing beyond the daily grind and guiding others toward a meaningful goal. An ethical leader's vision is not just profit-driven—it includes a commitment to fairness, respect, and social impact. This type of leadership vision inspires people to contribute to something bigger than themselves. It connects the ethics in leadership with the future that the organization is trying to build.

**3. Voice:**

Voice refers to the ability to speak up and advocate for what's right, even when it's uncomfortable. Ethical leaders encourage open communication and create safe spaces for

others to raise concerns. They use their voice to challenge unethical behavior and to ensure everyone has a say. It's a key trait that links moral leadership to real influence.

#### **4. Virtue:**

Virtue is the habit of practicing moral excellence consistently. It's not about one-off good deeds—it's about leading with integrity day in and day out. Virtuous leaders earn trust because their actions consistently reflect ethical intent. This consistency builds credibility and reinforces a culture of leadership ethics throughout the organization.

### **8. ETHICAL LEADERSHIP PRINCIPLES:**

In this section, we present five principles that are believed to lead to the development of ethical leadership. These are respect for others, service to others, justice for others, honesty toward others, and building community with others.

#### **1. Respect for Others:**

Ethical leaders treat others with dignity and respect. This means that they treat people as ends in themselves rather than as means to their own ends. This form of respect recognizes that followers have goals and ambitions and confirms followers as human beings who have worth and value to the organization. In addition, it leads to empathy, active listening, and tolerance for conflicting viewpoints.

#### **2. Service to Others:**

Ethical leaders serve others. They behave in an altruistic fashion as opposed to behaving in a way that is based on ethical egoism. These leaders put followers first—their prime reason for being is to support and nurture subordinates. Service to others is exemplified through behaviours such as mentoring, building teams, and empowering.

#### **3. Justice for Others:**

Ethical leaders ensure that justice and fairness are central parts of their decision making. This means treating all subordinates in very similar ways, except when there is a very clear need for differential treatment and there is transparency about why this need exists. In addition to being transparent, the logic for differential treatment should be morally sound and reasonable.

#### **4. Honesty Toward Others:**

Ethical leadership requires honesty. Dishonesty destroys trust—a critical characteristic of any leader–follower relationship. On the other hand, honesty increases trust and builds the leader–follower relationship. Honesty means to be open with others by expressing our thinking and our reality as fully as we can.

#### **5. Building Community With Others:**

Ethical leaders build community with others. This is crucial because leadership is about influencing others to achieve a communal goal. This means that leaders develop organizational or team goals that are appropriate for the leader and his or her followers. These goals need to excite as many people as possible, and ethical leaders achieve this by taking into account the goals of everyone in the team or organization.

### **9. THE ROLE OF HR IN PROMOTING ETHICAL LEADERSHIP AT EVERY LEVEL:**

HR plays a crucial role in fostering ethical leadership throughout an organization. By providing the right resources, guidance, and support, HR ensures that ethical practices are

consistently promoted and upheld. Here are some key ways HR can promote ethical leadership at every level:

- **Establishing clear ethical guidelines:** HR is responsible for defining and communicating the organization's ethical standards. By creating a comprehensive code of ethics and ensuring it's integrated into company policies, HR sets a strong foundation for ethical leadership. Clear guidelines help leaders at all levels make consistent, ethical decisions.
- **Providing ethics training and development:** HR should offer regular ethics training that focuses on leadership skills and ethical decision-making. This equips leaders with the tools to handle ethical dilemmas confidently. HR ensures that ethical leadership is nurtured through continuous learning opportunities for all employees.
- **Supporting leadership accountability:** HR can implement systems to hold leaders accountable for their actions. Regular performance reviews, feedback sessions, and leadership assessments ensure that leaders are aligned with ethical values. HR helps enforce ethical standards by addressing violations fairly and consistently.
- **Promoting ethical behavior through recruitment:** HR plays a key role in hiring leaders who align with the company's ethical values. During the recruitment process, HR should evaluate candidates for their ethical decision-making abilities and cultural fit. This ensures that ethical leadership is established right from the hiring stage.
- **Encouraging a feedback-driven culture:** HR should create channels for employees to provide feedback on leadership behavior. Regular surveys, open-door policies, and anonymous reporting systems help identify areas where leaders may fall short ethically. HR supports ethical leadership by encouraging transparency and listening to employee concerns.

## 10. EXAMPLES OF ETHICAL LEADERSHIP:

Examples of ethical leadership can be found in prominent business and historical figures who prioritize principles like **honesty, accountability, fairness, and a commitment to the greater community or society**, often over short-term profits or personal gain.

**1. Johnson & Johnson's Tylenol Crisis:** In the 1980s, after cyanide was found in Tylenol capsules, causing several deaths, CEO James Burke and the leadership team acted swiftly and decisively. They ordered a nationwide recall of all Tylenol products (31 million bottles, costing over \$100 million) to prioritize consumer safety, even before the source of the tampering was identified. Their transparency and accountability in developing the first-ever tamper-resistant packaging helped them regain public trust and demonstrated a strong ethical commitment to their customers.

**2. Unilever (Paul Polman):** As former CEO, Paul Polman implemented the "Unilever Sustainable Living Plan," which aimed to reduce the company's environmental footprint by half while simultaneously increasing its positive social impact. He proved that profitability and sustainability can go hand-in-hand, with the company consistently ranking as a top global firm for sustainability and seeing significant shareholder returns during his tenure.

**3. PepsiCo (Indra Nooyi):** Nooyi championed "Performance with Purpose," a strategic initiative to transform the company's product portfolio toward healthier options and focus on environmental sustainability by reducing plastic consumption and carbon footprints. Her

actions demonstrated a commitment to long-term societal well-being over immediate, easy profits.

**4. Patagonia (Yvon Chouinard & Rose Marcario):** The outdoor clothing company has a strong ethical core, donating a significant portion of its sales to environmental groups and actively encouraging customers to repair clothes rather than buy new ones. This commitment to environmental activism is deeply integrated into their business strategy and has fostered strong customer loyalty.

**5. JetBlue (David Neeleman):** Following a 2007 incident where passengers were left stranded on the tarmac for hours during a snowstorm, CEO David Neeleman took full responsibility, issued a public apology, and created a "customer bill of rights" to outline compensation for future flight disruptions. This transparent and accountable approach was a hallmark of ethical leadership.

**6. Mahatma Gandhi:** Motivated millions through non-violent civil disobedience and peaceful demonstrations to achieve Indian independence. His leadership was defined by kindness, patience, and a steadfast adherence to moral principles, inspiring global civil rights movements.

**7. Nelson Mandela:** Led the transition from apartheid to a multi-racial democracy in South Africa, promoting reconciliation and equality. His ability to inspire, negotiate, and build bridges across deep societal divides serves as a powerful example of ethical leadership focused on justice and human dignity.

**8. Martin Luther King Jr.:** A pivotal leader in the American Civil Rights Movement, King advocated for non-violent protests to fight racial injustice, which directly led to the passage of the Civil Rights Act of 1964. His legacy is synonymous with liberty, equal rights, and the power of moral conviction.

**9. Ratan Tata:** The former chairman of the Tata Group is known for his unwavering commitment to ethics and social responsibility. He believed that business success should never compromise principles, guiding the conglomerate's growth while directing substantial profits to philanthropic efforts in healthcare and education.

## 11.CONCLUSION:

Ethical leadership is a cornerstone for building a sustainable and trustworthy organization. It not only shapes the behavior of leaders but also creates a culture where transparency, fairness, and accountability are prioritized. By fostering ethical decision-making and continuous development through training and mentorship, companies can ensure their leaders lead with integrity. To truly elevate ethical leadership, organizations must prioritize continuous feedback and open communication—and this is where an employee engagement survey tool like Culture Monkey proves invaluable. As a robust employee engagement platform, Culture Monkey enables leaders to collect anonymous, honest feedback that helps uncover ethical blind spots and areas for improvement. With features like pulse surveys, sentiment analysis, and real-time dashboards, it empowers HR and leadership teams to track perceptions, identify concerns early, and reinforce a culture of accountability and integrity. By integrating Culture Monkey into your leadership development efforts, you foster transparency, trust, and ethical behavior across every level of the organization.

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## ISSUES AND PROGNOSIS IN QUALITY TEACHING AND LEARNING

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### **ABSTRACT**

*With a view to enhancing quality in teaching and learning process, the author carried out a research to know the lacunas and issues for the effective prognosis at the B.Ed. programme. The author took the feedback in the prescribed feedback form of NAAC on study course and teacher's teaching. The author also carried out one survey and tried to extract the issues in teaching and learning. Learning means the acquisition of knowledge or skills through study, experience or being taught. Teaching means the concerted sharing of knowledge and experience. It was also found that the learning becomes more possible through teaching rather than just learning. The key aspects such as value inculcation, use of ICT, Comprehension, classroom diversity etc were included in the questionnaire. A few remediation strategies for the quality teaching and learning process are presented in the paper. The B.Ed. trainees of FY and SY were asked to write their answers in both objective and subjective kinds of questions. This was helped the author to evaluate the other aspects of students' learning too. The two major findings that the author brought through this study are, providing wide range of exposure is always grateful for developing learning habits among the students. And secondly, teachers should continuously introspect over his/her teaching to sustain quality teaching environment.*

**KEY WORDS: AUTONOMOUS LEARNING, ISSUES IN TEACHING AND LEARNING, QUALITY CLASSROOM TEACHING**

**ABBREVIATIONS: PT: PEER TUTORING, MITR: MONITOR INITIATED TEACHING FOR REMEDIATION**

### **INTRODUCTION:**

#### **Learning**

We all know that the human brain is immensely complex and still somewhat of a mystery. It follows then, that learning—a primary function of the brain—is understood in many different ways. All of us understand things in the light of our past experience. This is also true of 'learning' – we get our ideas of what 'learning' means from what happened to us in the past. So, for example, we may think of 'learning' as something which takes place in a school or college, in a classroom. We may think of it as a person sitting alone at night, trying to memories a lot of facts so that s/he can pass an examination. However, a bit of reflection will show us that 'learning' is much wider than that. After all, children learn a great deal before they even get to school - they learn to speak, to walk. Educational psychologists tell us that any activity which leads to a change in our behavior is 'learning'.



“Learning is the relatively permanent change in a person’s knowledge or behavior due to experience. This definition has three components: 1) the duration of the change is long-term rather than short-term; 2) the locus of the change is the content and structure of knowledge in memory or the behavior of the learner; 3) the cause of the change is the learner’s experience in the environment rather than fatigue, motivation, drugs, physical condition or physiologic intervention”.

***-From Learning in Encyclopedia of Educational Research, Richard E. Mayer***

### **‘Teaching’**

Once again, our understanding of what ‘teaching’ is, is based on our past experience. Our earliest experience was in school, where the teacher was also a ‘master’ or ‘mistress’, standing in front of the class, telling us what to do and what to learn. Some of us experienced the same kind of ‘teaching’ at college. Others may have experienced teaching where the ‘teacher’ is more of an equal, who takes account of the learner’s experience and even learns from the learner. That is why Abbott and McMahon say: ‘Teaching is helping other people to learn’. They go on to say that the job of ‘teaching’ health care workers has four elements:

1. The teacher has to *decide what students should learn. It is the job that people have to do, that determines what they should learn.*
2. The teacher has to *help the learners to learn.*
3. The teacher has to *make sure that the students have learnt.*
4. **Assessment must be carefully planned so that it supports the learning we want to see.**
5. The teacher has to *look after the welfare of her/ his students.*
6. **Teachers need to cultivate an open and trusting relationship with their students.**

The author carried out a feedback with the NAAC prescribed format for collecting feedback and then after found out the following issues through a questionnaire. The author also tried to suggest the remediation strategies for the challenges, problems or issues.

#### ➤ **Higher Education:**

Universities and higher education institutions are key actors in the production and expansion of knowledge, in promoting the social, pedagogical and technological research, training of teachers and instructors, and constant vocational improvement, which is the motto of knowledge society. They use e-learning as a source of additional engagement for their students and to enable campus and off campus, virtual, flexible learning based on the Web resources.

#### ➤ **Trends of change in learning:**

The introduction of computers into the classroom and the emergence of the Internet have intensified the debate about what improves learning: use of a specific technology or application of appropriate teaching method. For promotional purposes on the Web, online learning must create challenging activities that enable pupils/students link new information with old ones, adopt new meaning and use their cognitive abilities, because it is the strategy of teaching, not the technology, which affects the quality of learning.

Specific attributes of computers are required to present real-life models and simulations to students so that the media affects learning. The computer itself is not the one that makes students learn but real life models and simulations, and student interaction with those models and simulations. The computer is more a tool that allows processing and delivery of instruction for students.

Online learning allows flexibility of access anytime & anywhere. However, teaching materials must be adequately prepared to engage students and improve learning. Prior to creating teaching materials, teachers would have to explicitly know the principles of learning, especially in this case where teachers and students are physically separated. Creating teaching materials for effective online learning should be based on proven and solid learning theories.

As previously noted, the media is not determinative factor in the quality of learning; elaboration of the program determines the effectiveness of learning.

## **ISSUES IN TEACHING AND LEARNING**

### **1. Value Inculcation**

It is difficult to find a set of desirable values among the learners. There are end numbers of problems on discipline at the schools and colleges. Irregularity of the students, bunking the class, no respect to teachers, lack of commitment, readiness, attitude and behavior.

### **2. Understanding and Use of ICT in Teaching and Learning**

Though the telecom companies reduced its rate for internet and phone calls, there is still a need to know and understand the technology for the effective classroom teaching. There are complaints about the teachers and students that they can't use the basic soft ware's or technology such as PPT, Prize, Audacity, HOTPOTATO, Gujarati typing etc for teaching learning.

### **3. Diversity in Teaching and Learning**

This is issue is widely addressed by many researchers and renowned scholars. Since it is the most famous target area for effective teaching, people presented various theories. The problems under the issues are comprehension, IQ, EQ, SQ and CQ level, learning rate, readability, learning organization etc.

### **4. Communication and Personality Development**

This has been an issue since Lord Macaulay proposed English education in India. There is not only the problem of second language learners of English but also the Gujarati learners of Gujarati. Their pronunciation, intonation patterns, voice modulation, voice clarity, sentence constructions etc. Personality is one of the major lacunas among the trainees.

### **5. Innovation in Teaching & Learning**

Although we talk about modern 21<sup>st</sup> century education, the reality is altogether different. In most of the classroom teaching dictation, lecturing and conventional teacher centered methods are being used. Sometimes, TLMs and innovations are used during Pre service time and during the In-service time no TLMs or innovations.

### **6. Quality of Learning Resources**

In the era of information and technology, learning has become easy but not authentic or reliable. There is not a problem of employment there is a problem of reliability, knowledge

and authenticity of the employers. Most of the people started using internet sources for teaching and learning and all such sources are not authentic. Any one write and upload his views.

#### **7. Study habits**

It has been observed that the students are to be taught various study skills right from the school education. The aspects like, reading styles, note taking, listening comprehensions, writing styles, creative styles and strategies can be taught.

#### **8. Teacher's Planning**

Very few teachers in schools or colleges plan for their teaching. Though It is tedious and tiresome but it has more benefits for quality teaching and learning. The problems due to this are cannot complete the syllabus, haphazard teaching, traditional environment, Planning, timing, curricular and co-curricular activities, unit test, question banks, remediation etc to be included in the planning.

#### **9. Continuing Professional Development**

There are very few who actually practice that the teacher must be a life long learners. Otherwise a big number of teachers after getting a govt or safe job stop enriching themselves. This would make the teacher orthodox. Participation in seminar, conferences, workshops, innovation, publications etc are not done.

#### **10. Classroom Teaching styles**

Many complaints regarding the traditional teaching styles of the teacher. The questions about personal presence, content presentation, classroom management, feedback, diagnosis, remediation, follow up etc.

#### **11. Content Mastery**

There have been many problems of the teacher's content mastery. Though the teacher has been teaching since long, he/she is not having thorough content mastery. I hardly see the teachers of English who know everything about English. Likewise, the teachers of other subjects too. They require some support materials to teach.

#### **12. Team Work and Sense of Security**

These two have been universal problems at the work place which become the major factor for continuing professional development. I have rarely seen an institute without having conflict, jealousy or competition among the colleagues. This results into their classroom teaching. In India, many self-financing schools are located where there is no safety about jobs, salary or other benefits.

#### **13. Willingness to Initiate**

This was also an issue and a factor affecting the betterment of the institute. It is difficult to find the teachers who take initiatives for the institutional development rather than just individual development. We have a big number who is in need of telling and there is a very small number who can tell or lead the institute.

#### **14. In-service Training Programmes**

When there is a planning of in service training programme certain questions come up in our minds. Do they really need such type of programme, Do they take it seriously? Who should be the experts? Etc. It has been observed that most of the teachers are interested in claiming their remuneration rather studying new topics. As a result, the classroom teaching remains traditional.

**PROGNOSIS TECHNIQUES:**

1. The institute should organize activities on value inculcation on regular basis the institute. Such as guest speech, value week celebrations, games, social activities etc. This would surely help in improving classroom teaching and learning. We found many people with information box but not having a set of values.
  2. Let's make the use of ICT as a compulsory tool for learning otherwise people would limit to the use for social sites only. ICT should also be taught as a subject from the school level.
  3. To overcome the problem of diversity in teaching learning, the teacher must adopt various techniques such as MITR (Monitor Initiated Teaching for Remediation) wherein three students will be in one group. One would be tutor and the other two would be tutees. PT (Peer Tutoring) is again a new technique wherein toppers will teach the students for drilling and revision of the contents. Each one teach one, the teachers will form pairs randomly and assign the topics to teach. It is said that one must understand the target group before teaching. This would solve all the problem of diversity.
  4. The only prognosis to cure this is use the language and learn the language. Imitate the ideal personality and build an extra ordinary personality. Let's plan to provide wide range of exposure for the same.
  5. The coordinator or the leader of the institute should keep eye on teacher's planning and teaching in the classroom. We have the misconceptions that once she proved she has been proved for the whole life. There may be the time she would stop because there is no one to tell her. Therefore, continuous motivation like students is needed for teachers too.
  6. The library resources should be updated every year. Collect the record of issues of books, needs of the books and any suggestions from the students and teachers.
  7. Study habits should be formed not by the student on his own. Somebody should help him to plan the same. One must understand the problems or challenges and then adopt the techniques available for study habits.
  8. This can be cured easily if the leader is shrewd and committed. He could track on the planning of the teaching through lesson plans, unit tests, reading materials, assignments etc.
  9. CPD depends upon the needs and desires of the teachers. However, the principal can motivate the teachers to initiate for some activities as per the institute's vision and mission. One should continuously involve for the same.
  10. Classroom teaching styles should not remain stereo type. It has to be different as per the needs and competencies of the students.
  11. I feel why can't teachers be evaluated after some intervals like students? Because the outcome of the students is the outcome of the teachers. If teachers don't know or know less students would automatically be the same. Let's plan certain strategies for enhancing mastery over the contents.
  12. Sociometrist, regular meetings, allocation of duties, planning of events etc should be planned impartially to maintain cooperation among the team. I recommend for some visit, educational trip, personal care etc would also establish rapport among the colleagues.
  13. There could be grade system for teacher's training programme like UGC HRD Centre for college teachers. This would make them serious for in service training programmes.
- The author found many other prognosis techniques apart from the few mentioned above.

**CONCLUSION**

Though teaching and learning are the two opposite phenomena, the outcomes depend upon each other. It has been truly quoted that the learning remains untouched or vanished if it is not being applied. It means, one learns better while teaching. Teaching and learning go hand in hand. If teaching is ineffective, learning will not take place and if learning is poor than teaching is of no use.

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