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EDITORIAL

It is with great pleasure and a deep sense of responsibility that I introduce the inaugural issue of the Journal of Global Business & Management Research (JGBMR). This milestone marks the beginning of an intellectual journey aimed at fostering excellence in research and advancing the frontiers of knowledge in business and management studies. At a time when industries worldwide are experiencing unprecedented disruptions, and organizations are continuously adapting to new challenges, the need for scholarly discourse and research-driven insights has never been more crucial.

The JGBMR is envisioned as a platform that brings together researchers, academicians, industry practitioners, and policymakers to share their knowledge, experiences, and findings in various aspects of business management. This journal aspires to be a beacon of innovation, offering original research, case studies, conceptual papers, and reviews that contribute to a deeper understanding of global business dynamics. Our mission is to bridge the gap between academic research and real-world business applications by encouraging high-quality, impactful contributions that address contemporary challenges and future opportunities.

This first issue presents a rich collection of scholarly works covering a wide array of topics, including artificial intelligence in decision-making, the role of sustainability in shaping global business strategies, leadership in the digital economy, financial innovations driving economic growth, and emerging trends in human resource management. These contributions reflect the dedication and intellectual rigor of scholars who are committed to pushing the boundaries of business and management research.

I take this opportunity to express my sincere gratitude to the distinguished members of the editorial board, our panel of esteemed reviewers, and the contributing authors. Their commitment to upholding academic integrity and ensuring high-quality research publication has been instrumental in bringing this journal to life. Their efforts reinforce our belief that collaboration and scholarly engagement are key to driving meaningful advancements in the field.

As JGBMR embarks on this journey, we invite researchers from across the globe to contribute their insights, engage in scholarly debates, and take part in shaping the future of business and management research. We are committed to maintaining a high standard of academic excellence and ensuring that this journal becomes a valuable resource for both scholars and practitioners alike.
I encourage you to explore this issue, reflect on the research presented, and consider how these insights can be applied in both academic and practical contexts. The knowledge shared here is not just for intellectual enrichment but also for driving change, inspiring innovation, and shaping the future of business practices globally.

With this inaugural issue, we take our first step toward establishing JGBMR as a reputed and influential academic journal. I look forward to the continued contributions of scholars and practitioners, and I am confident that this journal will serve as a significant forum for meaningful academic discourse in the years to come.

Message from Dr. Ajay Kumar,
Editor-in-Chief
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THE INFLUENCE OF CONSUMER DEMOGRAPHICS ON PURCHASING BEHAVIOR FOR GREEN PRODUCTS

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ABSTRACT

More consumers are aware of environmental responsibility and the need to reduce plastic waste so they prefer green products over conventional ones. Market competition should intensify as firms adapt. Green marketing? Tricky stuff. Obstacles arise from demand shifts limited awareness negative perceptions changing behaviour product failures innovation expenses and premium price resistance. Even with these issues, integrated sustainability strategies in green marketing boost market appeal and consumer acceptance, simultaneously reducing environmental risks. Organizations must adopt such strategies to stay competitive. Demographic factors unlike earlier views significantly influence green purchasing behaviour. Understanding these demographics helps marketers create better strategies for promoting green products since consumer characteristics influence green buying decisions.

KEYWORDS: Demographic, Buying Behaviour, Competitive advantage, Marketing strategies, Environmental consideration.

1. INTRODUCTION

Lately, consumers demonstrably want "green" goods. This highlights the need for proper ways consumers decide to spend their money on green products over alternatives especially when supported by reliable information that encourages such consumption at a growing rate. Consumers typically value quality price product performance given the many choices. Companies are increasingly searching to identify key factors that stimulate consumer behaviour toward green products so they can introduce offerings suited to different market segment characteristics across industries. Consumers who care about the environment pay close attention to the ecological effects of their purchases. Participants reported conserving energy and adopting green practices consistent with their expressed environmental concerns. This growing awareness shapes their product preferences and choices. Environmental awareness and ecological challenges are pushing consumers to choose green alternatives. Understanding evolving consumer values and strategically integrating environmental responsibility are pathways to competitive advantage. Organizations are embracing green products to meet consumer demand and improve their competitive advantage.

STATEMENT OF THE PROBLEM

Beyond mere categorization and brand preference studies, global environmental awareness necessitates deeper business insights. To grasp green product uptake, businesses require a nuanced understanding of consumer behavior tied to demographics, culture, social dynamics, and values driving eco-friendly choices. Basically, grasping these concepts facilitates smart market

segmentation, which then guides production and marketing strategy tailored to consumer needs. Political means and strategies are key to promoting ecological favor in marketing products and services. Businesses, societies, and governments now face critical environmental challenges. Environmental degradation, including ozone depletion, waste buildup, pollution, and global warming/climate change, demands immediate action. Corporate activities in sourcing production distribution and marketing greatly contribute to these challenges. Environmental issues demand action, driving consumers towards greener purchasing. Companies now recognize their responsibility and must innovate environmentally sustainable strategies.

As environmental consciousness grows businesses must understand consumer product and brand preferences and what influences their buying decisions. Demographic cultural and social factors along with personal values significantly influence consumer preferences for green products. Understanding these dynamics lets marketers segment markets well and create focused strategies. Policymakers can then market sustainably, holistically addressing environmental issues.

OBJECTIVES AND HYPOTHESES OF THE STUDY

The study aims to achieve the following objectives:

1. **To investigate how consumers' demographic profiles influence their purchasing behavior regarding green products.**
   - **Null Hypothesis (H_{01}):** Demographic factors do not exert any influence on consumers' buying behavior towards green products.
2. **To examine the relationship between consumers' environmental awareness and their preference for green products.**
   - **Null Hypothesis (H_{02}):** Environmental awareness does not have a significant impact on consumers' preference for green products.
3. **To analyse the impact of price sensitivity on consumers' willingness to purchase green products.**
   - **Null Hypothesis (H_{03}):** Price sensitivity does not significantly influence consumers' willingness to purchase green products.

RESEARCH METHODOLOGY

The present study adopts a **descriptive research design** to explore and analyse consumer behavior regarding green products. This approach is chosen to provide an in-depth understanding of the factors influencing green product consumption and to identify patterns and trends within the target population.

RESEARCH SCOPE

The research focuses on the state of **Uttar Pradesh, India**, with a specific emphasis on the city of **Ghaziabad** from period of March 2023 to July 2023. This geographical focus allows the study to examine consumer behavior in a region characterized by rapid urbanization and evolving environmental awareness.

PARTICIPANT SELECTION

This study focuses on users of eco-friendly products. It is a convenient sampling method where green-minded people wanting to buy environmentally friendly products are the active subjects. The convenience sampling method can be recognized as less burdensome while helping collect varied consumer experiences. Consider this approach for niche market exploration.

DATA COLLECTION

We collected data from 711 green product consumers and users. We used a structured questionnaire for data collection, ensuring systematic and reliable acquisition. The questionnaire covers consumer behavior aspects including demographics environmental awareness purchasing preferences and perceived barriers to adopting green products.

RESEARCH OBJECTIVES ALIGNMENT

The research design is structured to align with the study's objectives of understanding the influence of demographic, cultural, and economic factors on consumer behavior toward green products. It also aims to assess the role of environmental consciousness and price sensitivity in shaping purchasing decisions.

EXPECTED OUTCOMES

By employing this detailed and methodical approach, the study aims to provide a comprehensive and objective analysis of the green consumer landscape in the selected region. The findings are anticipated to offer valuable insights for marketers, policymakers, and businesses looking to promote green products effectively in similar socio-economic contexts.

DATA ANALYSIS AND INTERPRETATION

DEMOGRAPHIC CHARACTERISTICS OF CONSUMERS

The study analyses the demographic characteristics of the 711 respondents who actively purchase green products. Percentages are calculated to understand the representation of different groups within the sample.

Gender Distribution:

- Male respondents: **382** (53.7%)
- Female respondents: **329** (46.3%)

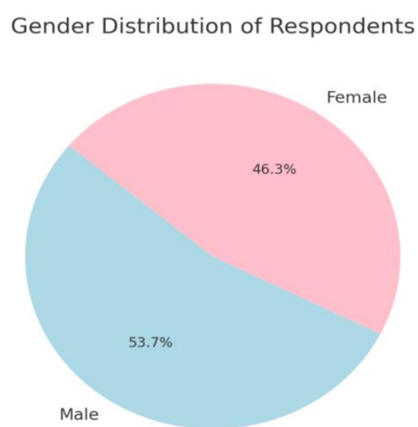
This gender distribution indicates a relatively balanced sample, with a slightly higher proportion of male consumers.

ANOVA, a key statistical test, effectively highlights purchasing behavior distinctions across demographics like age and income for green products. We t-tested male versus female purchasing habits to assess statistical significance...

KEY FINDINGS

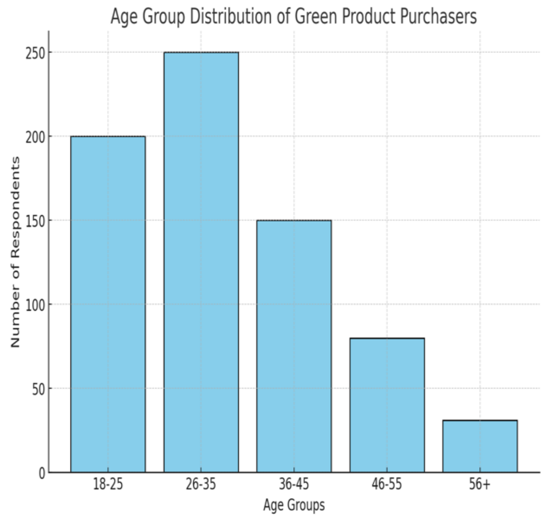
1. **Demographic Profile and Purchasing Behavior:** The analysis revealed that **younger consumers (aged 18–35)** are more likely to purchase green products compared to older age groups. Income levels also play a role, with consumers earning higher incomes displaying a greater willingness to buy green products, possibly due to their ability to afford premium pricing.

2. **Gender-Based Differences:** The t-test actually tells that there is not much variance in the behavior of consumers either. This shows that men and women act differently when they purchase green products..



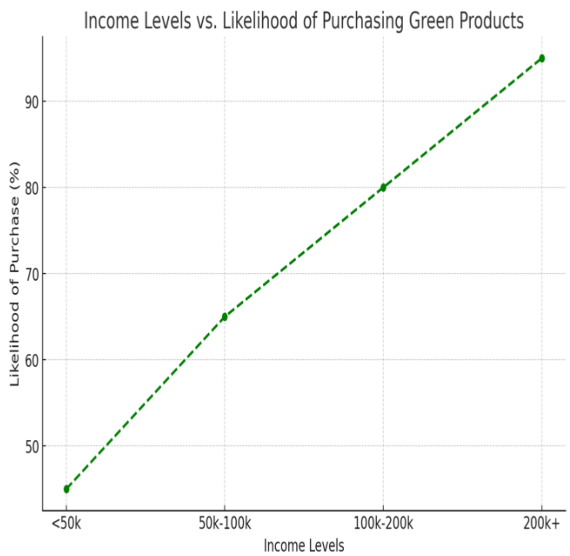
Gender Distribution of Respondents

The pie chart above illustrates the gender distribution among the 711 respondents. Males constitute 53.7% of the sample, while females represent 46.3%.



Age Group Distribution of Green Product Purchasers

The bar chart highlights the distribution of respondents across age groups. Consumers aged **18-35** form the majority, indicating that younger individuals are more inclined toward purchasing green products.



Income Levels vs. Likelihood of Purchasing Green Products
According to the line graph printed, there is a positive amount of correlational data with this that was income for green purchasing. Higher income earners are usually more willing than lower income earners to buy green products potentially because their buying power enables them to bear the additional cost of green products.

5.1 GENDER AND FACTORS AFFECTING PURCHASING BEHAVIOUR FOR GREEN PRODUCTS

The relation between gender of consumers and factors affecting buying Behaviour for green products is given in Table 5.1

Table 5.1 GENDER AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Gender	N	Mean	Standard Deviation	t-value	Sig.
1.	Male	382	49.88	6.71	.182^{NS}	.855
2.	Female	329	49.79	6.77		

^{NS} Non-Significant Source – SPSS Output

Null Hypothesis (Ho): The influence of gender on the buying behavior of respondents regarding green products is not significant.

Interpretation: An independent samples t-test was conducted to evaluate whether significant differences exist in the buying behavior of respondents toward green products based on gender. The results, as summarized in the table, yielded a **t-value of 0.182**and a **p-value of 0.855**, indicating that the difference is statistically non-significant at the 5% level of significance.

As a result, the null hypothesis is accepted, suggesting that there is no significant variation in the buying behavior of male and female respondents when it comes to decisions about purchasing green products.

5.2 AGE AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between age of customer and factors affecting buying behavior for green products is given in Table 5.2

TABLE 5.2
AGE AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Age	N	Mean	Standard Deviation	F-value	Sig.
1.	Below 25 years	106	49.93	6.57		
2.	26 – 35 years	273	50.08	6.63		
3.	36 – 45 years	188	49.92	7.12		
4.	46 – 55 years	87	49.52	6.66		
5.	Above 55 years	57	48.74	6.43	.528^{NS}	.715

^{NS} Non-Significant Source – SPSS Output

Null Hypothesis (Ho): The influence of age on the buying behavior of respondents regarding green products is not significant.

An F-test was performed to determine whether significant differences exist in buying behavior toward green products based on the respondents' age. The results, as shown in the table, revealed a **non-significant F-value of 0.528** with a **p-value of 0.715**, indicating no statistical significance at the 5% level of significance.

Therefore, the null hypothesis is accepted, suggesting that respondents' age does not influence their buying behavior when making decisions about purchasing green products.

5.3. EDUCATION AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the education of consumers and the factors affecting buying behaviour for green products is given in Table 6.3

TABLE 5.3 EDUCATION AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Education	N	Mean	Standard Deviation	F-value	Sig.
1.	Secondary	35	48.63	7.36	0 1.047^{NS}	.382
2.	Higher Secondary	66	49.79	6.44		
3.	Diploma	71	49.32	6.62		
4.	Graduation	297	49.59	6.63		
5.	Post Graduation	242	50.48	6.87		

^{NS} Non-Significant
Source – SPSS Output

Ho: Education does not have any influence on buying behaviour of respondent of green products.

Interpretation: An F-test was employed to assess if a significant difference exists in the buying behavior toward green products based on the education level of the respondents. The table indicates a non-significant F-value of 1.047 at the 5% level of significance (p=0.382). As a result, the null hypothesis is accepted, indicating that "The buying behavior of respondents does not vary based on their education when deciding on the purchase of green products."

5.4 OCCUPATION AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the occupation of consumers and the factors affecting buying behaviour for green products is given in Table 5.4

TABLE 5.4 OCCUPATION AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Occupation	N	Mean	Standard Deviation	F-value	Sig.
1.	Business	61	49.13	7.42	1.878^{NS}	.112
2.	Government Sector	199	49.51	6.28		
3.	Private Sector	289	49.80	6.99		
4.	Professional	91	51.55	6.50		
5.	Retired	71	49.31	6.38		

^{NS} Non-Significant
Source – SPSS Output
H0: The occupation of respondents does not significantly affect their buying behavior towards green products.

Interpretation: An F-test was conducted to assess if there is a significant impact of respondents' occupation on their buying behavior regarding green products. The results show a non-significant F-value of 1.878 at a 5% level of significance (p=0.112). Therefore, we accept the null hypothesis, suggesting that "The buying behavior of respondents remains consistent across different occupations when making decisions about purchasing green products."

5.5 WORKING EXPERIENCE AND FACTORS AFFECTING PURCHASING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the working experience of consumers and the factors affecting buying behaviour for green products is given in Table 5.5

TABLE 5.5 WORKING EXPERIENCE AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Working Experience	N	Mean	Standard Deviation	F-value	Sig.
1.	Below5 years	63	50.37	6.95	1.218^{NS}	.302
2.	6 – 10 years	145	49.90	6.97		
3.	11 – 15 years	276	49.86	6.32		
4.	16 – 20 years	141	50.33	7.13		
5.	Above 20 years	86	48.44	6.77		

^{NS} Non-Significant
Source – SPSS Output

H0: The working experience of respondents does not significantly impact their buying behavior towards green products.

Interpretation: An F-test was conducted to explore whether there is a significant difference in buying behavior towards green products based on the working experience of respondents. The analysis yielded a non-significant F-value of 1.218 at the 5% level of significance (p=0.302). As a result, we accept the null hypothesis, suggesting that "The buying behavior of respondents remains consistent regardless of their working experience when making decisions about purchasing green products."

5.6 MONTHLY INCOME AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the monthly income of consumers and the factors affecting buying behaviour for green products is given in Table 5.6

TABLE 5.6

MONTHLY INCOME AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Monthly Income	N	Mean	Standard Deviation	F-value	Sig.
1.	Less than Rs.20,000	130	49.60	6.47	.489^{NS}	.744
2.	Rs.20,001 – Rs.30,000	177	50.42	7.20		
3.	Rs.30,001 – Rs.40,000	265	49.75	6.72		
4.	Rs.40,001 – Rs.50,000	91	49.42	5.99		
5.	More than Rs.50,000	48	49.61	7.20		

^{NS} Non-Significant
Source – SPSS Output

H0: The monthly income of respondents does not significantly affect their buying behavior towards green products.

Interpretation: An F-test was conducted to determine if there is a significant difference in buying behavior towards green products based on the monthly income of respondents. The obtained F-value of 0.489 is not statistically significant at the 5% level (p=0.774). Therefore, we accept the null hypothesis, suggesting that "The buying behavior of respondents remains consistent irrespective of their monthly income when making decisions about purchasing green products."

5.7 MARITAL STATUS AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between marital status of consumers and factors affecting buying behaviour for green products is given in Table 5.7

TABLE 5.7

MARITAL STATUSAND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Marital Status	N	Mean	Standard Deviation	t-value	Sig.
1.	Married	552	49.86	6.84	.134^{NS}	.258
2.	Unmarried	159	49.77	6.38		

^{NS} Non-Significant
Source – SPSS Output
H0: Marital status does not significantly impact the buying behavior of respondents towards green products.

Interpretation: An independent t-test was utilized to investigate whether there is a significant difference in buying behavior towards green products based on the marital status of respondents. The obtained non-significant t-value of 0.134 at the 5% significance level (p=0.258) leads to the acceptance of the null hypothesis. Thus, we conclude that "The buying behavior of respondents remains consistent regardless of their marital status when making decisions about purchasing green products."

5.8. TYPE OF FAMILY AND FACTORS AFFECTING PURCHASING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the type of family of consumers and the factors affecting purchasing Behaviour for green products is given in Table 5.8

TABLE 5.8 TYPE OF FAMILYAND FACTORS AFFECTING BUYING BEHAVIOURTOWARDS GREEN PRODUCTS

Sl. No.	Type of Family	N	Mean	Standard Deviation	t-value	Sig.
1.	Nuclear Family	440	50.03	6.77	.961^{NS}	.337
2.	Joint Family	271	49.53	6.68		

^{NS} Non-Significant
Source – SPSS Output
H0: The type of family does not significantly influence the buying behavior of respondents towards green products.

Interpretation: An independent t-test was carried out to explore whether a significant difference exists in the buying behavior towards green products based on the type of family of the respondents. The non-significant t-value of 0.961 at the 5% significance level (p=0.337), as observed in the table, leads to the acceptance of the null hypothesis. Therefore, we conclude that "The buying behavior of respondents does not vary based on their type of family when deciding on the purchase of green products."

5.9 SIZE OF FAMILY AND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

The relation between the size of the family of consumers and the factors affecting buying behaviour for green products is given in Table 5.9

TABLE 5.9
SIZE OF FAMILYAND FACTORS AFFECTING BUYING BEHAVIOUR FOR GREEN PRODUCTS

Sl. No.	Size of Family	N	Mean	Standard Deviation	F-value	Sig.
1.	2 – 3 members	289	50.19	6.87		
2.	4 – 6 members	305	49.63	6.44	.923^{NS}	.337
3.	Above 6 members	117	49.51	7.14		

^{NS} Non-Significant
Source – SPSS Output

H0: The size of the family does not significantly influence the buying behavior of respondents towards green products.

Interpretation: An F-test was conducted to ascertain whether a significant difference exists in the buying behavior towards green products based on the size of the family of the respondents. The table indicates a non-significant F-value of 0.923 at the 5% level of significance (p=0.337). Therefore, we accept the null hypothesis, suggesting that "The buying behavior of respondents does not vary based on the size of their family when deciding on the purchase of green products."

6. CONCLUSION

Validation of the null hypothesis indicates that demographic variables do not have any significant impact on consumers buying behaviour towards green products. The analysis clearly shows that there are no major differences across demographic factors such as gender, age, occupation, income level, educational background, family size, and family type with respect to the determinants influencing green product purchase decisions. Hence, relying solely on demographic-based market segmentation to understand green buying behaviour may not be very effective for manufacturers. Instead, firms should go beyond demographic analysis and focus more on understanding consumers perception, beliefs, and attitudes toward green products. Such an approach would help in designing more relevant strategies that match consumer expectations and can enhance market acceptance and adoption of green products over time.

7. REFERENCES:

- **McKinsey & Company** (2023). Consumers care about sustainability—and back it up with their wallets. Retrieved from [https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/consumers-care-about-sustainability-and-back-it-up-with-their-wallets] McKinsey & Company
- **Liobikienė, G., & Bernatonienė, J.** (2017). Why determinants of green purchase cannot be treated equally? The case of green cosmetics: Literature review. Journal of Cleaner Production, 162, 109-120.
- **Joshi, Y., & Rahman, Z.** (2019). Consumers' sustainable purchase behaviour: Modeling the impact of psychological factors. Ecological Economics, 159, 235-243.
- **Nguyen, T. N., Lobo, A., & Greenland, S.** (2017). The influence of cultural values on green purchase behaviour.Marketing Intelligence & Planning, 35(3), 377-396.
- **Yadav, R., & Pathak, G. S.** (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the Theory of Planned Behavior. Ecological Economics, 134, 114-122.
- **Wang, P., Liu, Q., & Qi, Y.** (2014). Factors influencing sustainable consumption behaviors: A survey of the rural residents in China. Journal of Cleaner Production, 63, 152-165.
- **Zhao, H., Gao, Q., Wu, Y., Wang, Y., & Zhu, X.** (2014). What affects green consumer behavior in China? A case study from Qingdao. Journal of Cleaner Production, 63, 143-151.
- **Moser, A. K.** (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. Journal of Consumer Marketing, 32(3), 167-175.
- **Kumar, P., & Ghodeswar, B. M.** (2015). Factors affecting consumers' green product purchase decisions. Marketing Intelligence & Planning, 33(3), 330-347.
- **Jaiswal, D., & Kant, R.** (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. Journal of Retailing and Consumer Services, 41, 60-69.
- **Biswas, A., & Roy, M.** (2015). Green products: An exploratory study on the consumer behaviour in emerging economies of the East. Journal of Cleaner Production, 87, 463-468.
- **Ghazali, E. M., Soon, P. C., Mutum, D. S., & Nguyen, B.** (2017). Health and cosmetics: Investigating consumers' values for buying organic personal care products. Journal of Retailing and Consumer Services, 39, 154-163.
- **Paul, J., Modi, A., & Patel, J.** (2016). Predicting green product consumption using theory of planned behavior and reasoned action. Journal of Retailing and Consumer Services, 29, 123-134.
- **Nguyen, T. N., Lobo, A., & Greenland, S.** (2017). Pro-environmental purchase behaviour: The role of consumers' biospheric values. Journal of Retailing and Consumer Services, 33, 98-108.
- **Sharma, N., & Dayal, R.** (2017). Drivers of green purchase intentions: Green self-efficacy and perceived consumer effectiveness. Global Business Review, 18(3), 1-12.
- **Suki, N. M.** (2016). Green product purchase intention: Impact of green brands, attitude, and knowledge. British Food Journal, 118(12), 2893-2910.
- **Wang, Y., & Hazen, B. T.** (2016). Consumer product knowledge and intention to purchase remanufactured products.International Journal of Production Economics, 181, 460-469.

- **Lin, Y. C., & Chang, C. C. A.** (2012). Double standard: The role of environmental consciousness in green product usage. Journal of Marketing, 76(5), 125-134.
- **Leonidou, C. N., & Skarmeas, D.** (2017). Gray shades of green: Causes and consequences of green skepticism.Journal of Business Ethics, 144(2), 401-415.
- **Gleim, M. R., Smith, J. S., Andrews, D., & Cronin Jr, J. J.** (2013). Against the green: A multi-method examination of the barriers to green consumption. Journal of Retailing, 89(1), 44-61.

ETHICAL MARKETING AND ADVERTISING: AVOIDING DECEPTION AND MANIPULATION IN MARKETING STRATEGIES

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ABSTRACT

The research vapor delays into crucial topic of ethical marketing and advertising empathizing the importance of avoiding deception and manipulation in marketing strategy in today's hyper - connected and consumer conscious world, business faces increasing Scrutiny regarding their marketing practices. Consumers demand transparency in Palestine and authenticity from the branch engaged with., Therefore it becomes sympathetic for marketers to adopt ethical principles in their strategies to build trust and long-term relationship with customers. This paper explores various suspect of ethical marketing including the definition of ethical marketing the significance of nesting and transparency, common descriptive practices in advertising the impact of unethical marketing on consumers and society regularly frameworks governing marketing ethics and strategy for promoting ethical marketing practices. By examining case studies and scholarly in literature, this paper provides insights and recommendations for marketers to develop ethical marketing strategies that prioritize integrity and responsibility with achieving business objectives.

KEYWORD'S: Ethical marketing advertising ethics, deception manipulation transparency consumer trust.

INTRODUCTION:

In today's competitive business scenario, where brands vie for consumer attention in an increasingly cultured marketplace, the ethics of marketing and advertising have become more critical than earlier ages. The era of mass media digital technology imparts consumers with on precedented access to information, enabling them to scrutinize and evaluate the practices of companies more closely as a result the demand for transparency, honesty and authenticity in marketing communication has intensified leading business to reassess their approach to advertising and promotion. The aim of this research paper is to delve into multifaceted realm of ethical marketing and advertising, with specific focus on avoiding deception and manipulation in marketing strategies. Ethical marketing goals beyond mayor complaints with legal regulations it involves a commitment to more principles and values that privatize the wellbeing of consumers and the social order as a whole

Business can cultivate consumer trust, enhance brand reputation, and foster long-term relationships by adhering to ethical standards.

Divas article will start by questioning ethical cutting and emphasizing what significance it holds in the practices of modern business; it will expire the tical principle underlying the ethical behavior concerning the passing importance of honesty, transparency, and respect for consumer autonomy.

Let’s start with a big question: Why does good marketing matter, especially right now? This paper gets into the heart of ethical choices in marketing—stuff like what’s right, what’s true, and how much freedom customers really have. We’ll take a close look at how advertising sometimes twists the truth, sometimes flat-out lies, or just shades things in a way that’s harder to catch. By the end, you’ll see how marketing consultants wrestle with these issues, not just with their clients, but out in the world.

We’re not just talking theory here. This paper looks at what ethical marketing actually looks like—where it works, where it falls apart. You’ll get real stories and honest opinions from managers who deal with this every day. The point isn’t to have all the answers. It’s to give you something real to think about: some practical tips, a sharper sense of what’s really happening out there, and a new angle on the whole ethical marketing debate. For anyone in business who wants to get a handle on today’s marketing challenges, this paper lays out the key issues and offers advice you can actually use. If companies stick to strong ethical principles, they build real trust with their customers. And honestly, that’s how you help the industry move toward a future that’s both responsible and sustainable.

This paper digs into how shady marketing can wear down customer trust and leave lasting scars on a brand’s reputation. It takes a good look at the rules around marketing ethics, especially how government agencies like the Federal Trade Commission step in. There’s also a section on international standards for companies. On top of that, the paper lays out what corporate social responsibility really means, why it matters in marketing, and how it shapes the way businesses make decisions.

LITERATURE REVIEW

Unethical marketing gets a lot of attention these days, and for good reason. It doesn’t just hurt individual consumers—it can mess with society as a whole. This review looks at how shady marketing tactics affect people and communities, and what that means for businesses and the rules that try to keep them in check.

EFFECTS ON CONSUMERS:

An ethical marketing cannot determinately affect our consumers across multiple dimensions. Research indicates the descriptive advertising and misleading marketing practices can lead **to** consumer confusion dissatisfaction and trust (Smith and Laczniak 1991). Consumers may practice perceptive disagreement with expectations and meet resulting of negative post purchase behaviors such as product returns or complaint (Wang & Sun 2012) moreover, vulnerable populations such as children and elderly are particularly susceptible to exploitive marketing practices which lead to financial harm and emotional distress (Hawkins et al.2018)

SOCIAL AND PSYCHOLOGICAL IMPACT

In addition to economic consequences, unethical marketing can up significant social and psychological implications for individuals and society. Studies have shown the exposure to advertisements and promote unrealistic buddy standards or perpetuate harmful stereotypes can contribute to low self-esteem bodies splitting image problems and mental health problems particularly among young people furthermore unethical marketing practices that manipulate emotion or exploit fear can undermine societal trust contribute to culture of cynicism and scepticism (Hastings et al 2004)

ECONOMIC CONSEQUENCES

Unethical marketing trades can so have ordered economic consequences for society. Research suggests that descriptive advertising and fraudulent marketing schemes can desert marketing competition. Leading to inefficient resource allocation and hindering economic growth (Lambert,2016) moreover, consumers harm resulting from unethical marketing can impose significant financial burdens on individuals and society, including well-being care charges associated with the consumption of harmful product or services (Kotler & Armstrong ,2016**).** This tickle dimension in marketing responsibility trendy. Can affect all sectors slash industry if the organization need to compete their proper application (Manoj Kumar 2023)

REGULATORY RESPONSES

To address as the negative impact on a trigger marketing regulatory farmers and legal major have been implemented to protect customers and promote fair and transparent marketing practices. These ink consumer protection lodge advertising standards and code of conduct data protection and privacy regulations and industry specific regulation governing marketing activities (Murray & Vogel 1997) However challenges the remain ineffectively enforcing desecration and holding income accountable for unethical behavior in a global marketplace (Morrison,2017).

The study states the significantly fostering long term brand loyalty (Dr Nadini Kulkarni 2024), in order to strengthen their relationships and client's business should assess the ethics of promotion in order to make most trust-based activities. For fostering the culture of integrity, the company should adopt customer centre approach CSR principal's application into management strategies create an environment for ethical conduct and social wellbeing. Ethical marketing is not a subject it is a strategic obligatory for the business.

BACKGROUND AND SIGNIFICANCE

The marketing and advertising environment has experienced radical shifts in the past few decades due to technological revolution, globalization, and consumer demands.

To address these concerns, there has been a growing focus on unethical marketing. -a Philosophy that prioritizes transparency, honesty and respect for consumer autonomy full stuff ethical marketing goals beyond simply adhering to legal regulations it involves a commitment to moral principles that guide decision making and behavior in marketing dominance term business may increase consumer trust, set themselves separately from competitors, and help create additional sustainable and socially conscious marketplace by implementing ethical marketing strategies. The firm owners boost customer faith, discriminate themselves from contributors, and contribute to the conception of a more maintainable and socially reliable marketplace by using ethical marketing approaches.

As old-school advertising has expanded to cover digital platforms and social media, marketers now face a whole new set of challenges and opportunities when it comes to connecting with their audiences. Because of this shift, people are paying a lot more attention to the ethics of marketing, and companies have to rethink how they approach their strategies.

In the past, advertising was all about pushing people to buy something—usually by repeating persuasive messages over and over. But, honestly, this approach hasn't always been great for building trust. Sometimes, it's led to shady tactics like misleading ads, exaggerated promises, hidden fees, or playing on people's emotions with sneaky messaging or fear-based appeals. These methods might grab attention in the short term, but they end up hurting consumer trust and damaging the reputation of brands.

The implications of ethical marketing in scope surpass the scope of individual companies to encompass social inferences that border on the international boundary. Girl marketing tactics have the potential to impact the implication of the impact on the welfare of customers, social welfare, and social norms. Deceptive marketing can lead to uninformed consumer decisions in terms of purchase to the impact of financial hardship and disappointment.

Illicit marketing hurts more than just a company's reputation—it chips away at people's trust in the whole system. When consumers see shady tactics, they start to doubt businesses altogether. Some just step back and stop engaging, which leaves them feeling powerless and drags down the market's efficiency. That's why ethical marketing really matters. It keeps the marketplace running smoothly and helps everyone feel like they belong.

Based on this consideration, the ethical aspect of marketing and advertising is a significant consideration for business customers and society at large. By emphasizing transparency, honesty, and accountability in marketing practices companies can build stronger relationships with consumers, enhance brand reputations come on contribute to the overall wellbeing of society. Ethical marketing isn't just good practice—it actually gives brands an edge. People care about values now, and when a company shows it's honest, they stick around. Trust grows. Loyalty follows.

This paper digs into the tricky world of ethical marketing and advertising. The main goal? Figure out how brands can market their products without lying or playing mind games.

By examining these principles challenges and best practices of ethical marketing this paper aims to provide insights and recommendation for marketers seeking to navigate the ethical dimensions inherent in modern marketplace ultimately, by promoting ethical conduct in marketing practices business cannot only achieve their commercial objective but also contribute to a more ethical sustainable and socially responsible future for the industry.

PURPOSE OF THE STUDY

This piece digs into the practices of complicated world of ethical promotion and advertising. It's not just about sticking to the rules, but about calculation out why those instructions matter in the first place. The main areas of the study break down like this: The study offers practical advice, too. It shares best practices, policymaking tools, and real-world examples of corporate responsibility This paper gets right to the core of what ethical marketing really means. It doesn't just chase a neat definition for its own sake—it's about building a real foundation for why ethics even matter in marketing. First off, the paper makes a sturdy case for why ethical marketing isn't just some catchword. When businesses do the right thing, they build trust, reliability, and real networks with customers. It breaks down how unethical marketing messes with people—psychologically, socially, and even financially. The study doesn't just scan the surface; it really looks at the ways deceptive ads can twist buyer behavior, change attitudes, and affect well-being Then there's the legal side. The paper digs into the rules, the laws, and what governments are actually doing about advertising ethics, both at home and international. Ethics aren't just a bonus they actually bring real value to everyone involved: companies, customers, and society. The paper doesn't shy away from the ugly side either. It calls out dishonest advertising, digging into the tricks and manipulation you see all the time. It goes beyond just theory, using real-life instances to show how these shady tactics hurt not just customers, but everyone. It takes a close look at legal cases where corporations got busted for misleading marketing and asks if all this regulation really makes marketers do better. Then it's not just about calling out problems. Marketers get actual strategies for handling today's ethical challenges—not just theory, but things they can use right now. In the end, this paper lays out why ethical marketing matters and what can go wrong when companies ignore it.

UNDERSTANDING ETHICAL MARKETING

Technical marketing is fellowship in approves to marketing that privatizes honesty, transparency command respect for consumer welfare and social values Ulster unlike traditional marketing, which may focus surely on persuading consumers to purchase product or services, Ethical marketing emphasizes the importance of conducting business in a morality possible manner it goes when mayor complaints with legal regulations and industry standards ethical marketing ethical marketing involves a commitment to ethical principles and principles that guide decision making on behavior in the marketing domain.

KEY ASPECTS OF UNDERSTANDING ETHICAL MARKETING INCLUDE

Definition of ethical marketing can be defined as the practice of marketing products or services in a way that is honest transparent on socially responsible full stuff it involves bring into line marketing strategies with ethical principles such as fairness, integrity, in respect for consumer rights, ethical marketing seeks to build trust and credibility with consumers via demonstrating a assurance to ethical conduct and values.

Principles of ethical marketing: Ethical marketing is guided by several core principles that inform its approach to business practices and consumer interactions these principles may include:

- Honesty; ethical marketer strike to communicate truthfully and accurately with consumers, avoiding deceptive or misleading claims ulster
- Transparency; ethical marketers are transparent about their business practices including pricing product features and potential risk or limitations
- Respect for consumers autonomy semicolons ethical marketers respect the autonomy and decision-making authority of Panjima's, avoiding coercive on manipulating practice
- Social responsibility; ethical marketers consider the border social environmental and ethical implications of their marketing activities seeking to minimize harm and maximize positive impact.
- Fairness; ethical marketer streaks all trend holders including customers employee suppliers and communities fairly and equitably avoiding exploitation and discrimination.

Importance of ethical marketing scheme ethical marketing is increasingly important in today's business environment where consumers are more informed empowered and socially conscious than before business that privatize ethical marketing can differentiate themselves from competitors build stronger relationship with consumers and enhance brand reputation and loyalty too marketing contribute to a more sustainable and socially responsible marketplace fostering long term value creation.

Challenges and consideration; why ethical marketing offer numerous benefits it also presents challenges and constitution too for the business marketer must navigate complex ethical dilemma and trade off so balancing the business would be possible and the objective will need to uphold ethical principles and values moreover the dynamic nature of the marketplace and evolving consumer expectation required constant vigilance and adoption to ensure ethical marketing practices remain relevant and effective.

In summary the ethical marketing is a holistic approach for marketing that priorities integrity transparency and consumer welfare too by aligning marketing strategy the ethical principles and values of business can build trust credibility and long-term relationship with consumers while contributing to a more ethical and sustainable future of the industry.

AVOIDING DECEPTION IN ADVERTISING

- Avoiding reception in advertising is crucial for maintaining cost and consumers and complying with legal regulations. Such strategies are that is given as example here to showcase the advertisement a truthful and transparent examples.
- Accurate representation; advertisement should accurately represent the product or services being advertised avoid suggestions or misleading claims about features and benefit and performance of the product
- Substantial claims; any claims made in advertisement should be backed by evidence or data ensure that the statistics and testimonials or endorsements use are truthful and verifiable.

- Clear and transparent communication; ensure that all the information provided in the advertisement is clear and easily understandable avoid using ambiguous language or fine print to concrete important details.
- Award falls comparisons; if making comparisons with competitor product or services ensure that the comparison is fair accurate and supported by evidence avoid making false or unsubstantiated claims about the competitors.
- Full disclosures of limitations; If there are any limitations or conditions associated with the product or services being advertised, they should be clearly disclosed in the advertisement.
- Ethical employment of persuasive methods: While it is acceptable to utilize persuasive techniques in advertising, companies should refrain from manipulating or taking advantage of consumers' emotions or vulnerabilities. Advertisements should honor consumers' autonomy and their ability to make decisions.
- Ethical advertising: Consider the broader ethical consequences of your advertising strategies. It is important to avoid endorsing harmful products or reinforcing damaging stereotypes and to ensure that your advertisements have a positive impact on society.
- Consumer Feed Back: Let's talk about consumer feedback. Customers need an easy, stress-free way to share their thoughts or ask for help if they think an ad misled them. When complaints come in, businesses should take them seriously—deal with them quickly, and don't get stuck in rigid policies.
- Review Process: Then there's ongoing review. Keep an eye on your marketing—don't just set it and forget it. Check in regularly to make sure everything lines up with ethical standards. If people raise concerns, fix them right away.
- Unethical marketing does real damage. It messes with the market by pushing low-quality products or faking demand with shady tactics. That just wastes resources and slows down economic growth. At the end of the day, dishonest marketing hurts individual buyers, chips away at trust, and feeds bigger problems in society. Businesses need to put consumers first in their marketing and actually help the communities they serve.

REGULATORY FRAMEWORK ON LEGAL CONSTITUTIONS

- Regulatory payments and legal considerations play a critical role in addressing and preventing unprincipled marketing applies. Several laws and guidelines exist to protect consumers and ensure fair, transparent marketing.
- Consumer Protection Laws: These laws aim to defense consumers from misleading, unfair, or fraudulent marketing Activities. They typically ban incorrect advertising, bait and switch tactics, and other forms of consumer mistreatment. Such as the Federal Trade Commission (FTC) Act in the United States and the Consumer Rights Act in the United Kingdom.
- Advertising standards and codes of conduct: Many countries have advertising standards establishments or industry self-regulatory administrations that create codes of conduct for promoters. These codes outline ethical guidelines and best practices for advertising, ensuring that ads are generous, accurate, and socially responsible.
- Data protection and privacy regulations: As digital marketing cultivates, regulations about data protection and privacy have become increasingly important. Notably, the General Data Protection Regulation (GDPR) in the European Union and the California Consumer Privacy Act (CCPA) in the United States set rules for assembling and managing customer information for salable purposes. •

- Industry-specific regulations: Certain subdivisions, such as pharmaceuticals, tobacco, and alcohol, must trail specific rules that govern their marketing efforts. These rules help limit the advertising of these goods to protect public health and wellbeing.
- Intellectual property laws protect a business's creative work—think trademarks, copyrights, and all those details that set a brand apart. When companies use copyrighted material in their marketing without permission, they're asking for legal trouble.
- Antimonopoly and competition laws keep the playing field fair. These rules stop companies from price-fixing, using misleading promotions, or pulling other stunts that hurt consumers. Basically, they make sure no one tries to control the market or push out competition.
- Ethical strategies and industry standards matter too. Beyond just following the law, businesses are expected to stick to good practices and industry guidelines when they market their products. Professional groups, trade associations, or international organizations often set these standards to encourage responsible advertising.
- Enforcement is a real thing. Regulatory agencies watch over the industry, investigate complaints, and have the power to hand out fines, issue orders, or even take companies to court when they break the rules.
- At the end of the day, these regulations protect consumers and keep competition alive. Following them isn't just about staying out of legal trouble—it also builds trust and credibility with customers.

PROMOTING ETHICAL MARKETING PRACTICES

Promoting ethical marketing applies is essential for building faith with consumers, nurturing positive brand repute command contributing to long term business fruitful stuff here are some approaches for promoting ethical marketing practices:

- Establish clear ethical guidelines: Develop and transfer clear decent guidelines for marketing actions within your organization. These strategies should outline principles such as morality transparency respect for customer privacy and adhere to relevant laws and guidelines.

- Lead by example. Show ethical behavior at every level of the organization, from top to bottom. Leaders need to live out these values in what they do and say, setting the standard for everyone else. Basically, they should be the example others follow. Work ethics into your marketing right from the beginning. Make sure every campaign and strategy keeps ethics front and center. Be honest and clear in your marketing messages. Treat customers with respect—don't take advantage of their weaknesses or try to mess with their emotions.

- Be honest and clear: Share how you're marketing actually works. Give customers real info about what's in your products, how much they cost, and what they're signing up for. Make sure your team sticks to ethical practices, and if someone crosses the line, deal with it right away.

- Talk to everyone involved: Keep the conversation open with customers, employees, suppliers, and the local community. Ask for feedback on your marketing, listen, and show you're serious about fixing any issues and raising your ethical game.

- Stick to ethical supply chains; Your advertising should match your values—support fair labor, protect the environment, and source materials responsibly. Don't just talk about it. Make it part of how you do business.

- Review how things: Set up a system that checks and supports the ethical side of your marketing efforts. Run regular audits, surveys, and assessments to make sure everyone follows the rules and to spot where you can do better.

- Celebrate when the team gets it right: Point out moments when people act with integrity or when the group hits an ethical milestone. Sharing these wins lifts everyone up and encourages the team to stick to the company's values.

- Collaboration: Work with industry partners, regulators, and shareholders to push for ethical marketing everywhere, not just in your own business. Get involved in industry projects, swap ideas about what works, and push for tougher standards. When you put these steps into practice, you build a culture where ethical marketing comes first. That builds trust with customers, keeps your reputation solid, and shows you care about doing the right thing.

RECOMMENDATIONS FOR MARKETERS

For marketers looking to upload ethical standard of picture positive relations with customers here are some key endorsements are drawn on the basis of studied papers.

priorities truthfulness and transparency: Put truth and transparency first. Be honest in your marketing—skip the exaggeration, false claims, and anything that could mislead people or break their trust.

- Honor consumer privacy: Respect your customers' privacy. Treat their personal information with care. Always ask before collecting any data, and make it clear how you'll use and protect it.
- Deliver value: Don't just chase sales. Focus on giving real value. Create marketing that teaches, entertains, or actually solves a problem for your audience.
- Steer clear of unfair behavior: Stay away from unfair tactics. Don't take advantage of people or mess with their emotions just to sell something. Pay attention to culture so your messages are respectful and include everyone.
- Practice ethical digital marketing: Act ethically online. Respect people's digital privacy, avoid clickbait and fake reviews, and be upfront about how you use data.
- Encourage social accountability: Bring social responsibility into your marketing. Support causes that fit your brand values, promote sustainability, and do something good for your community.
- Foster trust through legitimacy: Build customer trust by being reliable in your marketing communications. Avoid overly polished or exaggerated messaging to create real networks with your audience.
- Maintain ethical vigilance: Regularly appraisal your marketing performs to ensure they meet ethical ideals. Update your ethical strategies and previous policies to stay in line with changing social expectations and best practices.

CONCLUSION: Ethical marketing practices are essential for business to build trust with consumers foster positive relationship and to contribute long term success by prioritizing honesty transparency, respectful consumer privacy and social responsibility marketer can create meaningful communication with their audience while upholding ethical standards

Ethical marketing involves prioritizing truthfulness and transparency in Communications respecting consumer privacy providing value consumers and avoiding exploitative or deceptive practices. Marketer should stay informed about relevant regulations, engage ethically in digital marketing command prompt social responsibility in their campaigns.

Ultimately ethical marketing is not just about following rules and regulation it is about building a circulate culture of integrity authenticity and trust within organization by adhering to ethical principles and continuously striving to improve their practices marketers can create positive experience for consumers enhance brand reputation and contribute to more ethical and sustainable marketing system.

Bibliography

- Murphy, Patrick E., Gene R. Laczniak, and Norman E. Bowie. "Marketing ethics at the millennium: Review, reflections, and recommendations." Journal of Business Ethics 32, no. 4 (2001): 267-285.
- Smith, N. Craig, and John A. Quelch. "Ethical marketing." Harvard Business Review 68, no. 5 (1990): 26-33.
- Laczniak, Gene R., and Patrick E. Murphy. "Normative perspectives for ethical and socially responsible marketing." Journal of Macromarketing 27, no. 1 (2007): 8-19.
- Crane, Andrew, and Dirk Matten. Business ethics: Managing corporate citizenship and sustainability in the age of globalization. Oxford University Press, 2016.
- Singer, Natasha. "Ethical questions follow use of data from Facebook." The New York Times, March 18, 2018. https://www.nytimes.com/2018/03/18/technology/facebook-cambridge-analytica-explained.html.
- Beltramini, Richard F., Ronald E. Peterson, and David J. Kozmetsky. "Concerns of college students regarding business ethics." Journal of Business Ethics 6, no. 7 (1987): 477-482.
- Neelakantaswamy G.C. Assistant Professor of Commerce, Govt. First Grade College, Tiptur.JETIR1803457 Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org
- Nurettin PARILTI*, Banu KÜLTER DEMİRGÜNEŞ Bülent ÖZSAÇMACI Marmara Üniversitesi İ.İ.B. Dergisi YIL 2014, CİLT XXXVI, SAYI II, S. 245-298 Doi No: 10.14780/iibd.22226
- Abela, A. V., & Murphy, P. E. (2008). Marketing with integrity: ethics and the service-dominant logic for marketing. Journal of the Academy of Marketing Science, 36(1), 39-53. doi:10.1007/s11747-007-0062-0
- Manoj Kumar Kamila, Sahil Singh Jasroti, Ethics and marketing responsibility: A bibliometric analysis and literature review, Volume 28, Issue 4, December 2023, Pages 567-583

- Role of Ethical Marketing and its legal issue across Driving Consumer Brand and brand loyalty: An Approach(9Dr Nandini Kulkarni 2024) Journal of Chemical Health Risks, JC HR (2024) 14(6), 315-320 | ISSN:2251-6727

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THE EFFECTS OF COOPERATION AND COORDINATION BETWEEN INTERNAL AUDITORS AND EXTERNAL AUDITORS: A LITERATURE REVIEW

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ABSTRACT

Presenting a comprehensive literature analysis of the results of internal auditor (IA) and external auditor (EA) coordination and collaboration is the aim of this study. It is a Structure for analysing the literature review of the effects of these relationships on audit fees, internal auditing effectiveness, corporate governance, audit quality, client services, and fraud detection is developed. In order to pick research studies for doing a systemic literature review, an approach used in the investigations was followed and it consisted of three stages: recognition of databases, screening studies, and selected research studies. A variety of sources, including SCOPUS, Direct Sciences, ProQuest, and others, provided the studies. The periods of studies selected from the year 2001–2024 are covered by the literature search. After screening, 931 of the 956 studies that were eliminated due to their lack of relevance. In the end, 25 studies were selected for analysis. Despite the fact that most of the studies revealed that IA and EA cooperation and coordination increase internal audit effectiveness, the same cannot be stated for audit fees and costs or audit quality due to contradictory results. While there are some positive impacts on fraud analysis, client services, and corporate governance, whether or not the impact on the improvement of audit quality by the cooperation and coordination of IA and EA under this relationship is quite questionable. Because the results of previous research show a mixed tendency, there are still uncertainties regarding how IA and EA interactions effect audit quality and audit fees and costs. The reviewed literature shows that there is still a study gap and that the results of this coordination and cooperation are not fully apparent, despite the fact that many studies have been carried out in various nations. More studies are being needed, as per the analysis, particularly in developing nations where there are not many studies of this kind and Big 4 audit firms predominate.

KEYWORD: Internal auditing, External auditing, Cooperation and Coordination, Audit Quality, Audit Fees, Fraud Detection, Corporate Governance, Audit Clients Services, Effectiveness of Internal Auditing.

1.INTRODUCTION

Authorities and stakeholder groups have demanded greater association between internal and external auditors in order to boost audit efficiency (Nkansa, 2024). In this regard, the Institute of Internal Auditors (IIA) and the Auditing Standards Board (ASB) of the American Institute of Certified Public Accountants (AICPA) offer guidelines for the collaboration of internal and external auditors. Both (Internal and external) auditors collaborate and coordinate in the area of internal audit work, with the EA reviewing the IA’s reports and notifying them of any significant issues, as per International Auditing Standard 610. The IA reviews the EA's reports, identifies areas needing further investigation, takes appropriate action, and schedules meetings and seminars. The dependence of EAs on the work of IAs has thus received more attention in recent years (Brody 2012; Pike et al. 2016). It is assumed that when internal and external auditors collaborate and coordinate, their knowledge will be integrated, with IAs learning from EAs about connected businesses and the organization's environment. Collaboration between internal and external audits is a premeditated driving force that might transmute risk management, productivity, and decision-making, claims Mojapelo (2024). It goes outside of the simple compliance.

IAs and EAs have common objectives and could prove mutually advantageous with fruitful collaboration (Brody, 2012). EAs may be made more efficient and their audit scope reduced with the use of work accomplished by the IA. Coordination and collaboration between EAs and the IA have been viewed for a long time essential for deriving the benefits of the audit process for the EA and the IA, and for external parties, including stakeholders, from Alzeban and Gwilliam (2014).To attain the best outcomes for the shared interests and objectives, this coordination and cooperation between them are ongoing. Maintaining the efficacy of corporate governance is facilitated by IAs' capacity to cultivate positive relationships with EAs (Gramling et al., 2004). A competent and unbiased internal audit function may significantly improve an external audit process (Al-Twaijry et al., 2004). As stated by Dumitrescu & Boitan (2016), the processes as well as activities within the organization will be more effective and of better quality if both IAs and EAs work hand in hand with each other. Accordingly, there are beliefs that their coordination and cooperation are intended to yield various benefits, as outlined by Etzioni (2014).

RESEARCH QUESTION: What is the effect of cooperation and coordination between IAs and EAs on audit fees and costs, clients' services, detection of frauds, audit quality, effectiveness on internal auditing, and corporate governance?

Thus, using a previous literature review from 2001 to 2024, the purpose of this paper is to analyse the effects of collaboration and coordination between internal and external auditors on audit fees, client services, fraud detection, audit quality, effectiveness on internal auditing, and corporate governance. Four sections make up the remainder of the paper. The framework, methods, and list of the 25- previous research chosen for this literature review are all covered in Section 2. In contrast, Section 3 discusses the results of the chosen studies and how they affect the six areas of coordination and cooperation between IAs and EAs. Conclusions and recommendations for further study are provided in the final Section

Section 2

2.1 Framework of areas for internal and external auditors' cooperation and coordination effects

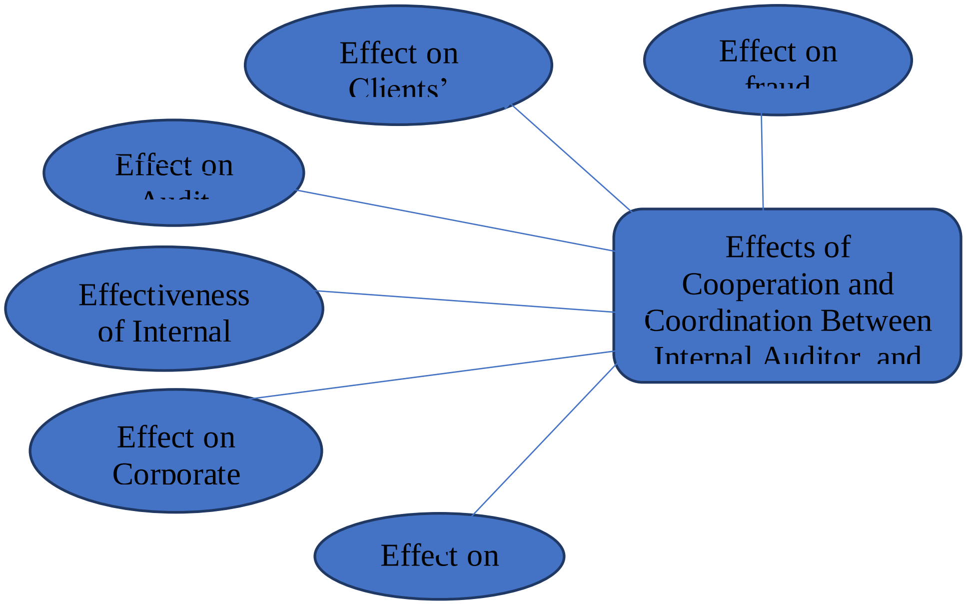

Fig-1 **(**Source: framework developed by the author)

2.2 METHODOLOGY

Numerous academics have proposed a variety of techniques for doing a thorough literature review, including Hardies et al. (2023) and Fisch and Block (2018), just are two examples. Database recognition, study screening, and selected research studies were the three processes used to pick research studies for our systematic literature review. The years 2001–2024 are included in the literature search. Peer-reviewed articles are available through a number of databases, such as SCOPUS, ProQuest, Direct Sciences, and others. Key words and titles such as "interaction," "cooperation and coordination," "interaction," "audit fees," "audit effectiveness," "audit quality," "corporate governance," "fraud detection," "client services," and "internal auditor" (IA) and "external auditor" (EA) were among the search phrases. In the end, 956 studies were found. After screening, 931 studies were removed because many of them lacked full texts, were duplicates, or were irrelevant. 25 studies were ultimately selected for the review.

2.3 REVIEW OF PRIOR STUDIES

The researchers' names, the year, the key findings, the direction of the effects, the sample size, and the country where the investigations were conducted are all listed in Table 1.

Table 1: List of key prior studies from 2001-2024**.**

Authors	Main findings	Quantitative or qualitative	Sample	Effect On	Country

Chui, Pike and Martin (2024)	External auditors collaborate with the IAF for efficient audits, varying based on competence, impartiality, and communication, resulting in more effective and efficient audits.	Qualitative	107 external auditors	Audit quality improves	USA
Mahouat et al. (2024).	The study suggests that enhancing internal audit effects and Impact necessitates robust management support, competency, and independence, ensuring auditors discharge their duties objectively and free from conflicts of interest, and fostering cooperation between internal and external auditors.	Quantitative	137 public sector companies	Improves Internal audit effectiveness	Morocco
Al-Sukker et al. (2024)	The study investigates how senior Jordanian EAs evaluate the effectiveness of the internal auditing function (IAF) in Jordanian listed businesses. Results express that work performance significantly influences the perceived success of the IAF. The study employed a mixed strategy,	Quantitative & qualitative	35 external auditors and 9 interviews	Positive effect on IA effectiveness	Jordan

	considering the small sample size and the authors' assertion of significant influence.				
Maa,Adwa., & Jalilb (2024)	The interaction between EA and the IAF negatively affects earnings management i.e., audit quality. On the other hand, this study found that the interaction between the AC and the IAF is significantly and negatively interrelated with earnings management,	Quantitative	340 firm-year-based observations	Audit fees negatively affected.	Malaysia
Sarkar (2021)	A study of 408 Australian firms from 2017-2018 found a positive association between internal audit function quality and audit fees (External), suggesting that higher internal audit roles increase audit fees regardless of sourcing arrangements.	Quantitative	408 listed companies (2017-2018)	Positive: audit fees increased	Australia
Al-Shaheen & Bai (2020)	The dependence of external audits on internal audits continue to exist in China. The study emphasizes the importance of maintaining the independence, objectivity,	Qualitative	14 semi-structured open-ended questionnaires from 7 audit firms	Improves audit quality	China

	professionalism, and authenticity of internal auditing in China to enhance audit quality and efficiency.				
Azzam et al. (2020)	Participants viewed collaboration between internal and external auditors positively, indicating that objectivity enhances collaboration, thereby improving the quality of financial reporting.	Quantitative	312 external auditors	Favourable impact on audit quality	Jordan
Putra & Mulya (2020)	The quality of internal audit significantly impacts the effectiveness of good corporate governance, which is influenced by factors such as independence, professional capability, scope of work, and examination.	Quantitative	85 employees	Effective IA leads to improvement in corporate governance	Indonesia
Regoliosi & Martino (2019)	The study indicates that collaboration enhances the reliability of controls and partially prevents duplication of work.	Quantitative	224 external auditors & CAE	Internal audit effectiveness improves but mixed evidence om audit fees	Italy
Poltak, Sudarma, & Purwanti (2019)	The study found that internal audit effectiveness is positively impacted by collaboration and coordination between internal and external auditors, and that	Quantitative	Functional auditors were 91 people (internal and external)	Positive effect on internal audit effectiveness	Indonesia

	management support moderates this effectiveness.				
Sierra-Garcíaa, Ruiz-Barbadillo, & Orta-Pérez (2019)	The results show that fees are higher in businesses with internal auditing departments. Furthermore, there is a complementary interaction between internal and external audits.	Quantitative	Companies listed on the Madrid Stock Exchange with 965 firm-year observations	Impact on audit fees	Spain
Silva , Inacio, & Vieira (2019)	The study reveals that the competencies and characteristics of internal auditors, their activities, and communication with external auditors significantly influence the decision to use internal audit work. Portuguese external auditors do not perceive audit quality and fees as impacted, while Spanish respondents believe audit quality improves but does not affect fees.	Qualitative	131 respondents for Portugal and 149 respondents for Spain.	Does not improve audit quality	Portugal & Spain
Jabbar (2018)	Audit integration between external and internal auditors offers benefits like avoiding duplication, saving time, and providing comprehensive coverage. However, management's ignorance often leads to cautious	Quantitative	110 internal, external and academicians	Audit quality performance improves and audit expectation gap is changing	Iraq

	communication and cooperation, as external auditors aim to uncover mistakes.				
Argento et al. (2018)	The study reveals that as external auditors utilize the work of internal auditors, they potentially compromise objectivity and professionalism. However, external auditors are aware of the implications for audit quality, relying on internal auditors' reports. The study highlights the balance between their perspectives on efficiency, independence, professionalism, and audit quality.	Quantitative and Qualitative	8 semi-structured interviews with external auditors; 41 usable responses	Audit quality improves; reduces audit costs	Sweden
Abbot et al. (2016)	What is the outcome of internal audit competence (independence) on financial reporting quality?" is "it depends on the independence (competence) of the internal auditor.	Quantitative	900 non-bank members of the FORTUNE 1000 (in terms of total sales).	Audit quality effect depends on internal auditor independence	USA

Dumitrescu & Boitan, (2016).	The study explores Romania's key provisions for promoting cooperation between internal and external auditors, aiming to enhance system quality and effectiveness while reducing testing and fees, and identifying Romanian auditors' perceptions of cooperation and coordination..	Qualitative	14 internal auditors and 23 external auditors	Audit fees are reduced	Romania
Drogalas et al. (2016)	The study reveals a positive correlation between the consulting function, internal audit quality, and the audit committee in relation to corporate governance.	Quantitative	235 corporations	Positive effect on corporate governance	Greece
Salehi (2016)	The study reveals that the effectiveness of an internal audit department is influenced by various factors such as competency, department size, interactions between auditors, independence, and management support.	Quantitative	355 internal audit manager and 272 other internal audit staff	Communication between IA and EA impacts IA effectiveness	Iran
Mat Zain, Zaman & Mohamed (2015)	The study reveals a positive correlation between IAF quality and audit fees, with a reduction in fees due to external auditors' reliance on	Quantitative	Matched survey of both external and internal auditors	IA quality improves; audit fees is reduced due to interactions	Malaysia

	IAF, suggesting that higher quality IAF leads to increased external auditor reliance on internal auditors' work.				
Alzeban & Gwilliam, (2014)	Management support for internal audit (IAE) significantly influences both management and internal auditors' perceptions of its efficacy, including hiring qualified employees, allocating funds, improving external auditor relationships, and creating a separate division	Quantitative	203 managers and 239 internal auditors from 79 public sector companies	Positive effect on the internal auditing effectiveness	Saudi Arabia
Brody (2012)	If the external auditor conducted less work and the internal auditor's work was more relied upon, the external audit fees would be reduced.	Quantitative	48 auditors at the senior rank and 48 auditors at the manager rank from Big4 and one national firm.	Positive effect on audit fees	USA
Garcia-Perez de Lema (2012)	The study reveals that high collaboration between both the auditors (external and internal) significantly enhances the likelihood of high-quality financial reporting in companies i.e. audit quality.	Quantitative	Bank directors	Positive effect on audit quality	Spain

Suwaidan & Quasim (2010)	The study findings reveals that EA in Jordan prioritize the competence, objectivity, and work performance of internal auditors, reducing external auditors' efforts due to cooperation and firm size influencing audit fees.	Quantitative	100 external auditors	Positive effect on audit fees	Jordan
Ho & Hutchinson (2010)	The findings suggest that reliance of EAs on IAs work reduces audit fees	Quantitative	Annual reports of Hong Kong listed companies & questionnaire-based perceptions	Effect on audit fees	China
Felix et al. (2001)	The study found that the influence of internal audit to external audit work significantly influences audit fees, with a negative relationship. The availability and quality of internal audit also significantly influence its contribution.	Quantitative	70 non-financial services Fortune 1000 firms included IA and EA	Audit fees is significantly impacted but with negative relationship	USA

3. DISCUSSION

Given the increasing significance of interactions between IAs and EAs, scholars like Sawyer et al. (2005) and Wood (2004) have argued that IAs and EAs need to collaborate, appreciate, and leverage one another's abilities. By better coordinating and working together, they can boost the effectiveness and efficiency of auditing operations and benefit from each other's efforts. To increase audit efficiency, regulators and stakeholder organizations have pushed for greater cooperation. Association with other corporate governance parties both influence and are influenced by the coordination and collaboration among auditors.

According to Endaya (2014), this interaction lowers audit fees while simultaneously improving audit effectiveness and efficiency. Mutual cooperation reduces job duplication and increases control reliability. One important aspect influencing how much EAs rely on IAS is their level of commitment to professional standards (Mustapha & Lee, 2020).

Interestingly, 48% of the research conducted in developed countries was included in this study, whereas 52% of the studies included in this review came from developing nations. The following part provides a thorough analysis of the findings of the pertinent research and how they affect each of the six areas listed in the framework:

3.1EFFECT OF COOPERATION AND COORDINATION BETWEEN INTERNAL AND EXTERNAL AUDITORS ON AUDIT QUALITY

The effect of EAs interactions with IAs may be either positive or negative on audit quality. Effective collaboration can yield several benefits for both the auditors and the client they serve, including increased efficiency without sacrificing effectiveness, according to recent studies (Endaya, 2014). Due to their greater familiarity with the business and its surroundings, IAs are seen as a substantial source of information. Azzam et al. (2020) studied 312 EAs in Jordan with an 85% response rate, taking this into consideration. Their results demonstrate that the collaboration between IA and EA to improve the calibre of financial reporting was positively viewed by the auditors, a favourable and noteworthy impact of objectivity in raising the degree of association between IA and EA , which raised the standard of financial reporting. Additionally, the technical proficiency of the internal audit's work and professional care have improved, which has a beneficial impact on the quality of financial reporting. They suggest that EAs should rely on internal audit works, which could lead to enhanced financial reporting quality.

The relationship between financial reporting quality and internal or external audit was examined in a few research studies (Badolato et al., 2014; Abdallah, 2018) with mixed results. Empirical research has shown a positive correlation in the working relationship between internal and external auditors and the effectiveness of the internal auditing function (Alzeban & Gwilliam, 2014).The same findings were reported by Pike et al. (2016), who found that coordination between internal and EAs improve organizational compliance with SOX-related requirements and increases the efficiency of internal control review. According to Zgarni et al. (2016), improving the overall quality of financial reporting is the main objective of both internal and external corporate governance players.

Chui, Pike, and Martin (2024), in a qualitative study, show that coordination has the potential to enhance audit quality by ensuring a thorough and effective examination of internal controls over financial reporting. This is more possible to be achieved when EAs are involved in the development of the IAF’s work.

Garcia-Perez de Lema (2012) finds that the likelihood of having high-quality financial reporting is more accentuated in companies where the collaboration between external and internal auditors is very high. While Silva, Inacio, and Vieira (2019) study in the Portuguese context reveals that the cooperation and coordination between IAs and EAs do not improve audit quality. Similarly, Abbot et al. (2016) reports that effect on audit quality depends on Audit quality effect depends on IA’s independence.

The study by Al-Shaheen and Bai (2020) in China reveals the ongoing dependence of external audits on internal audits. It emphasizes the importance of maintaining independence, objectivity, professionalism, and authenticity in internal auditing. To a certain extent, external audit relies on internal audit to save time and improve efficiency in order to improve audit quality in China.

Khelil et al. (2018) have qualitatively investigated the vital role that the working relationship between internal and external auditors has in promoting moral courage among IAs. The quality of external audits may be negatively impacted by strict collaboration between internal and external auditors, as they are seeming as lacking freedom and professionalism (Argento et al., 2018).

3.2 EFFECTS ON CORPORATE GOVERNANCE

Researchers strive that for corporate governance to be successful, four stakeholders— like the audit committee, senior management, external auditors, and internal auditors—must cooperate and coordinate (Gramling et al., 2004). Collaboration between external and internal audits can advance company governance because they are both fuel of corporate governance. According to Endaya (2014), the corporate governance parties contribute to conserving the usefulness of corporate governance.

The internal control structure, which aims to reduce risk and governance concern, issues, and governance procedures are also examined by internal auditors. As part of the business's external financial reporting procedure, the objective of external audit effort is to support the EA's yearly opinion on the financial statements. Pike et al. (2016) describe similar findings, showing that coordination between IA and EA improves organizational compliance with SOX-related rules (2002) and increases the efficiency of internal control review.

To achieve the best results for the shared interests and objectives, this coordination and cooperation are ongoing. Maintaining the efficacy of corporate governance is facilitated by internal auditors' capacity to encourage positive relationships with external auditors (Gramling et al., 2004). The degree of operational coordination and cooperation between auditing firms and internal audit departments was examined by Regoliosi and Martino (2019). According to the results, mutual cooperation reduces job duplication and increases control reliability. Given the growing importance of the internal auditing role and the difficulties that today's EAs face, the authors assert that the findings are highly relevant to internal auditing as a corporate governance tool.

Drogalas et al. (2016) investigated the interaction between the internal auditing function and external auditors in the context of corporations listed on the Athens Stock Exchange. Their study focused on the consulting function of internal audit as well as the assessment of audit excellence. Using a survey with a structured questionnaire methodology, data was collected, and regression analysis was used for analysing the data. The findings showed that internal audit's consulting function, internal audit quality, and the framed audit committee are all correlated positively with corporate governance.

Putra and Mulya (2020) examined how the quality of internal audits, determined by the independence professional skills, scope of work, and investigation of auditors, affected the efficiency of sound corporate governance. As per the report, internal audits are forecast to encourage businesses to create a robust corporate governance agenda to the greatest degree achievable, enabling the company's objectives to be more attentive and operational activities to proceed effectively.

3.3 EFFECT ON AUDIT FEES

For both IA and EA, as well as the customers they serve, there are several advantages to effective coordination and association or collaboration. Cost of audit fees are reduced, and audit efficiency and usefulness are increased (Endaya, 2014). According to AICPA (1997), Broye (2009), and PCAOB (2010), external auditors' fees will reduce, and their confidence on the client's internal control will increase when the internal auditor plays a significant role in strengthening internal control.

Earlier studies have mixed results on the impact of coordination and cooperation on reducing external auditor fees (Schneider. 2009; Argento et al., 2018; Sierra-Garcíaa., Ruiz-Barbadillo, & Orta-Pérez, 2019; Maa, Adwa., & Jalilb, 2024). The studies by Sarkar (2021) in Australia and Mat Zain, Zaman, and Mohamed (2015) in Malaysia have shown a positive result on audit fees. **Sarkar's** (2021) study results also show an increase in audit fees in Australian context.

The findings of Ho and Hutchinson's (2010) research, which observed the relationships between IAs and EAs in the Hong Kong environment, indicate that EAs depend on the roles played by internal audit, which results in reducing fees. Larger internal audit functions and specific internal audit procedures are associated with lower external audit fees. Similarly, the results of Brody's (2012) study indicate that if the IA's work were relied upon more, the EA would do fewer work, which would affect in cheaper external audit fees.

Suwaidan and Quasim (2010) studied on sample size of 100 external auditors to study how EA observe the significance of various elements that could affect their dependency on an internal auditor for their external audit. The effect of this dependency on audit fees is also examined using a cross-sectional multiple regression method. The findings show that external auditors rank internal auditors' objectivity, skill, and output as critical elements influencing their decisions to rely on them in in Jordan context. A mean score of 4.353 was discovered for "objectivity," followed by 4.188 for "competence" and 4.156 for "work performance." The most important and relevant variable in explaining the discrepancy in audit fees paid by the sample companies, according to the outcomes of the multiple regression analysis, is the size of the audited company. The dependent variable is determined to be insignificant.

Hazami-Amma (2019) observed on 2,160 internal auditors' responses to a 2009–2013 Institute of Internal Auditors Research Foundation investigate on the internal auditing profession. The results showed that minimum external audit fees corresponded with a high-quality internal audit function (IAF). The study's findings support the substitution effect. Further, the authors revealed that audit fees will increase when internal audit labour hours rise, signifying a mutually reinforcing association between these factors.

Silva, Inacio, and Vieira (2019) examined a study on the relationship between internal and external audits and their influence on external audit fees. They surveyed 131 Portuguese and 149 Spanish external auditors. The outcomes showed that while Portuguese auditors consider the impact of internal audits to be minimal, it does not significantly affect substantive tests, the quality of external audits, or external audit fees. Similarly, Felix et al. (2001) conducted a study on the impact of audit fees on the influence of internal auditors to external audit work. They created two questionnaires; one was sent to EAs and the other to audited companies. The study found a negative correlation between audit fees and internal audit's contribution to external audit work, and that the degree of internal audit contribution depends on its availability and quality.

3.4 EFFECT ON THE EFFECTIVENESS OF INTERNAL AUDITING

The effectiveness of the internal audit can be accomplished by personalizing different interests, roles, and responsibilities that are complementary between the IA, the IA, and organization. These same interests are primarily in organizational governance and the effectiveness of financial internal controls that result in mutual dependence so that coordination and cooperation occur, which can increase the efficiency of internal audit.

Aspects of financial reporting were also encompassed in the growing focus on internal audit's function as a crucial corporate governance tool (Abbott et al., 2016). There could be financial savings when the external auditor may rely on the work of internal auditors (Abbott et al., 2012; Mat Zain et al., 2015). The effectiveness of internal audit is impacted by the cooperation and coordination between internal and external auditors, and management support can control this cooperation and coordination, according to research by Poltak, Sudarma, and Purwanti (2019). Their study indicates that the effectiveness of internal audits is favourably influenced by organizational independence, auditee perceptions, and the dealings between internal and external auditors.

Coordination and cooperation between IAs and EAs have been shown to be effective (Schneider, 2009; Alzeban & Gwilliam, 2014; Salehi, 2016; Badara & Saidin, 2014) and to have a favourable impact on the effectiveness of internal auditing. Coordination and collaboration are being undertaken to guarantee adequate audit coverage, minimize job duplication, and lower audit costs. Additionally, it assisted in avoiding unnecessary recurring mistakes. Similarly, the results of Shamsuddin's (2014) study show that interactions between internal and external parties will improve audit effectiveness and efficiency and assist management in providing high-quality public services.

Using 187 structured questionnaires and direct interviews, Regoliosi and Martino (2019) surveyed the degree of operational cooperation and functional activity coordination between internal audit functions and firms that conduct auditing in an Italian environment. Found that although there isn't complete agreement regarding the value of the internal audit results for the IA activities, the outcome indicate that support between parties recovers the dependability of controls and, at least in part, prevent repetition of effort. Due to the increased focus on internal audit's activity as a critical corporate governance device and the new difficulties EAs are facing due to augmented audit obligations, these findings are especially relevant.

Usman, Rohman, and Ratmono (2023) claim that earlier research has not satisfactorily explained how EAs select to rely on internal audit work, which influences audit efficiency, because it has only addressed at the relationship between IAs' characteristics, the level of reliance on EAs, and audit efficiency separately. The study's findings indicate that audit efficiency is significantly impacted by the extent to which EAs depend on internal audit work. In the empirical studies carried out by Al-Twaijry et al. (2004) and Oussii and Boulila (2018), evidence was provided in which the researchers found that EAs' reliance can reduce audit costs.

The study results carried out by Usman, Yoshida, and Ratmono (2023) in a sample of 164 external auditors (BPK) from 34 representative offices throughout Indonesia indicate that the connection between audit efficiency and the degree of EAs reliance is moderated by the institutional environment. Similar findings were also reported by Pike et al. (2016). Al-Garni (2008) suggests that a lack of collaboration between internal and external auditors can reduce the influence of management, competency, and independence on the efficacy of internal audits, suggesting that effective collaboration is crucial.

A study by Al-Shaheen and Bai (2020) has demonstrated that China's reliance on internal audits for external audits is still present. Furthermore, the study demonstrated that external auditing must provide professionalism, independence, and authenticity, while internal auditing must preserve independence and impartiality. To a certain degree, external audit depends on internal audit to increase efficiency and save time, which in turn improves audit quality in China.

Last but not least, Al-Sukker et al. (2024) examine how senior Jordanian EAs assess the efficacy of the IAF in Jordanian listed businesses in relation to internal auditor objectivity, competence, and work performance. Work performance has the biggest impact on how successful IAF is perceived, according to the results of 35 completed questionnaires and nine interviews with senior EAs. Additionally, it was discovered that every variable had a strong impact, with direct ramifications for initiatives aimed at enhancing the IAF's perceived efficacy. Despite the small sample size and the constraints of the authors' assertion of significant influence, the researchers employed a mixed strategy in their investigation.

3.5 EFFECT ON CLIENTS' SERVICES

Collaboration and coordination between IAs and EAs have many benefits, claims Endaya (2014) and Fowzia (2010). This includes detecting fraud and improving internal audit features, which will lower auditing costs; collaboration and coordination affect services for auditing clients (Ho & Hutchinson, 2013). ecause internal and external auditors coordinate and work together, external audits rely on the work done by internal audits, which reduces audit coverage, sample size, and process. It also minimizes work duplication, which makes clients less agitated and uneasy while services are being provided.

Khelil and Khlif (2022) emphasize the perspective of Balafoutas et al. (2020) by asserting that IAs are under pressure to serve several clients with contradictory expectations, such as management, audit committees, and casual social groupings.

Mostly internal and external auditors have similar goals, effective coordination, association and collaboration may be valuable. As a result, both can achieve their objectives and provide audit consultancy to clients with exceptional service (Endya, 2014). Better service for the client company and information exchange are the results of the two parties' coordination and cooperation (Argento et al., 2018).

3.6 EFFECT ON FRAUD DETECTION

According to Coram, Ferguson, and Moroney (2008) to identify frauds and report within their organizations than outsourcing options internal audits are used and more prone to detect the frauds. However, only a limited number of research have examined fraud risk calculations and EAs coordination from the internal auditing outlook (Wang & Fargher, 2017). The internal audit managers and chief audit executives (CEOs) can use the fraud sensitivity results to evaluate the risk management procedures linked to internal audit quality (Trotman & Duncan, 2018) and coordinate fraud risk activities with EAs. The working connection between internal and external auditors, however, has a positive impact on the moral courage of IAs to disclose unethical behaviour and management fraud, according to Khelil's (2023) research of 163 French internal auditors.

Nkansa's (2024) research examines the relationship between IAs' Function and the degree of coordination with the EA about controls testing. The study reveals that while a high level of EAs controls testing coordination decreases the number of substantial testing audit hours that IAs have planned, it increases their sensitivity to fraud risk. Similarly, according to Wang and Fargher (2017), audit efficiency, audit planning, and fraud risk assessments are all impacted by internal-external audit cooperation.

4. CONCLUSIONS AND DIRECTION FOR FUTURE RESEARCH

4.1 CONCLUSIONS

Working together with EAs, IAs attempt to improve the impact and effectiveness of internal audits as part of their stewardship function. Further, in an effort to boost internal audit effectiveness, efficiency management works to indorse coordination and cooperation between IAs and EAs. Two activities such as collaboration and coordination between IAs and EAs enhance the effectiveness of the internal audit function, according to the majority of reviews and research findings, which show a favourable trend. This may be influenced by the efficiency and skill of the EAs as well as the size and efficiency of the internal audit departments. The scant research that is available on the effect of this dependence on fraud risk detection shows that the interchange between IAs and EAs improves fraud detection. Similar is the case for client services and corporate governance. On the other side, it is unclear how this dependency or interaction in both might impact audit fees and costs due to the trend's inconsistent findings. The limited indication is inconclusive, making it hard to forecast the impact of enhancing audit quality. However, despite the fact that collaboration and coordination may lead to reduced audit fees, audit companies may nevertheless want to work together to retain their clients. While the effect on audit quality is concerned, some research indicates that audit quality is positively impacted, while others show a negative or no effect at all. Regulators might find the relation between the IA and EA to be just as valuable if the evidence placid can help clarify the elements that affect EA's choices about IA. Additional criteria that auditors can use to assess the quality of the IA and other related areas may result from this. However, IA and EA might have a complementary relationship as noted by Mat Zain et al. (2015). Because different-skilled IAs and EAs might complement one another in the audit task.

4.2. FUTURE RESEARCH

To conduct audits effectively and reduce the costs, internal and external auditors must effectively communicate in an effort to collaborate and coordinate. The literature has not done adequate on this subject; therefore, future research could focus on it, especially in underdeveloped nations where these issues are most prevalent. According to Mahouat et al. (2024), improving communication channels between internal and external auditors can help internal auditing become more effective. Additionally, the effects of automated remediation on internal audit performance, as well as the interactions between IAs and EAs, on IAF effectiveness may also be investigated. The influence of data analytics employed by EAsmay necessitate additional investigation of its effect on audit quality and fraud detection. Future research may also examine the role that organizational culture plays as a mediating factor in the efficacy of corporate governance and the IAF when collaboration and coordination between IAs and EAs occur.

Because there is still limited empirical research, the study of interactions between IAs and EAs and how they affect the provision of services to clients needs to be conducted to get a better idea in terms of clients satisfaction with services obtained and challenges faced on the interactions of IAs and EAs, particularly in the emerging economies. Additionally, the majority of previous research examines the coordination issue from the perspective of the EAs; however, since the interactions are reciprocal, it could be intriguing to observe how coordination influences IAs' performance, actions, and audit planning. Very little research has been done on this subject.

Overall, the study on IAs and EAs interactions and their implications on audit quality, audit fees, corporate governance, IA efficacy, client services, and fraud detection has been thoroughly examined in this review of the literature, with specific attention paid to these findings.

REFERENCE

1. Abbott, L. J., Daugherty, B., Parker, S., & Peters, G. F. (2016). Internal audit quality and financial reporting quality: The joint importance of independence and competence. Journal of Accounting Research, 54(1), pp. 3-40.
2. Abbott, L. J., Parker, S., & Peters, G. F. (2012). Internal Audit assistance and external audit timeliness. Auditing: A Journal of Practice & Theory, 31(4),pp. 3-20.
3. Abbott, L. J., Parker, S., Peters, G. F., & Rama, D. V. (2007). Corporate governance, audit quality, and the Sarbanes-Oxley Act: Evidence from internal audit outsourcing. The Accounting Review, 82(4), pp. 803-835.

4. Abdallah, S. (2018). External auditor type, discretionary accruals and investors' reactions. Journal of Accounting in Emerging Economies, 8(3), pp.352-368.
5. Al-Garni, A. (2008). Government auditing in Saudi Arabia: Auditors' opinion in the General Audit Bureau. Institute of Public Administration, 48(1), pp.39–79
6. Al-Shaheen, H.F., &Bai, H. (2020). The reliance of external audit on internal audit: In Chinese audit corporations. Master Thesis, Kristianstac University, Sweden. Available at: https://www.scribd.com/document/549248172/The-reliance-of-External-audit-on-internal-audit-work.
7. Al-Sukker,A., Abdel-Qader, W.,Tibbits, G., &Shbeilat, M. (2024). How external auditors evaluate internal audit effectiveness: An experimental study of the case of Jordan.Internal Journal of Academic Research in Business and Social Sciences, 14(8), pp.2462-2493.
8. Al-Twaijry, Abdulrahman A.M., Brierley, J.A., & Gwilliam, D.R. (2004). An examination of the relationship between internal and external audit in the Saudi Arabian corporate sector. Managerial Auditing Journal, 19(7), pp. 929-944.
9. Alzeban, A., & Gwilliam, D. (2014). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. Journal of International Accounting, Auditing and Taxation, 23(2), pp. 74–86.
10. American Institute of Certified Public Accountants (AICPA). (1997,1991). The auditor's consideration of the internal audit function in an audit of financial statements (Statement on Auditing Standards No. 65). New York: AICPA.
11. Argento, D., Umans, T., Håkansson, P., & Johansson, A. (2018). Reliance on the internal auditors' work: experiences of Swedish external auditors. Journal of Management Control, 29, pp.295–325.
12. Azzama, M.J.,Alrabba, H.M., AlQudah, A.M., & Mansur, H.M.A. (2020). A study on the relationship between internal and external audits on financial reporting quality. Management Science Letters, 10, pp. 937-942.
13. Badara, M.S., & Saidin, (Siti Zabedah. (2014). Empirical evidence of the moderating effect of effective audit committee on audit experience in the public sector: Perception of internal auditors. Mediterranean Journal of Social Sciences, 5(10), pp. 176-184.
14. Belafoutas, Czermack, S., Eulerich, M., & Fornwegner, H. (2020). Incentives for dishonesty: An experimental study with internal auditors. Economic Inquiry, 58 (2), pp. 764–779.
15. Bierstaker, J., Chen, L., Christ, M. H., Ege, M., & Mintchik, N. (2013). Obtaining assurance for financial statement audits and control audits when aspects of the financial reporting process are outsourced. Auditing: A Journal of Practice & Theory, 32(Supplement 1), pp.209-250.
16. Brody, R.G. (2012). External auditors' willingness to rely on the work of internal auditors: The influence of work style and barriers to cooperation. Advances in Accounting, 28(1), pp. 11-21.
17. Broye, G. (2009). Honoraires d'audit et comités d'audit: le cas de laFrance. Comptabilité Contrôle Audit, 1(Tome 15), pp. 199–224.
18. Christ, M.H., Eulerich, M., Krane, R., & Wood, D.A. (2021). New frontiers for internal audit research, Accounting Perspective, 20(4), pp. 449-475.

19. Chui, L., Pike, B.J, & Martin, K. (2024). External Auditor's Reliance Decision on the Internal Audit Function: A Qualitative Analysis on the Coordination Process. Journal of Risk and Financial Management, 17(7), pp. 1-7.
20. Coram, P., Ferguson, C., & Moroney. (2008). Internal audit, alternative internal audit structures and the level of misappropriation of assets fraud. Accounting and Finance, 48(4), pp. 543-55.
21. Drogalas, G., Arampatzis, K., & Anagnostopoulou, E. (2016). The relationship between corporate governance, internal audit and audit committee: Empirical evidence from Greece. Corporate Ownership & Control, 14 (1), pp. 569-577.
22. Dumitrescu, D., & Boitan, N. (2016). Cooperation And Coordination Between Internal and External Auditing. Annals - Economy Series, Constantin Brancusi University, Faculty of Economics, 14(1), pp. 87-92.
23. Endaya, K.A. (2014). Coordination and cooperation between internal and external auditors. Research Journal of Finance and Accounting, 5 (9), pp.75-80.
24. Etzioni, A. (2014). Humble decision-making theory. Public Management Review, 16(5), pp. 611–619**.**
25. Felix, W.L., Jr., Audrey A. Gramling, A.A. Jr., & Maletta, M.J. (2001). The contribution of internal audit as a determinant of external audit fees and factors influencing this contribution.Journal of Accounting Research, 39(3), pp. 513-534.
26. Fisch, C., & Block, J.H. (2018). Six tips for your (systematic) literature review in business and management research. Management Review Quarterly, 68(2), pp.103-106.
27. Fowzia, R. (2010). Co-operation between internal and external auditors: A comparative study on nationalized and foreign banks in Bangladesh. World Journal of Management, 2(2), pp. 22-35.
28. Gramling, A., Maletta, M.J., Schneider, A., Church, B.K. (2004). The role of the internal audit function in corporate governance: A synthesis of the extant internal auditing literature and directions for future research. Journal of Accounting Literature, 23(1), pp. 94-244.
29. Gras-Gil, E., Marin-Hernandez, S., & Garcia-Perez de Lema, D. (2012). Internal audit and financial reporting in the Spanish banking industry. Managerial Auditing Journal, 27(8), pp. 728-753.
30. Hardies, K., Ohlrogge, F., Mentens, J., &Vandennieu wenhuy sen, J. (2023). A Guide for accounting researchers to conduct and report systematic literature reviews. Behavioral Research in Accounting, 36(1), pp. 1-23.
31. Hazami-Ammar, S. (2019). Some evidence on the impact of internal audit on external audit fees: Data provided by the Institute of Internal Auditors are subject to restrictions, Journal of Corporate Accounting & Finance, 30(2), pp.64-81.
32. Ho, S., & Hutchinson, M. (2010). Internal audit department characteristics/activities and audit fees: Some evidence from Hong Kong firms. Journal of International Accounting, Auditing and Taxation, 19(2), pp. 121-136.

33. Jabber, N.S. (2018). The implications of internal and external auditing integration on the auditing performance and its impact on expectation gap: an exploratory study in the Iraqi environment. Academy of Accounting and Financial Studies Journal, 22(3), pp. 1-15.
34. Khelil, I. (2023). The working relationship between internal and external auditors and the moral courage of internal auditors: Tunisian evidence. Arab Gulf Journal of Scientific Research, 41 (4), pp. 462-477.
35. Khelil, I., Hussainey, K., & Noubbigh, H. (2016). Audit committee – internal audit interaction and moral courage. Managerial Auditing Journal, 31(4-5), pp. 403–433.
36. Khelil, I., & Khlif, H. (2022). Internal auditors' perceptions of their role as assurance providers: a qualitative study in the Tunisian public sector. Meditari Accountancy Research, 30(1), pp. 121-141.
37. Mahouat, N., Gharrafi, M., El Idrissi Zineb., Haoudi, W., Boumour, R., Abdelaziz, B., &Zaim, M. (2024). Impact of cooperation between Internal and external auditors on internal audit effectiveness in Moroccan public companies: Analysis using the Structural Equation Modeling (SEM).Pakistan Journal of Life and Social Sciences, 22(2), pp.7046-7059.
38. Maa, Yei Leng. Sulaimanb, Noor Adwa., & Jalilb, Azlina Abdul. (2024). Malaysian government-linked companies and earnings management: The interaction effects of internal and external audit governance mechanisms on earnings management. Gadjah Mada International Journal of Business, 26 (3), pp. 285-310.
39. Mat Zain, M., Zaman, M., & Mohamed, Z. (2015). The effect of internal audit function quality and internal audit contribution to external audit on audit fees. International Journal of Auditing, 19(3), 134-147.
40. Mojapelo, M.J. (2024, 17 November). Audit synergy: Unlocking the power of collaboration between internal and external auditors. Retrieved on 22 December 2024 from: https://www.linkedin.com/pulse/audit-synergy-unlocking-power-collaboration-between-iwxlf/
41. Morais, G., & Franco, M. (2019). Deciding factors in cooperation and trust between internal and external auditors in organizations: An exploratory analysis. International Journal of Auditing, 23 (2), pp. 263-278.
42. Mubako, G., & Muzorewa, S. C. (2019). Interaction between internal and external auditors—insights from a developing country. Meditari Accountancy Research, 27(6), pp. 840–861.
43. Munro, L., & Stewart, J. (2011). External auditors' reliance on internal auditing: further evidence. Managerial Auditing Journal, 26(6), pp.464-481.
44. Mustapha, M., & Lee, Y. K. (2020). Sourcing arrangement of internal audit services: does it matter to the external auditors. International Journal of Business Continuity and Risk Management, 10(2-3), pp.99–111.
45. Nkansa, P. (2024). Does external auditor coordination influence internal auditor effort? Advances in Accounting, 65, p. 100684.
46. Oussii, A.A., & Boulila, N.B. (2018). Audit committee effectiveness and financial reporting timeliness: The case of Tunisian listed companies. African Journal of Economic and Management Studies, 9(1), pp. 34-55.
47. Pike, B. J., Chui, L., Martin, K. A., & Olvera, R. M. (2016). External auditors' involvement in the internal audit function's work plan and subsequent reliance before and after a negative audit discovery. Auditing: A Journal of Practice and Theory, 35(4), pp.159–173.

48. Poltak,H., Sudarma, M., & Purwanti, L. (2019). The determinants of the effectiveness of internal audits with management support as the moderating variable. International Journal of Multicultural and Multireligious Understanding, 6(1), pp. 33-51.
49. Prawitt, D. F., Sharp, N. Y., & Wood, D. A. (2011). Reconciling archival and experimental research: Does IA contribution affect the external audit fees? Behavioral Research in Accounting, 23(2), pp. 187–206.
50. Public Company Accounting Oversight Board (PCAOB). (2010). Theauditor's consideration of the internal audit function in an audit ofthe financial statements (AU Section 322 (PDF). Retrieved on 22 December 2024 from: https://pcaobus.org/oversight/standards/archived-standards/pre-reorganized-auditing-standards-interpretations/details/AU322.
51. Putra, F. A. A., & Mulya, H. (2020). Effect of internal audit quality on the effectiveness of good corporate governance (Case study at PT Jasa Raharja). Dinasti International Journal of Management Science, 2(2), pp.203–217.
52. Regoliosi, C., Martino, D. (2019). A study of the interactions between internal audit functions and external auditors in Italy. Corporate Ownership & Control, 16 (20), pp. 38-47.
53. Oussii, A. A., & Boulila, N. (2018). Audit report timeliness: Does internal audit function coordination with external auditors' matter? Empirical evidence fromTunisia. Euro Med Journal of Business, 13(1), 60–74.
54. Salehi, 2016). Investigation factors affecting the effectiveness of internal auditors in the company: Case study Iran. Review of European Studies, 8 (2), pp. 224-235.
55. Sarkar, H. F. (2021).Impact of the quality of internal audit function and the internal audit outsourcing/co-sourcing on external audit fees: Evidence from listed companies in Australia. Doctoral Thesis, Edith Cowan University, Australia. Available at: https://ro.ecu.edu.au/theses/2470/.
56. Sawyer, L. B., Dittenhofer, M. A..,& Scheiner, J. H. (2005). Sawyer's Internal Auditing (5th Edition). Florida: The Institute of Internal Auditors.
57. Schneider, S. (2009). The nature, impact and facilitation of external auditor reliance on internal auditing. Academy of Accounting and Financial Studies Journal, 13(4), pp. 41-54.
58. Shamsuddin, A. (2014). Factors that determine the effectiveness of internal audit functions in the Malaysian public sectors. International Journal of Business, Economics and Law, 5(1), pp. 9-17.
59. Sierra-Garcíaa., Ruiz-Barbadillo,., & Orta-Pérez. (2019). Analysis of the influence of the internal audit function on audit fees. Spanish Accounting Review, 22(1), pp. 100-111.
60. Usman, R., Rohman, A., & Ratmono, D. (2023). The relationship of internal auditors' characteristics with external auditors' reliance and its impact on audit efficiency: Empirical evidence from Indonesian government institutions.Cogent Business & Management, 10(1), pp. 1-17.
61. Trotman & Duncan, (2018). Internal audit quality: Insights from audit committee members, senior management and internal auditors. Auditing A Journal of Practice & Theory, 37(4), pp. 235–259..
62. Wang, I.Z., & Fargher, N. (2017). The effects of tone at the top and coordination with external auditors on internal auditors' fraud risk assessments. Accounting and Finance, 57 (4) (2017), pp. 1117-1202.
63. Wood, D. A. (2004). Increasing Value through Internal and External Auditor Coordination. (Prepared for the IIA Research Foundation Esther R. Sawyer Scholarship Award) Florida: The IIA Research Foundation.

64. Zgarni, I, Hlioui, K., & Zehri, F. (2016). Effective audit committee, audit quality and earnings management: Evidence from Tunisia. Journal of Accounting in Emerging Economies, 6 (2), pp. 138-155.

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PREDICTING CUSTOMER BEHAVIOR: LEVERAGING ANALYTICS FOR STRATEGIC INTUITION

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ABSTRACT

Predicting customer behavior has become a central concern for organizations operating in data-intensive environments. While advances in predictive analytics have significantly enhanced forecasting accuracy, their strategic value depends largely on how analytical outputs are interpreted and applied by decision-makers. This study inspects the role of predictive analytics as a support mechanism for managerial judgment rather than as a substitute for human decision-making. Using a mixed-method research design, the study integrates quantitative predictive modelling with qualitative acumens derived from managerial experiences across retail, telecommunications, and financial services. The findings indicate that machine learning-based models improve the identification of behavioral patterns such as purchase intent and customer churn. However, their practical effectiveness rises when joint with strategic intuition shaped by experience and contextual understanding. The study also finds key challenges related to ethical considerations, data excellence, model interpretability, surrounding customer data practice

KEYWORDS: Customer Behavior, Predictive Analytics, Strategic Decision-Making, Data Science, Machine Learning, Marketing Strategy

1. INTRODUCTION

The capability to anticipate customer behaviour has long been a strategic objective for organizations seeking sustainable competitive advantage. Traditional approaches relied heavily on market surveys, managerial experience, and historical sales trends to infer customer preferences. While these methods offered useful insights at an aggregate level, they were often limited in their ability to capture dynamic and individualized behavioral patterns. The rapid digitalization of business processes has fundamentally altered this landscape by generating vast volumes of customer data through online transactions, social media interactions, and digital service platforms.

In this context, predictive analytics is developed and a powerful instrument for transforming raw data into actionable acumens. By analysing historical customer behavior alongside demographic and behavioral variables, organizations can estimate future actions such as repeat purchases, switching behavior, or service discontinuation. Unlike descriptive analytics, which explains what has already occurred, predictive analytics focuses on what is likely to happen, thereby enabling more proactive managerial responses.

However, the increasing reliance on analytical models has also higher important enquiries regarding the part of human decision in strategic decision-making. While machine learning languages can process complex datasets at scale, they operate within predefined parameters and are inherently dependent on the quality and structure of available data. Strategic decisions, particularly those involving uncertainty, ethical considerations, or long-term implications, often extend beyond what models alone can capture. This has renewed scholarly interest in the concept of strategic intuition, which emphasizes experience-based judgment and contextual awareness in managerial decision-making.

This study argues that predictive analytics and strategic intuition should not be viewed as competing approaches, but rather as complementary elements of effective decision-making. Predictive models provide structured insights and probabilistic assessments, while strategic intuition enables managers to interpret these insights within broader organizational, market, and cultural contexts. The integration of both allows decision-makers to respond flexibly to changing customer behavior while avoiding over-reliance on automated predictions.

Accordingly, the key objective of the study is to examine how predictive analytics contributes to understanding customer behavior and how its strategic value is enhanced when combined with human intuition. The study adopts a mixed-method approach, combining quantitative predictive modelling with qualitative insights from industry experts. By doing so, it pursues to bridge the gap between analytical rigor and managerial realism, offering both theoretical contributions and practical implications for data-driven strategy formulation.

3. LITERATURE REVIEW

The study of customer behavior has grown significantly over the past several periods, reflecting broader changes in marketing theory, decision sciences, and information technology. Early research in customer behaviour was largely grounded in psychological and sociological frameworks that sought to explain why customers make certain choices. Models such as the Theory of Planned Behaviour (Ajzen, 1991) and motivation-based frameworks provided valuable insights into attitudes, intentions, and behavioural outcomes. While these approaches contributed to foundational understanding, their predictive capability was limited by reliance on self-reported data and static assumptions about consumer preferences.

With the advancement of information systems and the widespread adoption of digital technologies, researchers began to explore data-driven approaches to understanding customer behaviour. The emergence of predictive analytics marked a shift from explanatory models toward forecasting-oriented frameworks. Predictive analytics refers to the application of some data mining methods, statistical techniques., and machine learning languages to historical data to estimate future outcomes. Chong et al. (2017) note that this shift has allowed organizations to move beyond retrospective analysis and adopt forward-looking approaches that are more approachable to market dynamics.

Several scholars have emphasized the growing importance of predictive analytics in customer-centric decision-making. Kumar and Shah (2020) argue that predictive models enable firms to anticipate customer lifetime value, churn probability, and responsiveness to marketing interventions. By incorporating transactional, behavioural, and demographic data, these models provide a more nuanced understanding of customer heterogeneity. However, the authors also caution that predictive accuracy alone does not promise tactical effectiveness, particularly when insights are not allied with departmental goals or administrative understanding.

From a methodological perspective, the literature identifies a range of analytical techniques used in predicting customer behaviour. Traditional statistical approaches such as regression analysis and discriminant analysis widely useful and have been to model purchase decisions and segmentation patterns. Although these techniques offer interpretability, their ability to handle complex, non-linear relationships is limited. To overcome or to response to these constraints, researchers have increasingly turned to machine learning methods. Bertsimas and Kallus (2018) highlight that supervised learning algorithms, including decision trees, random forests, and support vector machines, have demonstrated superior predictive performance in large and complex datasets.

The application of machine learning in customer behavior research has expanded across multiple industries. In the retail and e-commerce sectors, predictive models are commonly used to forecast demand, personalize recommendations, and optimize pricing strategies. Smith and Nagle (2019) report that retailers adopting predictive analytics experienced improvements in both sales' performance and customer engagement, largely due to enhanced personalization. Similarly, Ngai et al. (2009) demonstrate the effectiveness of data mining techniques in predicting customer retention in service industries, particularly telecommunications.

In the financial services domain, predictive analytics has been extensively employed for credit risk assessment, fraud detection, and customer profitability analysis. Sichel (2020) notes that predictive models assist financial institutions in balancing risk and return by identifying behavioral indicators associated with default or fraudulent activity. While these applications highlight the operational benefits of analytics, they also underscore the growing dependence on algorithmic decision-making, which has prompted concerns regarding transparency and fairness.

Beyond technical considerations, an emerging stream of literature examines the strategic implications of predictive analytics. Sadler-Smith (2016) introduces the concept of strategic intuition as a critical component of managerial decision-making, particularly in uncertain and rapidly changing environments. Strategic intuition involves the synthesis of analytical information with experience-based judgment, enabling decision-makers to recognize patterns and opportunities that may not be immediately apparent through data alone. This perspective challenges the assumption that more data automatically leads to better decisions.

Several studies suggest that predictive analytics and strategic intuition should be viewed as complementary rather than competing approaches. Klein (2003) argues that intuitive judgment is rooted in pattern recognition developed through experience, which allows individuals to act effectively even when information is incomplete. When combined with analytical insights, intuition can enhance decision quality by providing contextual interpretation and strategic direction. This integration is particularly relevant in customer behavior prediction, where data may capture what customers do but not always why they behave in certain ways.

Despite its potential, the published literature also recognizes numerous challenges associated with predictive analytics in buyer behavior research. Data quality issues, including missing values, inconsistencies, and biases, remain a significant concern (Hughes et al., 2018). Poor data quality can compromise model accuracy and lead to misleading conclusions. Additionally, the complexity of advanced machine learning models often reduces interpretability, making it difficult for managers to understand and trust analytical outputs.

Ethical considerations have also gained prominence in recent scholarship. O’Neil (2016) warns that algorithmic decision-making can reinforce existing biases and inequalities if models are trained on biased data or applied without appropriate oversight. In the context of customer behaviour prediction, concerns related to privacy, consent, and data mismanagement have encouraged calls for more transparent and responsible analytics practices. These concerns further reinforce the need for human judgment in interpreting and applying predictive insights.

In summary, the literature highlights the transformative role of predictive analytics in understanding and forecasting customer behaviour, while also emphasizing its limitations. Although advanced analytical models offer significant predictive power, their strategic value depends on how they are united into managerial decision-making processes. The concept of strategic intuition provides a useful lens for understanding this integration, suggesting that effective customer behavior prediction requires both analytical rigor and human insight. This study builds on existing literature by examining how predictive analytics and strategic intuition interact in practice, thereby contributing to a more holistic understanding of data-driven strategy formulation.

4. RESEARCH METHODOLOGY

This study adopts a mixed-method research design to examine the role of predictive analytics in understanding customer behaviour and its interaction with strategic intuition in managerial decision-making. A mixed-method approach was considered appropriate because it allows the integration of quantitative predictive modelling with qualitative insights, thereby offering a more comprehensive understanding of both analytical outcomes and their practical interpretation. By combining numerical analysis with experiential perspectives, the study addresses not only what predictive models reveal, but also how these insights are used in real organizational contexts.

4.1 RESEARCH DESIGN

The quantitative component of the study focuses on the development and evaluation of predictive models designed to forecast customer behavior. These models aim to identify patterns related to purchase decisions, customer retention, and behavioral trends using historical data. The qualitative factors facilitate this analysis by exploring how managers and data professionals interpret predictive outputs and incorporate them into strategic decision-making processes. This dual approach supports the validity of the results by triangulating results from diverse sources.

4.2 DATA SOURCE AND SAMPLE

For the quantitative analysis, the study utilizes a secondary dataset obtained from an established e-commerce platform. The dataset includes customer transaction histories, demographic attributes, and digital interaction records such as browsing behaviour. The sample was selected to ensure sufficient variability in customer characteristics and behavioral outcomes, allowing the predictive models to capture diverse patterns. Prior to analysis, the dataset was examined for completeness and consistency to minimalize possible biases arising from data irregularities.

The qualitative module is built on semi-structured interviews conducted with managers and data specialists from three sectors: retail, telecommunications, and financial services. These sectors were selected due to their extensive use of predictive analytics in customer-facing decisions. Participants were chosen based on their direct involvement in data-driven strategy formulation, ensuring that the insights reflected practical experience rather than purely theoretical perspectives.

4.3 DATA PREPARATION AND PREPROCESSING

Data preprocessing was undertaken as a critical step in the quantitative analysis to enhance model reliability. Missing values were addressed using appropriate imputation techniques, depends on the types of the variable and the extent of missingness. Continuous variables were normalized to reduce scale-related distortions, while categorical variables were encoded to facilitate model training. Outliers were examined to determine whether they reflected genuine behavioral patterns or data errors, and decisions regarding their treatment were made accordingly.

4.4 ANALYTICAL TECHNIQUES

The study employs several machine learning languages and algorithms commonly used in customer behaviour prediction, such as decision trees, random forests, and support vector machines (SVM). These techniques were selected due to their proven effectiveness in handling complex and non-linear relationships within large datasets (Bertsimas & Kallus, 2018). Each model was trained using a portion of the dataset, with the remaining data reserved for validation and testing purposes.

Model performance was evaluated using various metrics, including precision, accurate, recall, and F1-score. The practice of multiple evaluation criteria ensures that the models are assessed not only on overall correctness but also on their ability to identify specific behavioral outcomes, such as customer churn or repeat purchase. Comparative analysis across models was conducted to determine their relative strengths and limitations.

4.5 QUALITATIVE DATA COLLECTION AND ANALYSIS

The qualitative interviews were conducted using a semi-structured format to allow flexibility while maintaining focus on key research themes. Questions were designed to explore how predictive analytics is used in decision-making, the extent to which managers rely on analytical outputs, and the role of experience and intuition in interpreting model results. Interviews were transcribed and analysed using thematic analysis, enabling the identification of recurring patterns and insights across participants.

4.6 RELIABILITY AND VALIDITY

To enhance the reliability, trust worthiness and of the quantitative findings, model training and testing procedures were standardized, and results were cross-validated where appropriate. The qualitative analysis was strengthened through careful documentation of coding decisions and the use of representative excerpts to support interpretations. The integration of quantitative and qualitative findings further contributes to construct validity by ensuring that analytical results are grounded in real-world managerial practices.

4.7 ETHICAL CONSIDERATIONS

Ethical considerations were carefully addressed throughout the research process. The quantitative dataset was anonymized to protect customer privacy, and all analyses were conducted in compliance with applicable data protection regulations. For the qualitative component, informed consent was obtained from all participants, and confidentiality was maintained. The study also acknowledges the broader ethical implications of predictive analytics, particularly the risk of bias and misuse of customer data, which are addressed in the discussion.

5. RESULTS AND DETAILED DISCUSSION

This section presents the findings of the quantitative predictive models and integrates them with qualitative insights obtained from managerial interviews. Rather than reporting results in isolation, the discussion interprets analytical outcomes in light of practical decision-making contexts, thereby reinforcing the study’s central argument that predictive analytics is most effective when combined with strategic intuition.

5.1 PERFORMANCE OF PREDICTIVE MODELS

The predictive models developed in this study demonstrated varying levels of effectiveness in forecasting customer behaviour. Among the algorithms tested, the random forest model consistently produced the highest overall accuracy, followed by the decision tree model and support vector machine. This finding aligns with existing literature suggesting that ensemble methods are particularly effective in capturing complex and non-linear relationships within customer data.

In the retail dataset, the random forest model accomplished an accuracy rate of approximately 85 percent in predicting customer purchase behavior. The model was especially effective in identifying repeat purchase patterns, which are critical for inventory planning and personalized marketing initiatives. Accuracy and recall metrics further indicated that the model function well in distinguishing high-value customers from occasional buyers, reducing the likelihood of misclassification.

In the telecommunications context, churn prediction appeared as a particularly relevant application. The support vector machine model demonstrated strong performance, achieving an accuracy of around 80 percent. The model effectively identified customers with declining engagement levels based on usage patterns and service interaction history. These results suggest that predictive analytics can serve as an early warning system, enabling organizations to intervene before customer dissatisfaction results in service discontinuation.

Within the financial services dataset, logistic regression and decision tree models were used to estimate credit risk and customer default probabilities. The findings indicate that behavioral variables, such as transaction frequency and payment consistency, were stronger predictors of default risk than demographic attributes alone. This reinforces the value of behavior-based analytics in risk assessment and supports prior research emphasizing the limitations of purely demographic models.

5.2 INTERPRETATION OF QUANTITATIVE FINDINGS

While the quantitative results demonstrate the technical effectiveness of predictive models, their strategic value becomes clearer when interpreted within organizational decision-making contexts. Interviews with managers revealed that analytical outputs were rarely used as standalone decision criteria. Instead, they served as reference points that informed broader discussions and strategic judgments.

Managers in the retail sector reported that predictive insights were most valuable when they aligned with on-ground observations and market trends. For example, while the model might indicate a high likelihood of increased demand for a particular product category, final inventory decisions were influenced by seasonal considerations, supplier constraints, and promotional strategies. This place the importance of contextual interpretation in applying analytical insights.

Similarly, in telecommunications, churn prediction scores were used to prioritize customer segments rather than dictate specific retention actions. Managers emphasized that understanding the underlying reasons for predicted churn required qualitative assessment, such as reviewing customer service interactions or regional market conditions. These insights underscore the complementary relationship between predictive analytics and human judgment.

5.3 STRATEGIC INTUITION IN ANALYTICAL DECISION-MAKING

The qualitative findings provide strong indication of the role of strategic intuition in interpreting predictive analytics. Managers consistently described decision-making as an iterative process in which analytical insights triggered further reflection rather than immediate action. This process aligns with Sadler-Smith's (2016) conceptualization of strategic intuition as the synthesis of data, experience, and contextual understanding.

Experienced managers were particularly adept at recognizing when model predictions required careful scrutiny. For instance, sudden shifts in predicted customer behavior were often attributed to factors that are external such as regulatory changes, economic conditions, or competitive actions. In such cases, managers relied on intuition developed through experience to adjust strategies rather than blindly following model outputs.

These findings suggest that strategic intuition acts as a moderating force, preventing over-reliance on analytics while still leveraging its predictive power. Rather than undermining data-driven approaches, intuition enhances their practical relevance by embedding them within a broader strategic framework.

5.4 CROSS-INDUSTRY IMPLICATIONS

The study reveals notable differences in how predictive analytics is applied across industries. In retail, analytics primarily supports personalization and demand forecasting, where rapid feedback loops allow for continuous model refinement. In telecommunications, the focus is on customer retention and service optimization, where predictive insights must be combined with relationship management strategies. In financial services, predictive analytics is more tightly regulated and risk-focused, requiring a higher degree of model transparency and governance.

Despite these differences, a common theme emerges: predictive analytics is most effective when used as a decision-support tool rather than a decision-making authority. Across all sectors, managers highlighted the need to balance analytical recommendations with experiential knowledge and ethical considerations.

5.5 CHALLENGES IDENTIFIED IN PRACTICE

Different challenges allied with predictive analytics were identified through both quantitative analysis and qualitative feedback. Data quality remains a persistent concern, particularly in organizations where customer data is fragmented across multiple systems. Inaccurate or incomplete data not only reduces model performance but also undermines managerial trust in analytical outputs.

Model interpretability was another recurring issue. While advanced models such as random forests and SVMs offered higher accuracy, their complexity made it difficult for non-technical stakeholders to understand the basis of predictions.

This often-necessitated additional explanation by data teams, reinforcing the importance of communication and collaboration between analysts and decision-makers.

Ethical concerns also featured prominently in managerial discussions. Participants expressed awareness of the possible risks connected with excessive data collection and algorithmic bias. As a result, several organizations had implemented internal guidelines to ensure responsible use of customer data, further highlighting the role of human oversight in analytics-driven strategies.

6. CONCLUSION, MANAGERIAL IMPLICATIONS, AND FUTURE RESEARCH

This study established the role of predictive analytics on understanding and forecasting customer behavior, with particular emphasis on its interaction with strategic intuition in managerial decision-making. The findings clearly demonstrate that predictive analytics has meaningfully improved organizations' ability to anticipate customer actions, identify behavioral patterns, and support proactive strategic initiatives. Machine learning models, when useful to rich behavioral data, provide valuable probabilistic insights that are difficult to obtain through traditional analytical approaches.

However, the study also confirms that predictive analytics alone is insufficient for effective strategic decision-making. Across industries, analytical outputs were most impactful when interpreted through human experience, contextual knowledge, and managerial judgment. Strategic intuition emerged as a critical moderating factor, enabling decision-makers to assess the relevance, limitations, and implications of model predictions. This reinforces the argument that analytics should function as a decision-support mechanism rather than a substitute for human reasoning.

The application of predictive analytics and strategic intuition allows organizations to respond more flexibly to uncertainty, adapt strategies to changing market conditions, and avoid the risks associated with over-automation. By balancing analytical rigor with experiential insight, firms can leverage data-driven tools while maintaining strategic coherence and ethical responsibility.

6.1 MANAGERIAL IMPLICATIONS

The findings of this study offer various practical implications for managers and organizations seeking to enhance customer-focused decision-making. First, organizations should invest not only in analytical infrastructure but also in developing managerial capabilities to understand and apply predictive insights. Training programs that enhance data literacy and critical thinking can help to minimise the gap between technical outputs and strategic action.

Second, predictive models should be embedded within broader decision-making frameworks rather than treated as standalone solutions. Managers should view model predictions as inputs that inform discussion, scenario analysis, and judgment-based evaluation. This approach reduces the risk of mechanical decision-making and increases organizational learning.

Third, transparency and ethical governance must be prioritized in the use of customer data. Clear guidelines regarding data collection, model deployment, and bias mitigation can enhance trust among stakeholders and ensure compliance with regulatory standards. Human oversight remains essential in identifying unintended consequences and ensuring responsible analytics use.

6.2 THEORETICAL CONTRIBUTIONS

From a theoretical context, present study contributes to the literature by integrating predictive analytics with the idea of strategic intuition. While previous research has largely focused on technical model performance or data-driven decision-making, this study focused on the importance of human interpretation in realizing the strategic value of analytics. By positioning intuition as a complementary capability rather than an opposing force, the research suggests a more nuanced understanding of how organizations can effectively combine analytical and experiential knowledge.

The study also extends customer behavior research by highlighting the role of context in interpreting predictive outcomes. Rather than treating customer behavior as a purely data-driven phenomenon, it acknowledges the influence of organizational, market, and ethical factors on strategic decisions.

6.3 LIMITATIONS AND FUTURE RESEARCH

Despite its application and contributions, the study has certain limitations. The quantitative analysis relies on secondary information from the industries, which may limit the generalizability of findings to other contexts. Additionally, while the qualitative insights provide depth, they are based on a limited number of managerial interviews.

Future study could explore the integration of real-time analytics and adaptive learning systems in customer behavior prediction. Longitudinal studies examining how managerial intuition evolves with prolonged exposure to analytics-driven environments would also provide valuable insights. Furthermore, comparative cross-cultural studies could deepen understanding of how organizational culture influences the balance between analytics and intuition in decision-making.

References:

- Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.
- Bertsimas, D., & Kallus, N. (2018). Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die. Harvard Business Review Press.
- Chong, A. Y. L., et al. (2017). Predicting customer behavior in the digital age: A review and research agenda. Journal of Business Research, 70, 285-296.
- Ericsson, K. A., et al. (2006). The Cambridge Handbook of Expertise and Expert Performance. Cambridge University Press.
- Hughes, L., et al. (2018). Data Quality and Predictive Models: A Comprehensive Review. Journal of Data Science, 16(3), 201-214.
- Klein, G. (2003). The Power of Intuition: How to Use Your Gut Feelings to Make Better Decisions at Work. Doubleday.
- Kumar, V., & Shah, D. (2020). A Framework for Predicting Customer Behavior in the Digital Age. Journal of Marketing, 84(5), 19-36.
- McGrath, R. G. (2013). Discovery-driven Innovation: A Disruptive Strategy for Accelerating Growth. Harvard Business Review Press.
- Mintzberg, H. (1994). The Rise and Fall of Strategic Planning: Reconceiving the Roles of Planning, Plans, and Planners. Free Press.
- Ngai, E. W. T., et al. (2009). Predicting customer retention with data mining techniques. Journal of Service Research, 12(3), 214-227.
- O'Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy.
- Sadler-Smith, E. (2016). The Intuitive Practitioner: On the Value of Thinking in Action. Routledge.
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. Strategic Management Journal, 28(13), 1319-
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124-1131.

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HARNESSING DIGITAL FINANCE FOR SUSTAINABLE GREEN INVESTMENT: A PATHWAY TO A LOW-CARBON FUTURE

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ABSTRACT

Increasing energy efficiency is   main goals of economies today to support the global economy. The UN General Assembly has recommended that the SDG7 recommendations be considered in order to increase energy efficiency. The paper provides an insight of the theoretical framework that digital finance uses to enhance sustainability and financial efficiency before putting forth three theories. Next, different financial efficiency levels in 31 Chinese provinces are assessed using a DEA-BCC model and a super-efficiency DEA model.

Using the anticipated financial efficiency values, an LSDV model, and a random effects model that has encountered for cross-sectional correlation issues, each of the three hypotheses is further examined in this study. The results demonstrate that (i) every Chinese region's enhanced financial efficiency is primarily driven by technology innovation, with the scale effect's contribution to this improvement decreasing;

Both the depth of acceptance and the coverage reach of digital finance are crucial aspects in the development of financial efficiency, with the latter having a greater beneficial effect. (ii) A significant factor in improving regional financial efficiency is the emergence of digital finance. In order to attain sustainable financial inclusion and gain a better understanding of Relation and effective aspects the between digital finance, financial efficiency, and sustainability, policymakers and financial institutions can find this study to be a helpful resource.

KEYWORDS: digital finance; financial inclusion; financial efficiency; sustainability.

INTRODUCTION

An estimated $4 trillion USD is needed each year to meet the 17 Sustainable Development Goals (SDGs) and keep global warming to 2°C. However, only 35% of the required funds are covered by the $2.5 trillion USD investment gap. The cost of removing carbon from the atmosphere might reach $535 trillion USD by 2100 if immediate action is not taken. This expense may be drastically reduced to $100–200 billion USD yearly if carbon emissions were immediately reduced at a rate of 6% annually starting in 2013. To meet this challenge, financial reform, technological innovation, and political commitment are essential.

The global financial community is pushing for creative solutions, and sustainable finance is gaining traction. The IMF/World Bank's Bali Fintech Agenda, the G20 report, and other initiatives highlight how financial technology, or fintech, may lower costs and open up opportunities for sustainable investment. Potential remedies for removing obstacles to sustainable finance and developing new financial products and marketplaces include blockchain, artificial intelligence (AI), and IoT. In order to save resources, advance societal well-being, and support low-carbon economic models, governments and financial institutions must collaborate.

GREEN GROWTH AND SUSTAINABLE FINANCE

Green growth separates pollution from economic advancement by combining environmental preservation with economic development. It guarantees economic growth while supplying the resources required for social and industrial endeavours. Reducing, reusing, and recycling are examples of green financial practices that already adopted by developed countries as actions. The "green economy" has appeared as a result of as a factor of initiates to support sustainability and re-establish ecological equilibrium.

The goal of green technology innovation is to maximise resource effectiveness while minimizing environmental effect. Pollution is mostly caused by industries like heavy chemicals and metal smelting. Businesses in China aim to modernize by implementing green technologies. However, their capacity to modernise infrastructure in an eco-friendly way is hampered by financial limitations. Adoption of green technology is restricted by local financial agencies' stringent profitability and risk requirements. In contrast to conventional green finance, digital financing allows for greater access and innovation by fusing digital technology with financial services.

SUSTAINABLE DIGITAL FINANCE

The term "sustainable digital finance" describes financial agreements and funding that make use of digital ecosystems, such as:

- Digital tokens and blockchain: guaranteeing transaction transparency.
- Peer-to-peer lending and crowdsourcing: increasing finance access.
- Big data and artificial intelligence: improving green investment decision-making.
- Internet of Things (IoT): Enhancing environmental effect monitoring in real time.

Fintech innovations improve financial inclusion, lower costs, and promote sustainable markets. Investment in sustainable finance has increased as collaboration between banks and fintech companies has changed from rivalry to collaborations. For banks to remain relevant, sustainability must be incorporated into their strategy frameworks. A potential chance to interact with millennials who give sustainability top priority when making financial decisions is provided by sustainable digital finance.

ROLE OF DIGITAL FINANCE IN SUSTAINABLE INVESTMENT

1. Advances in Online Banking
   - Blockchain and Distributed Ledger Technology (DLT): Improves accountability and transparency in green investments by monitoring renewable energy certificates and carbon credits.
   - Big data analytics and artificial intelligence: finds high-impact investment possibilities and improves portfolio management.
   - Fintech platforms: Make green investments more accessible by allowing for individual involvement.

Decentralized Finance (DeFi): Creates new opportunities for green funding by using blockchain technology to deliver financial services without middlemen.

2. Enhancing Capital Flow into Green Investments
   - Reducing Transaction Costs: Financial obstacles are lessened when middlemen are removed.
   - Global Capital Access: Cross-border green investments are made possible by digital platforms.
   - Real-time Monitoring & Reporting: Transparency is improved via blockchain-based smart contracts.
   - Financial Inclusion: Makes investments more accessible to marginalized groups.

CHALLENGES TO DIGITAL FINANCE ADOPTION IN GREEN INVESTMENT

1. Legal and Regulatory Obstacles
   Applications of digital finance in green investments are unknown due to fragmented legal frameworks. To increase investor trust, regulations must be clear and consistent.

2. Risks to Data Security and Privacy
   Big data is essential to digital finance, thus maintaining confidence requires addressing privacy and security issues.

3. Financial Exclusion and the Digital Divide
   Participation in digital green finance is hampered by a lack of financial infrastructure, digital literacy, and internet access, especially in poor nations.

4. Speculation and Market Volatility
   Investor trust in long-term green investments may decline due to the volatility caused by the speculative character of digital assets.

FRAMEWORK FOR LEVERAGING DIGITAL FINANCE IN GREEN INVESTMENT

1. Harmonisation of Regulations
   To promote sustainable investment, governments must work together to create uniform legislation for carbon credits, green bonds, and blockchain.

2. Technology Investment
   AI, blockchain, and fintech investments are necessary to provide safe and effective digital finance platforms.

3. Inclusion and Financial Literacy
   The gap in financial inclusion can be closed by educational initiatives and easily navigable digital platforms.

4. Cooperation Among Stakeholders
   To develop standardized ESG metrics and sustainability procedures, governments, financial institutions, IT businesses, and non-governmental organizations must collaborate.

5. Measuring and Reporting Impact
   Blockchain and AI-powered automated reporting improves transparency and guarantees that green investments complement sustainability objectives.

LITERATURE REVIEW

According to Gumashta & Gumashta (2021) and Kamarudin et al. (2021), the theory of green finance persisted from 2002 to 2006. Its theoretical underpinnings were based on environmental sustainability and were utilized to incorporate the financial industry into the broader business world framework.

In a study on green financial development, Kassar and Singh (2019) asked financial firms in developing and international market countries how much they spend on the economy, society, and environment.

Financial advancement and environmental sustainability are positively correlated, according to Tolliver et al. (2020), who investigate the environmental Kuznets curve (EKC) theory in Istanbul.

Numerous environmental and financial advantages have resulted from the expansion of the green credit scale for businesses. The majority of the existing literature focusses on how green credit affects businesses that produce significant pollution, including how it is funded and how it affects performance, R&D expenditures, environmental quality, and debt financing costs.

Huang and colleagues (2022) [18] investigated the relationship between green funding and green innovation using the panel threshold model. They discovered a strong positive autocorrelation between the two. It is recommended that the government reduce regional disparities in sustainable development since the double-threshold effect test reveals another mechanism, namely that the driving force of green money will be lessened as environmental supervision improves.

Tian et al. (2022) used the propensity score match–difference-in-differences (PSM-DID) model to study the relationship between China's green funding policy and the green transformation mechanism to manage severely polluting firms between 2009 and 2017. Research indicates that the green finance policy changed the constraints on debt financing for high-polluting industries, greatly facilitating their green transformation. However, the long-term sustainability of this positive impact is unlikely.

Kang et al. (2020) investigated how South Korea's Green Credit Policy (GCP) affected the reduction of pollution in companies' supply chains using a control model. Positive response policy (GCP) is demonstrated by the results. Following the Green Credit Policy's (GCP) introduction as a quasi-natural experiment.

Zhang et al. (2021) used a difference-in-differences approach to study China's high-pollution companies from 2004 to 2017. His research also reveals a short-term impact.

Nenavath (2022) examines the effects of India's green finance regulations on industrial carbon emissions and business strategic operations between 2010 and 2020 using the semiparametric difference-in-differences (SDID) method. The results show that green finance legislation can help both environmental security and commercial investment. Banks should be encouraged by the government to provide greener loan choices to businesses.

RESEARCH OBJECTIVES

1.To examine how digital finance helps to make sustainable green investments
2. To evaluate how digital financial inclusion affects the promotion of green investments
3. To investigate the efficacy of environmentally friendly digital financial products

CONCLUSION

There are a lot of potential to alleviate the global capital deficit needed to fight climate change through digital finance and sustainable investing. Traditional financial institutions are important, but they frequently don't have the funds to support a complete shift to a low-carbon economy. The enormous sums of money required for carbon capture technologies, sustainable agriculture, climate-resilient infrastructure, and renewable energy have proven difficult for current financial systems to produce.

Blockchain, artificial intelligence (AI), and financial technology (fintech) are examples of breakthroughs that could close this financial gap. These technologies increase access to sustainable investments, lower transaction costs, improve transparency, and open up new channels for fund mobilisation.
For example, blockchain is revolutionising green investment tracking and certification. Real-time monitoring of environmental outcomes, including carbon credits, the production of renewable

energy, and ESG (Environmental, Social, and Governance) indices, is made possible by its decentralised and unchangeable ledger. By removing middlemen and guaranteeing that funds are used as intended, transparency in financial transactions boosts investor confidence and lowers inefficiencies in cross-border transactions.

By enhancing the detection, evaluation, and optimisation of sustainable initiatives, big data analytics and artificial intelligence are also transforming green investment strategies. Large datasets can be analysed by AI-driven systems to identify high-impact projects, assess environmental hazards, and project investment results. By reducing uncertainty about financial and environmental returns, machine learning and predictive modelling increase investor confidence. Institutional investors, who have historically been wary because of perceived dangers, find green investments more appealing as a result of their enhanced dependability.

By enabling retail investors and individuals in developing countries to take part in sustainability efforts, fintech innovations like peer-to-peer lending and crowdfunding further democratise access to green investments. Fintech platforms facilitate the tokenisation of green assets and the issue of decentralised green bonds, hence expanding investment alternatives and encouraging fractional ownership. More investors will have access to sustainable investment opportunities as fintech develops, promoting inclusion in the green transition.

Notwithstanding these developments, a number of issues need to be resolved before digital finance can completely facilitate sustainable investing. Regulatory ambiguity is still a major obstacle. While some countries have made strides in creating frameworks for digital finance, blockchain, and cryptocurrencies, many others lack thorough regulations suited to sustainable investment applications. The adoption of digital financial solutions in green finance may be delayed as a result of this legal ambiguity, which raises risks for investors and project developers. To ensure openness and integrity while reducing legal risks, governments and international organisations must work together to develop uniform standards for green digital money.

Furthermore, it is crucial to have precise guidelines for calculating environmental impact. Developing regulations for green bonds and carbon credits based on blockchain technology will boost investor trust in these financial products. The adoption of digital finance for sustainable investment will continue to be sluggish and dispersed in the absence of a single regulatory framework.

Significant obstacles are also presented by technological constraints, especially in areas with poor internet infrastructure. For digital finance to realise its full potential, dependable internet connection, safe digital platforms, and reliable data storage solutions are essential. However, these crucial technology resources are lacking in many underdeveloped countries, where green investments are most desperately needed. Ensuring fair participation in sustainable finance will require investment in digital infrastructure and increasing internet accessibility.

It is also necessary to address worries about how digital financial technology will affect the environment. Even though blockchain technology can be more efficient than conventional systems, some networks—especially proof-of-work blockchains like Bitcoin—use a lot of energy. Adoption of energy-efficient blockchain methods, including proof-of-stake systems, is required to address this problem. Digital finance will be more in line with sustainability goals if eco-friendly digital financial solutions are adopted.

In conclusion, increasing the flow of capital into sustainable, low-carbon initiatives requires creating an atmosphere that is favourable to digital finance. If the proper legislative frameworks, technology infrastructure, and social participation are in place, digital finance has a special chance to remove obstacles that have impeded green investment. Digital finance has the potential to significantly accelerate the green transition by tackling technological and regulatory obstacles. In addition to aiding in the fight against climate change, this will build a more sustainable and inclusive future for everybody.

REFERENCES

- Catalini, C., & Gans, J. (2016). Some simple economics of the blockchain. MIT Sloan Research Paper.
- García, E., & Fernández, V. (2019). Artificial intelligence and sustainable investment: Opportunities and challenges. Journal of Sustainable Finance & Investment, 9(3), 235–252. https://doi.org/10.1080/20430795.2019.1607425
- Jabbour, C. J. C., de Sousa Jabbour, A. B. L., & Govindan, K. (2021). Sustainable finance and digital tools in environmental sustainability. Environmental Impact Assessment Review, 83, 106421. https://doi.org/10.1016/j.eiar.2020.106421
- Krause, L., & Martin, L. (2017). Blockchain and sustainable finance: Transforming global investment flows. Global Finance Journal, 27(3), 120–134. https://doi.org/10.1016/j.gfj.2017.07.002
- Narayan, P., Patel, R., & Singh, K. (2021). Decentralized finance: Opportunities and challenges for green investments. Journal of Green Finance, 3(1), 14–25. https://doi.org/10.3934/GF.2021.1.14
- Schneider, M., Müller, P., & Neumann, F. (2020). Fintech platforms for green investment: A pathway to global sustainability. Journal of Finance and Technology, 8(2), 122–137. https://doi.org/10.1108/JFT-12-2020-0034
- Zohar, D. (2019). The role of blockchain in advancing green finance. Journal of Sustainable Finance, 2(4), 89–102. https://doi.org/10.1080/20430795.2019.1704242
- Swan, M. (2015). Blockchain: Blueprint for a new economy. O'Reilly Media.
- Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: How the technology behind bitcoin and other cryptocurrencies is changing the world. Penguin.
- Hedberg, C. (2019). FinTech, digital finance, and the green economy: Disrupting traditional finance for a better future. Springer.
- Schwienbacher, A., & Larrue, P. (2020). Financing green innovation: The role of digital finance and sustainable investment. Wiley.

- Global Green Finance Initiative. (2021). Financing green investment through blockchain and digital platforms. Retrieved from https://www.greenfinanceinitiative.org/
- International Finance Corporation (IFC). (2019). Financing the future: Scaling green and sustainable investments through digital finance. Retrieved from https://www.ifc.org/
- McKinsey & Company. (2020). The role of digital finance in achieving net-zero emissions by 2050. McKinsey Sustainability. Retrieved from https://www.mckinsey.com/
- OECD. (2017). Green finance and investment: Mobilising investment for climate and sustainability. OECD Publishing. https://doi.org/10.1787/9789264279357-en
- Task Force on Climate-related Financial Disclosures (TCFD). (2020). Recommendations on climate-related financial disclosures. Retrieved from https://www.fsb-tcfd.org/
- United Nations Environment Programme Finance Initiative (UNEP FI). (2020). Financing a sustainable future: Digital innovations for climate change mitigation. UNEP FI. Retrieved from https://www.unepfi.org/
- World Bank. (2019). Blockchain for sustainable development: Opportunities and challenges. World Bank Group. https://doi.org/10.1596/978-1-4648-1454-6
- World Economic Forum. (2020). Accelerating the transition to a low-carbon economy: The role of digital finance. World Economic Forum. Retrieved from https://www.weforum.org/
- European Commission. (2020). EU taxonomy for sustainable activities: Technical expert group report. European Commission. https://ec.europa.eu/info/publications/200307-sustainable-finance-teg-final-report_en
- United Nations Framework Convention on Climate Change (UNFCCC). (2015). The Paris Agreement. UNFCCC. https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
- Bryson, N., & Kauffman, R. (2019). Blockchain for green finance: Current applications and future prospects. International Journal of Financial Innovation in Banking, 7(2), 35–56.
- Chong, C., & Goel, A. (2019). The role of artificial intelligence in scaling green finance and investment. Global Green Finance Symposium Proceedings. Retrieved from https://www.greenfinance-symposium.org/
- Boulton, M., & Roberts, D. (2021). The role of digital platforms in green investment: Scaling up for a sustainable future. Sustainable Investment Forum Reports. Retrieved from https://www.sustainable-investment-forum.org/
- Sato, Y., & Nishida, M. (2020). DeFi and green finance: A new frontier for sustainable investments. Fintech and Sustainable Development Journal, 10(1), 57–75.
- Smith, P., & Anderson, C. (2020). Fintech and blockchain: The intersection of digital innovation and green investment. Proceedings of the Green Investment Summit 2020. https://www.greeninvestment-summit.com/
- Zohar, D., & Singh, A. (2020). Digital finance in the green economy: A roadmap for 2030. Global Sustainability Conference Proceedings. https://doi.org/10.1017/sus.2020.3
- Dorfleitner, G., & Utz, S. (2018). The performance of green bonds: Empirical evidence from an extended sample. Journal of Sustainable Finance & Investment, 8(1), 1–21. https://doi.org/10.1080/20430795.2017.1397442

- Wu, X., & Zhou, Z. (2020). Artificial intelligence for green finance: Toward sustainability in financial markets. AI & Sustainability, 4(2), 23–41. https://doi.org/10.1016/j.aiandsus.2020.01.003
- Krause, L., & Martin, L. (2021). Blockchain for sustainable finance: A global roadmap. Blockchain for Finance Journal, 5(1), 50–72. https://doi.org/10.1016/j.blockfin.2021.01.004

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ADAPTABILITY TO MENSTRUAL CUPS QUESTIONING CUSTOMER INTELLIGENCE: A STUDY ON INDIAN WOMEN'S SATISFACTION TOWARDS MENSTRUAL CUPS AND SANITARY NAPKINS

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ABSTRACT

Menstrual hygiene remains a challenge for women, especially in India, where the transition from cloth to sanitary pads has been significant. The ongoing shift from pads to menstrual cups presents new challenges. Menstrual cups, made from high-grade medical silicone, are biodegradable, reusable, and can last up to 10 years. Their growing acceptance among Indian women has broader social implications. This study aims to compare female satisfaction concerning menstrual cups and sanitary pads. It also examines adaptability issues associated with menstrual cups, posing a challenge for marketers seeking to understand consumer behavior. Data collected via questionnaires were from women in Delhi/NCR who had used menstrual cups at least three times. Referrals from existing users helped recruit participants. To analyze satisfaction levels, descriptive statistics, and paired t-tests were applied using MS Excel and SPSS. The results indicated that women using sanitary pads reported higher satisfaction than menstrual cup users. Key challenges included insertion, usage, and leakage concerns. Perception played a crucial role in adaptability, affecting adoption rates. This study highlights menstrual cup adaptability concerns and provides insights for researchers, consumers, and marketers. Marketers need to address perception barriers by identifying key drivers of menstrual cup usage. Changing consumer perception is essential for broader adoption.

KEYWORDS: Adaptation, Customer Intelligence, Menstrual cup, Menstrual hygiene, Reusable.

INTRODUCTION

A healthy lifestyle and a healthy society are the foremost priorities of the people living in India now. Fortunately, most people are innately healthy, but the main task is to put attention to the healthiness that has grown by the nature. Indian Women have grown tremendously in the last decade, mainly due to the changes in societal norms. She is more educated, ambitious, and empowered. She is involved in many of the decisions taken by the family. She is earning, and her disposable income is also growing rapidly. The lifestyles of Indian women have changed rapidly, and their purchasing behaviour is largely dependent on digital instruments and gazettes. They are aware of being health-conscious and also know the definition of a value proposition.

India is home to over 355 million menstruating women and girls, yet millions still encounter major obstacles to managing menstrual hygiene with comfort and dignity. The Sanitary napkin market in India was valued at US $ 618.4 million in the year 2021. Menstruation is the normal release of blood and tissue from the uterine lining through the vagina that happens as part of a woman's monthly menstrual cycle. It occurs between menarche, a girl's first period, and menopause, when the menstrual cycles end. Each month, the body of a woman prepares for pregnancy. The uterus or womb sheds its lining if no pregnancy occurs. Menstrual blood and some tissue from inside the uterus pass out of the body through the vagina. It usually starts between the ages of 11 and 14 and continues until menopause at about age 51.

In India, menstrual hygiene has been challenging for women, where women moved from clothes to sanitary pads, and the progression of moving from pads to menstrual cups is underway and far off. The evidence on menstrual cups is really limited because of many challenges. On one hand, a marketer wants to encourage the usage of menstrual cups in the Indian market; on the other hand, the adaptability of the cups is still at the crossroads. Whether menstrual cups are going to be breathable is the question of the hour. This study examines the adaptability of cups among females and the challenges faced in the process.

REVIEW OF LITERATURE

Traditional practices still prevail in developing countries due to a dearth of knowledge, information, and also good hygiene practices. Belief and attitude also play an important role in the acceptance of the product (Mukherjee A et al.2020).

In India, women still use cloth pads as a sanitary option. They may contain sustainable sanitary options, but must be hygienically washed and dried in the sunlight. The sun's heat is a normal bactericide, and drying the clothes/cloth pads beneath it disinfects them for future utilisation. These cloth pads can be reused, as they are cost-effective, easily available and eco-friendly. They must also be stored in a clean, dry place for reuse to prevent infection.

The second option available is sanitary pads, which are largely used by Indian girls and women. They are readily available at several stores, pharmacies, and online. They are costly in comparison to cloth pads, non-reusable, and not highly environmentally friendly. It is always questioned concerning the cotton used in their making, which is not 100% natural and may contain pesticides. Affordable sanitary pads made from leftover banana tree fibre are now available for rural women. They are environmentally friendly and decay within six months after use. Whether it is a sanitary pad or cotton cloth, a culture of covering up the truth of discomfort to women during menstruation always persists (Houppert K, 1999). Menstrual management is not only problematic in the developing world, but it also may have a solemn adverse impact on the health of women. Energy to produce low-cost materials is sorely missing (Bharadwaj S, Patkar A;2004).

Women have practised using cloths, absorbent pads, or tampons to manage the menstrual flow. Washing clothes or disposing of the pads hygienically, it is a task for most women. In some cultures, women alternatively use rags, which are reused, but washing rags may be restricted by lack of water or the privacy needed to wash such rags and reusage of them, resulting in compulsory use of soggy or even wet contaminated rags (Bharadwaj S, Patkar A;2004), (Ten A.;2007), (Delaney J, Lupton MJ, Toth E. 1988)

It has also been collected that in India, women have started using menstrual cups as a third option to manage their menstrual flow. A menstrual cup is the next option for menstrual flow management, and a device that is claimed to be a healthy and environmentally friendly alternative to other options for menstrual sanitary protection. Vaginal devices have an extensive and exciting history. The first device was patented in 1867 in the United States (Hockert SL). The only surprising fact is that the initial vaginal cups used for menstrual absorption have never gained extensive use, even though they were available in developed countries for decades.

In many countries, women like menstrual cups because they don't include any chemicals, bleaches, or fibres that could trigger allergic responses or sensitivity. Menstrual cups are tougher for women to insert than tampons, but these issues can be resolved by teaching them about their bodies and proper insertion methods. The requirement to clean the reusable cups is one of the main drawbacks highlighted by women for cups; however, this drawback can readily be avoided by using a disposable menstrual cup.

They might be an innovation for women and girls and a replacement for tampons and sanitary pads but folding and placing them into the vagina to collect menstrual fluid still sounds like a difficult proposition to some females. No doubt they can be worn for six to twelve hours, but still, it depends on the menstrual flow. They are safe for the environment and reusable. In areas with poor sanitation, it offers a practical, affordable, and sustainable option.

Many studies revealed that acceptability in low and middle-income countries suggests cups as a potential option for girls and women, and girls have reported the acceptance of the product (Averbach S, Sahin- Hodoglugil N, Musara P, Chipato T;2009) (L, Mason Laserson K, Oruko K, Nyothach E, Alexander K, Odhiambo F, et al.;2015)

Many women are not aware of the benefits and challenges tangled in the usage of cups. In many developing nations, females have started adopting menstrual cups, but the uptake is low which requires proper mentoring and positive experiences from peers (Oster E, Thornton R. (2012), (Van Eijk AM, Laserson KF, Nyothach E, Oruko K, Omoto J, Mason L, et al. 2018).

Some products are perceived differently before using them. Menstrual cups can be one of them. The mere insertion of the cup can be fearful for customers. The thinking of pain can be the idea of not using the cups (North B, Oldham M. 2011).

NEED AND JUSTIFICATION OF THE STUDY

With all the facts about various options available and adaptability to menstrual cups in developing nations like India, there is a need and justification to study the satisfaction of women with menstrual cups in contrast to sanitary pads. Manufacturers of menstrual cups would urge to have a lucrative market for menstrual cups, but on the other hand, females need a notion to adapt to the same and use it with convenience. The satisfaction associated with menstrual cups, whether disposable or reusable, is attached to the usage by females and further repurchase of the same. The researcher has explored the basis of the need to study the satisfaction of women with menstrual cups and sanitary napkins.

OBJECTIVES OF THE STUDY

The primary objective of the study is to analyse the satisfaction level of females with menstrual cups in comparison to sanitary napkins. The other objective of the study is to understand the adaptability issues associated to menstrual cups.

RESEARCH METHODOLOGY

To reach to the objectives of the study, both primary and secondary data were used. The primary data was collected through a questionnaire. The questionnaire aimed to gather information on the satisfaction levels of females toward sanitary napkins and menstrual cups. The secondary data was collected through websites, journals, books, and other sources. A questionnaire was prepared to gauge satisfaction with menstrual cups and sanitary napkins among females.

An inclusion-exclusion criterion was important to set as finding respondents who have used menstrual cups was a little arduous task.

Inclusion criteria •Menstruating women in the age group of 21 to 50 years • Having regular menstrual cycles • have used both sanitary napkins as well as cups. It was earlier decided to include females who used the cups in three consecutive menstrual cycles, but this condition was not considered, and women who have used cups at least three times during their menstrual cycle, regardless of the consecutive condition, were decided as the final criteria.

Exclusion criteria • The researcher assured that the respondent who is filling out the questionnaire has used menstrual cups. This was to ensure that the data was captured from the right respondent. So, women who didn’t use cusps were excluded.

Finding the respondents who have used menstrual cups was not an easy task, so judgment sampling was used along with convenience to understand that the sample is a true representative of the population.

The questionnaire was administered for pilot testing to check its reliability. The Cronbach alpha for sanitary napkins came out to be .769, whereas for menstrual cups it was .902. This gave a researcher an indication that the questionnaire is reliable to be used for further data collection.

Data collected were analysed using descriptive statistics and paired t-tests to investigate the satisfaction level of respondents with sanitary and menstrual cups. As far as statistical tool is concerned, MS Excel and SPSS were applied to analyse data.

HYPOTHESIS

To understand the objectives, the following hypothesis was formulated:

Ho: There is no significant difference in the satisfaction levels of females toward sanitary napkins and menstrual cups.

Ha: There is a significant difference in the satisfaction level of females towards sanitary napkins and menstrual cups.

RESULTS & DISCUSSIONS

Table 1: Paired Samples Statistics

	Mean	**N**	**Std. Deviation**	**Std. Error Mean**
Pair 1 Sanitary Napkins	37.86	72	4.610	.543
Menstrual cups	30.43	72	5.881	.693

Source: Survey analysis

Table 2: Paired Samples Correlations

			Significance	
	N	**Correlation**	**One-sided p**	**Two-sided p**
Pair 1 Sanitary napkins & menstrual cups	72	.001	.496	.992

Source: Survey analysis

Table: 3 Paired Sample Test

Paired Differences

				95%confidence Interval of the Difference				**Significance**	
	Mean	**Std Deviation**	**Std Error mean**	**lower**	**upper**	**t**	**df**	**One-sided p**	**Two-sided p**
Pair 1 Sanitary napkin & menstrual cups	7.431	7.468	.880	5.676	9.185	8.443	71	<.001	<.001

Source: survey analysis

Table 4: Paired Samples Effect Sizes

				95% Confidence Interval	
		Standardizer[a]	Point Estimate	lower	upper
Pair 1 Sanitary napkin & Menstrual cups	Cohen's d	7.468	.995	.710	1.276
	Hedges'correct ion	7.548	.984	.702	1.262

Source: survey analysis

This analysis delivers useful descriptive statistics for the two groups that we have compared with the mean and standard deviation, as well as actual results from the paired t-test. Looking at the **Mean c**olumn, we can see that females who use sanitary napkins have higher satisfaction as compared to females who use menstrual cups.

we can understand from Table 3 that there is a mean difference of 7.431 **(Mean)** with a standard deviation of 7.468 **(Std. Dev.),** a standard error of the mean of 0.880 (**Std. Err.**), and 95% confidence intervals of 5.676 to 9.185(**95% Conf. interval).** An attained t-value (**t**) of 8.443, the degrees of freedom **(degrees of freedom**), which are 71, and the statistical significance (2-tailed p-value) of the paired t-test (**Pr(|T| > |t|)** under **Ha: mean(diff)! = 0**), is less than 0.05. As the p-value is less than 0.05 (i.e., $p < .05$), it can be concluded that there is a statistically significant difference between our two variable scores (sanitary napkins and menstrual cups). In other words, the difference in the satisfaction level is not equal to zero.

A paired t-test was run on a sample of 73 females to determine whether there was a statistically significant mean difference between the satisfaction level when they used sanitary napkins compared to menstrual cups, a statistically significant increase of 7.431 (95% CI, 5.676 to 9.185), $t(71) = 8.443$, ($p < 0.05$).

Hence, there is a statistically significant difference in the satisfaction level of females using sanitary napkins and females using menstrual cups.

The survey administered brought some facts about sanitary napkins and menstrual cups concerning many attributes. If a handler needs to track the quantity of blood released, a menstrual cup allows one to do so precisely. Some may need it for medical reasons. Insertion is an arduous task as it can be messy. While removing the cup, the chance of blood spilling is there if the cup is full and one has to rush to the toilet urgently. Respondents also mentioned their concern over leakage of cups if not emptied on time or not inserted properly. On the other hand, some respondents also replied that menstrual cups are hygienic, but somehow lack confidence in carrying them when they are out of their homes. The points go well in favor of cups when it comes to odour, which is the biggest drawback in pads. Researcher has also observed that respondents felt that sanitary napkins can cause infection. But one can also analyse that the insertion of cups also requires touch at some parts which may cause infection.

In the case of menstrual cups, perception is playing a major role in adaptability. Females carry the perception that a cup might get stuck in the vagina, which may cause danger to some parts of the body, reducing fertility as described by other studies (Averbach S, Sahin-Hodoglugil N, Musara P, Chipato T, van der Straten A. 2009). Females also carry the impression that their everyday life is affected when they use cups, as they get more conscious of matters like leakage, emptying the cup, insertion, etc.

CONCLUSION

Adaptability is a big question when related to customer intelligence. Today, customers are not anxious about change; they are concerned about no change. (Gulati, U., 2018)In the case of menstrual cups, marketers are looking forward to the same. Customer intelligence, we all know, helps in getting insights into which strategy makes a bigger impact. In the Indian market, one can see marketers advertising their brands of sanitary napkins through Television Commercials. Is the scenario for promotion is same for menstrual cups? Here comes the concept of customer intelligence, where the marketer is aware that cups still require a big yes from Indian females. Maybe many attributes of the menstrual cup market are attached to adaptability. Marketers have to study drivers and retainers of the usage of cups.

Adaptability is not restricted to cups only but also to health and hygiene. Do these cups have become more effective during this time is one question that still needs consideration by marketers. Acceptance cannot be manipulated in a country like India, where still the majority of women have not heard the same or heard but not seen, and even used.

The global menstrual cup market was valued at USD 861.14 million in 2021 and is projected to reach USD 1,372.53 million by 2029, with a CAGR of 6.0% during the forecast period from 2022 to 2029. (Mukherjee A, Lama M, Khakurel U, Jha AN, Ajose F, Acharya S, Tymes-Wilbekin K, Sommer M, Jolly PE, Lhaki P, Shrestha S. 2020). One can cultivate the domestic market and cross the boundaries, but what if the domestic market is still unserved?

So, with many “if” related to the adaptability of menstrual cups, the satisfaction of females who have used them is in question, and consideration of the fact is required for those females who have never used them because of restraints more related to perception. Marketers must carry the positioning of the product first, rather than their brand. The advantages and disadvantages of products are still not clear to many women; positioning will help marketers to place menstrual cups among the target audience.

REFERENCES

1. Houppert K. The curse: Confronting the last unmentionable taboo, Menstruation. Macmillan,1999.
2. Bharadwaj S, Patkar A. Menstrual hygiene and management in developing countries, Taking stock. Mumbai: Junction Social. 2004.
3. V.Ten,TA Menstrual hygiene: A neglected condition for the achievement of several Millennium Development Goals. Europe External Policy Advisors. 2007.
4. Delaney J, Lupton MJ, Toth E. The curse: A cultural history of menstruation. University of Illinois Press; 1988.
5. Hockert SL. Catamenial Sack. U.S. Patent and Trademark Office. 1867. Patent No. 70843.

6. Averbach S, Sahin- Hodoglugil N, Musara P, Chipato T. Duet for menstrual protection: a feasibility study in Zimbabwe. Contracept. 2009; 769:463-8.
7. L, Mason Laserson K, Oruko K, Nyothach E, Alexander K, Odhiambo F, et al. Adolescent schoolgirls' experiences of menstrual cups and pads in rural western Kenya: a qualitative study. Waterlines. 2015; 34:15-30
8. Global Menstrual Cups Market – Industry Trends and Forecast to 2029 by Data Bridge Market Research.
9. Mukherjee A, Lama M, Khakurel U, Jha AN, Ajose F, Acharya S, Tymes-Wilbekin K, Sommer M, Jolly PE, Lhaki P, Shrestha S. Perception and practices of menstruation restrictions among urban adolescent girls and women in Nepal: a cross-sectional survey. Reprod Health. 2020;17(1):81.
10. Oster E, Thornton R. Determinants of technology adoption, peer effects in menstrual cup up-take. J Eur Econ Assoc. 2012, 10,1263–93.
11. Van Eijk AM, Laserson KF, Nyothach E, Oruko K, Omoto J, Mason L, et al., Use of menstrual cups among schoolgirls: longitudinal observations nested in a randomized controlled feasibility study in rural western Kenya. Reproductive Health. 2018; 15:139.
12. North B, Oldham M. Preclinical clinical and over-the-counter post-marketing experience with a new vaginal cup, menstrual collection. J Women's Health. 2011,20(2),303–11.
13. Averbach S, Sahin- Hodoglugil N, Musara P, Chipato T, van der Straten A. Duet for menstrual protection: a feasibility study in Zimbabwe. Contraception. 2009; 79:463–
14. Gulati, U (2018)., Disruption in Marketplace Recognized by Consumers: A Study on consumer perception toward fear of no change, Trends in Contemporary Marketing Issues, pp:7-13, (CMSP-2018), ISBN:978-93-84562-12-0.

AN ANALYTICAL OVERVIEW OF THE NEP 2020: TRENDS, IMPLICATIONS, AND FUTURE DIRECTIONS

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ABSTRACT

This study, titled "An Analytical overview of the NEP 2020: Trends, Implications, and Future Directions," aims to provide a complete overview of the NEP 2020 by analysing existing literature and identifying key trends, implications, and future directions. NEP 2020 represents a significant shift in India's educational landscape, and understanding its gradations is important for researchers and stakeholders alike. This paper followed a qualitative research approach for analysis and for this paper reviewed 18 research papers that delved into several aspects of NEP 2020. The analysis extracted valuable insights regarding the policy's features, challenges, opportunities, and implementation strategies. By producing findings from these studies, this research serves as a vital resource for understanding the multifaceted nature of NEP 2020 and its applications for the education sector. This study highlights the diverse perspectives and concerns surrounding NEP 2020, ranging from its theoretical underpinnings to practical challenges in employment. Key themes explored include the policy's impact on stakeholders such as students, teachers, parents, and educational institutions, as well as its consequences for curriculum design, career opportunities, and infrastructure development. Furthermore, this research identifies gaps in published literature and delineates paths for upcoming research. While current studies offer valuable insights, there remains a need for empirical research to supplement conceptual discussions and address practical challenges faced during the NEP 2020 implementation phase. Research gaps include issues related to mental and financial preparedness, career planning, employment opportunities, and societal and cultural effects. Overall, this research contributes to an in-depth understanding of NEP 2020 and its implications for the Indian education system. By elucidating key trends, challenges, and opportunities, it provides valuable guidance for policymakers, educators, researchers, and other stakeholders involved in shaping the future of education in India.

KEYWORDS: NEP, Qualitative Analysis, Literature Review, Research Gaps, Challenges, Opportunities.

INTRODUCTION

Education policy serves as the foundation upon which a nation's educational sector is built and nurtured, shaping the trajectory of its development and the futures of its citizens (https://www.rand.org/topics/education-policy.html). In India, with its rich and vast educational heritage, the NEP (NEP) positions as a cornerstone document crafted by the Government of India to guide, regulate, and elevate the field of education across the nation.

The evolution of India's education policy can be traced back to 1968 when Prime Minister Indira Gandhi laid the groundwork for systematic educational planning. Subsequent milestones include the seminal contributions of late PM Sh. Rajiv Gandhi in 1986 and, most recently, the visionary directives of PM in 2020 (https://timesofindia.indiatimes.com/home/education/news/national-education-policy-2020-all-you-need-to-know/articleshow/77239854.cms). Each iteration of India's education policy has been a manifestation of the prevailing visions and aspirations of its governing bodies, characterized by a continuum of progress building upon its predecessor to meet the evolving needs and challenges of the educational ecosystem.

Even so, it is the NEP 2020 that stands out as a harbinger of transformative change, heralding a paradigm shift in pedagogical philosophy and educational structure. Central to NEP 2020 is the transition from the traditional 10+2 schooling format to the more nuanced 5+3+3+4 model, a holistic framework designed to optimize cognitive development and foster experiential learning. Embracing a philosophy of quality over quantity, the policy underscores the importance of holistic learning experiences, emphasizing analytical, experiential, and discussion-based pedagogies to nurture critical thinking among students. Moreover, NEP 2020 heralds research as a cornerstone of education, integrating it as a core subject in the final year of undergraduate studies.

This research paper provides an analytical examination of the NEP 2020, emphasizing its transformative approach to educational reform in India. It delves into the policy’s shift from the traditional 10+2 system to the progressive 5+3+3+4 structure, fostering experiential and critical thinking-driven learning. By synthesizing existing scholarship and secondary data, the study highlights the policy’s focus on introducing research into undergraduate schooling and promoting holistic pedagogies. Offering understandings into the policy’s trends, implications, and future trajectories, this research prepares stakeholders with a complete understanding to navigate and contribute to India's evolving educational landscape. It aims to facilitate informed decision-making, empowering educational institutions, policymakers, and learners to collectively shape a resilient and equitable educational ecosystem.

The present research endeavors to undertake a comprehensive review of NEP 2020, leveraging existing scholarship to illuminate its nuances, implications, and potential future trajectories. Through structured objectives and meticulous data collection through secondary, current study purposes to provide stakeholders in the Indian education system with a nuanced understanding of the policy's multifaceted dimensions. As India embarks on a phased implementation of NEP 2020, slated for completion by 2026, this research serves as a guiding beacon, facilitating informed discourse and strategic decision-making within the educational sphere.

By elucidating the diverse perspectives and scholarly insights encapsulated within the realm of NEP 2020 research, this study seeks to empower stakeholders to direct the complications of educational reform and pave the way for a brighter, more inclusive future. As the educational landscape undergoes profound transformations, informed by the principles and directives outlined in NEP 2020, this research purposes to contribute to the ongoing dialogue surrounding educational policy and practice in India. Through collaborative efforts and evidence-based analysis, stakeholders can collectively strive toward realizing the vision of a robust, equitable, and forward-thinking educational system.

OBJECTIVE OF THE STUDY

The present research endeavours to pursue the following pivotal objectives:
a. To comprehensively review existing freely available research papers pertaining to the NEP 2020 (NEP 2020), accessible via online platforms.
b. To critically analyse the objectives, research methodologies, and findings of previous studies, thereby elucidating valuable insights into the nuances of NEP 2020.
c. To identify and delineate gaps within the corpus of existing research, thereby paving the way for future scholarly investigations and advancements in understanding NEP 2020.

REVIEW OF LITERATURE

The NEP 2020 has been a subject of significant academic inquiry, with various studies exploring its key trends, implications, and challenges. This literature review provides a complete synthesis of research on the policy from diverse perspectives, including sentiment analysis, career prospects, stakeholder roles, and implementation challenges.

Dr. Rahul Pratap Singh Kaurav, Prof. K. G. Suresh, Dr. Sumit Narula, and Ruturaj Baber (2020) conducted a qualitative study analysing sentiments on NEP 2020 using secondary information from Twitter. Their findings revealed a predominantly positive public perception of the policy, with many users recognizing its potential to revolutionize Indian education. Supporting this positive outlook, K. Meenakshi Sundaram (2020) highlighted the policy's multidisciplinary approach, emphasizing its ability to transform career opportunities and influence recruitment trends.

Pawan Kalyani (2020) explored the policy's impact on students, teachers, and parents, emphasizing increased autonomy in subject selection and parental involvement. The study also shed light on the anticipated enhancements in teacher recruitment and the promotion of quality education. Aithal Sreeramana and Aithal Shubhrajyotsna (2020) traced NEP 2020's connection with past educational policies, discussing its innovative practices and inferences for teacher & professional education, and private institutions.

The comprehensive work by Mridul Madhav Panditrao and Minnu Panditrao (2020) examined NEP's objectives and proposed changes across different educational levels. Their study underscored the strategic steps required for effective implementation. Similarly, Pankaj Thakur and Dr. Rajesh Kumar (2021) compared NEP 2020 with previous education policies, emphasizing the importance of a well-defined action plan to overcome implementation challenges.

Several scholars have focused on NEP 2020's implications for higher education. Dr. Hemlata Verma and Adarsh Kumar (2021) proposed design purpose reference for higher education institutions, while Dr. Nandini Banarjee, Dr. Amarnath Das, and Ms. Sreya Ghosh (2021) highlighted the advantages of the policy for higher education and suggested strategic implementation approaches. Shashidharan M. and colleagues (2021) examined challenges related to rural students, recruitment shifts, distance education, and grading systems.

In terms of policy execution, Dr. P.K. Jain (2021) identified critical challenges, including funding allocation, infrastructure development, and enrollment improvement. Shubhada M.R. and Nirantha M.R. (2021) stressed the importance of transparent and uniform implementation for the policy's success. Additionally, Gopalan K.R., Nivithra S., and Vezhaventhan D. (2021) conducted a quantitative study on migration effects and perceptions of NEP 2020 in South India, uncovering region-specific implementation hurdles.

Empirical research by Dr. Praveen Kumar Sharma and Sanjeevan Bala (2022) highlighted average awareness levels of secondary school teachers in Himachal Pradesh regarding NEP 2020, emphasizing the need for teacher training and awareness programs. In Jabalpur district, Roshan Lal Sondhiya (2022) found demographic variations in teacher awareness of the policy.

Sector-specific studies have also provided valued insights. Abhimanyu Kumar (2022) examined NEP 2020's implications for Ayurveda education, revealing both opportunities and preparedness challenges for Ayurveda universities. Dr. Deepa Choudhari (2022) explored stakeholder perspectives on NEP's impact on higher education in Nagpur City, where positive sentiments were tempered by concerns about implementation barriers.

Theoretical analyses have further enriched the discourse. Dr. Ruchi Rani (2022) explored curriculum changes, skill development, and digitalization under NEP 2020. Dr. Prativindhya Saini (2022) examined strategies for policy implementation and its implications for accreditation systems such as the National Assessment and Accreditation Council (NAAC).

Collectively, these studies underscore NEP 2020's transformative potential while acknowledging the practical challenges in its implementation. Key themes emerging from the literature include the importance of stakeholder engagement, infrastructure development, teacher training, and the requirement for region-specific strategies to ensure successful policy execution. This research endeavors to build upon existing scholarship, offering fresh perspectives and actionable insights to navigate the evolving educational landscape shaped by NEP 2020.

METHODOLOGY

This section outlines the research methodology followed in the study titled "An Analytical Overview of the NEP 2020: Trends, Implications, and Future Directions." The research follows a systematic approach to meet the objectives outlined above, directed on the review and critical analysis of existing literature related to NEP 2020. The study primarily adopts a qualitative research design, as it is suited for exploring in-depth insights and thematic patterns in the literature

RESEARCH DESIGN

The study employs a descriptive and analytical research design. It systematically reviews and synthesizes available literature on NEP 2020 to identify the trends, implications, and future directions highlighted in prior scholarly works. The research involves gathering secondary data, which consists of freely accessible research papers, articles, policy documents, and scholarly publications related to NEP 2020. The data collection process is entirely based on published sources, including academic databases, open-access journals, government reports, and other credible platforms.

DATA COLLECTION

To achieve the study's objectives, a multi-step approach was applied for data collection:

1. Identification of Relevant Literature:
   The first step involved identifying and selecting a wide array of freely available research papers and articles that discuss NEP 2020. A thorough search was directed on several online academic databases such as Google Scholar, JSTOR, ResearchGate, and institutional websites that offer open-access publications. Key search terms such as “NEP 2020,” “NEP 2020 trends,” “NEP 2020 implementation,” and “implications of NEP 2020” were used to gather relevant studies.

2. Screening of Sources:
   Only peer-reviewed articles, research papers, government reports, and pertinent policy documents already published between 2020 and 2024 were included. To ensure the quality and relevance of the sources, articles that lacked rigorous research methods or were not directly related to the NEP 2020 were excluded. The final selection process narrowed down the research to a set of 40+ primary and secondary sources.

3. Data Collection Time-Period:
   The data collected through different sources and was conducted between **October 2024 and January 2025**. During this time frame, the researcher focused on acquiring the most recent and relevant studies on NEP 2020, ensuring that the literature reflects the latest trends, implementation feedback, and research findings are related to the policy structure.

4. Secondary Data Analysis:
   Data was obtained from the selected research papers, articles, and policy documents. This data includes qualitative analyses, sentiment studies, comparative reviews, and thematic examinations of NEP 2020's impact on various educational sectors. Data analysis for secondary data was applied to interpret existing studies' objectives, methodologies, findings, and conclusions.

DATA ANALYSIS

The analysis of the collected data was carried out in the following phases:

1. Thematic Analysis:
   The literature was examined using thematic analysis techniques in order to identify recurring themes, trends, and patterns across the selected research papers. This process involved categorizing the findings into broader themes such as implementation challenges, career opportunities, stakeholder roles, curriculum development, and educational equity under NEP 2020. Each study was analysed to identify key factors and trends related to the objectives and outcomes of the policy.

2. Critical Evaluation of Methodologies:
   The study critically evaluated the research methodologies employed in the selected studies. This included an assessment of whether qualitative, quantitative, or mixed methods were used, the reliability of data sources, sampling techniques, and the strength of evidence presented in each study. The goal was to assess the robustness of the methodologies and identify any limitations that could affect the interpretation of the findings.

3. Identification of Gaps:
   One of the key objectives of the current study is to highlight the gaps in the existing literature on NEP 2020. By analyzing the methodologies and findings of previous studies, the research identifies areas that have been underexplored or require further investigation. These gaps may relate to specific educational sectors, demographic groups, or unaddressed implementation challenges.

4. Synthesis and Summary:
   The final step involved synthesizing the findings of the various studies to present a comprehensive overview of NEP 2020's trends, implications, and future directions. The research integrates the different perspectives presented in the literature and highlights their collective contributions to understanding NEP 2020.

DATA INTERPRETATION

In this section, the findings from the data collected through structural review process following systematic research review and analysis of existing literature on the NEP 2020 (NEP 2020) are interpreted and discussed. The data interpretation process follows the methodologies outlined earlier and is focused on analysing the themes, trends, implications, and gaps identified through the secondary data analysis. The interpretation is grounded in a critical assessment of the literature to understand the evolving discourse surrounding NEP 2020 and its impact on the education system.

THEMATIC INTERPRETATION

The thematic analysis identified several repeated themes across the reviewed literature, each contributing to a nuanced understanding of NEP 2020. These above themes provide a through understandings into the policy's anticipated effects, implementation challenges, and areas requiring future research:

1. Implementation Challenges:
   A major theme across the literature is the challenges of implementing NEP 2020 effectively. Numerous studies highlighted that, despite the policy's ambitious goals, its implementation faces significant obstacles such as funding shortages, lack of infrastructure, and regional disparities in educational resources. For instance, studies by Shashidharan et al. (2021) and P.K. Jain (2021) pointed out that rural and underdeveloped areas are particularly disadvantaged in terms of the infrastructure and training required to support NEP's transformative agenda. These challenges underscore the importance of clear action plans and adequate resource allocation to ensure effective policy rollout.

2. Multidisciplinary Approach and Career Opportunities:
   Another prominent theme relates to NEP 2020's emphasis on a multidisciplinary approach to education. Research by K. Meenakshi Sundaram (2020) and Pawan Kalyani (2020) suggest that NEP 2020 will revolutionize career pathways by allowing students to explore diverse academic disciplines. This flexibility is expected to expand career opportunities and reshape recruitment processes, particularly by promoting interdisciplinary skills that are becoming increasingly valuable in the global workforce. This theme indicates a shift in the education system towards preparing students for a dynamic labor market, aligning educational outcomes with the evolving demands of various industries.

3. Stakeholder Roles:
   The role of various stakeholders, such as students, parents, and teachers, emerged as a critical theme in several studies. According to Aithal & Aithal (2020) and Pawan Kalyani (2020), the policy encourages student autonomy in subject selection, but also stresses the importance of parental guidance in helping students navigate these new choices. Furthermore, the role of teachers is central to the success of NEP 2020, with many studies (e.g., Dr. Hemlata Verma & Adarsh Kumar, 2021) suggesting some development programs for professionals are crucial to enhance teaching quality and adapt to new pedagogical methodologies. This finding throw

light on the need for a collaborative approach involving multiple stakeholders to achieve the policy's goals.

4. Equity and Inclusivity:
   Many studies highlight the significance of equity and inclusivity within the context of NEP 2020. Research by Shashidharan et al. (2021) and Dr. Deepa Choudhari (2022) identified that, while the policy aims to provide equitable educational opportunities to the graduating students, including those from disadvantaged backgrounds, substantial barriers still exist. Issues such as Digital literacy, infrastructure gaps, and teacher preparedness hinders the equitable delivery of education, especially in rural and marginalized communities. This theme points to the need for targeted involvements to ensure that NEP 2020 does not widen existing educational disparities.

CRITICAL EVALUATION OF METHODOLOGIES

The methodologies employed in the reviewed studies were predominantly qualitative, with a few utilizing quantitative and mixed methods. The critical evaluation of these methodologies revealed several strengths and weaknesses:

1. Qualitative Approaches:
   Studies using qualitative research designs, such as sentiment analysis and thematic reviews, provided rich insights into stakeholders' perceptions and policy implications. Though, many studies out of the reviewed literature were based on limited sample sizes or non-representative data, potentially limiting the findings which are general in nature of their findings. For example, the study by Dr. Praveen Kumar Sharma & Sanjeevan Bala (2022), which assessed teacher awareness of NEP 2020, was directed in a specific area (Himachal Pradesh) and may not totally represent the national perspective.

2. Quantitative and Mixed Methods:
   A smaller number of studies incorporated quantitative methods, such as surveys or statistical analyses. The research by Gopalan et al. (2021) and Dr. Ruchi Rani (2022), provided valuable data on the awareness levels of stakeholders or the effects of NEP 2020 on educational outcomes. However, the reliance on self-reported data in many cases raises concerns about the accuracy and objectivity of the findings. Additionally, the surveys conducted often lacked longitudinal data, which would be necessary to measure the long-term applications of NEP 2020.

IDENTIFICATION OF GAPS

Reviewed literature for the paper also highlighted several gaps in existing research:

1. Long-term Impact Studies:
   While many studies focus on the initial responses to NEP 2020, longitudinal research is lacking. There is a requirement for the studies that measure the long-term effects of the policy on various educational sectors, such as primary education, higher education, and vocational training. As Dr. Nandini Banarjee et al. (2021) noted, NEP 2020 is not implemented yet it is in its early implementation phase, and its long-term effects on outcomes and employability are yet to be fully understood.

2. Sector-Specific Research:
   A notable gap exists in research exploring the sector-specific implications of NEP 2020. While some studies focus on higher education or teacher training, there is no detailed research conducted on how NEP 2020 affects specialized fields such as vocational education, digital learning, and inclusivity for marginalized groups. Future research should investigate deeper into these specific areas to provide a understanding of the policy's impact across different domains.

3. Regional Variability:
   Many studies predominantly focus on urban areas or specific states, leading to a gap in understanding how NEP 2020 is being implemented in rural or tribal regions. Research should be conducted to explore the unique challenges and opportunities in these areas to tailor NEP 2020 implementation more effectively.

SUMMARY

The data interpretation highlights that NEP 2020 is a transformative policy with far-reaching implications for the Indian education system. Key trends such as the shift towards a multidisciplinary approach, the need for stakeholder collaboration, and the focus on equity and inclusivity emerged consistently across the literature. However, challenges related to implementation, resource allocation, and regional disparities remain critical hurdles to its success.

Furthermore, gaps in long-term impact studies, sector-specific research, and regional variability need to be addressed in future research to provide a fuller understanding of NEP 2020's potential. This interpretation contributes to the broader discourse on NEP 2020 by identifying key trends, evaluating the methodologies employed in existing studies, and highlighting areas for further investigation, thereby paving the way for more targeted and impactful future research on the policy.

LIMITATIONS

While the study aims to provide a thorough analysis of the available literature, certain limitations were identified:

- Limited Access to Some Databases: While many sources were freely accessible, some academic journals and publications required institutional access, which limited the scope of data collection in specific areas.
- Temporal Constraints: Given that NEP 2020 was implemented in 2020, many of the studies available may still be in the early phases of examining its long-term implications, making it challenging to gauge the full impact of the policy at the time of writing.
- Potential Bias in Published Studies: The research heavily relied on publicly available studies, some of which may exhibit biases in terms of sample selection or researcher perspectives. However, a variety of sources were consulted to minimize bias and ensure balanced analysis.

This methodology seeks to provide a comprehensive, critical, and thorough examination of NEP 2020 through the review of freely accessible literature. By synthesizing the findings of various studies and identifying gaps, the research contributes valuable insights into the ongoing discourse on the policy's trends, implications, and future directions, paving the way for future scholarly investigations and informed policy making in the education sector.

CONCLUSION

The analysis done through reviewed papers on the NEP (NEP) 2020, highlights its transformative potential in reshaping India's educational framework. However, the absence of clarity regarding its uniform implementation across various educational stages marks a critical juncture in its evolution. As the policy unfolds, emerging challenges, opportunities, and gaps will provide plenty avenues for further inquiry.

The NEP 2020 represents a dynamic shift in India's educational journey, necessitating continuous research to track its implications. While earlier studies have drew the foundational aspects such as key features, challenges, and stakeholder perspectives, the current research uniquely contributes by emphasizing the need for empirical exploration. The emphasis of this research is to examine the practical difficulties encountered in the implementation process, addressing issues such as mental and financial preparedness, career planning, employment opportunities, and social and cultural impacts.

The specific contributions of this research are as follows:

- The NEP 2020 introduces a new era in Indian education, yet its success depends on clear, actionable policy guidance and rigorous execution.
- Ongoing research is indispensable to track evolving trends, understand the full scope of implications, and predict future developments in education policy.
- This research advocates for a mixed-methods approach, enabling a deeper exploration of the NEP's multifaceted impact, thus facilitating evidence-based policy decisions.
- The study underscores the need for collaboration among policymakers, educators, researchers, and other stakeholders to effectively address emerging challenges while maximizing opportunities for educational reform.
- Given the fluid nature of the NEP, it is imperative for research to focus on continuous monitoring, assessment, and flexibility to ensure alignment with the ever-changing educational needs and societal priorities.

This research contributes to a more granular understanding of the NEP 2020, urging further exploration of its practical implementation and guiding the future of educational reform in India.

REFERENCES

- Aithal, P., & Aithal, A. (2020). The role of student autonomy and parental guidance under NEP 2020: A balance for success. Journal of Educational Policy Analysis, 14(1), 45-58.
- Aithal, S., & Shubhrajyotsna, A. (2020). Educational policies: Comparative analysis of national education policies of India and challenges. International Journal of Multidisciplinary Education Research, 10(3), 5.
- Banarjee, N., Das, A., & Ghosh, S. (2021). Long-term impacts of NEP 2020 on learning outcomes and employability: A critical analysis. Journal of Higher Education Policy, 13(2), 67-82.
- Choudhari, D. (2022). A study on NEP 2020 and its impact on stakeholders in Nagpur City. International Journal of Research Publication and Reviews, 3(2).
- Gopalan, K. R., Nivithra, S., & Vezhavendhan, D. (2021). Migration effects and perceptions of NEP 2020 in South India: Region-specific implementation hurdles. Journal of Regional Education Studies, 9(4), 112-125.
- Jain, P. K. (2021). A critical analysis of New Education Policy 2020 and its future implications. Journal of Commerce and Trade, XVI(2). https://doi.org/10.26703/JCT.v16i2-1
- Kalyani, P. (2020). An empirical study on NEP 2020 with special reference to the future of the Indian education system. JMEIT, October 2020. https://doi.org/10.5281/ZENODO.4159546
- Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R. (2020). New Education Policy: Qualitative analysis and Twitter mining. Journal of Content, Community, and Communication, 12(6), 20-02. https://doi.org/10.31620/JCCC.12.20/02
- Kumar, A. (2022). Implications of NEP 2020 for Ayurveda education: Opportunities and preparedness challenges for Ayurveda universities. Journal of Alternative Medicine Education, 11(2), 76-89.
- Panditrao, M. M., & Panditrao, M. (2020). NEP 2020: What is in it for stakeholders? Retrieved from https://www.researchgate.net/publication/346819976
- Rani, R. (2022). Curriculum changes, skill development, and digitalization under NEP 2020. Educational Innovations Review, 19(2), 90-103.
- Saini, P. (2022). Strategies for policy implementation and implications for NAAC accreditation systems under NEP 2020. Accreditation and Quality Assurance Journal, 7(4), 44-56.
- Shashidharan, M., Bansal, R., Hothi, B. S., Athavale, V. A., Mahajan, Y., & Anwar, S. (2021). A review on NEP 2020 and its influence on academics. Journal of Research, 24(1S).
- Sharma, P. K., & Bala, S. (2022). Awareness levels of secondary school teachers in Himachal Pradesh regarding NEP 2020: The need for teacher training programs. Journal of Educational Awareness, 10(1), 33-45.
- Shubhada, M. R., & Nirantha, M. R. (2021). The importance of transparent and uniform implementation for the success of NEP 2020. Educational Policy Review, 15(2), 89-102.
- Sondhiya, R. L. (2022). A study on the awareness of New Education Policy 2020 among school teachers in Jabalpur District. IJIRT, 8(9).
- Sundaram, K. M. (2020). A study on NEP 2020 concerning career opportunities. Shanlax International Journal of Economics, 9(1), 63-67. https://doi.org/10.34293/economics.V9il.3497

- Thakur, P., & Kumar, R. (2021). A critical analysis of New Education Policy 2020. Journal of Commerce and Trade, XVI(2). https://doi.org/10.26703/JCT.v16i2-1
- Verma, H., & Kumar, A. (2021). New Education Policy 2020 of India: A theoretical analysis. International Journal of Business and Management Research, 9(3), 302-306.
- Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R. (2020). New Education Policy: Qualitative analysis and Twitter mining. Journal of Content, Community, and Communication, 12(6), 20-02. https://doi.org/10.31620/JCCC.12.20/02
- Gopalan, K. R., Nivithra, S., & Vezhavendhan, D. (2021). Migration effects and perceptions of NEP 2020 in South India: Region-specific implementation hurdles. Journal of Regional Education Studies, 9(4), 112-125.

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ASSESSING AWARENESS AND PERCEPTION OF CORPORATE SOCIAL RESPONSIBILITY (CSR) ACTIVITIES FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

In today's professional environment, companies are likely not only to focus on earning profits but also focused to take accountability for the well-being of society and the protection of the environment. This method is normally known as "Corporate Social Responsibility" CSR, which has become a vital part of modern business practices. This study focuses on understanding people's awareness and perception of CSR activities and its role in endorsing sustainable development goal. The proposed research is based on both primary and secondary information collected for the study. Primary data has been gathered from sample respondents through a structured formulated questionnaire. Sample size selected for the study is 100. The collected data were scrutinized and analyzed using statistical methods to comprehend the views of the participants. The findings and research outcomes are show that most respondents are aware of CSR activities and accept as true that companies should take responsibility for supporting society and the environment. The survey also demonstrates that CSR initiatives contribute to sustainable development, help build greater trust among people toward companies, and encourage individuals to support businesses that act responsibly. Overall, CSR helps to create a tougher and more productive association between businesses and society.

KEYWORDS

Corporate Social Responsibility (CSR), Consumer Trust, Sustainable Development, Public Perception, CSR Awareness, Environmental Sustainability

INTRODUCTION

In recent years, the role of businesses in society has prolonged beyond simply earning profits. This sense of responsibility is commonly discussed to as **Corporate Social Responsibility (CSR)**. Through CSR, organizations take various initiatives such as community development. environmental conservation, support for education. Companies are now anticipated to take responsibility for the well-being of society and the safety of the environment., healthcare programs, and other activities that contribute to cultivate and increase the value of human life in society. With rising environmental concerns and social encounters, CSR has progressively been viewed as an important way for businesses to sustenance goal of sustainable development.

Sustainable development attentions on meeting the wants of the present generation by preserving that for new and young generations are not run-down of their ability to encounter their individual needs. CSR creativities help companies subsidize to this goal by inspiring responsible practices such as reducing environmental impact, supporting community welfare, and following ethical business standards. In emerging country like India, corporations are encouraged—and in some cases legally required—to allocate a share of their profits toward CSR initiatives that benefit society and the surroundings.

In other side, the success and effect of CSR happenings depend mostly on how aware people are of these actions and how people see these kinds of activities for the society. When individuals are aware of CSR dynamisms, they are seeming to escalate and support companies that act responsibly. However, when awareness is limited, the value and effect of such initiatives may not be completely recognized. Therefore, understanding degree of public awareness and thinking of these activities becomes essential in assessing how effectively these efforts contribute to sustainable development.

PROBLEM STATEMENT

"When there is limited analysis on CSR "Corporate Social Responsibility" activities, it becomes difficult to clearly understand how much these initiatives actually benefit society and the environment. Without proper studies and analysis, organizations may fight to quantity the real impact of CSR efforts. As a conclusion, there can be a breach between the activities carried out by companies and the actual benefits expected for societal and ecological progress. In addition, when people have limited evidence or understanding about CSR initiatives, impact of these activities may not be fully realized. So, it becomes imperative to study and analyze CSR practices so that their value can be better understood and their contribution to sustainable development can be strengthened.

OBJECTIVES OF THE STUDY

This helps in giving clear path and purpose to the research. They guide the scholar by highlighting the main aspects that need to be explored and understood with relative to the research topic. In present research, the objectives focus on understanding how people view and detect Corporate Social Responsibility (CSR) actions and how these creativities donate to sustainable development. By examining these features, the study aims to gain a heightened understanding of the role CSR plays in society and how it impacts people's attitudes toward companies. The objectives of the suggested study are as follows:

1. To find out the level of perception of the people on CSR activities undertaken by companies.
2. To analyze how individuals perceive these initiatives and their societal impact as well as their importance for the environment.
3. To evaluate the CSR activity's role in promoting and supporting sustainable development.
4. To understand whether CSR activities influence people's belief and overall attitude toward companies.

LITERATURE REVIEW

Zervoudi (2025) enlightened how CSR has gradually nurtured over time and shown its presence widely and how it is now closely linked with ESG practices. This activity has impact on environment, Society and Government. The study highlights that CSR no longer seen as just an elective activity but has become a significant part of business tactics, helping organizations promote to sustainable development.

Yan (2025) highlighted how CSR activities influence environmentally responsible behavior. The research found that the companies destructively engage in the CSR initiatives, it encourages individuals and organizations to adopt more ecologically amicable practices that are good for environment and become more sensible about sustainability.

Papadopoulos (2025) observed effect of CSR activity awareness and actions on consumer conduct. The results recommend that the people are aware about the social and environmental initiatives taken by companies, they tend to trust those companies more and are further willing to support businesses that act responsibly.

Mohammed (2025) observed the connection between CSR activities and the competitive position of companies. The research highlighted that corporations that actively exercise CSR can strengthen their status and improve their standing in market while also causal positively to society. The study emphasized that organizations which implement CSR practices successfully can improve their reputation and achieve long-term sustainability.

Li (2025) analysed the association and linking between CSR initiatives and consumer trust. The findings shown that CSR activities help in building a positive brand image and can influence consumers' decisions while choosing products / services.

Ashurov (2024) explained role of CSR in supporting sustainable development and social welfare. The research emphasized that responsible corporate actions can impact to economic growth and environmental protection.

Wirba (2023) examined the role of CSR actions in modern business practices and stated that companies are increasingly expected to take concern for social and ecological issues with their economic objectives as these activities have positive impact on the company's band building and increase the visibility among the community.

Bordean (2023) studied the linking between corporate strategy, customer orientation, and CSR practices. The research suggested that companies adopting CSR initiatives are able to expand their performance and build stronger relationships with stakeholders.

Singh (2021) explored the impact and importance of CSR activities on organizational performance and stakeholder trust. The study concluded that responsible business practices help companies build a positive reputation and maintain good relationships with stakeholders.

Pätäri (2017) investigated stakeholders' insights of CSR activities and highlighted that public perception plays an important role in determining how effective the CSR initiatives taken by the corporations for the society or for the community development.

RESEARCH METHODOLOGY

For the purposed research a appropriate research methodology was adopted to collect and analyze information related to people's awareness and insight of CSR "Corporate Social Responsibility" actions and their role in indorsing sustainable development. Research information or data has been collected from the respondent through a structured questionnaire.

RESEARCH DESIGN

The study follows a **descriptive research design**, as it aims to understand and describe how people perceive CSR activities and how aware they are of the initiatives taken by companies for social and environmental development. This design helped in presenting the feelings and views of respondents in a clear and organized way.

DATA COLLECTION

The proposed study is an empirical research and based on **primary data**. Survey method was adopted and required data has been collected through structured questionnaire and framed through simple language.

SAMPLING METHOD

During selection of the respondent Convenience sampling is used. Participants were chosen based on their comfort and readiness to take part in the survey, which made it easier to collect required responses within the stipulated time.

SAMPLE SIZE

100 respondents contributed in the study. The respondents were carefully chosen from different backgrounds, which helped in gathering a different of opinions and perspectives regarding CSR activities.

DATA ANALYSIS

The responses collected from the questionnaire were carefully scrutinized and examined with an appropriate method. Statical methos used for analysing the data and presented through the tables and charts so that the results could be easily understood. This helped in identifying forms in the retorts and drawing meaningful insights about public awareness and perception of CSR activities.

LIMITATIONS OF THE STUDY

The research finding is drawn under the observation and analysis on the basis of data collected from small sample size so this is the limitations of the research. The observations and finding are constructed on the responses of a limited number of participants, and therefore, the findings may or may not fully signify the views of the entire population. Moreover, the results depend on the trustworthiness and understanding of the respondents while answering the questionnaire.

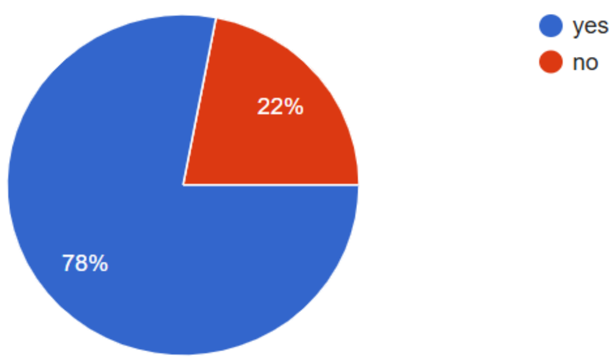
DATA ANALYSIS

The responses collected were carefully reviewed to identify the opinions and viewpoints of respondents for CSR events or activities and their link with sustainable development. The evidence gathered from the survey was organized in a clear and regular way so that the responses could be easily interpreted. This process helped in identifying how aware mankind are about CSR initiatives and how they view about the contribution of companies in contributing to social and environmental well-being.

For the study, **responses** were collected from the 100 sample contributors. The responses were then settled and observed to observe the general pattern of opinions shared by the respondents. This analysis assisted in understanding people's views about CSR initiatives and their believe on whether such activities play a meaningful role in supporting sustainable development. The results found from the responses are offered below in an organized manner, showing the opinions and preferences of the participants for each question constructed in the survey.

Question no.1

Do you know what is CSR and about the activity carried out by companies?



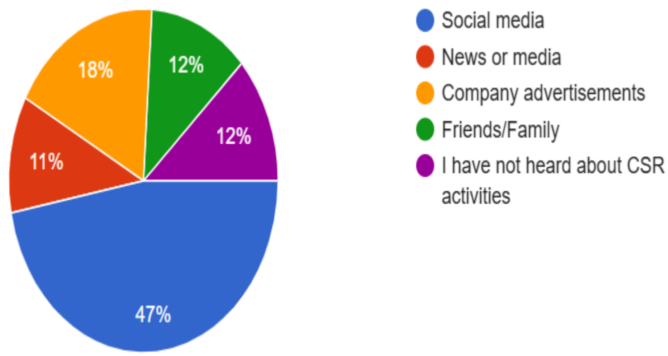
The chart shows that **78% of the respondents from 100 are aware about the activity carried out by companies**, while **22% are not aware**. This specifies that most of the respondents have some knowledge about CSR initiatives, although there is still a need to improve awareness among the remaining respondents.

Question no.2

Question no.2

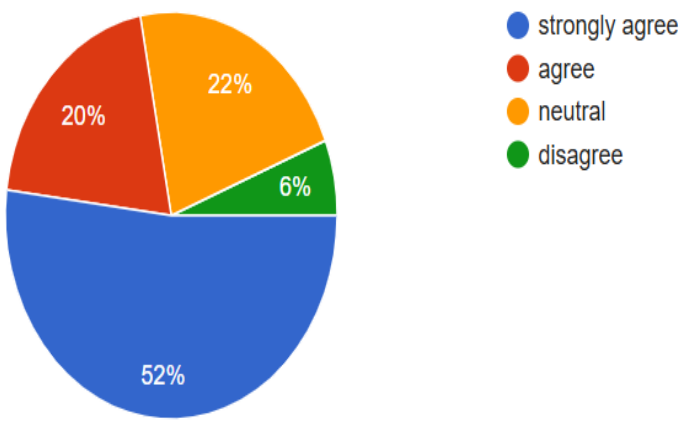
Where have you mostly heard about CSR activities?

The chart shows that **47% of the respondents learned about CSR activities through social media**, making it the most common source of awareness. **18% became aware through company advertisements**, while **11% learned through news or media**. Additionally, **12% heard about CSR from friends or family**, and **12% explained that they don't not hear about CSR activities before**. This shows that the social media plays vital role in promoting these activities and their awareness in the society.



Question no.3

Do you think companies should participate in initiatives or actions that benefit society and the environment?

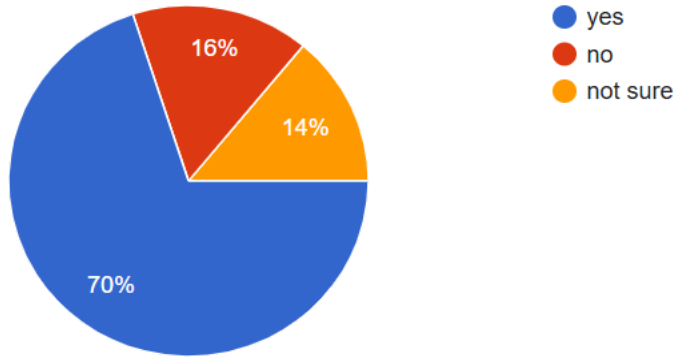


The chart highlighted that **52% of respondents strongly agree** and **20% are agreed** that the companies should contribute in activities that benefit society and the environment, while **22% remain neutral** and **6% disagree**. This **indicates that a clear majority of respondents support the idea that companies should actively contribute to social and environmental welfare** through such initiatives

Question no.4

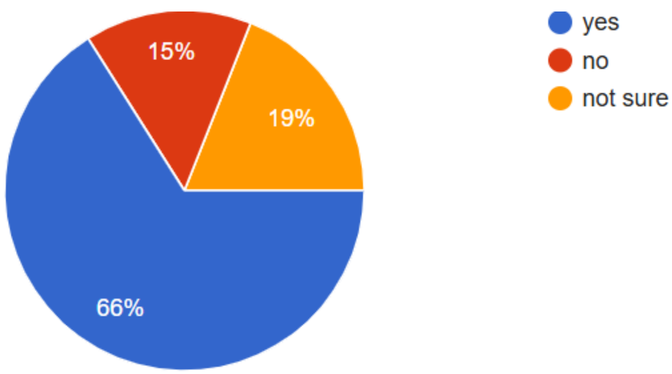
In your opinion, are CSR activities important for the welfare of society?

The chart shows that **70% of the respondents believe CSR initiatives are vital for the welfare of society**, while **16% think these activities are not important** and **14% are not sure**. This **indicates that a major part of respondents recognize (70%) the importance of CSR and its actions in contributing to social welfare**.



Question no.5

Do you Think CSR activities help in promoting sustainable development?

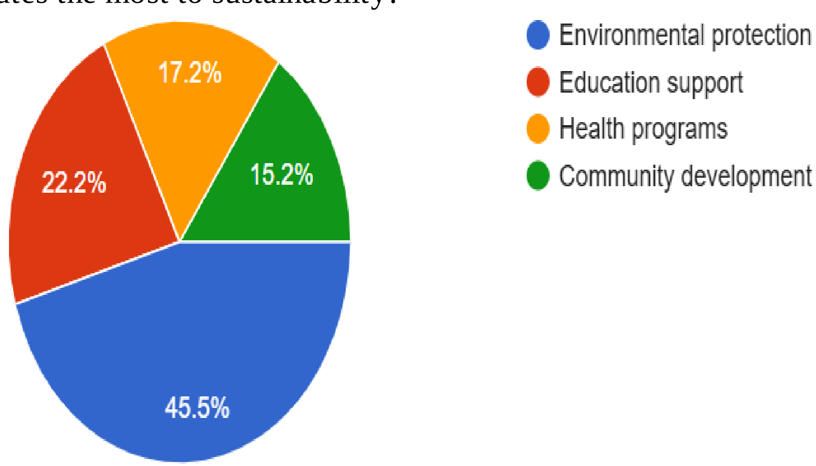


The chart highlighted that **66% of the respondents confident that CSR of corporations help in promoting sustainable development**, while **15% do not believe so** and **19% are not sure**. This **specifies that a majority of them recognize the role and significance of CSR actions in supporting sustainable development.**

Question no.6

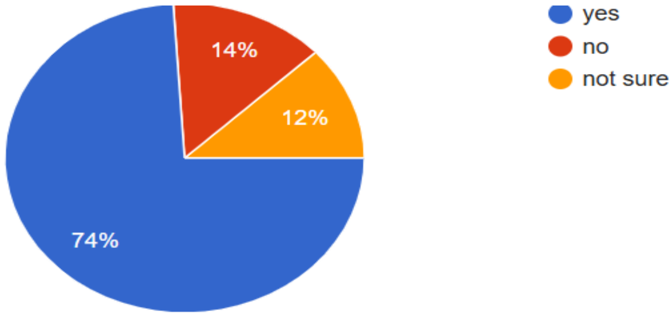
Which CSR activity do you think contributes the most to sustainability?

The chart shows that **45.5% of respondents believe environmental protection contributes the most to sustainability**, followed by **22.2% who selected education support**, **17.2% who chose health programs**, and **15.2% who selected community development**. This **shows that respondents study environmental protection as the most important activity related to CSR for promoting sustainability.**



Question no. 7

Do CSR activities increase your trust in a company?

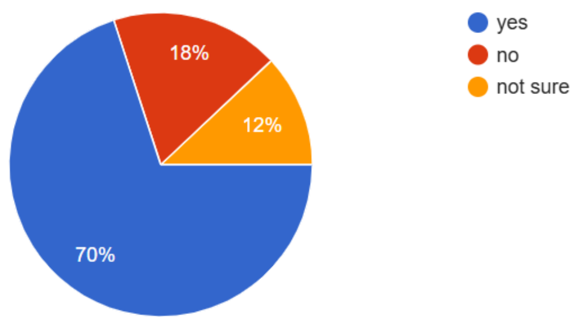


The chart shows that **74% of the respondents believe CSR activities increase their trust in a company**, while **14% do not believe so** and **12% are not sure**. This **validates that CSR of corporations play an important role in building trust and an encouraging activity of companies among the public.**

Question no. 8

Would you prefer to support or buy from the organisations that actively perform CSR activities?

Analyses data from the Chart shows that **70% of the participants prefer to support or buy from companies actively perform CSR activities**, while **18% do not prefer such companies** and **12% are not sure**. This **revealed that CSR activities can positively influence consumer preference and encourage people to support socially responsible companies.**



Based on responses accumulated from the primary source, it is observed that a most of the of respondents were upto date about the CSR initiatives, different activities or actions of the companies run for the development of the community and society as a whole and recognize their importance in society. Most of them think that the business organizations should actively participate or contribute in initiatives that positively work to the betterment of society as well for the environment. The outcomes also show that it is the people thinking that CSR activities contribute to sustainable development and also helps to build trust toward companies. Further a large number of participants prefer to support companies which are entangled in CSR actions.

The result shows **that the activities under CSR are widely familiar and positively professed by respondents**. Because of this it can be determined that **CSR actions and actions play an important role in promoting sustainable development and helpful in linking between companies and society** at the same time and platform.

FINDINGS

The findings of are based on the analysis of primary data gathered during the research through survey. When analyses these responses, and drawn conclusion drawn about the opinion of the individuals on "Corporate Social Responsibility (CSR)" actions or initiatives and how aware they are of these initiatives taken by companies for social change and how these are work for the environmental welfare. Following are the observations drawn from the study.

- The research outcome shows that few of the respondent were unaware about the CSR but at the same time many participants have idea about the CSR approach and the activities carried out by companies and a small number of people have bounded knowledge about CSR.
- It was also found out that social media helps as the main source through which come to know about CSR activities and their importance for the society and environment.
- The results highlighted that more than half of respondents believe that business houses should actively take part in activities that support the communities, environment and contribute to the wellbeing of society.
- The findings highlight **by a large number of respondents** that **CSR activities are well-thought-out and taken as vital for the welfare of society.**
- A majority of participant in the survey **believe that CSR actions of the corporations contribute to promoting sustainable development.**
- The current research also find out that **environmental protection is apparent as the most commanding CSR activity for sustainability.**
- The research results highlighted that the **CSR activities help in increasing faith towards companies among the public.**
- The results highlight **many respondents prefer to support or purchase from the organizations or companies that vigorously perform CSR activities.**

SUGGESTIONS

On the basis of the survey conducted and analyzed, several recommendations can be suggested to reinforce the effectiveness of Corporate Social Responsibility (CSR) Initiatives and activities. These recommendations focus on enlightening consciousness among people and encouraging companies to promote and invest in CSR initiatives or Actions more meaningful and impactful for society and the environment.

• **Promoting CSR Awareness in the society**

Companies can organize awareness initiatives like workshops, seminars, and online campaigns to help people to understand CSR and how these activities alleviate the society and their impactful impact on the social wellbeing and sustainable development.

• **Effective Use of Digital Platforms**

Since many respondents learned about CSR through social media, business establishments can use social media frequently and for impacting the awareness of these activities the corporations should better use of digital platforms to share information about their CSR initiatives and the outcomes of these efforts.

Greater Focus on Environmental Aspects:

The companies should focus more in the environment protection as their CSR initiatives. Although the research found out that the society also need support from the corporate for education sector followed with hospitals and other. Still environmental activities are at supreme concern area and it is supposed be taken care first as CSR initiatives**.**

Better Communication of CSR Efforts:
corporations should actively publicize their CSR initiatives and activities through different platform like advertisements, reports, and public awareness campaigns so that more people become informed about the work they are doing for society.

Involving Communities in CSR Activities: Encouraging the participation of local communities in CSR initiatives can help ensure that these activities address social and environmental needs.

Improving CSR Planning and Evaluation:
Companies can formulate stronger CSR strategies and regularly review their initiatives to secure the efforts for making a positive and the long-lasting footprints for societal and green imperishable development.

CONCLUSION

The study demonstrates that "Corporate Social Responsibility (CSR)" actions and strategies are not new and most of the citizens are aware about the CSR initiates also the are aware about the role or significance of CSR in nation building and understand their value in supporting society and helping sustainable development. CSR initiatives help create greater trust toward companies and influence people to prefer businesses that act responsibly toward the society and the environment. CSR contribute positively in building a stronger and more positive correlation between businesses and society. Awareness and better communication about CSR activities can further enhance their impact for the sustainable development goal. The effectiveness of these activities will be visible when companies openly share their CSR efforts and involve communities in their initiatives, it encourages greater public interest and participation. Therefore, it is significance for industries to continue implementing responsible and accountable practices that contribute to social welfare, environmental protection, and long-term sustainable development.

References

- Ashurov, S. (2024). Corporate social responsibility and sustainable economic development. *Global Journal of Business Research*, *18*(2), 101–115.
- Bordean, O. N. (2023). Corporate strategy and CSR: Impact on organizational performance. *Management & Marketing Journal*, *18*(2), 145–160.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility. *Business Horizons, 34*(4), 39–48.

- Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman Publishing.
- Jamali, D., & Mirshak, R. (2007). Corporate social responsibility (CSR): Theory and practice in a developing country context. *Journal of Business Ethics, 72*(3), 243–262.
- Kotler, P., & Lee, N. (2005). *Corporate social responsibility: Doing the most good for your company and your cause*. Wiley.
- Li, X. (2025). The relationship between CSR initiatives and consumer trust. *Journal of Marketing Management, 41*(4), 233–250.
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review, 26*(1), 117–127.
- Mohammed, A. (2025). Corporate social responsibility and competitive advantage: A strategic perspective. *Business Strategy Review, 36*(1), 55–70.
- OECD. (2019). *Corporate governance and corporate social responsibility*. OECD Publishing.
- Papadopoulos, I. (2025). CSR awareness and its influence on consumer trust and behavior. *International Journal of Consumer Studies, 49*(1), 78–92.
- Pätäri, S. (2017). Stakeholder perceptions of corporate social responsibility. *Corporate Social Responsibility and Environmental Management, 24*(2), 112–124.
- Porter, M. E., & Kramer, M. R. (2006). Strategy and society: CSR and competitive advantage. *Harvard Business Review, 84*(12), 78–92.
- Singh, R. (2021). Impact of CSR activities on organizational performance and stakeholder trust. *Indian Journal of Corporate Governance, 14*(1), 89–105.
- United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations.
- Wirba, A. (2023). Corporate social responsibility in modern business practices. *International Journal of Corporate Social Responsibility, 8*(1), 1–12.
- World Bank. (2020). *Corporate social responsibility and sustainable development*. World Bank Publications.
- Yan, L. (2025). The impact of corporate social responsibility on environmental behavior. *Sustainability, 17*(3), 1125–1140.
- Zervoudi, E. K. (2025). Corporate social responsibility and ESG integration for sustainable development. *Journal of Business Ethics, 185*(2), 345–360.

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A REVIEW ON THE TRANSFORMATION OF HUMAN RESOURCE MANAGEMENT (HRM) THROUGH ARTIFICIAL INTELLIGENCE

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ABSTRACT

Human resource management is changing in light of artificial intelligence (AI), which automates processes, boosts productivity, and optimizes workforce management. This review explores AI's impact on key HRM functions including recruitment, selection, onboarding, training and development, performance management and employee engagement. AI-powered tools such as chatbots, virtual assistants, and predictive analytics enhance hiring processes, personalize employee experiences, and improve decision-making. While AI offers numerous benefits, challenges such as data secrecy, algorithmic bias, transparency issues, and high implementation costs must be addressed. With strategic integration and ethical considerations, Artificial Intelligence has potential to transform HRM, enabling data-driven decisions and enhancing workforce productivity. Forthcoming research study should additionally investigate AI's role in HR and it implied for human-centric decision-making.

KEYWORDS

Human resource management (HRM), Machine learning, Artificial Intelligence, Recruitment, Workforce Optimization.

The technology known as artificial intelligence (AI), which makes it possible for robots to act intelligently, is transforming a number of industries, including e-commerce, banking, healthcare, and human resource management (HRM). Its broad acceptance and appeal are a result of its capacity to mimic human brain processes. With ideas such as data mining, machine learning, deep learning, and neural networks becoming widely accepted, artificial intelligence (AI) is currently a major topic in HR. AI is already a reality rather than an idea of the future because so many firms have adopted it and are taking advantage of its promise to increase production and efficiency. Nunn (2019)

AI has been defined in various ways in the literature, emphasizing its ability to think, learn, and perform tasks similar to humans. One definition describes AI as "the study of how to make computers do things at which, at the moment, people are better" E. Rich (1983). Another defines it as "a system's ability to interpret external data, learn from it, and use those learnings to achieve specific goals through flexible adaptation" A. Kaplan and M. Haenlein (2019). AI techniques are described as "machine-processable instructions to solve tasks requiring human cognitive abilities" S. Strohmeier and F. Piazza (2015). Key AI functions include knowledge discovery (extracting useful data), knowledge representation (structuring data for machine recognition and problem-solving), knowledge processing (generating new knowledge), solution searching, text processing, and speech processing.
"Rapid changes in the business environment demand swift responses" I. Buzko et al. (2016). Recognizing this need, many organizations have begun integrating AI into their operations. The

primary driver behind embracing modern technology and digital transformation resides in the realization of data's immense potential and its critical role in influencing individual and organizational performance C. Barboza (2019).

The purpose of this review article is to examine the advantages, difficulties, and potential future uses of artificial intelligence in human resources. The paper utilizes secondary data from pertinent studies to achieve this objective.

METHODOLOGY

This study employs secondary data analysis and a qualitative research approach to examine the integration of Artificial Intelligence (AI) with Human Resource Management (HRM). Through a careful examination of relevant literature, including journal articles, industry reports, and conference proceedings, AI's role in critical HR functions like hiring, employee engagement, training, performance reviews, and retention has been assessed.

The research methodology includes the following steps:

1. **Literature Review:** A comprehensive analysis of scholarly publications and industry reports to identify emerging trends and advancements in AI-driven HRM.
2. **Comparative Analysis:** Evaluating various AI applications across different HR functions to understand their effectiveness, benefits, and limitations.
3. **Thematic Classification:** Organizing insights into core themes, such as AI’s impact on recruitment, workforce development, and performance management and employee retention.
4. **Critical Assessment:** Examining challenges and ethical concerns related to AI implementation in HRM, including algorithmic bias, transparency issues, and data secrecy concerns.

This study offers a thorough analysis of AI's revolutionary impact on HRM, highlighting its benefits, difficulties, and prospects for further research by combining findings from previous studies.

Applications of Artificial Intelligence (AI) in Human Resource Management

With the aid of virtual assistants, AI technology is gradually transforming a number of HRM processes, including recruitment, training and selection, performance management, and employee engagement. The HRIS (Human Resource Information System) is essential to HRM's first phase, Human Resource Planning (HRIS). HRIS is characterized as "a systematic process for collecting, storing, maintaining, retrieving, and validating data about an organization's human resources, personnel activities, and unit characteristics" by K.A. Kovach (1999). It is essential to the creation of training programs, job descriptions, performance reviews, and HR planning. Jia Q. (2018).

TALENT ACQUISITION AND SELECTION

AI is revolutionizing recruitment by enabling companies and agencies to process large volumes of candidate applications quickly and efficiently. With AI, businesses can enhance candidate engagement and implement high-volume and high-touch strategies, fostering long-term relationships with applicants. AI-powered bots are utilized to communicate with candidates, answer queries, and maintain consistent interaction all during the hiring procedure A. K. Upadhyay (2018). These Natural Language Processing (NLP)-capable bots can translate speech into text in a matter of seconds, increasing recruiting efficiency by doing away with tedious human typing jobs. Jia, 2018.

AI assistants help recruiters with screening candidates, initiating contact, scheduling interviews, and maintaining engagement. In addition to saving time and money, this guarantees the hiring of qualified applicants, enhances talent mapping, decreases bias, and quickly responds to candidate inquiries (R. Geetha, 2018).

Platforms like HireVue are also streamlining the process by offering online pre-hire assessments. Recruiters can provide preset video questions for candidates to answer, and these recorded responses are then reviewed to identify suitable candidates for interviews. This method makes it possible to evaluate more applicants in less time, which improves the hiring process and makes candidate engagement easier (O. Ahmed, 2018).

EMPLOYEE ONBOARDING PROCESS

The process of acquainting new hires with an organization's culture, regulations, and environment is known as onboarding, and it frequently involves induction meetings. However, personal attention for each new hire can be challenging. AI is improving this process by offering personalized onboarding experiences, leading to better organizational integration for new employees M. Stevenson (2019). Furthermore, bots assist HR workers by interacting with new hires, answering their questions and concerns, and giving them information about corporate regulations and job benefits (R. Geetha, 2018).

EMPLOYEE TRAINING & DEVELOPMENT

Employees must keep up with the most recent developments and trends in their industry in the fast-paced workplace of today. Therefore, sustaining a trained workforce requires effective training programs. Technological developments in training are improving HR's capacity to provide intelligent, effective training via online platforms. Employees are invited to share their training experiences in order to evaluate the programs' efficacy. AI helps HR departments collect and evaluate this input, streamlining and improving the process (G. George and M. R. Thomas, 2019).

EMPLOYEE INVOLVEMENT

Organizations can now predict employee engagement levels using AI-supported prediction techniques. These tools analyze large data sets to provide insights into current and future engagement. Face recognition technology helps detect employee mood by reading facial expressions, allowing organizations to better understand employee behavior. Higher levels of involvement within the company result from this, since employees feel valued (G. George and M. R. Thomas, 2019).

MANAGING COMPENSATION

Employee performance is directly impacted by compensation management, which is a crucial component of HRM. It entails figuring out employee pay in accordance with set guidelines and norms. Individual and team performance are improved by a well-designed compensation management system. M. Armstrong (2005). Artificial neural networks are a useful technique for guaranteeing equity in the assessment of remuneration. Large data sets can be analyzed by these systems to find patterns and relationships by simulating how the human brain works. Q. Jia (2018).

MANAGING PERFORMANCE

Performance management is another crucial HRM process that has been greatly enhanced by AI-supported technologies. These solutions increase process efficiency by streamlining and speeding things up. 360-degree assessments and other advanced assessment techniques are now automated. When pertinent data and employee assessment criteria are entered into the system, performance-based outcomes are produced. Otley D. (1999).

EMPLOYEE RETENTION

Artificial Intelligence is proving valuable in enhancing employee retention. AI-based software helps identify employees who may be considering leaving the organization by analyzing their computer browsing activity patterns. O. Ahmed (2018) states that the AI system analyzes data over a month to identify indications of possible departures and notify employers, enabling them to act proactively to retain those employees.

ADVANTAGES

Artificial intelligence supports human resource management tasks, which is crucial factor in organizational growth. Nowadays, hiring, interacting with, and keeping staff are done in a more organized and effective way. Surveys conducted by companies such as IBM indicate that roughly 66% of CEOs think AI would have a big influence on human resources. The cooperation between humans and computers has improved due to increased automation, allowing HR professionals to concentrate on human-centric duties like empathy, problem-solving, and creative thinking. Stevenson, M. (2019).

AI and machine learning techniques have simplified the analysis of employee performance over time. Customized training programs address individual weaknesses, enhancing productivity. Intelligent bots assist employees by answering job-related queries, fostering transparency and fairness in the workplace G. George and M. R. Thomas (2019). AI systems also help match candidates to job profiles effectively, serving HR managers as both assistants and consultants. Tools like the "Virtual Assistant System" handle tasks such as coordinating with applicants, scheduling meetings, composing emails, and reporting, while the "Advisor System" aids decision-making by predicting future outcomes in critical areas.

AI is further assisted in forecasting organizational issues by big data analysis, enabling preventive measures to address potential risks Q. Jia et al. (2018). Additionally, AI is instrumental in handling compliance issues by monitoring network data to identify risks in advance O. Ahmed (2018). These advanced technologies are transforming HR processes, driving efficiency, and promoting fairness in the workplace.

OBSTACLES

Despite the significant benefits AI offers in HRM, its adoption presents several challenges. A key concern is the lack of transparency in AI algorithms, commonly known as the "black box" problem. This problem makes it challenging for HR professionals to completely understand how AI-driven choices are made, which could result in a lack of faith in the technology.

AI systems rely on massive amounts of personal employee data, which raises serious concerns about data security and privacy. Ensuring compliance with data protection legislation and safeguarding against data breaches are crucial. For instance, a multinational tech company's AI-powered hiring system was the subject of a legal probe in 2021 after it was discovered to contain unintentional prejudice. This raised ethical and legal concerns.

Algorithmic bias remains another critical issue. Inequalities in hiring, promotions, and performance reviews may be strengthened if AI models are trained on skewed historical data. A notable example is Amazon, which discontinued its AI recruitment tool after discovering it systematically disadvantaged female candidates due to gender biases present in past hiring data. This underscores the necessity of continuous monitoring and refinement of AI systems to ensure fairness and equity.

Additionally, the high costs associated with implementing AI in HR can be prohibitive, particularly for small and medium-sized enterprises (SMEs). Many organizations struggle to allocate the necessary financial and human resources for AI integration and employee training. According to a PwC report (2020), nearly 45% of businesses cited budget constraints as a primary barrier to AI adoption in HR functions.

Employee resistance to AI-driven HR processes is another common challenge, primarily due to concerns about job displacement. For example, when a multinational bank introduced AI-powered chatbots for HR inquiries, employees expressed apprehension that automation might eventually replace human HR roles. To mitigate such concerns, organizations must prioritize transparent communication and invest in reskilling initiatives to help employees adapt to AI-driven changes.

Overcoming these obstacles requires a strategic approach that ensures AI adoption is ethical, secure, and aligned with workforce needs. Organizations must balance technological advancements with a human-centric approach to maximize AI’s potential in HRM.

FUTURE PROSPECTS

Researchers predict that artificial intelligence (AI) will soon surpass humans in many tasks and activities. Experts estimate that AI has a 500% chance of outperforming human capabilities within 45 years, and it could replace human jobs through automation in the next 120 years. However, some believe AI will remain a supporting tool rather than a full replacement for humans. The future will likely involve collaboration between humans and machines, with AI predicting outcomes and humans making decisions.

Studies on AI and deep learning emphasize the importance of this partnership, where machines handle prediction and data analysis, while humans focus on decision-making. As AI plays a more significant role in HR, determining what data to track, analyze, and protect will be key to maximizing its potential. People analytics remains an evolving field, with much still to explore. As more companies adopt AI, competition will increase to attract top talent. The companies that meet digital expectations and provide the best candidate experience will differentiate themselves. The future will be defined by industries that prepare their workforce to harness the power of AI and big data, gaining a competitive edge in an ever-changing landscape.

The **Future Prospects** section could be strengthened by discussing emerging trends, including the increasing role of generative AI in HR, ethical concerns related to AI-driven decision-making, and potential regulatory changes that may influence AI adoption. This would offer a more forward-thinking perspective on the evolution of AI in HRM.

CONCLUSION

Though there is still more to be done, the HR industry has reacted favorably to the technological developments brought about by artificial intelligence. Every new change brings challenges, and to fully capitalize on these opportunities, organizations must continuously seek ways to overcome them. As highlighted in various studies, data is essential when integrating AI into organizational functions. HR professionals must focus on ensuring the use of high-quality data to maximize AI's potential. Planning and decision-making have become more accurate and flexible with the use of AI in HRM. Organizations have benefited from AI-supported apps that automate tedious activities, improve efficiency, lower costs, boost staff productivity, offer insightful data, and predict future results. In today’s competitive and rapidly evolving environment, only those organizations that have recognized and leveraged AI's value will thrive. Despite the progress, there is still a gap in experimental and statistical research in this area, presenting opportunities for future studies and exploration.

References

- K. Upadhyay and K. Khandelwal, "Applying artificial intelligence: implications for recruitment," Strategic HR Review, vol. 17, no. 5, pp. 255-258, 2018.
- Kaplan and M. Haenlein "Siri Siri in my hand: - Who is the fairest in land? On the interpretation's illustrations and implications of artificial intelligence," Business Horizons, vol. 62, no. 1, pp. 15-25, 2019.
- Barboza, Artificial Intelligence & Hr:- The new wave of the Technology, Journal of Advances in Social Sciences and Humanities, vol. 5, no. 4, pp. 715-720, 2019.
- Otley, "Performance management: - a framework for management control systems research," Management accounting research, vol. 10, no. 4, pp. 363-382, 1999.
- S. Jain, "Human Resource Management & Artificial Intelligence," International Journal of Management and Social Sciences Research, vol. 7, no. 3, pp. 56-59, 2018.
- E. Rich, "Users are individuals: individualizing user models," International Journal of man machine Studies, vol. 18, no. 3, pp. 199- 214, 1983.
- George and M. R. Thomas, "Integration of Artificial Intelligence in Human Resource," International Journal of Innovative Technology and Exploring Engineering, vol. 9, no. 2, pp. 5069-5073, 2019.
- J. Wilson and P. R. Daugherty, "Collaborative Intelligence: Humans and AI Are Joining Forces," Harvard Buisness Review, 2018. Available: https://hbr.org/2018/07/collaborative intelligencehumans- and-ai-are-joining-forces
- Buzko, Y. Dyachenko, M. Petrova, N. Nenkov, D. Tuleninova and K. Koeva, "Artificial Intelligence Technologies in Human Resource Development," Computer Modelling and New Technologies, vol. 20, no. 2, pp. 26-29, 2016.
- Tewari and M. Pant, "Artificial Intelligence Reshaping HRM: - A Review. 2020 IEEE International Conference on Advent Trends in the Multidisciplinary Research and Innovation (ICATMRI DOI: 10.1109/ICATMRI51801.2020.9398420
- J. Min, "Ten ways HR tech leaders can make the most of artificial intelligence," Personnel Today, 2017. Available: https://www.personneltoday.com/hr/ten-ways-hr-tech-leaders-canmake-artificial-intelligence/
- Nunn, "The emerging impact of AI on HR," Forbes, 2019. Available: https://www.forbes.com/sites/forbestechcouncil/2019/02/06 /the-emerging-impact-of-ai onhr/#3fee2c0a5496
- A. Kovach, and C. E. Cathcart Jr, "Human resource information systems (HRIS): Providing business with rapid data access, information exchange, and strategic advantage," Public Personnel Management, vol. 28, no. 2, pp. 275-282, 1999.
- Grace, J. Salvatier, A. Dafoe, B. Zhang, and O. Evans, "When will AI exceed human performance? Evidence from AI experts," Journal of Artificial Intelligence Research, vol. 62, pp. 729-754, 2018.
- Armstrong, "A Handbook of Human Resources management practices," Kogan Page, p. 986, 2005.
- H. Huang and R. T. Rust, "Artificial Intelligence in Service," Journal of Service Research, 2018, vol. 21, no. 2, pp. 155-72, 2018.
- Stevenson, "AI in HR," HR Exchange Network, 2019. Available: https://www.hrexchangenetwork.com/hr-tech/articles/ai-in-hr

- Ahmed, “Artificial intelligence in HR,” International Journal of Research and Analytical Reviews, vol. 5, no. 4, pp. 971-978, 2018.
- Jia, Y. Guo, R. Li, Y. Li, and Y. Chen, “A Conceptual Artificial Intelligence Application Framework in Human Resource Management,” in Proc. ICEB Conf., 2018, pp. 106- 114.
- Geetha, “Recruitment through artificial intelligence: a conceptual study,” Int. J. Mech. Eng. Technol., vol. 9, no. 7, pp. 63–70,2018.
- S. Khatri, D. K. Pandey, D. Penkar, J. Raman, “Impact of Artificial Intelligence on Human Resources,” in Proc. ICDMAI, 2019, vol. 2, pp. 365-376.
- Strohmeier and F. Piazza, “Artificial Intelligence Techniques in Human Resource Management - A Conceptual Exploration.,” Intelligent Techniques in Engineering Management, pp. 149-172, 2015.
- Q. Sun and R. Medaglia, “Mapping the challenges of Artificial Intelligence in the public sector: Evidence from public healthcare,” Government Information Quaterly, vol. 36, no. 2, pp. 368-383, 2019.
- W. Stead, “Clinical Implications and Challenges of Artificial Intelligence and Deep Learning,” JAMA, vol. 320, no. 11, pp. 1107-1108, 2018.
- Duan, J. S. Edwards and Y. K. Dwivedi, “Artificial intelligence for decision making in the era of Big Data – evolution, challenges, and research agenda,” International Journal of Information Management, vol. 48, pp. 63-7, 2019.
- K. Dwivedi, L. Hughes, E. Ismagilova, et al. “Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy,” International Journal of Information Management, 2019. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

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MANAGING RESEARCH INTEGRITY IN ACADEMIC RESEARCH

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ABSTRACT: In the Age of Digitalisation availability of information for conducting any research is easy. Although research is all about producing new field of Knowledge and understanding through observations. So now a days it is important to maintain research integrity. Integrity depends upon common set of values**.** This paper focuses on different set of ethics required during any research by the scholars and discusses about scientific misconduct and research fraud, how to maintain publication ethics, rules for authorship, data fabrication and falsifications, redundant publications and rules for multiple submissions. The UGC regulations on academic integrity and plagiarism prevention act has been referred for the proposed research article.

KEYWORDS: Academic integrity, UGC regulations, academic ethics, Academic research, Scientific misconduct, research fraud.

1.INTRODUCTION

Research is nothing but it is all about producing new field of knowledge and understanding through in-depth observations from the view point of the researcher. Since researcher work in a dynamic global research ecosystem where multi stakeholders with varied interests are involved, it is necessary for them to maintain research integrity. Such integrity depends on a set of commonly collective values that include ethics, relevance, transparency, respect and accountability etc. Research related misconduct is not a new phenomenon. Such academic level of misconduct can happen at any phase of research process from the initial stage of finding of the current research problem statements, followed by the dissemination of the research outputs among others. So, we have to maintain the research integrity at every stage of our research journey. A researcher requires adherence to some basic ethical practices. Since, all Higher Educational Institutes (HEIs) under affiliated bodies like UGC and AICTE within India are also entrusted with the responsibility of training young minds with the appropriate methods of research.

2. SCIENTIFIC MISCONDUCT& RESEARCH FRAUD

Scientific misconducts are on the rise due to the increasing emphasis on research by many academic institutions in order to enhance their credibility. The published research reviewed and shows various problems and its reasons behind this trend, starting from the struggle of publication to the constant pressure to publish in academia.

On the Contrary, research fraud is an unethical process where publishing data were not generated via true experiments or observations, but through data manipulation process. Following frauds are find in scientific and research publishing: FFP (Fabrication; Falsification & Plagiarism). We will discuss the issues related to academic dishonesty with the help of few cases:

3. MANAGING PUBLICATION ETHICS

3.1 CASE I: MANAGING AUTHORSHIP

As an author of the paper, we can contribute for developing of the manuscript by following at least one or may be more of the following ways as per the guidelines of COPE. These are:

- Contributed significantly in the concept development and/or design of the entire research work;
- Research data acquisition, analysis, and/or interpretation of data during the research work;
- All possible drafting/editing of the research work or revising of it critically done by the person.

TYPES OF AUTHORSHIP

- Ghost authorship
- Guest authorship
- Gift authorship

COPE GUIDELINES TO AVOID AUTHORSHIP ISSUES:

- SUBMIT: Adopt a transparency policy around who contributed to the submitted work in various capacity.
- ENCOURAGE: Create awareness about use of emerging standards like ORCID.
- BEHAVIOUR: Check unusual patterns of behaviour that may create authorship problems.

3.2 CASE II: CONFLICT OF INTEREST

Opposing interest, may affect the judgment of editors, contributor and reviewers at large. The editors, authors, and peer reviewers should disclose their true interests or maintain transparency during the work undertaken, otherwise that might influence their ability to present or review work objectively. Some examples of the best possible ways to avoid it are given below:

- Adopt a strategy of comprehensive disclosure policy particularly concerning to the financial conflicts.
- Use scientific merits while providing a contribution or during manuscript evaluation;
- If there exists any doubt or ambiguity, editors should opt for greater disclosure from the author;
- Editors should publish a confirmation in that context if there are no conflicts of interest.

3.3 CASE III: DATA FABRICATION AND FALSIFICATION

During research data fabrication is a common phenomenon. In this situation, the researcher did not actually undertake the research study in a true sense, but they used faked data. Data falsification, on the other hand, means that the researcher did the experiment, but tactfully manipulate some of the data generated from their field report.

3.4 CASE IV: MULTIPLE SUBMISSIONS

It is unethical to submit the same research script in more than one journal at the same time without taking written consent or permission from the earlier authority. Doing such unlawful act is nothing but wastage of time to editors and peer reviewers who are evaluating the paper, and it can subsequently damage the reputation of the researchers. If the journal authority came to know that the paper was submitted and published later on in more than one journal, they can retract the paper.

3.5 CASE V: REDUNDANT PUBLICATIONS

It can occur more than one papers, without proper cross reference, uses or share the same hypothesis, quantitative or qualitative data set, sample size, identical methodology, or similar type of conclusions. The following ways such unethical act can be undertaken by a researcher.

- Reproduction of an article already published using similar sample and methodology;
- Assembly of more than two articles or two articles to create another article
- Reporting of different observations from the same study sample;
- New data is added into the preliminary article.

WAYS TO AVOID DUPLICATE/ REDUREDUNDANT PUBLICATIONS:

- There was no need to be repeated the same published data unless further confirmation;
- Use proper citation in all related papers, including those papers which are under review;
- Make full disclosure about your previous submissions;
- Authors must transparent and declared during the submission of a manuscript what new information it contains

3.6 CASE VI: SALAMI SLICING

In other words, authors divide their entire research findings from a single study into different publishable pieces. redundant publication involves representation of the same data set in two or more publications. During submission phase, authors should declare in written or should disclose details of related manuscripts that are closely related to other manuscript under consideration.

3.7 CASE VII ISSUES RELATED TO PLAGIARISM

As per UGC guidelines plagiarism means an act of academic dishonesty and a breach of ethics. (UGC, 2018). In other words, it means the use of others sources such as published and unpublished (e.g. un-published theses and dissertations) or may be used someone’s ideas or words (or other intellectual property) without proper acknowledgement or permission and presenting the particular research as original rather than declaring an existing source.

Recently, UGC, a statutory body the Government of India has adopted a new policy on July 23, 2018 related to academic integrity and plagiarism in HEIs. The guideline issued by the UGC on "Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions" adopted by the University Grant Commission (UGC) has issued various levels related to plagiarism based on ascending order of severity (see. Table: 1).

Table:1 Levels of Plagiarism[1]
(Based on UGC recommendation based on ascending order of severity)

Level of Similarities	Characteristics
Level 0	Similarities up to 10% i.e., minor similarities, no penalty
Level 1	Similarities above 10% to 40%
Level 2	Similarities above 40% to 60%
Level 3	Similarities above 60%

Source: UGC Guideline (2018)

4.ETHICS OF PUBLICATION: A FINAL REVIEW

- Not based on plagiarized content;
- Accuracy;
- Protect the identity of the respondents;
- Due acknowledgement must be given for any information generated from web;
- Give attribution in all related papers, including those submitted for publication but not yet accepted for specific publication.
- Avoid all possible types of authorship which includes Guest, Ghost and Gift authorship;
- Generally speaking, research that has been submitted and approved for publication shouldn't be made public prior to its official release.
- Reproduction of an article based on a previous work done using identical sample and outcomes;
- Multiple submissions are unethical;
- Getting suggesting from friends/acquaintances as reviewers in future is also unethical.

5.CONCLUSION

Finally, we can say that, trust becomes a major dimension in different stages of research, and its outcome is vital in developing a healthy knowledge driven society. So, research should be conducted based on the ethos of research integrity.

References:

The University Grant Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018.