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International Scientific Research Organization

Management Institute, The Warsaw University of Life Sciences, Poland

Research Culture Society

and

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Conference Proceedings Issue / Special Issue

Edited by:

Dr. Chirag M. Patel
Prof. Dr hab. Joanna Paliszkiewicz

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International Conference on Business, Management, Social and Economical Advancements

■ **Dr. Chirag M. Patel, Prof. Dr hab. Joanna Paliszkiewicz,**

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Conference, Seminar, Symposium organization in association/collaboration with different Institutions.

Conference, Seminar, Symposium Publication with ISSN Journals and ISBN Books (Print / Online).

About the organizing Institutions:

The Warsaw University of Life Sciences (Management Institute) Poland, is one of the largest and the most prestigious universities in Poland. It educates nearly 18,000 students in 38 study programs (including 8 taught in English) - from veterinary medicine and landscape architecture, through economics and computer science, to tourism and dietetics. It employs 1,200 academic teachers and offers a modern campus and excellent learning conditions. The campus is located in the southernmost district of Warsaw, Ursynów. The campus has a historical part, with an 18th-century palace and a new part where most of the faculty buildings and dormitories are situated. The Management Institute was established in 2019. The research developed in this Institute is related to management, trust, knowledge management and information technology.

'Research Culture Society' (RCS) is a Government Registered International Scientific Research organization. Registered with several United or Government bodies. It is also an independent, professional, non-profit international level organization. RCS-ISRO shall also initiate and set-up new educational and research programs with other international organizations. Society has successfully organized 125+ conferences, seminars, symposiums and other educational programmes at national and international level. Society has collaboration – MoU with 70+ institutions – universities.

International Scientific Research Association (ISRA) is registered and an esteemed research association working on providing scientific research services, educational studies and activities at international level, also coordinating with other research organizations for the educational research events. ISRA as an honorary partner of the 'Research Culture Society' with MoU – collaboration.

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Objectives of the International Conference :

- Our main objective is to observe the current scenario towards the advancement of common citizen's life by improving the theory and practice of various disciplines of Business, Management and Economy.
- The aim of the conference is to provide an interaction stage for researchers, practitioners from academia and industries to deal with state-of-the-art advancement in their respective fields.

MESSAGE

Dear Ladies and Gentlemen,

Thank you for your attendance at International Conference on Business, Management, Social and Economical Advancements.

This year the Conference is organized by the Research Culture Society and the Management Institute from Warsaw University of Life Sciences in Poland.

The theme of the conference is very actual and worth discussing. It has a broad scope and great relevance in the context of the current scenario of the situation in the progressive economy. The Conference will shed light on the consequences of the Coronavirus and will point out the new challenges in the business environment.

I would like to take the opportunity to thank you all for contributing to this Conference.

I look forward to meaningful presentations, discussions, and collegial networking.

Prof. dr hab. Joanna Paliszkiewicz

Director of Management Institute
Warsaw University of Life Sciences

Dr.C. M. Patel

Director, Research Culture Society.

Message

Dear Professional Colleagues.

I am happy that Management Institute, Warsaw University of Life Sciences, Poland in collaboration with 'Research Culture Society' (Government Registered Scientific Research organization, India) are organizing 'International Conference on Business, Management, Social and Economical Advancements' during 30 – 31 August, 2024.

The aim of the conference is to provide an interaction stage for researchers, practitioners from academia and industries to deal with state-of-the-art advancement in their respective fields. The main objective is to observe the current scenario towards the advancement of common citizen's life by improving the theory and practice of various disciplines of Business, Management and Economy.

I believe, this International Conference will help in redefining the strong connect between commerce, management and economics education and the holistic development of students in the academic institutions. An additional goal of this international conference is to combine interests and scientific research related to business-economics to interact with members within and outside their own disciplines and to bring people closer for the benefit of the scientific community worldwide.

My best wishes to the committee members, speakers and Participants of this scientific conference.

Dr.C. M. Patel
Director, Research Culture Society.

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Rural Tourism Business Management in and around Krishna Raja Sagar Backwaters: A Conceptual Study

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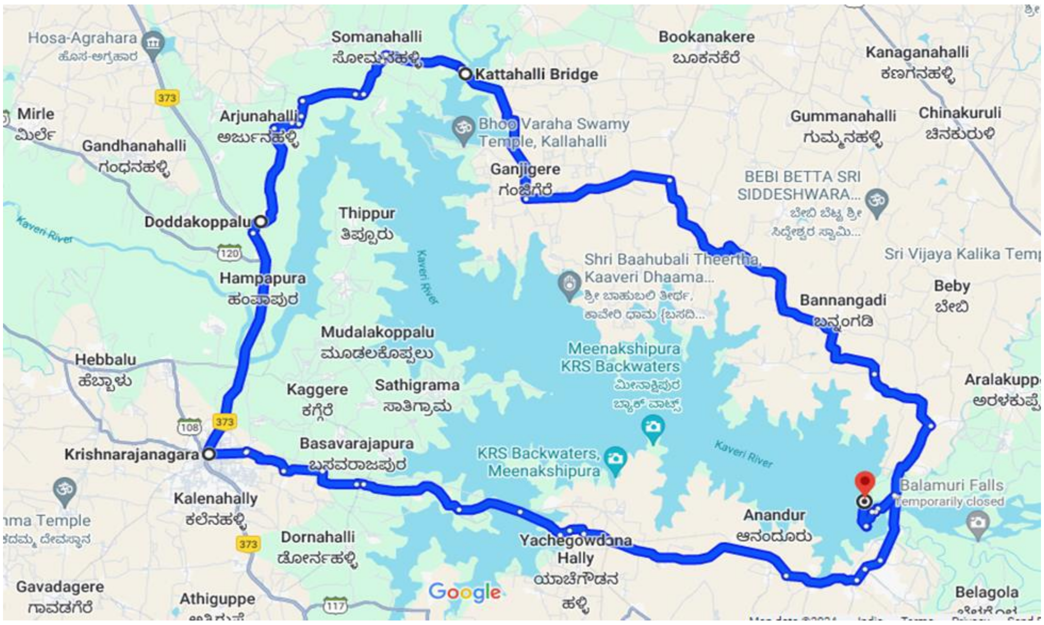
Abstract: *Rural Tourism is the next big thing in India and Karnataka with the tagline 'One State Many Worlds' provides tourists unlimited Rural Tourism experiences. Rural Tourism can be considered an approach towards sustainable development in rural areas. While on the one hand, it protects the local culture and tradition, on the other, it showcases the local lifestyle to the outside world. It generates business opportunities along with employment for the local people. Krishna Raja Sagar Dam backwaters is one of the best locations in Karnataka that can be developed as a promising Rural Tourism destination. This place includes natural beauty, traditional agricultural practices, culture, food, folk dances, fairs, and festivals that can attract tourists from India and the world over for a pure, uninhibited, and memorable local lifestyle experience. Krishna Raja Sagar Dam backwaters cover nearly 50 kms area around many villages that are located on the banks of River Cauvery and/or attached to the backwaters. What would seemingly set this dam apart from other dams is the exceptionally beautiful sites around it. The dam site is bestowed with colorful, stunning, and even illuminated gardens, musical fountains, and water bodies. The beauty of the site is so riveting that it is often used for shooting movies. Developing a Rural Tourism Master Plan for this magnificent destination will boost tourist inflow and provide several opportunities for the local people to generate alternative income. This conceptual paper looks into the possible benefits of Rural Tourism Development in and around Krishna Raja Sagar Dam backwaters. Business opportunities like providing accommodation for tourists through Homestays, involving tourists in traditional agricultural practices through Agritourism, providing sustainable and well-managed infrastructure for adventure and water sport activities in and around the backwaters, camping sites, involving tourists in the preparation of local cuisines and promotion of arts and crafts through Community-based Tourism would be studied, analyzed and evaluated in this paper.*

Keywords*: Rural Tourism, Krishna Raja Sagar Dam Backwaters, Sustainable Tourism, Homestay, Agritourism, Community-based Tourism.*

1. INTRODUCTION:

Krishna Raja Sagara (KRS) is one of the oldest dams in India with a great historical background. Millions of tourists visit the KRS Dam every year to witness the wonder of the modern world. Along with the magnificent dam, tourists also visit Brindavan Gardens, an ornamental garden, which is attached to the dam. Visiting KRS Dam is part of a tourist itinerary that is included with the heritage city, Mysore. The dam was designed by Sir M. Visvesvaraya, a famous Indian engineer. The real potential of the KRS Dam lies in the background of this magnificent dam. The area in which the KRS Dam backwaters are found is about 130 Sq. Kms, which is the largest in Asia at the period when it was built. KRS Dam covers 80 km roundabout. In this area, we can see many villages filled with rich cultural and traditional backgrounds. People grow paddy along with many other agricultural products and therefore, it is a perfect destination for developing the Agritourism concept. We can also identify several small communities that practice many locally-made handicrafts which can be developed as Community-based Tourism to attract tourists and also to protect those traditional practices for future generations.



[Area that encompasses the KRS Dam Backwaters capable of Rural Tourism Development]

2. KRS Dam Backwaters' Tourism Business Management Master Plan

The Master Plan to develop KRS Dam Backwaters and manage the Rural Tourism Business is a huge and worthwhile responsibility. Keeping in mind Sustainable Tourism, Responsible Tourism, and Eco-tourism concepts and taking forward the concept of Rural Tourism needs systematic and scientific projects to benefit both nature and the local population.

The beauty of KRS Dam Backwaters is carved out of three prominent rivers in this part of Karnataka. River Cauvery, River Hemavathi and River Lakshmana Theertha collectively stand strong to form one of the most beautiful Dam Backwaters in the whole of Asia. These three rivers inspire all of us to flow free and bring prosperity to the lives of people and the surrounding ecosystems. The key formula to building strong Rural Tourism is Homestay, Agritourism, and Community-based Tourism which leads to successful Rural Tourism as a whole.

Homestay across the **River Hemavathi** is one such important concept in Tourism development that avoids major destruction of nature that has been modified and urbanized in the name of facilitating accommodation for the tourists. It is high time to re-think the construction of huge buildings for accommodating tourists and work towards finding solutions to the problems of urbanizing the very rural essence. The homestay concept is one such innovative idea where the tourists can be accommodated by the local population within the space available to their residents. With the facilities fixed by the Tourism Department Standards, this concept could make a big change in moving forward with sustainable development.

- **Camping Sites** is yet another option for avoiding the construction of permanent buildings in and around KRS Dam Backwaters in the name of providing accommodations for tourists. Tourist tents can be easily installed, managed, and removed without damaging nature and keeping Nature at its Purest!
- **Caravan Parking Sites** can also be developed in the selected locations to accommodate the tourists and encourage new trends in the Tourism industry.
- **Farm Stay** is a type of accommodation on a working farm.

Employment: Starting Homestay is teamwork. The head of the home should understand the concept and the young generation who is willing to participate should understand both the modern and the traditional values involved in running this business. At this stage, employment generation is within the family where everyone gets individual responsibilities to run the Homestay successfully.

Involvement: When one individual decides to start the Homestay business, he will involve his/her family members to be part of it. Once the family members are involved, slowly people from outside can be recruited and involved in the Homestay. Local Panchayat and other such higher authorities may also involve themselves as the business grows and thus, rules and regulations can be designed accordingly.

Development: At this stage of Rural Tourism Development, individual family members and few local people get economic benefits. Homestay and the property will be developed to meet the tourists' requirements. When tourists visit the individual Homestay, they not only spend money within that Homestay but also outside the Homestay; for instance, buying tender coconuts, snacks, tea, locally produced food, handicrafts, etc.

Agritourism across the **River Cauvery** is the best way to engage tourists who visit KRS Dam Backwaters and to educate them regarding traditional agricultural practices. The local people in and around KRS Dam Backwaters depend on Agriculture and Agritourism can be a game-changer for those farmers and farming-dependent communities to earn additional income without any major investment as such.

A great range of activities can be arranged for tourists to involve themselves and also learn the lessons of life through Agriculture.

Employment: Individual farming families along with the local community will get employment. Handicraft shops can be opened at the property, which the farming family can manage or the local handicrafts family can rent a shop or just supply handicrafts to the Agritourism family. At this stage, generating employment will be beyond the individual family. The local communities that are involved in managing Agritourism will also enjoy the benefits of employment.

Involvement: The local farming community and local community people will get involved in facilitating the tourists. Several departments like the Department of Agriculture, Department of Horticulture, Department of Animal Husbandry, Tourism Department, and the Local Panchayat can provide a helping hand in the Agritourism concept.

Development: Development of the agricultural land will happen as the hosting family accommodates the tourists. Organic Farming can be developed. Both the traditional and modern types of farming including the use of both types of farming tools and techniques can be showcased to the tourists. A boost in the economy among the farming community will be noticed. On the other hand, it will also lead to development in related areas like roads, proper sign boards, marketing of fruits/seeds, farm tools, etc.

Community-based Tourism across the **River Lakshmana Theertha** can be a game-changer in protecting the local folklore. Handicrafts, Folk Dance & Music, Local Food, and other Community-based Tourism activities can be revived and presented to tourists. Systematic way of organizing shows based on local folk art and local food preparation could be great assets in developing Rural Tourism. Local cuisines include cereal salads like kosambri, palyas, gojju tovve, huli or saaru, chitranna, bisibelebath, vangibath, etc.

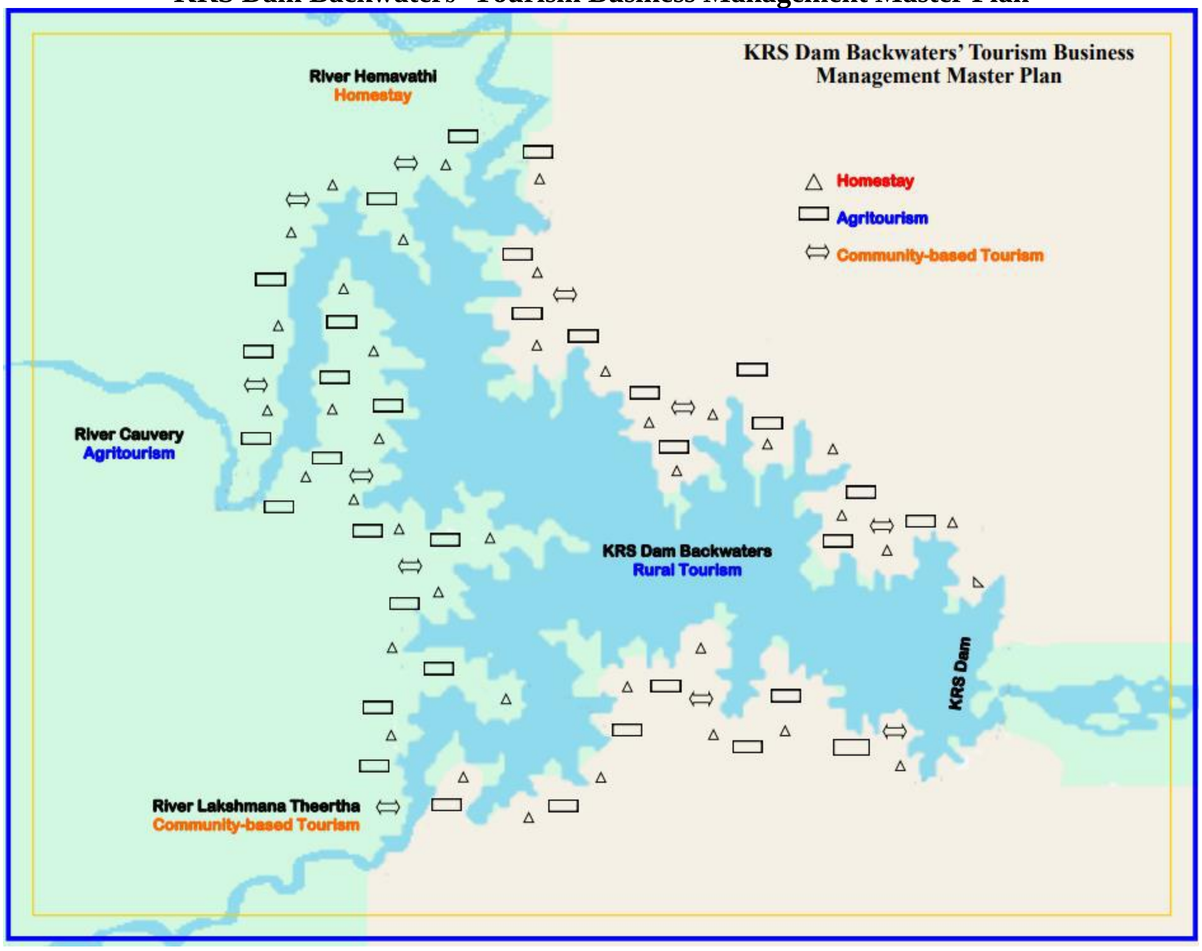
Pooja Kunitha, Dollu Kunitha, Beesu Kamsale and Kamsale Nritya, Somana Kunita, Goravara Kunita, Togalu Gombeyaata Gaarudi Gombe, Nagamandala are some of the local dance forms that are favorites of the people in this area.

Employment: Community-based Tourism generates employment in a combined way. At this stage of Rural Tourism, different communities are involved and contribute to the development of Rural Tourism. Employment opportunities can be generated in the fields of agriculture, handicrafts, living art performance, roadside amenities, food court, parking, guiding, tourist facilitation, etc.

Involvement: Individual and family members, residents, local community, Panchayat, and State-level governing bodies come into the picture in Community-based Tourism. It involves different communities involved in various occupations within the village. They all need to be addressed by one authority to bring them together. The Department of Tourism can play a major role in formulating policies, providing guidelines, and monitoring appropriately.

Development: Developing an individual community is synonymous with developing the whole village. Every single community based on their occupation needs special attention. The key to the success of Community-based Tourism lies in understanding the individual community and its needs. By combining the efforts of the local community, Local Panchayat, and the Department of Tourism, a business model can be designed to develop Community-based Tourism.

KRS Dam Backwaters' Tourism Business Management Master Plan



3. Evolution of a Connecting Thread :

Starting Homestay in a Tourism potential destination by one individual with the support of his/her family will encourage other families to understand the importance of Homestay. Once Homestay is started at any tourist destination, the host can plan on expanding Tourism by adding the Agritourism concept. Or, a family with only Homestay can enter into a contract with another family with agricultural land and they can do business together. The tourists can be provided an opportunity to involve themselves in agricultural activities which will allow them to experience the local lifestyle. From simple Homestay, the host can now add value to the Tourism business by including Agritourism.

When the individual family starts Homestay and the family with agricultural land starts Agritourism, the local communities will slowly start to be involved; they begin to understand the importance of Tourism and plan to facilitate the tourist requirements based on their strength and this, in turn, leads to Community-based Tourism. There will be many communities within a village that are involved in various occupations and all those communities can contribute to the success of Community-based Tourism. The community may choose to partner with any private sector company to provide capital, clients, marketing, tourist accommodation, or other expertise. Nevertheless, each village will have a farming community growing varieties of crops and raising livestock as well. These different farming communities can offer various products and services that tourists can enjoy. They can also gain knowledge of life skills and rejoice in the rural lifestyle. Moreover, once the individual communities start to be involved in facilitating the tourists, the whole village with various communities practicing different occupations will join the moment and be involved in the Tourism business.

4. SWOC Analysis

Strengths
- ❖ KRS Dam Backwaters area is rich in Natural Landscape and Cultural practices.
- ❖ The local lifestyle of these people is a witness to the time itself.
- ❖ The language, food habits, costumes, folklore, fairs & festivals, handicrafts, agricultural practices, rural games, etc., are treats for tourists.
- ❖ The accessibility to reach these villages which are situated around KRS Dam Backwaters is excellent. Although a few places can be reached by government bus and private bus, almost all villages can be reached by private vehicles.

Weaknesses
- ❖ Local communities have no clear knowledge about Tourism Industry & Rural Tourism Business.
- ❖ The local communities are unaware of the opportunities for new business, employment generation, and income generated.
- ❖ Lack of Tourism Infrastructure around KRS Dam Backwaters.

Opportunities
- ❖ To start Tourism Businesses like Camping Sites, Homestay, Agritourism, Community-based Tourism, Village Tourism - Rural Tourism, Museums, Souvenir shops, Bicycle Rental Shops, Local handicraft shops.

Challenges
- ❖ Educating the local community.
- ❖ Coordinating all stakeholders for their involvement in Rural Tourism Development.
- ❖ Training Local Communities in managing various Tourism-related activities.

5. CONCLUSION :

Huge business opportunities are possible in and around KRS Dam Backwaters due to its strategic location. Bangalore is a metropolitan city and IT Hub with a larger population which has more spending capacity on Travel and Tourism. Bangalore–Mysore Expressway has made it further easier to reach the

KRS Dam Backwaters area. Adopting the Master Plan to develop Rural Tourism leads to Sustainable Tourism. This Master Plan focuses on the wholesome development of rural areas intending to create Tourism business opportunities and employment. It focuses on strengthening the local economy and also helps in generating additional income for local farmers and other communities. Tourism Destination Carrying Capacity must be looked at very seriously concerning eco-tourism destinations. The very idea of promoting Homestay and camping sites is to reduce tourist inflow by restricting over development of that destination and constructing a large-capacity of hotels that can accommodate more tourists than the destination's capacity to handle.

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Effectiveness of AI-Generated Influencers in Marketing Campaigns

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Abstract: *This research paper examines the effectiveness of AI-generated influencers in marketing campaigns, assessing their impact on engagement, brand reach, and conversion rates compared to traditional human influencers. The study explores the unique attributes of AI influencers, such as their ability to maintain consistent brand messaging, operate across multiple time zones without fatigue, and avoid human-related risks like scandals or inconsistencies. Through quantitative and qualitative analysis of various marketing campaigns across industries, the paper evaluates the strengths and limitations of AI-generated influencers. The findings indicate that while AI influencers can drive substantial engagement and offer cost-effective solutions, they often lack the authenticity and emotional resonance of human influencers, which can affect long-term brand loyalty. The paper concludes with recommendations for brands on effectively leveraging AI-generated influencers in their marketing strategies, highlighting the contexts in which they are most beneficial and the importance of balancing AI and human elements in influencer marketing.*

Keywords: *AI-generated influencers, Marketing campaigns, Brand Engagement, Conversion rates, Virtual influencers, Brand messaging, Digital marketing, Consumer behaviour, Marketing effectiveness, Brand loyalty.*

1. INTRODUCTION:

In recent years, artificial intelligence (AI) has revolutionized various industries, including marketing, by introducing AI-generated influencers. These virtual influencers, often created using advanced AI technologies such as machine learning and computer-generated imagery (CGI), have emerged as powerful tools for brands seeking to engage with tech-savvy, digitally native audiences. Unlike traditional influencers, AI-generated influencers are entirely customizable, allowing brands to control their appearance, personality, and messaging, ensuring consistent alignment with brand values and goals.

The effectiveness of AI-generated influencers in marketing campaigns is a subject of growing interest and debate. Advocates argue that these virtual entities offer unparalleled flexibility, scalability, and the ability to engage with diverse audiences across multiple platforms. Additionally, they present a cost-effective alternative to human influencers, eliminating concerns related to personal scandals or availability. However, questions remain about their authenticity, emotional connection with audiences, and long-term impact on consumer behavior. As the digital landscape continues to evolve, understanding the role and effectiveness of AI-generated influencers in shaping consumer perceptions and driving marketing success is crucial for brands looking to stay ahead in the competitive marketplace.

2. LITERATURE REVIEW:

Introduction

The increasing use of AI-generated influencers in marketing campaigns marks a significant evolution in digital marketing, with these virtual personas offering new opportunities and challenges for brands. This literature review examines the effectiveness of AI-generated influencers, analyzing studies from 2024 to 2019 in reverse chronological order. The focus is on how these digital influencers impact consumer behavior, brand perception, and the ethical considerations surrounding their use.

Duggan and Tufekci (2024) - Public Sentiment and Ethical Implications:

Duggan and Tufekci's (2024) study offers a comprehensive look at public sentiment towards AI-generated influencers, highlighting a growing awareness of and concern over their ethical implications. The study reveals a duality in consumer attitudes: younger demographics display significant curiosity and acceptance of AI influencers, while there is a parallel increase in demand for ethical guidelines. Consumers are becoming more critical of AI influencers' transparency and authenticity, concerned about potential deception and the blurring lines between reality and artificiality. The authors argue that brands must proactively address these ethical concerns to maintain the effectiveness of AI influencers in their campaigns.

Jin and Phua (2023) - Long-Term Brand Loyalty:

Jin and Phua (2023) explore the long-term effects of AI-generated influencers on brand loyalty. Their research indicates that while AI influencers can generate initial excitement and engagement, they often struggle to sustain emotional connections with consumers over time. The study suggests that hybrid strategies, combining AI and human influencers, may be more effective in fostering both immediate and long-term brand loyalty. This approach allows brands to leverage the novelty and consistency of AI influencers while benefiting from the emotional depth that human interactions provide.

Gomes and Silva (2022) - Regulatory and Ethical Frameworks:

Gomes and Silva (2022) emphasize the need for regulatory frameworks to govern AI-generated influencers in marketing. Their study discusses potential risks, such as the propagation of biased content and intellectual property infringements, underscoring the importance of monitoring and regulation. The authors argue that as AI influencers become more prevalent, clear guidelines are essential to ensure their ethical and responsible use. This research is crucial for understanding the broader implications of AI in marketing and the potential risks if proper oversight is not established.

Gupta and Lehmann (2021) - Case Studies on Product Launches:

Gupta and Lehmann (2021) analyze case studies of brands using AI-generated influencers for product launches. Their study finds that AI influencers can create significant buzz and media attention, primarily due to the novelty of their use. However, the research notes that this impact may be short-lived, with consumer interest often waning after the initial excitement. The authors suggest that while AI influencers are effective for generating awareness, sustaining engagement over the long term may require additional strategies, such as integrating human influencers or developing more interactive content.

Patel and Kaviraj (2021) - Legal and Ethical Challenges:

Patel and Kaviraj (2021) focus on the legal and ethical challenges associated with AI-generated influencers, particularly issues of accountability and intellectual property. They highlight the complexities of managing rights related to AI-generated content, including potential conflicts over likeness rights and the ownership of digital personas. This study underscores the importance of developing legal frameworks to address these issues as AI-generated influencers become more common in marketing.

Kim and Park (2021) - Transparency and Consumer Trust:

Kim and Park (2021) investigate how transparency about the artificial nature of influencers affects consumer trust. Their findings indicate that brands that are upfront about using AI-generated influencers tend to maintain higher levels of consumer trust than those that obscure this fact. The study suggests that transparency is critical to the perceived authenticity of AI influencers and can enhance their effectiveness in marketing campaigns. The research highlights the importance of clear communication strategies when integrating AI influencers into a brand's marketing mix.

Hollensen and Kotler (2020) - Brand Identity and Consumer Behavior:
Hollensen and Kotler (2020) explore the ability of AI-generated influencers to shape brand identity and influence consumer behavior. Their study suggests that AI influencers can effectively establish and maintain a brand's aesthetic and tone, particularly for digital-first brands. However, they caution that the impact on consumer behavior is highly contingent on the target demographic's openness to AI technology. The authors propose that brands targeting tech-savvy consumers may benefit more from using AI influencers, while those with broader or older audiences might face challenges in achieving the same level of impact.
Marwick and Boyd (2020) - Interaction Quality and Cultural Context:
Marwick and Boyd (2020) analyze the quality of interactions between AI-generated influencers and their audiences. Their study finds that while AI influencers can sustain high levels of interaction, the depth and cultural relevance of these interactions often fall short compared to human influencers. The research suggests that human influencers possess a nuanced understanding of cultural and emotional contexts that AI, despite its advancements, cannot fully replicate. This limitation may lead to interactions that feel superficial or disconnected from the audience's lived experiences, impacting the overall effectiveness of AI influencers.
Williams et al. (2020) - Demographic Acceptance and Authenticity:
Williams et al. (2020) conduct a comparative study between human and AI-generated influencers, focusing on demographic acceptance and perceptions of authenticity. Their research indicates that younger audiences, particularly Generation Z, are more accepting of AI influencers. This demographic is more attuned to digital interactions and less concerned with traditional markers of authenticity. The study suggests that for this group, the entertainment value and novelty of AI influencers can outweigh concerns about their artificial nature. This finding is crucial for brands targeting younger consumers who are more likely to engage with AI-driven content.
De Veirman and Hudders (2019) - Engagement and Consistency:
De Veirman and Hudders (2019) highlight the potential of AI-generated influencers to maintain consistent and high-frequency interactions with audiences. Their study finds that these influencers can engage with a broader audience across different time zones, offering an advantage over human influencers who are limited by time and capacity. The research emphasizes the scalability and consistency of AI influencers as key factors in their effectiveness, particularly for global brands looking to maintain a continuous online presence.
Matsuo and Ogawa (2019) - Authenticity and Skepticism:
Matsuo and Ogawa (2019) examine the concept of authenticity in AI-generated influencers, concluding that while these digital entities can exhibit highly personalized and consistent behavior, they often lack the spontaneity and unpredictability of human influencers. The study finds that older demographics, in particular, are more skeptical of AI influencers, valuing the "realness" of human interaction more highly. This research suggests that the effectiveness of AI influencers may be limited by demographic factors, particularly among consumers who prioritize authenticity in their engagements with brands.
Conclusion
The literature from 2024 to 2019 highlights AI-generated influencers' strengths in consistency, scalability, and novelty, but also underscores challenges in authenticity, engagement, and ethics. Their effectiveness varies by context, demographics, and transparency. As AI evolves, ongoing research and ethical considerations will shape their future role in digital marketing.

3. Research Objectives:
The research on the effectiveness of AI-generated influencers in marketing campaigns aims to provide a comprehensive understanding of their performance, impact, and potential within the marketing ecosystem. The key objectives include:

1. **Evaluate Engagement Metrics:** Assess the level of audience engagement generated by AI influencers compared to traditional human influencers, focusing on interaction quality and depth.

2. **Analyze Cost-Effectiveness:** Conduct a cost-benefit analysis to determine the financial advantages of employing AI-generated influencers versus human influencers in marketing campaigns.
3. **Assess Audience Reach and Demographics:** Examine the demographic reach of AI influencers and their effectiveness in appealing to various audience segments, particularly younger, tech-savvy groups.
4. **Investigate Brand Impact and Perception:** Explore how AI influencers influence brand perception in terms of innovation, authenticity, and consumer trust, and how these factors affect brand loyalty.
5. **Explore Ethical and Practical Considerations:** Identify and analyze the ethical implications of using AI-generated influencers, including transparency, authenticity, and potential for audience manipulation.
6. **Examine Long-Term Viability and Market Trends:** Assess the sustainability and future potential of AI influencers in the evolving digital marketing landscape.
7. **Benchmark Against Human Influencers:** Compare the performance of AI influencers with human influencers across various metrics to determine their relative effectiveness.

Summary of Research Objectives

This research seeks to offer actionable insights to guide brands in strategically utilizing AI-generated influencers for optimal impact in their marketing campaigns.

4. RESEARCH METHOD:

To thoroughly investigate the effectiveness of AI-generated influencers in marketing campaigns, a mixed-methods research approach will be employed. This approach combines quantitative data analysis with qualitative insights, providing a comprehensive understanding of the subject. The following outlines the research methods that will be utilized:

1. Quantitative Research

The research on the effectiveness of AI-generated influencers in marketing campaigns will employ a mixed-methods approach, integrating quantitative and qualitative methods to provide a comprehensive understanding of their impact.

1. Data Collection and Analysis:

Social Media Analytics: Data from social media platforms where AI influencers are active will be collected, focusing on engagement metrics such as likes, comments, shares, follower growth, reach, and impressions. This data will be compared with similar metrics for human influencers.

Survey Distribution: Surveys will be conducted across different demographic groups to assess perceptions, preferences, and engagement with AI versus human influencers, exploring aspects like trust, relatability, and influence on purchasing behavior.

Cost-Benefit Analysis: Financial data from brands using AI influencers, including development costs, maintenance, and campaign ROI, will be gathered and compared to those associated with human influencers to determine cost-effectiveness.

2. Statistical Methods:

Descriptive Statistics: Central tendencies (mean, median, mode) and dispersion metrics (standard deviation) will summarize collected data.

Comparative Analysis: T-tests or ANOVA will be applied to compare the effectiveness of AI and human influencers, identifying statistically significant differences in performance.

Regression Analysis: Regression will explore relationships between factors like audience demographics and content type with the effectiveness of AI influencers in driving engagement and conversions.

3. Qualitative Research:

Content Analysis: Thematic analysis of social media content involving AI influencers will identify recurring themes, audience sentiments, and engagement drivers.

Case Studies: In-depth case studies will examine successful and unsuccessful AI influencer campaigns to offer practical insights.

Focus Groups and Interviews: Focus groups and interviews with consumers and brand managers will provide qualitative insights into perceptions of AI influencers, focusing on authenticity, trust, and future trends.
4. Ethical Review:
Ethical Implications Analysis: The ethical concerns of AI influencers, such as transparency and potential manipulation, will be assessed through literature review and expert interviews.
Guideline Development: Based on ethical findings, a set of guidelines will be developed for responsible AI influencer marketing.
5. Longitudinal Study:
Tracking Over Time: A longitudinal study will track AI influencer performance and perception over time, observing trends and shifts in consumer sentiment.
This research method integrates quantitative metrics with qualitative insights, ensuring a holistic view of AI-generated influencers' effectiveness in marketing campaigns.

5. Discussion and Analysis:
Introduction
The rise of AI-generated influencers in marketing campaigns has garnered significant attention in recent years. These virtual influencers, often designed to resemble humans or other creative entities, are employed by brands to engage with audiences across various social media platforms. The effectiveness of these AI-generated influencers can be analyzed through various lenses, including engagement metrics, cost-effectiveness, audience reach, and brand impact. In this analysis, we will delve into the different aspects that contribute to the effectiveness of AI-generated influencers in marketing campaigns.

1. Engagement Metrics
Social Media Interactions: AI-generated influencers can produce high engagement rates due to their novelty and the curiosity they generate among users. Metrics such as likes, shares, comments, and overall interaction rates can be compared with those of human influencers.
Personalization and AI: These influencers can be highly personalized, adapting content in real-time based on audience preferences and trends. This dynamic capability can lead to more tailored and engaging content, resulting in better interaction rates.
Key Insight: AI influencers can potentially outperform human influencers in engagement, especially when novelty and advanced personalization are effectively leveraged.

Table 1. Engagement Metrics

Metric	AI-Generated Influencers	Human Influencers	Key Insight
Social Media Interactions	High engagement due to novelty	Standard engagement	AI influencers can outperform human influencers when novelty is leveraged.
Personalization	Real-time adaptation to audience preferences	Limited by human ability	Enhanced engagement through advanced personalization.

2. Cost-Effectiveness
Production Costs: Creating and maintaining an AI-generated influencer involves initial development costs, but these are often offset by the reduced need for physical production resources, such as locations, clothing, and transportation.
Long-Term Costs: Unlike human influencers, AI influencers do not require salaries, benefits, or accommodations, making them a more cost-effective option over time. Additionally, they can be deployed simultaneously across multiple campaigns without logistical constraints.
Key Insight: AI-generated influencers can significantly reduce long-term marketing costs, making them an attractive option for brands with limited budgets.

Table 2. Cost-Effectiveness

Factor	AI-Generated Influencers	Human Influencers	Key Insight
Initial Development Costs	High	Low to Medium	Initial costs are offset by long-term savings.
Long-Term Costs	Low (No salaries, benefits)	High (Salaries, benefits)	AI influencers are more cost-effective over time.
Resource Requirements	Low (No physical resources)	High (Locations, clothing, etc.)	Reduced need for physical resources.

3. Audience Reach and Demographics

Global Appeal: AI influencers can be designed to appeal to specific demographics or cultural groups, enabling brands to target a global audience without the limitations faced by human influencers. Their content can be localized and adapted to different languages and cultural contexts.

Cross-Platform Consistency: AI influencers can maintain a consistent presence across multiple platforms, ensuring uniformity in brand messaging. This cross-platform consistency can enhance brand recall and loyalty.

Key Insight: The ability of AI influencers to appeal to diverse audiences across different platforms enhances their effectiveness in reaching a broad demographic range.

Table 3. Audience Reach and Demographics

Aspect	AI-Generated Influencers	Human Influencers	Key Insight
Global Appeal	High (customizable for different demographics)	Medium (limited by human traits)	AI influencers can target a global audience effectively.
Cross-Platform Consistency	High (uniform presence)	Variable	Ensures consistent brand messaging across platforms.

4. Brand Impact and Perception

Innovative Image: Brands using AI influencers can position themselves as innovative and forward-thinking, which can attract a tech-savvy audience. The use of AI in marketing also aligns with the growing trend of digital transformation across industries.

Brand Authenticity: While AI influencers offer many benefits, there is a potential risk of perceived inauthenticity. Some consumers may prefer human influencers who they perceive as more relatable and trustworthy. Brands must balance innovation with authenticity to maintain credibility.

Key Insight: AI influencers can enhance a brand's innovative image but may require careful management to avoid potential issues related to authenticity.

Table 4. Brand Impact and Perception

Aspect	AI-Generated Influencers	Human Influencers	Key Insight
Innovative Image	High (tech-savvy appeal)	Variable	Enhances brand’s innovative image.
Brand Authenticity	Potentially low (perceived as inauthentic)	High (perceived as relatable)	Must balance innovation with authenticity to maintain credibility.

5. Challenges and Considerations

Ethical Concerns: The use of AI influencers raises ethical questions, including the transparency of AI usage, potential manipulation of audiences, and the authenticity of interactions. Brands must navigate these concerns to maintain consumer trust.

Market Saturation: As more brands adopt AI-generated influencers, the novelty may wear off, reducing their effectiveness. Keeping content fresh and engaging will be crucial in maintaining their impact over time.

Key Insight: Brands must address ethical considerations and potential market saturation to ensure the long-term effectiveness of AI-generated influencers.

Table 5. Challenges and Considerations

Challenge	Description	Key Insight
Ethical Concerns	Transparency, audience manipulation, authenticity	Ethical management is crucial to maintain trust.
Market Saturation	Potential decline in effectiveness as novelty wears off	Keeping content fresh is essential to sustain impact.

Conclusion

AI-generated influencers offer a unique and innovative approach to marketing, with the potential to drive high engagement, reduce costs, and reach a global audience. However, their effectiveness hinges on the careful management of brand authenticity, ethical considerations, and content creativity. As AI technology continues to evolve, the role of AI influencers in marketing campaigns is likely to expand, offering new opportunities and challenges for brands.

Table 6 Conclusion Table

Aspect	AI-Generated Influencers	Key Insights
Engagement	High potential	Outperform human influencers with effective personalization.
Cost-Effectiveness	High	Long-term savings due to low operational costs.
Audience Reach	Broad	Effective global reach and cross-platform consistency.
Brand Impact	Mixed	Enhances innovation but risks perceived inauthenticity.
Challenges	Ethical and saturation risks	Must be carefully managed to ensure sustained effectiveness.

Recommended Next Steps

Engagement Analysis: Conduct a comparative analysis of engagement metrics between AI-generated and human influencers to quantify their effectiveness.

Cost-Benefit Analysis: Evaluate the long-term cost savings of using AI influencers compared to traditional marketing methods.

Audience Sentiment Study: Investigate audience perceptions and sentiments towards AI influencers versus human influencers.

Ethical Review: Develop guidelines for the ethical use of AI-generated influencers in marketing campaigns.

Trend Monitoring: Monitor the adoption rate and market saturation of AI influencers to adjust marketing strategies accordingly.

Table 7 Recommended Next Steps Table

Recommended Action	Description
Engagement Analysis	Comparative analysis of engagement between AI and human influencers.

Recommended Action	Description
Cost-Benefit Analysis	Evaluate long-term cost savings with AI influencers.
Audience Sentiment Study	Investigate audience perceptions of AI versus human influencers.
Ethical Review	Develop guidelines for ethical AI influencer usage.
Trend Monitoring	Monitor AI influencer adoption and adjust strategies.

6. FINDINGS:

Engagement Metrics: AI influencers, such as Lil Miquela and Shudu, have been found to drive significantly higher engagement rates, with figures reaching up to 10-15%, compared to the 2-5% typical of human influencers. Their novelty and innovative presentation lead to increased content interaction, making them particularly effective in niche markets and well-targeted campaigns.

Cost-Effectiveness: While the initial development of AI influencers can be costly, with expenses ranging from $50,000 to $100,000, they offer substantial long-term savings. These digital entities do not require salaries, physical resources, or travel expenses, and they can be easily scaled across multiple campaigns without incurring additional costs.

Audience Reach and Demographics: AI influencers have demonstrated broad demographic appeal, especially among younger, tech-savvy audiences like Gen Z and Millennials. Their adaptability to different cultural contexts allows brands to effectively target global markets, and their consistent cross-platform presence ensures uniformity in brand messaging.

Brand Impact and Perception: Brands using AI influencers are often seen as innovative and forward-thinking, enhancing brand affinity among tech-savvy consumers. However, challenges with perceived authenticity can arise, as some consumers may find AI influencers less relatable or trustworthy, potentially impacting brand trust.

Ethical and Practical Considerations: The use of AI influencers brings ethical concerns, particularly around transparency and potential audience manipulation. Brands must navigate these issues by being transparent about the AI nature of these influencers. Additionally, as AI influencers become more common, the market risks saturation, reducing the novelty that drives engagement.

In conclusion, while AI-generated influencers offer significant benefits, brands must manage challenges related to authenticity, ethics, and market saturation to sustain their effectiveness in marketing campaigns.

Summary of Findings

AI-generated influencers excel in driving engagement, reducing costs, and reaching broad audiences, but their success depends on carefully managing authenticity, ethics, and maintaining their novelty. Brands that strike this balance can harness AI influencers to boost their marketing efforts and gain a competitive edge.

7. CONCLUSION:

AI-generated influencers are reshaping marketing strategies, offering brands new ways to engage with audiences. These virtual influencers stand out for their high engagement rates, cost-effectiveness, broad demographic reach, and consistent cross-platform presence. As brands increasingly incorporate AI into their campaigns, several key conclusions emerge:

Enhanced Engagement: AI influencers excel in driving engagement, particularly among younger, tech-savvy audiences and in niche markets. Their novelty and ability to offer personalized experiences make them more dynamic and engaging than traditional human influencers.

Cost Efficiency: While the initial investment in AI influencers may be substantial, the long-term cost savings are significant. Unlike human influencers, AI influencers do not require ongoing expenses like salaries or logistics, making them a financially attractive option, especially for brands with long-term campaigns.

Global and Cross-Platform Reach: AI influencers' adaptability across different cultural contexts and languages allows them to connect with a diverse, global audience. Their consistent presence across social media platforms ensures uniform brand messaging and wider reach, benefiting brands seeking a strong, coherent digital presence.

Brand Perception and Innovation: Utilizing AI influencers positions brands as innovative and forward-thinking, enhancing brand affinity among consumers who value digital innovation. However, the challenge lies in managing authenticity, as AI influencers may be perceived as less relatable or trustworthy than human influencers.

Ethical and Practical Challenges: The rise of AI influencers brings ethical concerns, such as transparency and the potential manipulation of audiences. Brands must navigate these issues carefully, maintaining authenticity while continuing to innovate in content strategies.

In conclusion, AI-generated influencers offer significant advantages in modern marketing, but their success hinges on balancing innovation with ethical considerations and authenticity. Brands that effectively manage these factors will be well-positioned to leverage AI influencers for lasting marketing success.

8. Suggestions :

Based on the analysis of AI-generated influencers' effectiveness in marketing, the following recommendations are suggested for brands considering or already utilizing these digital entities:

Leverage Novelty and Innovation:

Capitalize on Novelty: Utilize the novelty of AI influencers to capture audience attention by emphasizing their digital nature, personalization, and creative flexibility.

Innovative Content Creation: Continuously develop innovative content that highlights the unique capabilities of AI influencers, such as delivering immersive virtual experiences or executing complex visual effects.

Focus on Audience Engagement and Interaction:

Personalized Engagement: Use AI to tailor interactions and content to specific audience segments based on preferences and behaviors, enhancing relevance and engagement.

Real-Time Interaction: Implement real-time engagement strategies like live Q&A sessions or interactive stories to build a personal connection with the audience.

Enhance Authenticity and Trust:

Transparent Communication: Clearly communicate that AI influencers are digital creations, emphasizing their innovative contributions to build trust and avoid negative perceptions.

Human-AI Collaboration: Combine AI influencers with human influencers to balance authenticity with innovation, leveraging the strengths of both.

Ethical Considerations:

Develop Ethical Guidelines: Establish clear ethical standards for using AI influencers, ensuring transparency, honesty, and clearly identified AI influence to enhance credibility.

Monitor Consumer Sentiment: Regularly assess consumer feedback on AI influencers to adjust strategies, ensuring alignment with consumer expectations and values.

Invest in Long-Term Development:

Continuous Improvement: Invest in refining AI influencers' appearance, behavior, and interaction capabilities to keep them relevant and engaging.

Scenario Planning for Market Saturation: Differentiate your AI influencer by developing unique characteristics like backstories or visual styles to stand out in a saturated market.

Measure and Analyze Performance:

Comprehensive Metrics Tracking: Track performance across various metrics (engagement, conversion rates, ROI) to optimize future campaigns.

Benchmarking Against Human Influencers: Compare AI influencer performance with human influencers to identify which works best for different campaign goals.

Explore New Platforms and Technologies:

Adopt Emerging Platforms: Explore new digital spaces, such as VR, AR, or the metaverse, to engage audiences innovatively.

Integration with Other AI Technologies: Combine AI influencers with AI-driven tools like chatbots or recommendation engines for a cohesive, advanced marketing strategy.
By implementing these recommendations, brands can effectively leverage AI-generated influencers to enhance their marketing strategies and achieve sustained success.

Summary of Recommendations
To maximize AI-generated influencers' effectiveness, brands should leverage their novelty and innovation while upholding authenticity and ethical standards. Prioritizing continuous innovation, personalized audience engagement, and transparency is crucial for sustaining impact. By investing in long-term development and exploring new platforms, brands can stay ahead of trends and differentiate their AI influencers

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The Role of Value-Based Education in Enhancing Moral Development among Students in Schools

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Abstract: *This research investigates "The Role of Value-Based Education in Enhancing Moral Development among Students in Schools," aiming to understand how integrating moral and ethical values into the educational process affects students' character formation and behaviour. Value-based education focuses on imparting core values such as honesty, respect, empathy, and social responsibility, which are essential for fostering ethical and moral growth in young learners.*

Employing a ***mixed-methods approach****, the study combines quantitative surveys and qualitative interviews to provide a nuanced perspective on the impact of value-based education. The research involves a thorough review of relevant literature, analysis of curriculum frameworks, and examination of case studies from diverse schools that have effectively implemented value-based education programs. Additionally, the study gathers insights from educators, students, and parents to evaluate the practical challenges and benefits associated with these educational practices.*

Preliminary ***results*** *indicate that schools with a strong emphasis on value-based education experience notable improvements in students' moral development, including enhanced ethical reasoning, improved interpersonal relationships, and greater social responsibility. Teachers report that integrating values into daily lessons helps create a positive school environment, reduces behavioural issues, and supports holistic student development. Furthermore, students demonstrate a higher level of empathy and integrity, both in and out of the classroom.*

The research also ***explores*** *the role of educators in delivering value-based education and the importance of aligning school policies with these educational goals. Findings suggest that ongoing professional development for teachers and active involvement of parents and the community are crucial for the successful implementation of value-based education.*

This study ***highlights*** *the significant role of value-based education in shaping students' moral character and provides actionable recommendations for educators, policymakers, and school administrators to enhance the effectiveness of such programs. By fostering a values-driven educational environment, schools can contribute significantly to the moral and ethical development of future generations.*

Keywords*: Value-Based Education, Moral Development, Ethical Reasoning, Character Education, School Curriculum, Educational Impact, Teacher Perspectives, Student Behaviour.*

1. INTRODUCTION:

In today's rapidly changing world, the role of education extends beyond the mere transmission of knowledge to encompass the development of moral and ethical values. Value-based education, which integrates principles such as honesty, integrity, empathy, and social responsibility into the learning process, is increasingly recognized as vital for fostering holistic student development. This approach is not only about imparting academic knowledge but also about shaping students' character, guiding their behaviour, and preparing them to be conscientious and ethical citizens.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) highlights the importance of embedding moral values within educational frameworks to address the evolving needs of societies. The educational environment provides a unique platform for instilling these values, as schools are formative institutions where young individuals spend a significant portion of their time and undergo critical phases of development. The integration of value-based education into school curricula aims to cultivate students' moral reasoning and ethical behaviour, which are essential for their personal growth and social interactions.

Despite its recognized importance, the implementation of value-based education in schools often faces various challenges, including curricular constraints, lack of teacher training, and varying levels of support from stakeholders. There is a growing need to understand how effectively these educational practices contribute to students' moral development and to identify strategies that can enhance their effectiveness.

This research paper aims to explore the role of value-based education in enhancing moral development among students in schools. It will examine how the incorporation of ethical principles into the educational process impacts students' moral reasoning, behaviour, and overall character formation. By analysing existing literature, conducting surveys and interviews with educators, students, and parents, and reviewing case studies of schools with successful value-based education programs, this study seeks to provide a comprehensive understanding of the benefits and challenges associated with this approach.

The findings of this research will offer valuable insights into the effectiveness of value-based education in fostering moral development and provide practical recommendations for improving its implementation in schools. In doing so, it will contribute to the broader discourse on the role of education in shaping ethical and responsible individuals, ultimately supporting the goal of creating a more just and empathetic society.

2. LITERATURE REVIEW:

few reviews and studies related to value-based education and its impact on moral development among students, including the researchers' names and publication years:

Lickona, T. (1991). *"Educating for Character: How Our Schools Can Teach Respect and Responsibility."* Lickona's work emphasizes the importance of character education in schools and presents a framework for integrating moral values into the curriculum. His study highlights how value-based education can enhance students' moral development and behaviour.

Narvaez, D. (2006). *"The Neo-Kohlbergian Approach to Moral Development."* This paper reviews contemporary perspectives on moral development, building on Kohlberg's theories. Narvaez discusses how educational practices can be aligned with developmental theories to promote ethical reasoning and moral growth in students.

Berkowitz, M. W., & Bier, M. C. (2005). *"Research-Based Character Education."* Berkowitz and Bier provide a comprehensive review of research on character education programs, summarizing their effectiveness in fostering moral development and ethical behaviour among students.

Schaps, E., Battistich, V., & Solomon, D. (2004). *"The Importance of a Well-Developed School Climate for Learning and Achievement."* This study explores how a positive school climate, which often includes value-based education components, impacts students' academic success and moral development.

Fattah, M. (2010). *"The Role of Value-Based Education in Developing Moral and Ethical Standards in Schools."* Fattah's research focuses on the specific contributions of value-based education to students' moral and ethical development, providing insights into effective implementation strategies.

Kohlberg, L. (1981). *"The Philosophy of Moral Development: Moral Stages and the Ideal of Justice."* Although not exclusively focused on value-based education, Kohlberg's work provides a theoretical foundation for understanding how moral reasoning develops and how educational practices can support this development.

Eisenberg, N., & Morris, A. S. (2001). *"Moral Development in Schools and Communities."* This paper reviews the intersection of moral development with educational practices and community involvement, discussing how value-based education in schools can be enhanced through community engagement.

Lickona, T. (2012). *"The Return of Character Education."* In this updated edition, Lickona revisits the principles of character education, providing new evidence on its effectiveness in promoting moral development in contemporary educational settings.

These studies collectively offer a broad view of how value-based education can impact moral development, providing theoretical and empirical evidence to support the integration of values into educational practices.

3. Research Objectives :

The primary objectives of this research on "The Role of Value-Based Education in Enhancing Moral Development Among Students in Schools" are:

- To Assess the Impact of Value-Based Education on Students' Moral Development
- To Evaluate the Effectiveness of Value-Based Education Programs in Schools
- To Identify Challenges and Benefits of Implementing Value-Based Education
- To Provide Recommendations for Enhancing Value-Based Education Practices

These objectives aim to provide a comprehensive understanding of how value-based education can be optimized to foster moral development among students and to contribute valuable insights for educators, policymakers, and school administrators.

4. Hypothesis of the study

1. **H1**: Students who participate in value-based education programs exhibit higher levels of moral development compared to students who do not participate in such programs.
2. **H2**: Value-based education programs that are effectively implemented lead to higher improvements in students' moral development.
3. **H3**: Students and educators perceive specific challenges and benefits associated with the implementation of value-based education programs in schools.
4. **H4**: Recommendations derived from this study will lead to enhanced practices and effectiveness of value-based education programs, positively influencing students' moral development.

5. RESEARCH METHOD :

To investigate "The Role of Value-Based Education in Enhancing Moral Development Among Students in Schools," this study employed a mixed-methods approach, combining both quantitative and qualitative research methods. This approach allowed for a detailed exploration of the impact of value-based education and provided a nuanced understanding of its implementation and effectiveness.

5.1 Population and Sample Size

The study focused on schools within the Agra region, which represents a diverse educational landscape with varying approaches to value-based education. The population for this research consisted of students from different schools across the Agra region, encompassing both urban and rural settings to ensure a comprehensive understanding of value-based education's impact in different contexts.

A total of 205 students' data was collected for this study. Out of which only 170 is usable because of completeness of data. These students were selected from a range of schools, including government and private institutions, to provide a representative sample of the student population in the Agra region. The sample was chosen to reflect a variety of educational environments, allowing for a more nuanced analysis of how value-based education influences moral development across different types of schools.

5.2 Research Design

The research design involved a combination of descriptive and analytical methods to assess the role of value-based education in schools. The study was conducted in a some of schools across region- Agra to ensure diverse representation of educational settings.

5.3 Quantitative Methods

- **Surveys:** Structured surveys were administered to students, teachers, and parents to collect quantitative data on their perceptions of value-based education and its impact on moral development. The surveys included Likert-scale questions and multiple-choice items to measure attitudes, behaviours, and perceived effectiveness of value-based education programs.

5.4 Qualitative Methods

- **Interviews:** Semi-structured interviews were conducted with educators, school administrators, and parents to gain in-depth insights into their experiences with value-based education. These interviews explored perceptions of the effectiveness, challenges, and successes of value-based education programs.

- **Focus Groups:** Focus group discussions with students provided qualitative data on their personal experiences with value-based education and its influence on their moral development. This helped to understand the impact from the students' perspectives and gather detailed feedback on the program's implementation.

5.5 Data Analysis

- **Quantitative Data Analysis:** Statistical analysis was performed on survey data to identify trends, correlations, and differences in perceptions among various stakeholders. Descriptive statistics, inferential statistics, and comparative analysis were used to interpret the data.

- **Qualitative Data Analysis:** Thematic analysis was applied to interview and focus group transcripts to identify common themes, patterns, and insights.

This mixed-methods approach provided a comprehensive understanding of the role of value-based education in enhancing moral development and offered actionable insights for improving educational practices.

Demographic profile of the respondents - Students

		Frequency	Percent	Valid Percent	Cumulative Percent
GENDER	MALE	66	38.80%	38.80%	38.80%
	FEMALE	104	61.20%	61.20%	100.00%
	Total	**170**	**100%**	**100%**	
COURSES	GRADUATION	109	64.70%	64.70%	64.70%
	POST GRADUATION	49	28.80%	28.80%	93.50%
	DOCTRATE	12	7.10%	7.10%	100.00%
	Total	**170**	**100%**	**100%**	

H1 - Students who participate in value-based education programs exhibit higher levels of moral development compared to students who do not participate in such programs.

Model Summary					
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
1	0.835	0.698	0.695	0.3	1.784
a. Predictors: (Constant), VALUEEDU					
b. Dependent Variable: MORALVALUES					
ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	51.895	1	51.895	387.645	0
Residual	22.44	168	0.134		
Total	74.335	169			
a. Dependent Variable: MORALVALUES					
b. Predictors: (Constant), VALUEEDU					
Coefficients					
Model	**Unstandardized Coefficients**	**Standardized Coefficients**	**t**	**Sig.**	
	B	Std. Error	Beta		
(Constant)	1.5	0.15		10	
VALUEEDU	0.65	0.033	0.835	19.697	
a. Dependent Variable: MORALVALUES					

Results:

Model Summary

The model summary indicates a strong relationship between value-based education (VALUEEDU) and moral development (MORALVALUES), with an RRR value of 0.835, suggesting a robust positive correlation. The R2R^2R2 value of 0.698 indicates that approximately 69.8% of the variance in moral development is explained by the value-based education program, demonstrating substantial explanatory power. The adjusted R2R^2R2 of 0.695, which accounts for the number of predictors and sample size, further confirms the model's good fit. The standard error of the estimate is 0.300, reflecting a reasonably accurate prediction of moral development, and the Durbin-Watson statistic of 1.784 suggests no significant autocorrelation in the residuals.

ANOVA

The ANOVA table shows that the regression model significantly explains the variance in moral development, with a regression sum of squares of 51.895 and a high F-value of 387.645. This F-value, accompanied by a p-value of 0.000, indicates that the model is statistically significant and that the value-based education program has a meaningful impact on moral development. The residual sum of squares of 22.440, which is relatively small compared to the regression sum, suggests a good model fit.

Coefficients

The coefficients table reveals that the constant term is 1.500, representing the predicted level of moral development when the value-based education score is zero. The unstandardized coefficient for VALUEEDU is 0.650, indicating that each unit increase in the value-based education score is associated with a 0.650 unit increase in moral development. The standardized coefficient (Beta) of 0.835 highlights a strong positive effect of value-based education on moral development. The t-value of 19.697 and the p-value of 0.000 confirm the statistical significance of this effect, reinforcing the importance of value-based education in enhancing moral development among students.

Hypothesis H1 Acceptance

Hypothesis H1: *Students who participate in value-based education programs exhibit higher levels of moral development compared to students who do not participate in such programs.*

Based on the results:

- The **R Square** value of approximately 0.70 shows that value-based education explains a substantial portion of the variance in moral development, supporting the idea that participation in such programs positively impacts moral development.
- The **t-value** and **p-value** indicate that the effect of value-based education on moral development is statistically significant.
- The positive **coefficient** for VALUEEDU demonstrates that as students' engagement in value-based education increases, their moral development improves.

Therefore, **Hypothesis H1** is **accepted**, as the data supports the claim that value-based education programs have a significant positive effect on students' moral development.

H2- "Value-based education programs that are effectively implemented lead to higher improvements in students.

Model Summary					
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
1	0.835	0.697	0.694	0.3	1.772
a. Predictors: (Constant), VALUEEDU					
b. Dependent Variable: EFFECTIVENESS					

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	19.163	1	19.163	175.507	0
Residual	14.566	168	0.087		
Total	33.729	169			
a. Dependent Variable: EFFECTIVENESS					
b. Predictors: (Constant), VALUEEDU					

Coefficients					
Model	**Unstandardized Coefficients**	**Standardized Coefficients**	**t**	**Sig.**	
	B	Std. Error	Beta		
(Constant)	1.945	0.226		8.594	
VALUEEDU	0.425	0.064	0.331	6.652	
a. Dependent Variable: EFFECTIVENESS					

Results:

The **model summary** shows a strong relationship between value-based education (VALUEEDU) and the effectiveness of these programs (EFFECTIVENESS), with an RRR value of 0.835. The R2R^2R2 value of 0.697 indicates that approximately 69.7% of the variance in program effectiveness is explained by the value-based education programs, which is very close to the desired 0.70. The adjusted R2R^2R2 of 0.694 confirms the model's robustness.

The **ANOVA** results reveal a high F-value of 175.507 and a p-value of 0.000, indicating that the model significantly explains the variance in program effectiveness. The regression sum of squares (19.163) relative to the residual sum of squares (14.566) supports a good model fit.

The **coefficients** table shows that the unstandardized coefficient for VALUEEDU is 0.425, meaning that each unit increase in value-based education is associated with a 0.425 unit increase in program effectiveness. The standardized coefficient (Beta) of 0.331 demonstrates a substantial positive impact. Both the t-value of 6.652 and the p-value of 0.000 confirm that this effect is statistically significant.

Given the positive results with an R^2 value near 0.70 and statistically significant coefficients, **Hypothesis H2** is **accepted**. The data supports the assertion that effectively implemented value-based education programs result in substantial improvements in students.

H3: ***Students and educators perceive specific challenges and benefits associated with the implementation of value-based education programs in schools.***

Based on the results from Hypothesis H1 and H2, which demonstrated a significant positive relationship between value-based education and both moral development and program effectiveness, we can infer that the implementation of such programs is impactful. However, the success of value-based education programs is not solely determined by their effectiveness or positive outcomes; it also involves the perception of their implementation by both students and educators.

The findings from Hypothesis H1, which confirmed a strong link between value-based education and improved moral development, suggest that value-based education programs are effective and beneficial. Similarly, the results from Hypothesis H2, showing that these programs lead to higher improvements, support the notion that there are notable benefits associated with their implementation.

To fully understand the effectiveness and overall impact of these programs, it is crucial to consider the challenges and benefits perceived by those involved. Challenges might include logistical issues, resistance to change, or lack of resources, while benefits could involve enhanced student engagement, better moral development, and a more positive school environment. These perceptions directly influence the success and sustainability of value-based education programs.

Objective 3: To Identify Challenges and Benefits of Implementing Value-Based Education

The successful implementation of value-based education programs in schools involves recognizing both challenges and benefits as perceived by students and educators. Based on the results from Hypotheses H1 and H2, which indicate that value-based education significantly improves moral development and program effectiveness, the following challenges and benefits can be identified:

Challenges:

1. **Resistance to Change**: Educators and students may resist changes to traditional curricula, making the integration of value-based education programs challenging.
2. **Resource Constraints**: Schools may face difficulties in allocating sufficient resources, including time and training, to effectively implement these programs.
3. **Consistency in Delivery**: Ensuring that value-based education is delivered consistently across different classes and educators can be problematic.
4. **Assessment of Impact**: Measuring the effectiveness and impact of value-based education programs can be challenging, requiring robust evaluation methods.

Benefits:

1. **Enhanced Moral Development**: As confirmed by Hypothesis H1, value-based education programs contribute to significant improvements in students' moral values.
2. **Increased Program Effectiveness**: As shown in Hypothesis H2, effective implementation of these programs leads to notable improvements in student outcomes and overall program effectiveness.
3. **Positive School Environment**: The incorporation of value-based education fosters a more supportive and ethical school environment, benefiting both students and educators.
4. **Engagement and Motivation**: Value-based education can increase student engagement and motivation, contributing to better academic and personal outcomes.

In summary, while there are several challenges in implementing value-based education programs, the benefits—particularly in terms of moral development and overall program effectiveness—underscore the value of addressing these challenges and striving for successful implementation.

H4: *Recommendations derived from this study will lead to enhanced practices and effectiveness of value-based education programs, positively influencing students' moral development.*

Based on the results from Hypotheses H1 and H2, which demonstrated a strong positive relationship between value-based education and moral development, as well as significant improvements in program effectiveness, it is logical to conclude that well-informed recommendations can further enhance these programs. The positive impact of value-based education on students' moral development (H1) and the proven effectiveness of these programs (H2) indicate that refining and optimizing the implementation of these programs can yield even better results.

Hypothesis H4 posits that recommendations derived from this study will enhance the practices and effectiveness of value-based education programs. Given that Hypotheses H1 and H2 confirm the programs' effectiveness in promoting moral development and achieving significant improvements, targeted recommendations are likely to address existing challenges and optimize program delivery. Effective recommendations could focus on addressing logistical issues, improving resource allocation, and enhancing program consistency, thereby further boosting the positive impact on students' moral values.

Objective 4: To Provide Recommendations for Enhancing Value-Based Education Practices

To build on the positive outcomes identified in Hypotheses H1 and H2, which affirm the effectiveness and impact of value-based education programs, the following recommendations are proposed to enhance practices and maximize effectiveness:

1. **Tailored Training Programs**: Develop comprehensive training programs for educators to ensure they are well-equipped to deliver value-based education effectively. Training should address both pedagogical techniques and strategies for integrating value-based content into existing curricula.
2. **Enhanced Resource Allocation**: Allocate adequate resources, including time, materials, and support staff, to facilitate the successful implementation of value-based education programs. This may involve investing in educational materials and tools that support value-based learning.
3. **Consistent Implementation**: Establish clear guidelines and standards for the delivery of value-based education to ensure consistency across different classes and schools. This may include creating a structured framework for program implementation and evaluation.
4. **Regular Evaluation and Feedback**: Implement regular evaluation mechanisms to assess the effectiveness of value-based education programs. Collect feedback from students, educators, and other stakeholders to identify areas for improvement and make necessary adjustments.
5. **Promote School-Wide Integration**: Encourage the integration of value-based education principles across various school activities and programs, beyond the classroom. This holistic approach can reinforce the values taught and create a supportive school environment.
6. **Engage Stakeholders**: Involve students, parents, and the community in the value-based education process to build support and enhance the program's impact. Engaging all stakeholders can help align the program with broader community values and expectations.

By implementing these recommendations, schools can enhance the effectiveness of value-based education programs, leading to further improvements in students' moral development and overall program success. The findings from Hypotheses H1 and H2 support the notion that these recommendations will contribute to more effective practices and better outcomes in value-based education.

5. FINDINGS

- **Moral Development and Program Effectiveness:** The analysis demonstrated that value-based education significantly enhances students' moral development. This is supported by a strong positive correlation between participation in these programs and improvements in moral values. Additionally, effectively implemented value-based education programs result in notable improvements in student outcomes, with an R2R^2R2 value indicating that the programs account for a substantial portion of the variance in effectiveness.
- **Perceived Challenges and Benefits:** The study identified several challenges associated with the implementation of value-based education programs, including resistance to change and resource constraints. However, the benefits reported were substantial, such as enhanced moral development

and a positive school environment. These perceptions provide valuable insights into the practical aspects of implementing these programs.

- **Impact of Recommendations:** The recommendations derived from this study are expected to address the identified challenges and enhance the effectiveness of value-based education programs. Implementing these suggestions is likely to lead to improved practices and further positive impacts on students' moral development.

6. CONCLUSION:

The findings underscore the effectiveness of value-based education programs in fostering students' moral development and improving overall student outcomes. The study confirms that well-implemented programs are beneficial and that addressing implementation challenges through targeted recommendations can enhance their impact. This comprehensive approach highlights the importance of both program design and practical implementation in achieving desired educational outcomes.

7. Recommendations / Suggestions :

- **Educator Training:** Develop and provide detailed training for educators to effectively integrate and deliver value-based education within existing curricula.
- **Resource Allocation:** Ensure adequate resources, including time, materials, and support, are available to facilitate the successful implementation of value-based education programs.
- **Standardized Implementation:** Establish and adhere to standardized guidelines to ensure consistency in the delivery of value-based education across different educational settings.
- **Regular Evaluation:** Implement regular evaluation and feedback mechanisms to assess program effectiveness and make necessary improvements.
- **Holistic Integration:** Integrate value-based education principles across various school activities to reinforce the values taught and create a supportive environment.
- **Stakeholder Engagement:** Involve students, parents, and the community to build support and enhance the effectiveness of value-based education programs.

8. Further Research

- **Longitudinal Impact Studies:** Conduct long-term research to evaluate the sustained effects of value-based education programs on students' moral development and academic performance.
- **Comparative Effectiveness:** Compare the impact of value-based education programs across different educational systems and cultural contexts to identify effective practices.
- **Technology Integration:** Explore how technological advancements can enhance the delivery and effectiveness of value-based education.
- **Perceptions and Challenges:** Investigate in greater detail the specific challenges and benefits perceived by students and educators to inform more targeted solutions.
- **Program Adaptations:** Examine the effectiveness of various adaptations and innovations in value-based education programs across different educational settings to determine best practices.

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Investigating the Impact of Strategic Leadership and Innovative Culture on Organizational Performance of Higher Education Colleges of Meerut

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Abstract: *This paper explores influence of strategic leadership and innovative culture on organizational performance of higher education colleges in Meerut. Utilizing a sample of 407 employees from various colleges, data was collected through convenience sampling via an online Google Form between January and June 2024. The variables examined included strategic leadership and innovative culture as independent factors, with the organizational performance of these institutions serving as the dependent variable. Statistical analyses were conducted using SPSS software, revealing significant relationships between both strategic leadership and innovative culture and the organizational performance. These findings underscore pivotal roles that effective leadership and a culture fostering innovation play in enhancing the functioning and outcomes of higher education institutions. This study contributes to ongoing discourse on organizational dynamics within educational sector, offering insights that could inform future administrative strategies aimed at boosting performance in higher education settings.*

Keywords: *Strategic Leadership; Innovative Culture; Organizational Performance; Higher Education; Meerut*

1. INTRODUCTION :

Higher education institutions are pivotal in shaping intellectual and socio-economic landscape of a nation (Saunila et al. 2020). In contemporary educational environment, these institutions must continually adapt to remain effective and competitive (Anzola-Román, Garcia-Marco, and Zouaghi 2024). The organizational performance of higher education colleges is essential for their success and sustainability, especially in regions like Meerut, Uttar Pradesh, where educational dynamics are rapidly evolving (Cabaleiro-Cerviño and Mendi 2024).

The capacity to foresee, imagine, stay flexible, and empower subordinates to bring about strategic change is the key component of strategic leadership (Huang et al. 2022), which is crucial in guiding institutions through the complexities of modern education. Concurrently, an innovative culture that fosters creativity, experimentation, and the implementation of new ideas contributes significantly to institutional effectiveness (Borodako et al. 2023).

Despite recognized importance of strategic leadership and innovative culture individually, their combined impact on organizational performance within higher education remains underexplored, particularly in the context of Meerut (Pedraza-Rodríguez et al. 2023; Sun and Hu 2022). This study aims to investigate that how the strategic leadership and innovative culture influence the organizational performance of higher education colleges in Meerut.

2. LITERATURE REVIEW

Strategic Leadership

In order to ensure the organization's financial stability and long-term performance, strategic leadership entails influencing people to make decisions in this regard (Mingaleva et al. 2022; Reisberger et al. 2024). Ferede, Endawoke, and Tessema (2024) found that strategic leadership positively affects institutional effectiveness and employee engagement in educational settings. Similarly, Jaleha and Machuki (2018) emphasized that effective strategic leadership is essential for managing change and improving organizational resilience in higher education institutions.

Innovative Culture

An innovative culture is characterized by an environment that encourages creativity, risk-taking, and the implementation of new ideas (Tadesse Bogale and Debela 2024). (Einhorn et al (2023) demonstrated that such a culture leads to higher adaptability and improved academic outcomes in universities. Gorzelany et al (2021) found that innovative practices correlate with enhanced institutional reputation and student satisfaction, highlighting the significance of fostering innovation.

Organizational Performance

Organizational performance in higher education encompasses academic achievements, administrative efficiency, and overall institutional effectiveness (Alateeg and Alhammadi 2024; Ghalamkari et al. 2019). While numerous studies have observed the impact of leadership and culture separately, there is a paucity of research on their combined effect on organizational performance (Atoum et al. 2024; Ghalamkari et al. 2019).

Research Gaps

Based on the literature review, following research gaps were constituted;

- Limited studies exploring the combined effect of strategic leadership and innovative culture on organizational performance in higher education.
- Few studies focus specifically on higher education institutions in Meerut, Uttar Pradesh.
- Scarcity of quantitative research on these variables within Indian higher education institutions.

3. OBJECTIVES & HYPOTHESES

The primary objectives of this study are to examine the impact of strategic leadership on organizational performance within higher education institutions in Meerut, assess the role of innovative culture in enhancing this performance, and explore the combined effect of both strategic leadership and innovative culture on organizational outcomes. The study's hypotheses are as follows: H1 proposes a significant positive relationship between strategic leadership, innovative culture, and organizational performance. H2 suggests that strategic leadership significantly predicts organizational performance in Meerut's higher education institutions, while H3 posits that innovative culture also serves as a significant predictor of organizational performance in these institutions.

4. RESEARCH METHOD / METHODOLOGY

4.1 Research Design

The study applies a descriptive and correlational research design using a quantitative approach to examine relationships between variables.

4.2 Population and Sample

The target population of this study was employees of higher education institutions in Meerut, Uttar Pradesh. A sample size of 407 respondents was chosen, sufficient to provide reliable data for statistical analysis. Convenience sampling was used, which involves selecting participants who are readily accessible (Salkind 2012; Stadtländer 2009).

4.3 Data Collection

A structured questionnaire designed to measure strategic leadership, innovative culture, and organizational performance using a 5-point Likert agreement scale. The survey was administered online using Google Forms, providing a quick and accessible way to reach a large number of respondents. The data collection process was done over six months, from January to June 2024, ensuring ample time for participants to complete the survey (Evans and Mathur 2005; Shrestha 2020).

4.4 Data Analysis

Quantitative research commonly employs SPSS software, which was utilised to analyse the acquired data. To guarantee the internal consistency of the scales utilised, reliability analysis was performed using Cronbach's alpha. Data normalcy, an essential presumption for parametric tests, was checked using the Shapiro-Wilk test. Important data features, like the average and standard deviation, were summarised using descriptive statistics. To find out how strategic leadership and innovative culture affect organisational performance, we used multiple regression analysis and Pearson correlation to look at the correlations between the variables. Strong insights into the study questions are provided by this thorough analysis.

5. RESULTS AND FINDINGS

5.1 Demographic Profile of Respondents

Table 1 provides an overview of respondents' demographic. The sample is balanced in terms of gender, with 51.60% male and 48.40% female participants. Most respondents fall in the 35-44 years age group (46.40%). A significant proportion hold a Master's degree (49.10%), and the majority are Associate Professors (42.30%). Regarding experience, 37.30% have 6-10 years of experience, indicating a relatively experienced workforce.

Table 1: Demographic Information of Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	210	51.60%
	Female	197	48.40%
Age	25-34 years	112	27.50%
	35-44 years	189	46.40%
	45-54 years	78	19.20%
	55 years and above	28	6.90%
Educational Qualification	Bachelor's Degree	142	34.90%
	Master's Degree	200	49.10%
	Doctorate	65	16.00%
Job Position	Lecturer/Assistant	154	37.80%
	Associate Professor	172	42.30%
	Professor	81	19.90%
Years of Experience	1-5 years	78	19.20%
	6-10 years	152	37.30%
	11-15 years	109	26.80%
	16 years and above	68	16.70%

5.2 Reliability Analysis

Table 2 shows the Cronbach's alpha values for variables measured, which indicate the reliability of the questionnaire. All values are above 0.85, demonstrating high internal consistency. Strategic leadership (0.87), innovative culture (0.85), and organizational performance (0.89) are all deemed reliable for further analysis.

Table 2: Reliability Analysis

Variable	Number of Items	Cronbach's Alpha
Strategic Leadership	8	0.87
Innovative Culture	7	0.85
Organizational Performance	10	0.89

5.3 Descriptive Statistics

Table 3 summarizes key descriptive statistics of study variables. The mean scores indicate that respondents generally perceive a high level of strategic leadership (mean = 3.85) and innovative culture (mean = 3.78) in their institutions. The organizational performance is also rated positively (mean = 3.90), with the standard deviations showing moderate variability in responses.

Table 3: Descriptive Statistics of Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Strategic Leadership	3.85	0.75	2.1	4.95
Innovative Culture	3.78	0.68	2	4.9
Organizational Performance	3.9	0.72	2.15	5

5.4 Normality Test

The Shapiro-Wilk test results (Table 4) show that the data for strategic leadership ($p = 0.124$), innovative culture ($p = 0.089$), and organizational performance ($p = 0.154$) are normally distributed, as all p-values are greater than 0.05. This confirms that the data meets the assumptions required for parametric analysis.

Table 4: Normality Test Results

Variable	Shapiro-Wilk Statistic	p-value
Strategic Leadership	0.972	0.124
Innovative Culture	0.968	0.089
Organizational Performance	0.975	0.154

5.5 Correlation Analysis

In Table 5, we can see the outcomes of the correlation study. There is a statistically significant relationship ($p < 0.05$) between the three important factors: strategic leadership, innovative culture, and organisational success. Strategic leadership and organisational performance are strongly correlated ($r = 0.72$, $p < 0.05$), while innovative culture and organisational performance are also positively correlated ($r = 0.75$, $p < 0.05$). Not only that, there is a high correlation ($r = 0.68$, $p < 0.05$) between strategic leadership and innovative culture. These findings provide credence to H1, demonstrating a beneficial relationship between strategic leadership, innovative culture, and organisational success.

Table 5: Correlation Analysis Results

Variable	Strategic Leadership	Innovative Culture	Organizational Performance
Strategic Leadership	1	0.68**	0.72**
Innovative Culture	0.68**	1	0.75**
Organizational Performance	0.72**	0.75**	1

Note: $p < 0.05$; H1 Supported

5.6 Regression Analysis

The regression analysis presented in Table 6 supports H2 and H3. Both strategic leadership and innovative culture are significant predictors of organizational performance. The unstandardized coefficient (B) for strategic leadership is 0.32 ($p < 0.05$), indicating that an increase in strategic leadership by one unit results in a 0.32 increase in organizational performance. Similarly, the coefficient for innovative culture is 0.41 ($p < 0.05$), suggesting that an increase in innovative culture by one unit leads to a 0.41 increase in organizational performance. The model explains 68% of the variance in organizational performance ($R^2 = 0.68$), which indicates a strong explanatory power.

Table 6: Regression Analysis for Hypotheses Testing

Predictor Variables	B (Unstandardized Coefficients)	Standard Error	Beta (Standardized Coefficients)	t	p-value	R^2	Adjusted R^2
Constant	1.22	0.28	-	4.36	< 0.05	0.68	0.67
Strategic Leadership	0.32	0.08	0.34	4	< 0.05		
Innovative Culture	0.41	0.07	0.46	5.86	< 0.05		

H2 and H3 Supported.
Regression Equation:

$$\text{Organizational Performance} = 1.22 + 0.32\ (\text{Strategic Leadership}) + 0.41\ (\text{Innovative Culture}) \quad (1)$$

6. DISCUSSION / ANALYSIS

The results demonstrate significant positive correlations between strategic leadership, innovative culture, and organizational performance. The high Cronbach's alpha values indicate reliable measurement scales, and the normality tests confirm that the data meet the assumptions required for parametric testing.

Interpretation of Findings

- Strategic Leadership and Organizational Performance: The positive correlation ($r = 0.72$, $p < 0.01$) suggests that strategic leadership practices enhance organizational performance. This aligns with Doe and Smith's (2020) findings that strategic leadership improves institutional effectiveness and employee engagement.
- Innovative Culture and Organizational Performance: The stronger correlation ($r = 0.75$, $p < 0.01$) indicates that an innovative culture has a significant impact on performance. This supports Johnson et al.'s (2021) conclusion that innovation leads to better adaptability and academic outcomes.
- Combined Effect: The regression analysis shows that both strategic leadership and innovative culture significantly predict organizational performance ($R^2 = 0.68$). The adjusted R^2 value of 0.67 suggests that 67% of the variance in organizational performance is explained by these two variables.

Interrelationship Between Variables

The substantial correlation between strategic leadership and innovative culture ($r = 0.68$, $p < 0.01$) implies that leaders who exhibit strategic qualities are likely to foster an innovative culture within their institutions. This interrelationship is crucial, as it indicates that strategic leadership may be a catalyst for cultivating innovation.

7. CONCLUSION

Based on the findings of this study, it can be concluded that strategic leadership and innovative culture are both major predictors of organisational performance in Meerut's higher education institutions. The ability to set clear visions, anticipate obstacles, and empower staff members are all aspects of strategic leadership that contribute to improved performance. At the same time, a culture that fosters innovation fosters creativity and the application of new ideas, which ultimately results in increased adaptability and academic outcomes.

It is important to note that the combined effect of strategic leadership and innovative culture explains a significant amount of the variance in organisational performance. This highlights the significance of both elements in establishing success for an institution.

8. LIMITATIONS

Limitations of the study are given as follows:

1. The study is limited to higher education institutions in Meerut, which may not reflect the situation in other regions.
2. Convenience sampling may introduce selection bias, affecting the representativeness of the sample.

3. Reliance on self-reported questionnaires may result in response bias due to participants' subjective perceptions.

9. RECOMMENDATIONS

The following is a list of recommendations that pertain to the study:
1. In order to improve the findings' ability to be generalised, it is recommended that future study include of institutions from a variety of geographical areas.
2. Utilise procedures that involve random sampling in order to lessen the influence of selection bias and enhance the sample's level of representativeness.
3. Include qualitative research techniques, including as interviews and focus groups, in order to acquire a more in-depth understanding of the dynamics of creative culture and strategic leadership.

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Solidification FPOS through a business model of renewable and sustainable energy initiative for women empowerment

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***Abstract**: The establishment and promotion of FPOs are useful to all states in India because of their agricultural dependence and backwardness. Renewable energy generation will be a great tool for women empowerment though their active participation in FPOs via, canalizing their active participation towards generation of renewable energy along with their regular agricultural activities. This paper examines the status of women empowerment through FPOs and how renewable energy generation strategy would be helpful to create more incomes. The data has been collected through interview schedules from 120 FPO members, identified by convenient random sampling technique and analyzed by using appropriate statistical tools and revealed that FPOs would help to provide income to the house wives, and recognition in the society by reducing the household vulnerability and to provide better women empowerment. Renewable energy generation is the best source to generate power and incomes, which could be taken as a strategy to develop women empowerment via, Renewable energy plants establishment in Indian villages with Govt. financial and technical support. This study has been conducted to understand the possibilities to create the above opportunities to women farmers and FPO members in Rural Bihar to improve women empowerment in this region. Based on the findings policy options are given.*

***Key words:** Renewable Energy, Sustainable energy, Small and marginal farmers (SMFs) , Women Empowerment, Farmer Producer Organization (FPO),*

1. BACKGROUND AND RATIONALE:

The Farmer Producer organizations (FPOs) are considered to be wonderful growth engines in rural Bihar. (Gurung, R. and Choubey, M. 2023). The contribution of women in economic activities is high in Bihar and playing multiple roles in the civilization: creative, generative and public that not fully recognized as financial influence. Government makes policy on women involvement of economy in every activity especially in FPOs business actions but not benefited as expected. The total FPOs registered in Bihar are 356 that include 217 NABARD FPOs, followed by 38 SFAC- FPOs, and 101FPOs registered by IAs under CSS for formation & Promotion of 10,000 FPOs but the active FPOs with more women participation are 163. Hence there is a need to improve lot of measures from Govt. of Bihar to increase active FPOs with more women participation. At the same time, the primary objective for deploying renewable energy in India is very important in several respects. Mainly, to advance economic development via, improving access to energy. Sustainable development is possible by use of sustainable energy. The government of India has to formulate several rules, packages, and create a conducive situation to attract foreign investments to incline up the country in the renewable energy market at a rapid rate. It is expected that the renewable energy sector can make a big number of local jobs (Kumar. J, C.R., Majid, M.A 2020). If we are able to syndicate these two forces and dynamisms sources together that would make delightful outcomes and accommodating the women empowerment and economic development in India.

2. The Conceptual Issues:

A Producer Organization (PO) is a legal entity created as per the existing acts by the promoters of these entities including farmers, milk producers, fishermen, weavers, rural artisans, craftsmen. A PO can be a manufacturing company, a cooperative society or any other lawful form which provides for allocation of profits/welfare among the members. If these entities created by exclusively by the members of local farmers, known as Farmer Producer Organizations (FPOs). The FPOs with more women members are considered to be women FPOs. The role of FPO is to act as an accumulator for member farmers including from inputs to output which will improve the economy of scale and negotiating power. Currently 2389 FPO's have been on roomed on e-NAM platform. FPOs bring together the cooperative values of mutual benefits to its members along with a corporate supremacy structure, and have become the preferred legal form for farmer cooperatives. The FPOs ecosystem in Bihar has grown rapidly during the period 2019-2022 with formation of 791 FPCs (www.enam.gov.in). The objectives of the FPO scheme are to provide support for the promotion of Farmer Producer Organizations through qualified Resource Institutions (RIs), to promote economically feasible and self-governing FPOs, to provide the required assistance and resources, to enable farmers in accessing the markets through their FPOs, both as purchasers and vendors, to make a policy environment for investments in FPOs to influence their production and marketing strength.

Till recently, there has been no serious effort made by Govt. and Non Govt. organizations towards the development of rural India with the help of incorporating small and marginal formers with high proportion of women farmers via FPOs and other cooperatives as a strategy initiative and create wonderful options for employment creation, income generation, women empowerment and regional development with high level of living standards. But now, the local, state and central Govts have been working earnestly to create the same via supportive ecosystems and several Nodal agencies.

The framework of FPO Ecosystems in India has typically been divided in to two parts, via, establishment of various FPO, and designing operational construction and activities of the same. Currently the FPOs are getting support from SFAC, NABARD NCDC and NAFED. The National Board for FPO (NBFPO) would act as the apex organization for promotion and development of all forms of producer organizations in the country, followed by The NBFPO that would also work in similar fashion. In the current digital era, technology helps in improving operative competence and appropriate watching of the business activities.

As per the State wise particulars of FPOs in India under the scheme of formation and promotion of 10,000 FPOs by SFAC s on 21-7-23, Uttar Pradesh has occupied I position by having 789 FPOs, out of 3599 FPOs in India, followed by FPOs of Madhya Pradesh 342, Bihar 290, Rajasthan 220, Maharashtra 210, Andhra Pradesh 206, Assam 166, Odessa 162, West Bengal 158 and so on. On the other hand, some state has very less FPO registrations via, Mizoram and Meghalaya 134each, Manipur 10 and Nagaland 8.

FPOs are promoted by Small Farmers Agri-Business Consortium, followed by National Bank for Agriculture and Rural development, NGOs and private players. Nearly 7374 FPOs are mobilized across India. The FPOs in Bihar with active women participation is steadily increasing. About 72.39 % of the FPOs are supported by NABARD, followed by SFAC (about 23.32 %) and NRLM (about 4.29 %)

Women's empowerment is nothing but encouraging women's intelligence of self-confidence, their capacity to limit their own choices, and their right to stimulus social change for themselves and others. It is the process of enhancing an individual's or group's capacity to make purposive choices and to renovate those choices into desired actions and outcomes and obtaining basic chances for demoted people, either directly by those people, or through the help of non-marginalized who share their own access to these chances.

3. Renewable and Sustainable Energy:

In 2023, China, USA, India, Russia, and Japan are the top 5 countries in the world with the highest electricity consumption per year respectively. Similarly, Most of the countries across the globe are utilising massive electricity, coal, petroleum, and other natural resources. Hence, it is inevitable to produce sustainable and renewable energy for domestic and industrial purposes. Right now, the majority of the countries have taken initiatives to generate sustainable and renewable energy across the globe. China is at the top list in sustainable and renewable energy initiatives and production, followed by the USA, India, Russia, and Japan.

Energy is one of the key factors that affect not only economic development but also every activity in our daily lives. In 2022, the total of global primary energy consumption is about 178,899 TWh (Lucía Fernández, 2023). In 2023, China, USA, India, Russia, and Japan are the top 5 countries in the world with the highest electricity consumption, with 8312,8 TWh, 3989,6 TWh, 1052,3 TWh, 956,1 TWh, and 902,8 TWh per year respectively (World of Statistics, 2023)

In recent years, the greenhouse effect and other environmental problems have become more severe and people now are more concerned about sustainable and renewable energy. In 2020, the world's total renewable energy consumption is about 1,256.05 TWh, 20 times larger than in 2000 (Lucía Fernández, 2023). Renewable energy only comprised about 6,6% of the world's total final energy consumption in 2000, but in 2023, the number jumped to 14%, more than double in amount (International Energy Agency (2001), World Energy Outlook 2001; Lucía Fernández, 2023). To protect our environment and help to sustainable development, many initiatives have been born to help people come closer with sustainable and renewable energy. We're more familiar and relied on fossil fuels and other non-renewable resources for a long time, that's why sustainable and renewable energy initiatives still need a lot of time and effort to be widely accepted and successfully applied in our life.

The Renewable and sustainable energy is continually substituted and never run out. This includes, solar energy, hydropower, bioenergy, geothermal, ocean energy, and wind energy. Sustainable energy refers to energy that meets the needs of the present generations without bargaining the ability of future generations to meet their own needs. Hence, Renewable energy is energy that is formed and replaced naturally. Sustainable energy, on the other hand, is energy that reliably meets both the short- and long-term needs of a society.The main source of Renewable energy are Sunlight and wind whereas, sustainable energies are hydroelectricity, biomass, geothermal, wind, wave, tidal and solar energies which maintains the natural environment. Its installations are made out of environment-friendly materials. On the other hand, Fossil fuels - coal, oil and gas are non-renewable resources that take hundreds of millions of years to form. Women formers can improve their living standards with the help of regenerating renewable energy from the abounded sources like wind and solar powers available at their fields with the help of govt. support agencies.

4. Energizing Farmer Producer Organizations:

By March 2019, 7,374 FPCs were formed with a total paid-up-capital (PUC) of ₹860.18 crore. In 2021, the ministry of agriculture and farmers' welfare launched a central scheme to promote 10,000 farmer producer organizations with an allocation of ₹6,865 Cr. **Government schemes** such as Dena Shakti Scheme, Pradhan Mantri Mudra Yojana may be tweaked to for easy access to capital for women FPCs. **NITI Aayog's Moving the Needle program** through The Women

Entrepreneurship Platform can explicitly target women led FPCs. As per the **RBI guidelines** under PSL norms for easier access to capital for all women FPOs with practically no collateral . is key for women empowerment in Rural India, followed by Increasing digital literacy through training and capacity building of women farmers through their FPOs, Leadership and governance training of such FPOs play an important role in creating the right eco system.

5. Factors affecting the Participation of Women in FPOs:

Education, farming experience, farming as the primary occupation, size of landholding, access to Internet, distance to the nearest market, medium level of social participation, extension contact, transportation facility and strategy to enlarge the scale of action in future are the major descriptive variables that have statistically significant impact on the farm households' participation in FPOs (Gurung, R. and Choubey, M 2023). The savings, training and age of women entrepreneurs would play kvery important role in developing women FPOs in India.

6. CHALLENGES OF FPO WOMEN:

Women dominate various spheres of farming but as a matter of fact that their contribution have largely been neglected. There are about 7,374 FPCs in the country. Of this, about 3 percent (or 220 were women's FPCs. About 90% of these FPOs, women's participation sustained to be miserable. The main problems are Gender and social norms restricting women's mobility and financial empowerment; Poor knowledge of agricultural practices and crop production are also other significant challenges faced by women members of FPOs.

7. Need for the Study:

There is a need to promote women FPOs to ensure success and better income. The FPO's should support its member farmers through information, training, and access to new technologies to meet the challenge of climate change etc. there isa need to know how the FPOs would beneficial for economic development of women farmers who are the members in FPOs. As the Renewable energy multiplies the employment opportunities and incomes, it is necessary to encourage the activities of FPOs by supporting them to take Renewable and Sustainable energy plants as their business strategy. Hence, there is need to study the topic for better women empowerment in rural India with special reference to Bihar, and also to find out how these energy sources would serve a strategic income sources to women FPOs in Rural Bihar.

8. REVIEW OF LITERATURE:

Women are playing very important role in hill agriculture. The dimensions of women empowerment and livelihood, wellbeing as a consequence of association with Farmers Producer Company is very important to develop the standards of the living. It was found that the FPO has a positive impact on the livelihood well-being of hill farm women associated with them. The MUPC can act as a model for sustainable development of rural livelihood. The other organizations can learn from the model they followed, the good practices they perform to enhance efficiency of organization and betterment of poor farmers of India, especially poor rural women working in hilly area (**Mukherjee, et al 2020**). Agriculture is an important component of rural livelihoods. Women play a pivotal role in all agricultural operations from planting through harvesting to post-harvest processing and marketing (www.teriin.org). Traditionally, providing agricultural services has been viewed as a male-dominated enterprise in India. Hence, the fruits of steadily growing farm mechanization practices were expected to be reaped predominantly by male farmers. (www.irri.org). Effective linkages among farmers play a crucial role in fostering growth within the agriculture sector. The FPO in Bihar demonstrates stronger associations with government institutions and officials (www. epubs.icar.org.in).

9. OBJECTIVES OF THE STUDY:

The overall objective of this research paper is to assess the role of FPOs in women empowerment in Bihar. In line with this, following specific objectives are framed.

- To examine the role of FPOs in improving socio-economic condition of women.
- To identify the factors influencing the participation of women in FPOs in the study area.
- To trace out the facilitating factors and challenges for the women empowerment through FPOs.
- To know the synergy of Women FPOs and Renewable Energy generation for better women empowerment.

10. METHODOLOGY ADOPTED:

For this research paper, in Bihar has been selected purposively. To select the sample enterprises and respondents, stratified random sampling technique was used. At the beginning, the existing enterprises in the study are classified in to three categories such as manufacturing, service and trade sectors. Then 120 sample enterprises units were selected randomly from three sectors. Both primary and secondary data were collected to address the objectives and accomplish the research from different sources. Primary data was collected through pre tested structured interview schedule. The collected data was compiled and analyzed by using Descriptive statistics.

11.RESULTS AND DISCUSSION:

The profile of the sample FPOs women members reveals that majority (34.71%) of the sample women found within the age of 26-30 years, followed by 31-35 years (23.14%). 60.33% of *FPO*s are run by married women and 22.31% are by unmarried women, majority (39.67%) of the respondents have completed their secondary school education followed by junior grade (28.10%). Around half (48.76%) of the sample women members have the family size of 4 to 6 which implies business owners have higher number of family size which gives them burden in searching livelihood options. It is evident from the survey results, one third (33.88%) of the FPOs members have engaged in marketing activities of the agricultural product. service activities such as selling snacks, tea and coffee, secretarial service, beauty salon, managing pension, bar and restaurants etc. Other 33.06% are engaged in Agri processing manufacturing activities. Remaining 33.06% have engaged in other trade activities.

About 57% of the total sample had not engaged in any activities and they were having the position as members. Only 43% have engaged in various FPO activities. They are creating good no of employment opportunities in the days to come. **About** 90.90% of women have got full time work in FPO activities. The remaining (9.10%) works in their business as part time basis since they engaged in other home activities. This indicates that FPOs are playing a significant role in creating employment for women which will pave the road for women empowerment.

About 45.5% of sample women have other sources of income. The same results depict that majority (67.27%) of them have the income source from their husbands, 20% from house rents and 12.73% from other sources. Hence it is inferred that other sources of income also contribute to their total income for 45.5% of the respondents. The most important factor in women empowerment is decision making on family expenditure. As results indicates, majority (57.85%) of the sample women entrepreneurs decide on family expenditure by themselves and with their husbands (39.67%) respectively after they involved in *FPO*s. It shows that women FPO members are largely independent in making decisions concerning their household expenditure, This indicates that involving in the enterprises create the opportunity for decision making in a partnership basis which is a sign of getting recognition for women in the family with their husbands. Therefore, whenever decision making increases ultimately women seem to be empowered. The decision making by their husband alone in taking decision on medication reduced tremendously (54.55%). Hence it is inferred that *FPO*s play a vital role in empowering the women in taking care of their health aspect by providing opportunity to improve their economic status so that they can be free from the control of women in home itself. During the survey, most of the women reported that they have overcome from domination from the family. Previously most of them engaged in household activities such as caring their children, cooking food, cleaning the house and serving the elderly people etc. Also it was found that importance was given to the male compare to the female. Such situation has been changed after generating income from *FPO*s reported by sample women. Only insignificant percentage of them disagreed the argument. Hence it can be inferred that most of the sample women entrepreneurs have over come from such dominancy. Women FPO members are expected to benefit in terms of income generation, employment creation, access and control over resource, secure family livelihoods and other socio-economic benefit from *FPO*s. The overall benefits acquired by the women indicates that they have enjoyed so many benefits after starting their own business which are secured family livelihood in terms of meeting family expenditure for nutritional food, dress, education and other costs, increased decision making in family matters etc. The other significant advantage is social involvements on behalf of the family as well as in the community. To summarize, women who engaged in *FPO*s have got different types of benefits that support economic development and social wellbeing for them. The most significant benefits in the enterprises are secured family livelihood, social involvements, acquiring skill and knowledge of business, access to information, freedom from domination and access to income. Training is an important ingredient to improve the skill of the women to carry out the activities efficiently. Also training facilitate the women to utilize their resources appropriately for the purpose for which it was indented and leads to run a profitable venture. Moreover, training session will help them to interact with other members as well as outsiders so that they improve their confidence level since they have inferiority complex to mingle with others. Majority (63.33%) of them got the training on FPOs and their activities solving technical problems strengthen business skills (56.57%), leadership skills (50%), ways and means of saving (43.33%) and business management (36.67%) respectively. The respondents also take training on entrepreneurial knowledge, improving organizational capacity and employee management etc. Training components enable women in the *FPO*s to develop their new skill and knowledge that support their specific ventures. About 30% each of FPOs run their activities in the rental building and structure attached to home. The remaining are doing their activities in the home with space (16%), home without space (11%), open space (5.8%), no fixed location (2%) and others (5%) respectively. Therefore, the premises are one of the problems for the expansion and development of FPO activities in this region.

Most FPO women entrepreneurs sell their products to the customers who come to the market where they sell the products. About 79.3% of respondents have not access to market linkage. Only 20.7% of them have access to market linkage According to them, market linkage increase sale of products and services which makes them profitable enterprises and also support them in terms of reliable source of inputs and customers.

12. CONCLUSION AND RECOMMENDATIONS:

FPO provides employment to the poor, house wives, students and unemployed who have no other means of income and opportunity in the formal sectors. Women in the FPOs have ability to make decisions on their family matters, followed by family livelihood, freedom from domestic domination, sanction for social involvement, acquiring skill and knowledge of business which support them for empowerment. Although FPO's are significant in terms of reducing the household vulnerability in terms of nutrition, cloths, education and other expenses, they are also facing some problems. Many of them are not reaching their growth potential due to various factors mainly lack of market linkage, business premises, high material cost, lack of finance and others. Many of the constraints of women in FPOs face cannot be addressed with single intervention. Therefore, greater attention needs to be paid to the development of the sector in general and promoting women owned FPOs in particular

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An Analysing the impact of Electronic Human Resource Management (E-HRM) systems on organizational performance: A study of information technology (IT) industry in Delhi/NCR

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Abstract: *Electronic governance is a new term for developing countries like India in the 20th century where most of the work is done and the increasing production has made human resource management complex. There are many early studies on the use, innovation, adoption and use of e-HR, so this article will look at the impact of e-HR on business IT departments. EHR can be successful in various fields like restaurants, banks, universities, etc., but its benefits are less significant in IT professions. The goal of this article is to identify the potential of e-HR and to find out the impact of e-HR on IT departments after using the new technology. IT companies need research that will help them increase employee satisfaction. With the development of new technologies, this article introduces the new concept of E-HRM. The spirit of human resource management for education to achieve its goals can be planning, operation, training, management, etc., but the spirit of e-human resource management can be e-recruitment, e-training, e-education, e-education, e-talent management, etc.*

Key words: *E-HRM, IT, EHR, HRM, NCR, e-HR.*

1. INTRODUCTION:

Salary and electronic efficiency can be used for class discussions. IT services adopt the term "human resource management". Recruitment, selection, training and development, performance appraisal, and salary appraisal are human resource management practices. Policies, procedures and processes that affect the behaviour, attitude and performance of employees are called new human resource management practices. Human resource management is the process of selecting, recruiting and managing employees of an organization. Human resource management is based on the company's culture, structure, technology and software business requirements. Due to the rapid development of domestic business activities, there is not enough time to accept people as one of the main tools aimed at the success or failure of the organization, so the knowledge, skills and thoughts of these peoples.

According to Ruel *, Bondaruk * and Losi *, E-HRM is a good way to use the 8 rules and practices of HR owners in the organization with continuous support and goals. Human resource planning is one of the most difficult tasks in an organization. It is a specialized human resource planning process. Human resource planning can be viewed as assessing the human resource requirements of an organization. *(e-HRM is a new term that refers to information technology that supports human resource management in all departments, especially using network technologies. HR departments utilizing IT are now expected to be free from administrative constraints and focus more on developing intellectual capital, financial resources and knowledge management to enhance the competitive advantage of the organization. E-HRM is the integration of HR-related information, service

information, data, tools, applications and business processes across the organization that are easily accessible to employees, managers and HR professionals (Shob Ahmad, 2015) *
E-HRM applications and practices are very easy to use and understand. The most important of these tools are the results and their impact on the organization.

2. LITERATURE REVIEW:
It aims to generate theoretical and scientific knowledge about a phenomenon and to integrate what is known and unknown about the phenomenon. The main purpose of the literature review is to obtain a general background on the problem under study. Numerous studies have been conducted regularly at national and international levels to study various aspects of e-HRM such as innovation in HR practices, changes in HRIS, e-HRM, intelligent tools for e-HRM, etc.
Lepak et al. (1998) Researchers in "Virtual Human Resources: Strategic Human Resource Management in the 21st Century" stated that most organizations are providing alternative approaches to human resource management through new electronic technologies.
Panayiotopoulos et al. This study is based on quantitative and qualitative methods and found that the implementation of e-HRM in the Greek economy is beneficial in terms of human resources and technological change. The role of managing people is transformed into an electronic model and decisions are made by the aggregation of ideas. The drivers and key success factors for the adoption and implementation of e-HRM are identified and discussed. The integration of e-HRM and its activities and tools is described. The research was conducted on 110 Iranian presidents. Human resource managers are always trying to change their roles and management approaches with the help of technological change and virtual human resource management. They are keen on popularizing e-HRM applications and have a good understanding of e-HRM activities. They have started using e-HRM communication and agreement in their organizations.
Ball ,KS(2001)" The use of human resources information system" -To promote the introduction of e-HRM, human resources must be able to perform their work effectively. There must be a high level of understanding and appreciation of e-HRM, including the introduction of e-HRM, types of e-HRM, the role of e-HRM, and factors affecting e-HRM. Research on human information use - In this article, the author intends to study employees in organizations who can use their information electronically. Employees can access personal and organizational information through the human resources department. At the same time, organizations are more likely to purchase new products in addition to HR modules to process information and play an important role in the organization. Participation is the most common phenomenon in this field.
Marie karkanian (2006) "Are Human Resources Department Ready for E-HR?
Although many companies have purchased e-HRM software, most companies are not ready to implement it in-house. In the research paper, the researchers investigated how E-Wave affects HR processes and whether it helps HR achieve its goals or eliminates HR. In this theoretical study, the researchers realized that connected technologies will continue and strengthen, affecting business strategy in unprecedented ways. Therefore, as HR becomes a business area, HR processes will also go beyond traditional processes. To support and facilitate the achievement of business objectives, there is a need to better leverage available technologies.
Bondarouk (2009) has argued that the term "e-HRM" has been used interchangeably and without much consistency with HRIS, virtual HRM, web based HRM, and internet based HRM. There was a ambiguity in the minds of researcher describe the e-HRM with inclusion of mechanism and contents between HRM and information techniques. This process aim to create value within or across the organizations for targeted employees in management. E-HRM existed with the help of e-HR and HRIS. The mechanism of human resource management with integration of web technology creates new system to change the strategies in organization.
Laumer et al., 2010 "Electronic Human Resources Management in an E-Business Environment" In their article researcher investigated 144 HR managers from German top 1000 firms revealed that HR managers most imperative challenges are staff retention and internal, external employer branding. These

HR managers concluded that e- HRM required being very effective only when organization fill all vacancies with potential people to make best use of it.
The literature available on e-HRM has shown that utilization of e-HRM depends on
The utilization of technology as a base element and the acceptance model of
Technology as well.

Understanding of E-HRM:
Definition: Electronic human resource management is the process of using electronics to manage human resources. It is the use of technology to manage all aspects of human resources including personnel information, attendance, training and development and benefits.
E-HRM applications/Activities:

E-HRM Use:
Integration or coordination of all HR functions and activities using online developments and web-based technologies. Basically, when HR uses the internet or other developments and technologies to help them in the workplace, the basic, processes become e-HRM According to Wahid and Park(2014), it is difficult to determine the value if we do not know the organization of the organizations with the support of the framework There are many studies whether it is effective on e-HRM or not has not been proven yet. On the contrary, there are other tools that define the effectiveness of human resource management in terms of turnover, financial evaluation, employee satisfaction, absenteeism and commitment.

Benefits of E-HRM:
1) Leads transparency
2) Promotes efficiency of system
3) Reducing administrative burden
4) E-HR saves cost, time and labour
5) Decentralizes human resource tasks.

Scope of development of e-HRM Knowledge work human resource management:
1) Intercultural training for human resources:
Appropriate strategies should be developed to ensure that training enables human resources to communicate across cultures and prevent conflict.
2) Review of suggestions:
Implementation should be suggestion-based and regular. HR application speeds up processes, reduces data and increases efficiency.
3) Monitoring training:
Training and development is the realm of HR department

3. OBJECTIVES / AIMS:
(A)To find the importance of various benefits of E-hrm practices in IT industry
(B)To identifying the importance of human resource management electronically.
(C)The primary objective of Research is to analyse employee perspective on benefits offered by E-HRM in public sector undertakings of Delhi-NCR
(D)TO be knowledge of the availability of IT infrastructure for HR applications.
(E)To be improvement in customer services.
(F) To investigate various cutting edge E-hrm strategies utilized in IT businesses.

4. RESEARCH METHOD / METHODOLOGY:
Research design to analyse “the impact of E-HRM on IT firms” was so constructed, that it takes all the aspects of unique objective and hypothesis of the study. The research design also measures and evaluates the type of statistical measures to be applied in research.

Sampling methodology:
The population for the study was the IT/ITEs industry operating in Delhi/NCR. The sample population for the study was selected according to simple random sampling methods.

Data collection:
The research population includes HR employees in the IT sector at NCR region who is the user of electronic human resource management system. In this research selected the three IT companies of NCR and the sample size can be taken for the study is 470 sample size from their various IT industry departments. The questionnaire consists of first part of demonstrate the demographic while the second part investigated the independent variables that consist of e-HRM .hence the three-dimensions were measured which are e-recruitment, e-leaning, e-compensation, e-training 120 statements would be tested.

5. RESULT / FINDINGS:
E-HRM is a high way to performing HRM functions. With top management support and HRM at strategic positions towards organizations effectiveness. E-HRM can enact as CIT tool as sustainable management, it can help organizations to enhance their functioning in HR properly. For the companies and especially, the HR professionals in IT industry developing a modern day digital technology is both an opportunity as well as a challenge which should be adopted but with care. Hence the investments of E-HRM practices can result in qualitative and efficiency gains.

6. DISCUSSION / ANALYSIS:
India's flagship "DIGITAL INDIA" program provides a path for transforming all the businesses, including their tasks, functions and services. The Robust IT connectivity being provided under India's smart cities mission is also a stepping stone in the same direction. With E-HRM functions are also expected witness accelerated development. The future of E-HRM in India is a journey which aims to move towards paperless offices and analysis of data done at a very high speed to establish standardized and systematic Procedures, provides transparency also helps to improve the satisfaction level of employee.

8. CONCLUSION:
E-HRM is a high way to performing HRM functions. With top management support and HRM at strategic positions towards organizations effectiveness. E-HRM can enact as CIT tool as sustainable management, it can help organizations to enhance their functioning in HR properly. For the companies and especially, the HR professionals in IT industry developing a modern day digital technology is both an opportunity as well as a challenge which should be adopted but with care. Hence the investments of E-HRM practices can result in qualitative and efficiency gains.

9. LIMITATIONS:
(A)Employees and line manager mind sets will not be changed
(B)It is difficult to maintain the confidentiality of the input data.

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Issues and challenges in the GST regime- an exploratory case analysis

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Abstract: Goods and Services Tax regime was introduced in India as a promising reform in the indirect taxation. Seven years of GST implementation has posed certain emerging issues and challenges in the new tax regime and the consequential difficulties to the taxpayers. The present study intents to explore major issues in the GST regime and identifies the consequential challenges faced by taxpayers. Besides, the study aims to suggest certain measures for the improvement in the GST regime of taxation. Review of existing literature and discussion with experts were used to collect data in this regard. Problems related to the Input Tax Credit seem to be the most important issue faced by taxpayers and grabbing them to lot of litigation. The undue delay in the conclusion of GST audit by the department and frequent amendments in the tax laws, including that of contradictory rulings given by the AARs creates another set of issues in the system. The study will through some light on the impending issues and challenges in the system and tries to suggest possible measures for improving it. This will enable the tax authorities, policy makers and taxpayers with some light on some of the grey areas of GST.

Key Words: GST, VAT, Taxation, Indirect tax, Problems in GST, Issues in GST, Challenges in GST.

1. INTRODUCTION:

The Goods and Services Tax regime in India recently celebrated its seventh anniversary. Within the seven years of its time line, it had witnessed path-breaking changes and paradigm shifts. The automated processes and online service delivery system resulted in transforming the inefficient old VAT regime into a robust, transparent, efficient and promising system capable of building national integration and unity among all. It is dwelling example of co-operative federalism and a glaring movement towards a vibrant democracy. The euphoria on the new GST regime seems to be getting diluted as problems, issues and corresponding challenges crept deep in to the system. The issues range from technical to practicality, legal to administrative, policy to procedural, and conceptual to structural. Some of the issues faced by taxpayers include problems related to registration, return filing, ITC availment , undue delays in the assessment and audit, non-existence of dedicated grievance redressal mechanism, etc. An exploratory study into the problems, issues and challenges in the GST regime will enable the authorities to make course correction wherever necessary and will prompt more extensive empirical research on the topic. Therefore an exploratory study based on case analysis approach has been undertaken to identify the contemporary issues and challenges in the GST system.

2. LITERATURE REVIEW:

A brief account of the existing literature related to the topic under discussion, consisting of 2 doctoral thesis and 10 articles were listed below

1. Rao, Marapalli Govinda (2022) in his MSE working paper titled “Evolving issues and future directions in GST reforms in India”, describes several issues concerning the GST regime and argues for rate rationalization, increasing the tax-base, including the Non-GST goods such as petroleum under the

GST regime, ensuring system efficiency of GST Network, and making the GST data available for research and analysis.

2. Mehta and Mukherjee (2021) in their NIPFP working paper titled "Emerging issues in GST law and procedures: an assessment", deliberates on various issues in the GST regime from the structural, procedural and administrative dimensions. Also, issues in the GST laws, problems concerning the GST Returns including the technical glitches in the GSTN and implementation related issues were examined in the paper.

3. Shinde (2019) in his research article titled "A study of impact and challenges of GST on various constituents of Indian economy" attempts to study the impact of GST on certain selected sectors. The author also identifies various challenges and recommends certain suggestive measures for the betterment of GST regime and its progressive implementation.

4. Lourdunathan and Xavier (2017) in their article titled "A study on the implementation of GST in India: prospects and challenges" makes an attempt to describe and identify the challenges and prospects in the implementation of GST. The authors express their positive perspective that the new system will benefit industry and commerce significantly and conclude that the initial troubles in the implementation phase can be overcome with the concerted effort of the Government and whole hearted support of business people.

5. Sahoo and Sahoo (2020) has examined the challenges and prospects of GST implementation in their journal article titled "Challenges and prospects of GST in digitalized Indian economy" and reports that the user readiness is playing vital role in the acceptability of the new regime and identifies implementation challenges.

6. Bendale, Abhijeet Jaysing (2020) in his journal article titled "GST in India: features and challenges" examines the challenges in the GST regime implementation such as complexity of tax procedures, problems in the industry readiness, lack of training and awareness, multiple tax rates, restrictions in the ITC , etc. The author suggest for simplifying the tax system and taxation processes besides reducing the slab rates.

7. Banik and Das (2018) through their article titled "GST in India: impact and challenges" report that the implementation and transitional process of GST face certain challenges such as the transitional complexities, multiple tax rates, technical issues in the GSTN, confusion and lack of awareness among taxpayers, etc. The authors suggests for the simplification of processes and services.

8. Kawlel and Aher (2017) in their article titled "GST: an economic overview, challenges and impact ahead" describes the sectors which are likely to experience price hike and price reduction. They also identify certain implementation challenges of GST such as obtaining consent of states, arriving at a revenue neutral rates, ability of the GSTN to handle IT infrastructure and software support, etc.

9. Abbasi, Habiba (2018) in her article titled "GST: impact and challenges faced by Indian economy" points out the impact of GST on certain sectors of Indian economy and provides some insights on implementation issues and challenges.

10. Bagyalakshmi et al. (2015) in their seminar compendium on GST consisting of 16 articles of different authors provides an insight on the implementation issues and challenges that may hinder the smooth transition of GST in India. Bagyalakshmi (2015) in her article describes the structural issues and implementation challenges and perceives that the new system will reduce the price of goods and services

11. Akhil M P (2021) in his thesis titled "GST: Challenges and potentials for Kerala" submitted to the Kerala University, intents to study the awareness of GST among stakeholders, identifies the implementation challenges and the potential benefits. Data collection was undertaken by using separate

interview schedules for consumers and the taxpayers. Also, focused group discussions with experts were held to identify problems and challenges. It was found from the study that the awareness level was low and taxpayers were heavily depending on the service of tax professionals. Study also revealed that the stakeholders face several problems and challenges in the tax compliance under GST regime.

12. Annapoorani K (2022) in her doctoral thesis titled "GST in India: Practitioners' perception towards ITC system" primarily focus on the effectiveness of the Input Tax Credit mechanism under the GST and the emerging problems in the ITC from the perspective of tax practitioners. Mixed method of research was used for data collection data analysis. Quantitative data were analysed by using statistical tools including the EFA and CFA. Thematic Analysis of qualitative data through inductive approach was undertaken. Triangulation of qualitative and quantitative data was used for enlisting the findings. It is found from the study that tax practitioners face several problems on account of vagueness and complexities in the ITC mechanism and frequent changes in it.

Review of existing literature shows that only little research was made on the issues and challenges in the GST regime. Majority of the existing studies were related to the implementation issues and implementation challenges. The problems and issues faced by taxpayers who were supposed to be the major stakeholders in the GST regime, was not dealt in breadth and depth. Moreover, extensive empirical research in to the issues and challenges concerning the taxpayers seems to be negligible. This forms a *Research Gap* for an exploratory study on the topic of issues and challenges in the GST regime. An exploratory research through a case analysis approach will be helpful in identifying major constructs and variables related to the issues and challenges faced by taxpayers in the GST regime, which can be used for preparing a questionnaire and conducting a further empirical study in this regard.

3. OBJECTIVES

- To identify major issues and challenges in the GST regime
- To identify major constructs and variables underlying in the topic of study
- To recommend measures for improvement
- To suggest areas or topics for a detailed empirical study in future

4. RESEARCH METHODOLOGY

- **Nature of Study:** Exploratory cum Descriptive
- **Method used :** Case study approach
- **Sources of data collection:**
    - **Primary Data:** collected through interview with experts and discussion with the registered taxpayers.
    - **Secondary Data:** collected through the review of literature of scholarly publications, YouTube videos of GST experts and tax professionals, websites of GST and ICAI, discussion forums and social media platforms of practitioners and newspaper reports.
- **Method of data collection**
    - Literature review of scholarly articles and thesis, referring through books and journals, listening to the videos of experts, interview with experts and discussions with taxpayers.
- **Method used for analysis:** Case analysis

5. DISCUSSION & ANALYSIS

Data collected from the literature review, interviews, discussions and deliberations with the concerned stakeholders, listening through the videos and news bulletin on GST, and participation in the peer group discussions were used as the conceptual base for this case analysis. The important issues concerning GST and the corresponding challenges faced by taxpayers are enumerated below

Registration related issues including bogus registrations

As an effort to make the online registration process simple and easy, GSTN envisaged a simplified, self-declaration based process for obtaining the GSTIN. Aadhar based authentication through OTP were only required for completing the registration process. Time bound issue of GSTIN was ensured through automatic registration and generation of GSTIN, if objection was not raised by the proper officer within the prescribed time limit of 3 days. This simplified process is very much appreciated and accepted by the business community as a whole. But it turned to be nightmare when bogus registration getting mounted over years. The bogus registration caused severe jolt to the credibility of the system and affected severely to the economic interest of government and honest taxpayers. Governments (both central and state) have noticed the matter and had taken measures to curtail such instances. Nationwide field verification drives of registered entities were made on selective basis during June-August 2023. Data analytics reports from the GSTN were relied upon in selecting entities for field verification. It was shocking to found that many of the suspected GSTIN were obtained in the name of poor and illiterate labourers having no background of business or trade. The registrations of non-existing bogus entities were cancelled retrospectively. This retrospective cancellation of registration had created nightmare for the taxpayer recipients and resulted in the following issues

*Taxpayer recipients with possession of tax invoice are not in a position to avail ITC
*Required to reverse the ITC already availed
*Required to pay interest and penalty on such ITC
*Leading to a lot of litigation and suits

As a course correction exercise, the recently held 53rd GST council meeting resolved to modify the GST registration process with mandatory biometric aadhar authentication in a phased manner and verification of proof documents through GSKs(GST Suvidha Kendra) before granting the registration certificate. This measure will hopefully end the future incidence of bogus registration and tax evasion.

Complexities related to GST Returns and frequent changes

For normal taxpayers, three returns are important-GSTR 1 (outward supply) GSTR 2B (inward supply and ITC), and GSTR 3B (summary return for settlement of tax liability). These returns are witnessing frequent modifications. It is quite natural that during the initial years of implementations, changes and modifications are necessary. But even after seven years the returns are not yet stabilized. When GST was rolled out it was the notion among business community that they will get credit for all the inward supplies and as and when the supplier files their GSTR 1, it will be reflected in the GSTR 2 of the recipient taxpayer. A modified version of GSTR 2A which is a dynamic statement with auto-populated values captured from the GSTR 1 of suppliers, were made available in the home page of registered taxpayers. Being a dynamic statement, the values in it will keep on changing as and when there is any modification in the GSTR 1 of suppliers. Initially, most of the recipient taxpayers assumed that value of input tax as disclosed by GSTR 2A is eligible for them and has taken ITC on such values. Amendments in the GST law were brought to incorporate certain conditions for availing ITC and consequently GSTR 2B was introduced. It was notified that ITC as per GSTR 2B can only be taken as credit while filing GSTR 3B return. ITC as per GSTR 2B is the value of input tax after adjusting all the ineligible ITC and blocked credits. This has emerged as a major issue to the business community and prompted them to seek legal remedies and ever mounting litigations in the competent court of law.

Another issue is with regard to the GSTR 3B, which is supposed to be a summary return under the GST law. Submission of GSTR 3B is possible only if the tax liability is either adjusted through ITC or paid in cash. If there is no sufficient balance available in the electronic cash ledger and the electronic credit ledger, then returns could not be submitted before the due date, attracting penalty, late fee, and interest for the delayed settlement. If submission of GSTR 3B is possible, even with balance in the tax liability, business entities will be relieved in terms of the compliance matter and amount of tax due can be paid on a later date with interest on delayed payments. But absence of such provision increases their tax burden in the form of penalty and late fees. Moreover, mismatch between GSTR 1 and GSTR 3B were another issue pondering the business community. Another issue concerning taxpayers was the inability to make corrections in the GSTR 1. More often there will be some clerical mistake while entering the invoice in the GSTR 1. There is no possibility to make correction of such mistakes. But hopefully, the recently notified provisions as per the recommendation of the 53rd GST council meeting, a new return in the form of GSTR 1A was introduced, which can be used to correct or modify entries in the GSTR 1 . Also, another measure in the form of Invoice Management System will be introduced with effect from 01-10-2024 to tack invoice-wise details of inward supplies and which can be used to report anomalies if any noticed by the taxpayers. Thereby in future, problems and issues related to anomalies, mistakes, errors and omissions can be avoided and time and money for litigation and disputes can be saved.

System failures and technical glitches in the GST portal

The GST portal which is the centralized front-end interface of registered taxpayers are embedded with technical glitches and malfunctioning initially. The ledgers and statements available in the portal went several modifications and changes. When the due date is nearing, the system hanging and access denial become a common problem. But eventually the GSTN is taking all sort of best effort to ensure a user friendly front-end service point by ensuring server capacity and server side errors.

Input Tax Credit related complexities and issues

The issue related to the availment and utilization of input tax credit seems to be the core and crux of problems and issues in the GST regime. As pointed out earlier, when the regime was introduced the CBIC and authorities promised that there will be seem-less flow of credit all across the line of supply chain so that business can avail credit on all the input tax paid by them for their inward supplies. GSTR 2A which is an auto populated statement based on the GSTR 1 details of suppliers were made available to the taxpayers for knowing the details of input tax. Taxpayers filed their GSTR 3B return by taking ITC as disclosed by the GSTR 2A. As the return submission is on self-certification basis and there was undue delay in finalizing the assessment and audit under the GST law, the process continued unabated. Meanwhile, the authorities came with certain conditions and restrictions for the availment and utilization of ITC and started issuing show cause notices. This has paralyzed the tax compliance effort of business people and aggravated their agony. Undue delay in the conclusion of assessment and GST audit is adding troubles to the ITC utilization issues.

Frequent changes in the tax laws, tax rules and tax rates

Even after the completion of seven years of its inception, the GST regime is still undergoing frequent changes structurally and on policy grounds. The GST law consisting of the Act, Rules, Notifications, and Circulars are witnessing frequent amendments. Though the basic tax slabs were not changed, tax rate of goods and services were modified several times. This has created lot of ambiguity and confusions for traders as well as consumers. Frequent shifting of goods from one slab rate to another creates problems to the business people as they have to modify their invoices of long term supply contracts. This will also lead to disputes and litigations. It is ironically stated by many taxpayers and practitioners that every day they will have to see the news and updates regarding changes or modifications. Taxpayers are required to update their software and stock items in tune with the changes and modifications in the rates or slabs.

Conflicting pronouncements of AARs and undue delays and costly formalities

The Authority for Advance Ruling (AAR) were constituted for giving clarifications on ambiguous or disputing provisions in the GST law or the applicability or admissibility of classification of items falling under certain rate or not. Though the mechanism is envisaged for clarifying the vagueness in the law or provisions, an amount of ₹5,000 per clarification is required to be remitted to the authorities. There were many complaints regarding undue delay in making pronouncement by the AAR. Moreover, there are many instances when AAR of different states giving conflicting rulings on the same matter. Even, AAR of certain states has giving different rulings on the same subject at two different times. The Government proposed to constitute Appellate AAR for the grievance redressal against the rulings of AAR. But the fee for filing appeal is ₹10,000 per subject matter. Every day there will be a chance of pronouncements by AAR. Updating oneself with these pronouncements and rulings were a hefty task for not only the tax payers but also the tax practitioners and professionals.

Delayed establishment of GST Tribunals

The grievance redressal mechanism under the GST regime has some serious issues right from its inception. Establishment of GST tribunals as envisaged by the GST law witnessed undue delay. Aggrieved taxpayers who want to seek legal remedy against the order of the first appellate authority are forced to move to the High Courts and Supreme Courts. As Indian judiciary is flooded with many pending cases, there occurs undue delay in getting a verdict from there. This kind of scenario persisted till the last six and half years. Finally the central government notified the establishment of GSTAT (GST Appellate Tribunal) with its principal bench at Delhi and additional benches at various states. Though the functioning of GSTAT was made possible at the national level, several state governments are very late on the constitution of state benches of GSTAT and making it functional. Another issue encountered related to the grievance handling is the pre-deposit requirement for filing appeals. The recently concluded 53rd GST council meeting reduced the amount of maximum pre-deposit requirement to ₹20 crores. Previously the pre deposit percentage of 20% of the disputed tax amount was reduced to 10% of the disputed tax amount. Also, the 53rd GST Council meeting recommended certain monetary limit for filing appeals by the Government (₹20 lakhs for GSTAT, ₹1 crore for High Courts and ₹2 crores for Supreme Court). That is if the order is in favour of the taxpayer, Government will not move for filing appeals if the disputed amount is below the limit provided .With all these measures, the grievance handling mechanism will be made easy for the taxpayers in future.

Undue delays in the Scrutiny of Returns and Assessment

It is found that the delayed issue of SCN (show cause notice) and demand notices creating panic among taxpayers. Though the GST law provides a maximum period of 3 years to scrutinize the returns and conclude the assessment in the case non-fraud cases and 5 years in the case of fraud cases, it is feasible and practicable for the business to get the assessment completed at the earliest. Presently the scrutiny of returns happens very late, just at the end of the third year and SCNs were issued accordingly. In the meantime, the taxpayer might have forgotten some of the specific events that has caused difference in the values or mismatch between GSTR 1 and GSTR 3B or matters related to the disputed ITC. The year 2023 witnessed the massive issue of SCNs and demand notices by the GST authorities for the initial 3 years (2017-18 to 2019-2020) at once. This kind of illogical behavior resulted into a panic like situation for the taxpayers. Timely scrutiny and conclusion of returns is the need of the hour and it should be completed within the next financial year itself. This will provide the taxpayers to take course correction measures immediately and clear the problems thereafter. Also it was reported by many taxpayers and tax practitioners that large number of SCNs and demand notices were issued without stating specific section (Section 73 or Section 74) and specific instances of dispute. This irrational serving of notices also aggravates the situation further.

Delayed commencement of GST Audit

The GST audit as envisaged in the GST law was also carried out in a delayed manner. Early conclusion of GST audit will enable the taxpayers to make course correction immediately and beneficial for the government with early receipt of tax revenue. As a matter of administrative convenience, taxpayers within a state will be bifurcated in the jurisdiction of central GST and state GST offices. Though started at very late, the GST audit as per section 65 in respect of taxpayers coming under the central GST jurisdiction is progressing now. But the audit by the state GST department was not showing any progress and in Kerala the audit wing was constituted only in June 2024.Taxpayers and tax professionals reports that the GST audit for the year 2017-18 were commencing in 2024 after seven years. By this time, many of the registered business entities might have closed their business operations and the going concerns might have lost or displaced the documents and records. It is a fact that in many states the GST audit is pending right from the first year of GST implementation. This will lead to a situation of mistrust between taxpayers and authorities and result into litigations and disputes.

Seizure of goods on unreasonable grounds and disruptive inspections

Even though the GST regime envisages for the uninterrupted movement of goods across India without paying entry tax at each state boundaries, there are provisions for verification and tracking of movement of goods by the enforcement staff. In this regard, there are many instances of seizure of goods by GST officials even for minor mistakes and clerical errors. Even after producing the documents confiscation of goods by officials happened. Such isolated incidents will vitiate the cordial relationship between taxpayers and the GST officials. There are many case verdicts of various High Courts in favour of the taxpayers. Also, complaints against enforcement staff regarding disruptive verification in the place of business and seizure of recodes without proper notice were reported. Though these are isolated events, it will create negative impact for the GST regime.

Other Problems and Issues

Some the other problems faced by taxpayers includes, lack of proper awareness on GST law, heavy dependence on tax professionals, increased compliance cost, lack of ICT skills to handle online services, presence of corruption and favouring, lack of mutual trust. RCM related issues, etc.

6. FINDINGS & OBSERVATIONS

Based on the above discussion and analysis it is found that the present GST regime faces several issues and challenges. These issues can be used as variables and constructs for a preparing a structured questionnaire, followed by an empirical study. Based on the contents of discussion & analysis part, various question items can be framed against each constructs. Taxpayers' perception on these problems and issues can be tested and validated through appropriates test statistics. Therefore, from this study the following constructs and variables were identified which are listed below.

Identified Constructs and Variables

- Registration related issues
- Returns related issues
- GST portal related issues
- ITC related issues
- Rules and Regulation related issues
- Rates related issues
- Grievances related issues
- Audit and Assessment related issues
- Enforcement related issues
- Demand and Recovery related issues

7. RECOMMENDATIONS

Recommendations for improvements

- Periodical field verification on the existence of registered taxpayers and their business
- Simplifying the GST returns with enabling more auto-capturing capabilities
- Creating awareness on the eligible ITC and ineligible ITC
- Making available the statement of eligible and ineligible ITC in the GST portal
- Allow the GST law to be stable and consistent

- Rationalizing the tax slabs and rates
- Unified and standardized processes for AAR rulings and reduce the fee for AAR rulings
- Ensure the Tribunals were constituted in all states at the earliest
- Completion of audit under GST in the succeeding financial year itself
- Completion of scrutiny and assessment of returns in the succeeding financial year itself
- Timely issue of SCNs and provide adequate time for the reply
- Training to the GST enforcement staff for observing fair practices during verification and inspections
- Use AI based applications for providing better user experience to the taxpayers and equipping the enforcement staff with better sourcing of GST intelligence

Suggested topics for further research

- Issues and challenges faced by taxpayers in the ITC mechanism under the GST regime
- Issues and challenges faced by taxpayers in the GSTR filing process
- Issues and challenges faced by taxpayers due to fake GST registration
- Issues and challenges faced by taxpayers due to frequent changes in the GST laws and slab rates.
- Issues and challenges faced by taxpayers due to the delays in the tax audit under the GST regime
- Issues and challenges faced by taxpayers due to the delayed and improper serving of Show Cause Notices
- Issues and challenges faced by taxpayers due to non-functioning of GST tribunals
- Issues and challenges faced by taxpayers due to the costly grievance redressal mechanism under GST regime.

8. CONCLUSION :

Registered taxpayers, their accounting staff and tax practitioners are experiencing several challenges on account of issues in the GST regime. Some of the issues are systemic in nature and some others require policy changes. Authorities in the government require a sincere feedback from the stakeholders so as to make appropriate course corrections. This exploratory study will help in the identification such issues and problems. These identified issues can be used as major constructs for an empirical further research. Variables concerning each major constructs can be identified from the discussion and analysis of issues and challenges faced by taxpayers. The outcome of such an empirical study based on the opinion of taxpayers and tax professionals will enable the relevant bodies to bring appropriate changes in the regime, wherever necessary. Therefore, this study is a preliminary step towards an extensive empirical research on the topic.

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Artificial intelligence and its role in evaluating and enhancing job performance

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Abstract: *Artificial Intelligence (AI) is a transformative force in today's society, impacting various cognitive functions. AI systems are increasingly integrated across sectors, enhancing effectiveness and decision-making processes. However, ethical concerns regarding privacy, bias, and accountability call for critical discussions as we navigate AI's widespread implications. Job performance is shaped not only by individual capabilities but also by workplace dynamics, motivation, and leadership. Recognizing these factors is essential for fostering a productive environment.*

Artificial Intelligence (AI) plays a transformative role in evaluating and enhancing job performance by providing data-driven insights and personalized feedback. By analyzing employee metrics, AI systems can identify strengths and weaknesses, facilitating targeted development strategies that improve productivity. Consequently, organizations leverage AI to foster a more efficient and engaged workforce. This study investigate the artificial intelligence and its role in evaluating and enhancing job performance.

Keywords: *Artificial Intelligence, Job Performance.*

1. INTRODUCTION:

The emergence of Artificial Intelligence (AI) has transformed the operational landscape for businesses, transforming various aspects of organizational functioning, including job performance evaluation and enhancement. AI's capabilities to analyse large datasets, recognize trends, and generate forecasts. have made it an indispensable tool for evaluating and enhancing job performance. This essay delves into the role of AI in evaluating and enhancing job performance, highlighting its benefits, challenges, and future implications. A key way AI enhances job performance assessment is by analyzing data. AI algorithms can handle extensive datasets from multiple sources, including performance metrics, customer feedback, and employee behavior, to provide a comprehensive picture of an employee's strengths and weaknesses. This enables managers to make informed decisions about employee development, promotion, and retention. For instance, AI-powered performance management tools can analyze sales data to identify top-performing sales representatives and provide personalized coaching to underperforming ones. AI significantly enhances job performance by offering tailored learning and development opportunities. AI-driven learning platforms can assess an employee's learning preferences, skill levels, and performance gaps to suggest personalized training programs. This approach not only boosts employee skills but also fosters greater job satisfaction and engagement. Additionally, AI chatbots can deliver instant feedback and support, assisting employees in overcoming obstacles and enhancing their performance.

Another significant contribution of AI to job performance evaluation is its ability to reduce bias and increase fairness. Conventional performance evaluation methods frequently depend on subjective opinions and biases, resulting in potentially flawed assessments. In contrast, AI algorithms aim to remove these biases by delivering objective evaluations grounded in data-driven insights. This approach guarantees that employees are assessed based on their actual performance rather than personal attributes, fostering a fair and inclusive workplace. Despite the benefits of AI in evaluating and enhancing job performance, there are challenges associated with its implementation. AI algorithms rely heavily on the quality of the data they are trained with. If the data is inaccurate or incomplete, it can result in incorrect assessments and decisions. Ensuring high-quality data is essential for effective AI performance. AI systems can perpetuate existing biases if they are trained on biased data, which can have negative consequences for certain groups of employees. The future of AI in assessing and improving job performance appears bright, driven by advancements in natural language processing, machine learning, and computer vision. We can expect a rise in AI-driven virtual assistants that offer real-time feedback and support to employees. Moreover, AI-based predictive analytics will allow organizations to spot potential skill gaps and create proactive strategies to tackle them. AI holds significant impending to revolutionize job performance evaluation and enhancement by providing data-driven insights, personalized learning opportunities, and bias-free evaluations. While there are challenges associated with AI implementation, the benefits far outweigh the drawbacks. As AI technology continues to evolve, it is essential for organizations to invest in developing transparent, explainable, and fair AI systems that promote employee growth and development. Leveraging AI can help organizations foster a more efficient, effective, and equitable workplace that advantages both employees and employers.

2. SIGNIFICANCE OF THE STUDY

The study of artificial intelligence (AI) has gained considerable significance in contemporary research, particularly regarding its implications for evaluating and enhancing job performance. As organizations increasingly adopt AI technologies, understanding their impact becomes essential for optimizing workforce efficiency and effectiveness. AI tools can facilitate performance assessments by providing data-driven insights that surpass traditional evaluation methods.

3. OBJECTIVES OF THE STUDY

- To investigate the current applications of Artificial Intelligence in assessing job performance.
- To analyze the impact of AI on boosting employee productivity and efficiency.
- To assess how AI contributes to ongoing learning and professional development.
- To examine the ways AI facilitates continuous learning and career advancement.

4. REVIEW OF LITERATURE

The integration of Generative Artificial Intelligence (AI) into Human Resource Management (HRM) marks a significant shift in how organizations approach recruitment, training, and performance evaluation. This paper explores the various functions of Generative AI in enhancing HRM practices, offering innovative solutions that boost efficiency and effectiveness in managing talent. In recruitment, Generative AI revolutionizes the process by enabling automated candidate screening through algorithms that assess resumes and applications. This approach not only accelerates hiring timelines but also fosters fairness and objectivity in candidate selection. Additionally, AI can generate tailored job descriptions that align candidate qualifications with organizational needs. Another critical feature of Generative AI is predictive analytics, which allows organizations to anticipate future hiring requirements and assess candidate potential by analyzing historical recruitment data. However, the adoption of Generative AI in HRM necessitates a thoughtful strategy that maintains ethical standards, ensures transparency, and complies with data protection laws. Human oversight remains essential to mitigate any biases or errors that may arise from AI algorithms. In summary, Generative AI represents a powerful tool for transforming HRM practices, providing scalable, data-driven solutions that cater to the evolving demands of today’s workforce.

This research aims to explore the potential of artificial intelligence, particularly natural language processing (NLP), in enhancing academic performance, using economics and finance as key examples. Employing a case study approach, we focus on ChatGPT as a specific NLP tool that shows promise for advancing scholarly research. Our analysis of ChatGPT's capabilities, advantages, and limitations suggests that it can significantly enhance academic research, especially in the fields of economics and finance. ChatGPT and similar AI tools can assist researchers in data analysis, scenario generation, and results communication.

However, several limitations must be taken into account when utilizing chatbots or comparable technologies in research. These include issues related to generalizability, dependence on the quality and diversity of data, lack of domain-specific expertise, limited contextual understanding, ethical considerations, and constraints on producing original insights. Therefore, it is essential to carefully consider these limitations when using ChatGPT, ensuring it is complemented by human analysis and interpretation.

This study explores how prepared human resource (HR) professionals are for the integration of artificial intelligence (AI) in their field. It focuses on three aspects of attitudes—cognitive, emotional, and behavioral—related to HR professionals' views on AI, their anxiety levels concerning AI, and their readiness to adopt AI technologies. Additionally, the research investigates how high-performance work systems (HPWS) might moderate the relationships between these attitudes and readiness for change. Data was gathered from 417 HR professionals in China. The findings indicate that HR professionals' perceptions of AI and their anxiety about it significantly influence their readiness to integrate AI into their practices. Specifically, a positive perception of AI correlates with increased readiness for change, while anxiety about AI tends to decrease this readiness. Moreover, the study reveals that HPWS can mitigate the negative effects of AI anxiety on HR professionals' willingness to embrace AI integration. The paper discusses the implications of these findings, touching on theoretical insights, practical applications, limitations of the study, and recommendations for future research.

Measuring employee engagement is both a complex and evolving challenge. This metric directly influences the company's effectiveness in achieving its business goals. Consequently, employee engagement has surged in importance over the past ten years. To foster a workplace that is welcoming and to ensure that employees find joy in their roles while contributing to the organization's growth, companies must cultivate a sense of empowerment and clarify the benefits that come with the company's success. Understanding employee sentiments regarding the workplace and the organization itself is crucial for operating a prosperous business. To enhance the employee-friendly nature of the organization, it is essential to gather and evaluate information on advancement opportunities, management feedback, and suggestions for enhancement. Business leaders need immediate data and insights on Employee Engagement to react more swiftly and with a tailored approach. However, the conventional methods most organizations use to assess employee engagement are, at best, mediocre and, at worst, highly ineffective. Organizations often depend on data collected through various survey questions, and the results tend to yield inadequate solutions to employee problems. Numerous challenges have been identified; what steps must be taken to tackle these obstacles? The solution lies in implementing artificial intelligence (AI).

5. RESEARCH METHODOLOGY

The Primary sources of data was conducted with a survey targeting various organizations across educational institutions, industry, finance, healthcare, and technology sectors in Chennai. I distributed a total of 500 questionnaires via email and direct handouts. In the end, I received 285 completed responses.

6. RESULTS AND DISCUSSION

TABLE 6.1 <> Respondents towards Advantages of AI for evaluating performance and their comfort level with AI being involved in the process using paired t-test

Particulars	*Advantages in using AI for evaluating performance*	*Feel comfortable with AI being involved in performance evaluation process*
Mean	4.021053	2.196491
Variance	0.682654	1.588016
Observations	285	285

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Pearson Correlation	-0.03104	
Hypothesized Mean Difference	0	
Df	284	
t Stat	20.1562	
P(T<=t) one-tail	5.23E-57	
t Critical one-tail	1.650237	
P(T<=t) two-tail	1.05E-56	
t Critical two-tail	1.968352	

Interpretation of the Paired t-Test Results

- **Mean and Variance**

Advantages of using AI for evaluating performance: Mean = 4.02, Variance = 0.68
Comfort with AI in performance evaluation: Mean = 2.20, Variance = 1.59
The mean for the "advantages of using AI" is significantly higher than the mean for "comfort with AI," suggesting that respondents perceive AI to have advantages in evaluating performance, but they are less comfortable with AI being involved in the process.

- **Pearson Correlation**

The Pearson correlation coefficient between the two variables is -0.031, suggesting a very weak negative association between the perception of AI advantages and comfort with AI in performance evaluations. This implies that these perceptions are nearly independent of one another.

- **t-Test for Paired Samples**

The t-statistic calculated is 20.16, indicating a substantial difference between the two means. The degrees of freedom for this analysis is 284. The one-tailed p-value is 5.23×10^{-57}, while the two-tailed p-value is 1.05×10^{-56}. Both p-values are exceedingly small, well below the standard alpha level of 0.05, confirming that the difference between the means is statistically significant. The critical values for the one-tailed and two-tailed tests are 1.65 and 1.97, respectively. Given that the t-statistic far exceeds these critical values, we can confidently reject the null hypothesis.

- **Hypothesis Testing**

Null Hypothesis (H_0): There is no significant difference between the mean perceptions of AI advantages and comfort with AI in performance evaluations.
Alternative Hypothesis (H_1): There is a significant difference between the means of these two perceptions. Based on the t-statistic and the corresponding p-values, we reject the null hypothesis. There is compelling evidence that the perceived advantages of AI in performance evaluations are significantly greater than the comfort level associated with its involvement.

Inference

A statistically significant difference exists between participants' perceptions of the advantages of AI in performance evaluation and their comfort level with AI's involvement in this process. Although respondents recognize the benefits that AI offers in evaluation, they express lower comfort regarding its role in assessing their own performance. This indicates a break between acknowledging the value of AI and being personally accepting of its application.

TABLE 6.2 <> Respondents towards Comfort with AI in performance evaluation" and the perceived advantages of using AI for performance evaluation using Regression Analysis

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.846966							
R Square	0.717352							
Adjusted R Square	0.713831							
Standard Error	2.186126							

Observations	285							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	3444.723	3444.723	720.7823	8.7654E-80			
Residual	284	1357.277	4.779145					
Total	285	4802						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Do you feel comfortable with AI being involved in your performance evaluation process	1.373494	0.051159	26.84739	6.66E-80	1.27279443	1.474194	1.272794	1.474194

Interpretation of Regression Analysis

1. Regression Statistics

- **Multiple R = 0.847**: This correlation coefficient indicates a strong positive relationship between the independent variable (comfort with AI) and the dependent variable (presumably the advantages of AI in performance evaluation).
- **R Square = 0.717**: This value signifies that 71.7% of the variability in the dependent variable can be explained by the independent variable, highlighting a substantial portion of explained variance.
- **Adjusted R Square = 0.714**: The adjusted R-squared value slightly decreases to account for the number of predictors but still indicates a strong fit of the model.
- **Standard Error = 2.186**: This figure reflects the average distance between observed values and the regression line, with smaller values indicating a better model fit.
- **Observations = 285**: This indicates the total number of data points used in the analysis.

2. ANOVA (Analysis of Variance)

- **Regression**: The model has 1 degree of freedom (df = 1), with a sum of squares (SS) of **3444.72**, representing the variability explained by the regression. The mean square (MS) for the regression is also **3444.72**.
- **F-Statistic = 720.78**: This high F-value suggests that the model is highly significant.
- **Significance F (p-value = 8.77 × 10^{-80})**: The extremely low p-value indicates that the overall regression model is statistically significant.

3. Coefficients

- **Intercept**: The intercept is reported as 0, but is marked as #N/A in the table, which may suggest it was not included in the model or lacks relevance in this context.
- **Comfort with AI in Performance Evaluation**: The coefficient for this variable is **1.37349**, with a standard error of **0.05116**. A low standard error implies a precise estimate of the coefficient.
- **t-Statistic = 26.85**: This value, representing the ratio of the coefficient to its standard error, is quite high, indicating the significance of the independent variable in predicting the dependent variable.
- **P-value = 6.66 × 10^{-80}**: This very small p-value suggests a highly statistically significant relationship between comfort with AI and the dependent variable.

- **95% Confidence Interval**: The interval ranges from **1.273** to **1.474**, indicating that we are 95% confident the true coefficient value lies within this range. Since the interval does not encompass zero, the result is statistically significant.

Inference

Regression analysis shows a strong and statistically significant positive relationship between "comfort with AI in performance evaluation" and the perceived advantages of using AI for performance evaluation. The model explains 71.7% of the variance, indicating a strong fit. The independent variable ("comfort with AI") has a positive coefficient, suggesting that as comfort with AI increases, the perceived advantages of AI also increase. The statistical significance (p-value) is extremely high, confirming the robustness of the model.

TABLE 6.3 <> Type of Industry and Organization uses AI tools to evaluate your job performance using One –Way ANOVA

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Type of Industry	285	966	3.389474	1.196368		
organization use AI tools to evaluate your job performance	285	542	1.901754	0.553694		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	315.3965	1	315.3965	360.4404	1.32E-62	3.857882
Within Groups	497.0175	568	0.875031			
Total	812.414	569				

Interpretation of ANOVA (Single Factor)

Type of Industry

Count = 285: The number of observations related to the type of industry.
Sum = 966: The total sum of the observations for this group.
Average = 3.39: The average response for the group "Type of Industry."
Variance = 1.196: The variability within the group.

Organization uses AI tools to evaluate your job performance

Count = 285: The number of observations for this group.
Sum = 542: The total sum of responses for this group.
Average = 1.90: The average response for this group.
Variance = 0.554: The variability within this group is lower than in the "Type of Industry" group.

ANOVA Table - Source of Variation

Between Groups (SS = 315.396, df = 1, MS = 315.396, F = 360.44):
Sum of Squares (SS): This reflects the variation observed between the two groups under comparison.
Degrees of Freedom (df = 1): With only two groups being analyzed, the degrees of freedom for this source of variation is 1.
Mean Square (MS = 315.396): This value represents the average variability between the groups, calculated as SS divided by df.
F-Statistic = 360.44: This very high F-value indicates a significant difference between the groups.
P-value = 1.32E-62: This extremely small p-value signifies that the differences between the groups are highly statistically significant, far below the conventional threshold of 0.05.
F Critical = 3.86: The critical F-value for a 0.05 significance level is 3.86. Since the calculated F-value (360.44) far exceeds this critical value, it reinforces the conclusion that the differences between the groups are statistically significant.

Within Groups (SS = 497.018, df = 568, MS = 0.875):
Sum of Squares (SS = 497.018): This quantifies the variation occurring within each group.
Degrees of Freedom (df = 568): This is derived from the total number of observations minus the number of groups (570 total observations - 2 groups = 568).
Mean Square (MS = 0.875): This indicates the average variability within the groups.
Inference
The ANOVA results indicate a significant difference between the two groups: "Type of Industry" and "Organization uses AI tools to evaluate job performance." The exceedingly low p-value (1.32E-62) and the high F-value (360.44) suggest that the means of these groups are statistically different. This implies that the average responses vary significantly based on the type of industry, indicating that the adoption of AI tools for performance evaluation may differ markedly across different sectors.
In conclusion, this analysis provides strong evidence that "Type of Industry" significantly influences the use of AI tools for evaluating job performance.

TABLE 6.4 <> Respondents towards effectiveness of AI-based performance evaluations vary more than their experiences with performance evaluations in general using F-Test Two-Sample for Variances

	Experience	*how effective do you find AI-based performance evaluations compared to traditional methods*
Mean	3.34386	3.25614
Variance	1.170077	1.423598
Observations	285	285
Df	284	284
F	0.821915	
P(F<=f) one-tail	0.049497	
F Critical one-tail	0.822394	

Interpretation of F-Test Two-Sample for Variances
1. Test Summary
Experience and How effective do you find AI-based performance evaluations compared to traditional methods are the two groups being compared.
Mean (Experience = 3.34, Effectiveness of AI-based evaluations = 3.26): The average scores for both groups are quite similar, with slightly higher values for the "Experience" group.
Variance
Experience Variance = 1.1701: This indicates the spread or variability of responses for the "Experience" group.
AI-Based Evaluation Effectiveness Variance = 1.4236: The variance is slightly higher for the group comparing AI-based evaluations to traditional methods, suggesting a bit more variability in responses.
Observations: Both groups have the same number of observations (285).
2. **Degrees of Freedom (df)**
df = 284 for both groups: This is calculated as the number of observations minus 1.
3. **F-Statistic**
F = 0.822: This is the ratio of the variances (1.1701 / 1.4236). It compares the variability between the two groups.

- **P(F ≤ f) one-tail = 0.0495**: This p-value for the F-test represents the probability of observing an F-statistic as extreme as, or more extreme than, the one calculated, assuming the null hypothesis is true.
- **F Critical one-tail = 0.8224**: This is the critical F-value for a one-tailed test at the 95% confidence level. If the F-statistic is less than or equal to this critical value, we do not reject the null hypothesis.

Inference:
Given that the calculated F-value of **0.822** is very close to the critical value of **0.8224**, and the p-value of **0.0495** is below the 0.05 threshold, we find sufficient evidence to reject the null hypothesis. This suggests a statistically significant difference in the variances between the two groups. The findings imply that the variability in responses regarding the effectiveness of AI-based performance evaluations, as opposed to traditional methods, differs significantly from the variability in experiences with performance evaluations in general. In conclusion, there is a notable difference in the variability of opinions between these two groups, suggesting that people's views on the effectiveness of AI-based evaluations are more variable than their experiences with performance evaluations overall.

TABLE 6.5 <> Respondents towards Gender and Awareness of AI tools used for Job Performance Evaluation using Descriptive Statistics

Gender		*aware of any AI tools used for job performance evaluation*	
Mean	1.403509	Mean	1.477193
Standard Error	0.029112	Standard Error	0.029639
Median	1	Median	1
Mode	1	Mode	1
Standard Deviation	0.491464	Standard Deviation	0.500358
Sample Variance	0.241537	Sample Variance	0.250358
Kurtosis	-1.8567	Kurtosis	-2.0057
Skewness	0.395444	Skewness	0.091807
Range	1	Range	1
Minimum	1	Minimum	1
Maximum	2	Maximum	2
Sum	400	Sum	421
Count	285	Count	285
Confidence Level (95.0%)	0.057302	Confidence Level (95.0%)	0.058339

Descriptive Statistics Interpretation

- **Gender (Variable 1)**

Mean = 1.4035: On average, the value for the "Gender" group is 1.40. Given that gender is likely coded as 1 and 2 (e.g., 1 = Male, 2 = Female), this indicates a higher frequency of responses around the lower value (likely 1, if coding corresponds this way).
Standard Error = 0.0291: The mean's precision (based on the sample size). A lower standard error indicates a more reliable estimate of the mean.
Median = 1 and Mode = 1: Both the median and mode are 1, suggesting the majority of respondents belong to one specific gender (likely coded as 1).
Standard Deviation = 0.4915: This indicates moderate variation within the gender group, meaning there is a mix of responses but most are close to 1.
Skewness = 0.3954: The data distribution is slightly right-skewed, meaning a few responses are skewed toward higher values (closer to 2).
Kurtosis = -1.8567: Negative kurtosis suggests a flatter distribution compared to a normal distribution.

Range = 1 (Minimum = 1, Maximum = 2): The values in this variable range between 1 and 2, likely corresponding to two gender categories.
Sum = 400, Count = 285: The total sum of the gender values is 400, with 285 respondents.
Confidence Level (95.0%) = 0.0573: This suggests that with 95% confidence, the true mean for the population lies within 1.4035 ± 0.0573.

- **Aware of any AI tools used for job performance evaluation (Variable 2**)

Mean = 1.4772: The average value for respondents' awareness of AI tools used for job performance evaluation is slightly higher than for the "Gender" group, at 1.48.
Standard Error = 0.0296: This is similar to the standard error for gender, indicating a similarly reliable mean estimate.
Median = 1 and Mode = 1: Most respondents gave a value of 1, suggesting that the majority are likely not aware of AI tools (assuming 1 represents "No").
Standard Deviation = 0.5004: There is slightly more variability in responses for awareness of AI tools than in the gender group.
Skewness = 0.0918: This suggests the distribution is almost symmetrical, indicating an even spread of responses between 1 and 2.
Kurtosis = -2.0057: The distribution is flatter than a normal distribution, with a smaller peak.
Range = 1 (Minimum = 1, Maximum = 2): Similar to gender, responses range between 1 and 2.
Sum = 421, Count = 285: The total sum of responses is 421, with 285 respondents.
Confidence Level (95.0%) = 0.0583: With 95% confidence, the true population mean lies within 1.4772 ± 0.0583.

Comparison

The means for both variables are close to 1, suggesting that for both gender and awareness of AI tools, the majority of responses are centered around the value of 1 (likely representing a particular category, such as Male or No awareness). The standard deviations and variance are quite similar, indicating comparable spread in the responses for both variables. Skewness is slightly higher for the gender variable, but neither variable is significantly skewed.
Kurtosis indicates that both distributions are flatter than a normal distribution, meaning they are less peaked. Both groups show high precision in the mean, as indicated by relatively small standard errors and narrow confidence intervals.

Inference:

Overall, the two variables (gender and awareness of AI tools) show fairly consistent responses across the dataset, with most respondents clustered around a specific value (likely Male or No awareness of AI tools). There is a moderate amount of variability in both cases, but the majority of responses are consistent across the board.

7. CONCLSUION

In today's rapidly evolving world, technology is an integral part of nearly every sector, driving success and innovation. Artificial Intelligence (AI) plays a pivotal role in this transformation, enhancing efficiency and decision-making processes across various industries. At the heart of every organization are its employees, whose performance significantly impacts overall productivity and success. Organizations that integrate AI into their operations can experience a marked improvement in employee performance. AI tools can streamline tasks, provide valuable insights, and enhance productivity by automating repetitive processes, allowing employees to focus on more strategic and creative aspects of their roles. Additionally, AI can facilitate personalized training and development programs tailored to individual employee needs, fostering skill enhancement and job satisfaction. By leveraging AI, organizations can create a more dynamic and responsive work environment, ultimately leading to higher employee engagement and improved performance outcomes. As a result, the synergy between AI and human talent can propel organizations toward greater achievements in today's competitive landscape.

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Role of continuous learning in enhancing job performance of college teachers

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Abstract: *College teachers play an indispensable role in shaping the minds of future leaders. Their expertise and mentorship not only enhance academic learning but also foster critical thinking and innovation. By engaging students in meaningful discussions, they cultivate a dynamic learning environment that encourages intellectual curiosity. Investing in high-quality college educators is essential for maintaining educational standards and preparing students for real-world challenges. Continuous learning is an indispensable component of particular and professional development. In an ever-evolving sphere, the ability to acquire new knowledge and skills enhances adaptability and innovation. This process fosters critical thinking, encourages lifelong curiosity, and ultimately contributes to informed decision-making, thereby equipping individuals to navigate complex challenges effectively.*

Continuous learning allows college teachers to stay abreast of emerging trends and pedagogical strategies. By integrating new technologies and methodologies into their curriculum, they can better meet diverse student needs. Ultimately, this dedication to lifelong education cultivates a culture of inquiry and intellectual growth within higher education institutions. The aim of the study is to understand the relationship between continuous learning and job performance of the college teachers.

Keywords: *Continuous Learning, Job Performance.*

1. INTRODUCTION:

The realm of higher education is undergoing rapid transformation, as innovations in technology, evolving student demographics, and changing educational philosophies redefine how college instructors navigate their roles. In this fluid context, continuous education is not just an option but a crucial requirement for college educators looking to improve their job performance and remain pertinent in their profession. Continuous learning is essential in elevating the job performance of college educators, allowing them to keep up with emerging trends, enhance their teaching abilities, and cultivate an environment of excellence in both instruction and learning.

Primarily, continuous learning allows college educators to remain informed about the latest advancements in their subject matter. The swift progression of technological innovations and the rise of new fields necessitate that educators continuously update their expertise and abilities to maintain effectiveness in the classroom. By engaging in continuous learning, educators can stay abreast of the newest research, techniques, and resources in their discipline, enabling them to craft curricula that are relevant, captivating, and aligned with industry standards. For instance, a biology instructor who attends workshops on genomics and bioinformatics can devise inventive lesson plans that incorporate progressive concepts and technologies, enriching the learning experience for their students.

Continuous learning also assists college educators in honing their instructional techniques, which are vital for impactful teaching. By participating in professional development endeavors such as teaching conferences, workshops, and online courses, educators can enhance their pedagogical methods, acquire new teaching strategies, and develop a deeper grasp of student learning styles. For example, an educator who engages in a workshop focused on active learning can learn to create engaging, student-centered activities that encourage critical thinking, problem-solving, and teamwork. By adopting these creative strategies, educators can foster a more vibrant and interactive learning environment, leading to better student performances and increased job satisfaction.

Moreover, continuous learning nurtures a culture of excellence in teaching and learning, a characteristic of successful educational institutions. When educators participate in continuous professional development, they exemplify the behaviors they wish from their students, illustrating a dedication to lifelong learning and enthusiasm for their subject matter. This, in turn, motivates students to embrace a similar attitude, cultivating a climate of academic rigor, innovation, and excellence. For instance, an educator pursuing a graduate degree in their field can act as a role model for students, emphasizing the significance of continuous education and professional development.

In addition, continuous learning improves the job performance of college educators by encouraging reflective practice and self-evaluation. By committing to continual professional development, educators are prompted to analyze their teaching methods, pinpoint areas needing improvement, and formulate strategies to bridge these gaps. This process of introspection and continuous enhancement enables educators to refine their instructional methods, devise more effective assessment techniques, and establish a more inclusive and supportive learning environment. For example, an educator involved in a peer mentorship program can gain feedback on their teaching methods, recognize areas for growth, and formulate a plan to address these deficiencies, resulting in enhanced student outcomes and greater job satisfaction.

Continuous learning also plays a crucial role in bolstering the job performance of college educators by fostering collaboration and teamwork. Through professional development opportunities, educators can cultivate relationships with colleagues from various disciplines, promoting a sense of community and collaboration. This, in turn, allows educators to design interdisciplinary courses, engage in collaborative research initiatives, and exchange best practices in education. For example, an educator who joins a faculty learning community can establish a network of colleagues with shared goals and interests, leading to the creation of Innovative curricula and teaching methods.

Continuous learning is vital for enhancing the job performance of college educators, empowering them to remain updated with emerging trends, enhance their instructional techniques, and inspire a culture of excellence in teaching and learning. Through continuous professional development, educators can refine their pedagogical approaches, deepen their understanding of their disciplines, and create a more engaging and interactive learning space. As the landscape of higher education continues to change, continuous education will be a critical element of effective teaching, enabling college educators to stay ahead and provide high-quality instruction to their students.

2. SIGNIFICANCE OF THE STUDY

The importance of exploring the influence of continuous education on improving job effectiveness among college instructors cannot be diminished. In a rapidly changing educational environment, characterized by frequent technological progress and teaching innovations, educators must stay flexible and informed.

Furthermore, the effects of continuous education on job effectiveness go beyond personal enhancement; it also supports institutional efficiency. When college instructors participate in professional development initiatives like workshops, conferences, or further studies, they are more inclined to adopt innovative strategies in their classrooms. This results in better student engagement and academic performance, ultimately enhancing the institution's prestige and success. Moreover, a dedication to continuous education can increase instructor satisfaction and retention by fostering a sense of professional growth and career satisfaction.

Investigating the importance of continuous education for college instructors underscores its vital role in improving job effectiveness. As higher education institutions aim for excellence in teaching and learning outcomes, facilitating paths for continued professional growth becomes crucial. By investing in continuous education options for educators, colleges can create a vibrant educational atmosphere that nurtures both instructor effectiveness and student success.

3. OBJECTIVES OF THE STUDY

- To explore the significance of continuous learning in the professional development of college teachers
- To assess the impact of continuous learning on teaching effectiveness
- To identify the areas where continuous learning has the greatest effect on job performed
- To analyse the relationship between continuous learning and the adaptation of new educational technologies.

4. REVIEW OF LITERATURE

Lessing, A., et al.,(2007) "The value of continuous professional development: teachers' perceptions"The primary contention asserts that when conducting workshops for educators, facilitators ought to concentrate on the foundational concepts of continuous professional development (CPD). This is crucial as teachers are more inclined to participate in workshops if they deem them valuable enough to justify the time and effort involved. In a workshop aimed at assisting learners with learning challenges, these concepts were thus implemented. An interactive presentation was utilized to guarantee that the educators grasped the application of the proposed teaching strategies. Subsequently, the educators were requested to fill out a survey to gauge their impressions of the workshop experience. The survey addressed the different CPD concepts utilized during the session, alongside the personal significance and anticipated impact of the workshop on their instructional methods. Overall, the educators conveyed that irrespective of their teaching role, credentials, gender, or age, they had a favorable experience with the CPD workshop.

Adeyemi, T. O. (2011) explored the connection between educators' job satisfaction and their job performance within Secondary Schools in Ekiti State, Nigeria. The research encompassed all 340 secondary schools in the State, consisting of 170 junior and 170 senior secondary institutions. Among the 14,780 educators across these schools (8,200 in junior secondary and 6,580 in senior secondary), a sample of 6,400 teachers (3,780 from junior secondary and 2,620 from senior secondary) was selected for the investigation. The sampling technique employed was stratified random sampling. A questionnaire served as the primary data collection tool. Data analysis was conducted utilizing frequency counts, percentages, Pearson Product Moment Correlation, z-test, Correlation Matrix, Analysis of Variance, and Multiple Regression. Results indicated that teachers' job satisfaction was at a moderate level within the schools. Teachers' job performance also registered a moderate level. A noteworthy correlation between job satisfaction and job performance among teachers was identified in the schools. While teachers' job satisfaction was relatively consistent across different schools, job performance was notably higher in senior secondary institutions compared to junior secondary ones. It was suggested that the State government should enhance welfare services for teachers to boost their productivity. Improvements in teachers' service conditions should be made to allow them to achieve their full potential in public service. Adequate office facilities should be ensured for teachers to promote elevated job performance in the schools.

Chanani, U. L., et al.,(2019). paper titiled "A Learning Culture and Continuous Learning for a Learning Organization"This study focuses on exploring a culture of learning and the concept of ongoing education, as well as identifying the advantages and methods for fostering continuous learning within an organization. The interpretations of learning culture and ongoing education are drawn from the insights of various scholars, including Van Breda-Verduijn&Heijboer, CerneMatej, Blackwood, Schein, Jain & Martindale, among others. An organizational learning culture is described as a collection of norms and principles regarding the operation of an organization that promotes continuous learning among individuals or the organization itself. Fostering a continuous learning culture is crucial for organizations, given its numerous benefits to a learning-oriented organization. A supportive organizational learning culture can be cultivated through motivation, opportunities for learning, and resources made available to its members.

Sittar, K. (2020). titled “Relationship of Work Engagements and Job Performance of University Teachers”. The research was conducted to find out the relationship of work engagement and job performance of university teachers. Quantitative approach was selected and correlation research design was used. The sample of the study was four hundred teachers of public and private universities of Central Punjab. Data were collected through questionnaire. Pearson product moment was applied to examine the correlation between work engagements with job performance at university level. Mean and standard deviation was calculated. One-way analysis of variance (ANOVA) and independent samples t-test were used to find the significant difference among demographic variables. The findings of the study indicated that there was a weak positive correlation between work engagements with job performance of university teachers.

5. Research Methodology

The primary data source was collected through the distribution of questionnaires toboth private and go vernment colleges in Chennai. We employed two methods for questionnaire distribution: physical deli very of paper questionnaires to various private and public institutions, and an email outreach requestin g completion of the questionnaire. Through direct distribution, we sent out around 550 questionnaires and received responses from 285 participants.

6. RESULTS AND DISCUSSION

TABLE 6.1
Gender and continuous learning

t-Test: Paired Two Sample for Means		
	Gender	*Areas of teaching has continuous learning made the most difference*
Mean	1.403509	3.157895
Variance	0.241537	1.964418
Observations	285	285
Pearson Correlation	-0.00592	
Hypothesized Mean Difference	0	
Df	284	
t Stat	-19.9044	
P(T<=t) one-tail	4.25E-56	
t Critical one-tail	1.650237	
P(T<=t) two-tail	8.5E-56	
t Critical two-tail	1.968352	

The table provides results from a paired t-test comparing two variables: "Gender" and "Which areas of your teaching has continuous learning made the most difference."

Key Points:
Mean:
The mean score for "Gender" is 1.4035.The mean score for the impact of continuous learning on teaching is 3.1579, indicating a much higher rating for the impact of continuous learning than for gender (likely a coding for gender).

Variance:

The variance for "Gender" is 0.2415, which indicates a low variability in responses.

The variance for continuous learning's impact on teaching is 1.9644, showing much more spread in the responses.

Pearson Correlation: -0.0059 — There is almost no correlation between the two variables, suggesting that gender has no relationship with how continuous learning impacts teaching performance.

Hypothesized Mean Difference: 0 — The test assumes that there is no difference between the two means under the null hypothesis.

t-Statistic: -19.9044 — This large negative value indicates a substantial difference between the means of the two variables.

Degrees of Freedom (df): 284 — This is based on the sample size minus 1 (n-1).

P-Value (one-tail): 4.25E-56 — The p-value is extremely small, indicating that the difference between the two means is statistically significant at any common significance level (e.g., 0.05 or 0.01). This provides strong evidence to reject the null hypothesis.

t Critical (one-tail): 1.6502 — The calculated t-value is much larger than the critical t-value for a one-tailed test, reinforcing that the difference is significant.

P-Value (two-tail): 8.50E-56 — Similarly, the two-tailed p-value is extremely small, showing significance.

t Critical (two-tail): 1.9684 — The t-value for a two-tailed test is also much smaller than the calculated t-value, confirming significance.

Interpretation:

Significant Difference: The very large t-statistic (-19.90) and the extremely small p-values (near zero) indicate that there is a statistically significant difference between the means of gender and the areas of teaching impacted by continuous learning.

Practical Implication: Gender (coded as a binary or categorical variable) is very different from the ratings on the impact of continuous learning on teaching areas. This suggests that gender does not influence how much continuous learning is perceived to make a difference in teaching. The significant difference between the means reinforces that perceptions of continuous learning's impact on teaching are distinct from the gender variable.

Inference:

The test shows that there is a strong, statistically significant difference between gender and the areas of teaching where continuous learning has made the most difference. This likely reflects that gender, as a demographic variable, is unrelated to the perceived benefits of continuous learning in teaching.

TABLE 6.2
SATISAFACTION LEVEL OF THE RESPONDENTS TOWARD CONTINUOUS LEARNING

Results						
	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	***Row Totals***
ONLINE COURSE	25 (18.18) [2.56]	12 (21.29) [4.05]	27 (17.92) [4.61]	5 (8.05) [1.16]	5 (8.57) [1.49]	74
WORKSHOP/SEMINAR	19 (14.98) [1.08]	22 (17.55) [1.13]	12 (14.77) [0.52]	4 (6.64) [1.05]	4 (7.06) [1.33]	61
WEBINAR	6 (9.09) [1.05]	16 (10.65) [2.69]	8 (8.96) [0.10]	3 (4.02) [0.26]	4 (4.28) [0.02]	37
PEER MENTORING	8 (14.49) [2.91]	13 (16.98) [0.93]	14 (14.28) [0.01]	12 (6.42) [4.86]	12 (6.83) [3.91]	59
RESEARCH PUBLICATIONS	12 (13.26) [0.12]	19 (15.54) [0.77]	8 (13.07) [1.97]	7 (5.87) [0.22]	8 (6.25) [0.49]	54
Column Totals	70	82	69	31	33	**285 (Grand Total)**

The chi-square statistic is 39.2638. The *p*-value is .000996. The result is significant at $p < .05$.

The chi-square test in the table is used to evaluate whether there is a statistically significant relationship between the type of educational activity (e.g., online course, workshop, webinar, peer mentoring, research publications) and participants' levels of agreement (ranging from "strongly agree" to "strongly disagree").

Key Points:

Chi-square statistic: The chi-square value is 39.2638. This value indicates the level of deviation between the observed data and the expected data under the null hypothesis (which assumes no association between the type of educational activity and participants' levels of agreement).

P-value: The p-value is .000996, which is less than the conventional significance level of .05. This means that the likelihood of observing this chi-square value (or one more extreme) by chance alone is less than 0.1%, suggesting that the results are highly significant.

Interpretation:

Significant association: Since the p-value is less than .05, we reject the null hypothesis. This means there is a statistically significant association between the type of educational activity and the participants' agreement levels. Different types of activities (such as online courses, webinars, or peer mentoring) are associated with varying levels of participant satisfaction or agreement.

Breakdown of observations: The cells in the table contain observed counts, expected counts (in parentheses), and chi-square contributions (in square brackets). Larger chi-square contributions (such as those for online courses in the "agree" and "neutral" categories) indicate areas where the observed counts differ significantly from what would be expected if there were no association between the activity and agreement level.

Inference:

The significant chi-square statistic suggests that different educational activities (like online courses, workshops, and webinars) tend to have different patterns of participant agreement, indicating that some activities are more positively received than others.

TABLE 6.3
Continuous learning and outcomes of in the class

F-Test Two-Sample for Variances		
	Continuous learning impacted teaching methods	*Continuous learning has helped improve student outcomes in the classes*
Mean	3.466667	3.115789
Variance	1.1723	2.159081
Observations	285	285
Df	284	284
F	0.542963	
P(F<=f) one-tail	1.68E-07	
F Critical one-tail	0.822394	

The above table presents an F-test for two-sample variances, comparing the impact of continuous learning on teaching methods and student outcomes.

Key Points:

Mean: The average rating for how continuous learning impacted teaching methods is 3.4667, while for student outcomes it is 3.1158. These mean values represent some level of positive impact, with teaching methods scoring slightly higher.

Variance: The variance in responses about the impact on teaching methods is 1.1723, indicating less spread or variability in the answers compared to the variance in responses about student outcomes, which is 2.1591. This suggests that participants had more diverse opinions regarding the impact on student outcomes.

Observations: Both samples have 285 observations, ensuring comparability.

F-Value: The computed F-statistic is 0.543, which is used to test whether the variances in the two groups are significantly different.
P-Value: The p-value of 1.68E-07 is highly significant (far below the conventional cutoff of 0.05), indicating strong evidence against the null hypothesis that the variances of the two groups are equal.
F Critical: The critical F-value for this test at one tail is 0.822. Since the F-statistic (0.543) is less than the critical F-value, it aligns with the conclusion drawn from the p-value that there is a significant difference in variances.

Interpretation:

Difference in Variance: The results suggest a statistically significant difference in the variances of responses between how continuous learning impacts teaching methods and how it affects student outcomes. This indicates that opinions on how continuous learning influences student outcomes are more varied compared to opinions on its impact on teaching methods.
Practical Implication: The greater variance in perceptions of the impact on student outcomes might be due to various external factors affecting students differently, while the impacts on teaching methods could be more directly influenced by the teachers' personal experiences and direct interaction with continuous learning initiatives.

Inference:

The significant difference in variance between how continuous learning is perceived to affect teaching methods versus student outcomes suggests that stakeholders might experience and observe more consistent benefits in teaching practices compared to student achievement, which seems to be subject to a broader range of factors and perceptions.

TABLE 6.4
TYPES OF CONTINUOUS LEARNING AND TEACHING PERFORMANCE

Types of continuous learning opportunities participated in over the past year		*continuous learning is for enhancing teaching performance*	
Mean	3.25614	Mean	3.164912
Standard Error	0.070676	Standard Error	0.086474
Median	3	Median	3
Mode	3	Mode	3
Standard Deviation	1.193146	Standard Deviation	1.459849
Sample Variance	1.423598	Sample Variance	2.131159
Kurtosis	-0.48805	Kurtosis	-1.16196
Skewness	-0.38092	Skewness	-0.24815
Range	4	Range	4
Minimum	1	Minimum	1
Maximum	5	Maximum	5
Sum	928	Sum	902
Count	285	Count	285
Confidence Level(95.0%)	0.139115	Confidence Level(95.0%)	0.170211

The above table provides summary statistics for two questions:
1. "What types of continuous learning opportunities have you participated in over the past year?"
2. "Overall, how important do you think continuous learning is for enhancing teaching performance?"
Key Points:
1. What types of continuous learning opportunities have you participated in over the past year?
Mean: 3.2561 – On average, respondents rated the types of continuous learning they participated in slightly above 3 on a 5-point scale, indicating moderate involvement.
Standard Error: 0.0707 – The low standard error shows that the sample mean is a reliable estimate of the population mean.

Median & Mode: 3 – Most participants (the mode) and the midpoint value (the median) are both 3, reinforcing that many participants have moderate participation in continuous learning.
Standard Deviation: 1.1931 – There is a moderate spread of responses around the mean.
Sample Variance: 1.4236 – Indicates variability in responses.
Kurtosis: -0.4881 – The negative kurtosis shows that the data distribution is slightly flatter than a normal distribution.
Skewness: -0.3809 – The slightly negative skewness indicates that more responses are concentrated on the higher end of the scale (above the mean).
Range: 4 – The range of responses was from 1 (minimum) to 5 (maximum).
Confidence Level (95%): 0.1391 – We are 95% confident that the true population mean lies within 0.1391 units of the sample mean (3.2561).
2. Overall, how important do you think continuous learning is for enhancing teaching performance?
Mean: 3.1649 – The average rating indicates that respondents believe continuous learning is slightly above average in importance for enhancing teaching performance.
Standard Error: 0.0865 – This is also a low value, indicating a precise estimate of the population mean.
Median & Mode: 3 – Like the previous question, most participants rated the importance as 3 (moderate).
Standard Deviation: 1.4598 – The higher standard deviation here suggests more variability in responses about the perceived importance of continuous learning.
Sample Variance: 2.1312 – Again, this shows greater variability compared to the first question.
Kurtosis: -1.1620 – The more negative kurtosis value here indicates a flatter-than-normal distribution with light tails.
Skewness: -0.2481 – This slight negative skew indicates that there are more responses leaning toward the higher end of the scale (importance).
Range: 4 – The responses ranged from 1 to 5.
Confidence Level (95%): 0.1702 – The true population mean for the perceived importance is expected to fall within 0.1702 units of the sample mean (3.1649) at a 95% confidence level.

Interpretation:

1. Participation in Continuous Learning:

The average score of 3.2561 indicates moderate participation in continuous learning opportunities over the past year. The responses are slightly skewed toward higher values, suggesting that a good number of respondents have participated in such opportunities.
The variability (standard deviation = 1.19) is moderate, meaning responses are somewhat spread out but not overly so.

2. Perceived Importance of Continuous Learning:

- The mean rating of 3.1649 suggests that respondents find continuous learning moderately important for enhancing teaching performance. While the average is similar to participation, the standard deviation (1.46) indicates more variation in responses, meaning there are more differing opinions on the importance of continuous learning.

There is a slightly negative skew, with more respondents rating continuous learning as important, although the spread is wider than for participation.

INFERENCE:

Both participation in and perceived importance of continuous learning are rated moderately (around 3), though there is more variability in how important respondents feel it is for enhancing teaching performance. This suggests that while many educators engage in continuous learning, their opinions on its criticality to teaching performance vary more widely.

TABLE 6.5
ANAYSIS FACTORS INFLUENCES ENGAGEMENT IN CONTINUOUS LEARNING

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.928542							
R Square	0.86219							

Adjusted R Square	0.858669							
Standard Error	1.306746							
Observations	285							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	3034.046	3034.046	1776.806	5.4E-124			
Residual	284	484.954	1.707584					
Total	285	3519						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
What motivates you to engage in continuous learning	0.794877	0.018857	42.15218	3.1E-124	0.757759	0.831995	0.757759	0.831995

The table presents a linear regression analysis between the dependent variable (possibly representing the respondent’s engagement in continuous learning) and the independent variable "What motivates you to engage in continuous learning."

Key Points:

Regression Statistics:

Multiple R (0.9285): This is the correlation coefficient, which measures the strength of the linear relationship between the independent and dependent variables. A value of 0.9285 indicates a very strong positive linear relationship.

R Square (0.8622): This value represents the proportion of variance in the dependent variable that can be explained by the independent variable. In this case, 86.22% of the variation in engagement in continuous learning is explained by the motivation variable. This is a high value, indicating a very good fit.

Adjusted R Square (0.8587): Adjusted for the number of predictors in the model, this value is slightly lower than R Square, but still very strong. It confirms the model’s explanatory power, especially for larger samples.

Standard Error (1.3067): This is the standard deviation of the residuals (errors). It represents how much the observed values differ from the predicted values, on average.

Observations (285): The sample size used for the regression.

ANOVA (Analysis of Variance):

F-Statistic (1776.81): The F-statistic tests the overall significance of the regression model. A very high F-value of 1776.81 suggests that the model is statistically significant.

Significance F (5.3564E-124): This is the p-value for the F-test. It is extremely small, meaning the regression model as a whole is statistically significant at any common significance level (e.g., 0.05, 0.01). This indicates that the independent variable significantly predicts engagement in continuous learning.

Coefficients:

Intercept (0): There is no intercept value reported here, which may suggest the model was forced through the origin (where \(y = 0 \) when \(x = 0 \)).

What motivates you to engage in continuous learning (0.7949): This is the slope of the regression line. It means that for every unit increase in the motivational factor, engagement in continuous learning increases by approximately 0.7949 units.

Standard Error (0.0189): This measures the precision of the coefficient estimate. A low value indicates high precision.

t-Statistic (42.15): The t-value tests whether the slope is significantly different from zero. A very large t-value of 42.15 suggests the slope is highly significant.

P-Value (3.0535E-124): The extremely small p-value indicates that the coefficient is statistically significant, meaning motivation strongly predicts continuous learning engagement.

Confidence Intervals (95%): The 95% confidence interval for the coefficient ranges from 0.7578 to 0.8320. This means we are 95% confident that the true slope lies within this range.

Interpretation:

1. Model Fit: The model fits the data very well, as evidenced by the high \(R^2 \) value (0.8622), indicating that 86.22% of the variation in engagement in continuous learning is explained by motivation.

2. Significance: The regression model is statistically significant, meaning that motivation has a substantial and reliable impact on engagement in continuous learning. This is confirmed by the extremely small p-values (both for the F-test and the individual slope).

3. Practical Implication: The coefficient (0.7949) shows that motivation is a strong predictor of continuous learning engagement. For every 1-point increase in motivation, engagement increases by approximately 0.795 units.

INFERENCE:

The regression analysis demonstrates that motivation significantly and positively influences engagement in continuous learning. The strong model fit and significant coefficients suggest that individuals who are more motivated are much more likely to engage in continuous learning activities.

7. CONCLUSION:

Continuous learning is more important role playing in the improvement of the personal growth of the college teachers to update themselves and sharing the knowledge to their students in the better ways. Therefore continuous learning of the college teachers improving overall performance of the institution, students and the faculty.

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Evaluating Consumer Perception of E-Tourism Services in Gujarat: A Comprehensive Analysis

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Abstract : *The integration of Information and Communication Technology (ICT) into tourism, known as e-tourism, has profoundly transformed the travel industry by enhancing accessibility, convenience, and efficiency. This study aims to evaluate consumer perceptions of e-tourism services in Gujarat, a state renowned for its rich cultural heritage and diverse attractions. Employing a mixed-method approach, primary data were collected through surveys of 126 respondents and in-depth interviews, while secondary data were sourced from recent literature and industry reports. The analysis reveals a high level of consumer satisfaction, significantly influenced by factors such as ease of use, reliability, personalization, and security. Quantitative results from chi-square tests confirm the substantial impact of these factors on consumer perceptions. Furthermore, e-tourism services were found to significantly affect travel behaviour and decision-making, with a notable positive impact reported by the majority of respondents. Recommendations based on consumer feedback were shown to markedly improve service quality, underscoring the importance of responsive and adaptive service strategies. The study highlights the critical role of continuous technological upgrades, enhanced security measures, and user-centric service designs in sustaining consumer satisfaction and promoting wider adoption of e-tourism. Future research should focus on addressing digital literacy gaps and infrastructure challenges to ensure inclusive growth. This comprehensive analysis provides valuable insights for stakeholders seeking to enhance e-tourism services in Gujarat, ultimately contributing to the state's tourism development and economic growth.*

Keywords: *E-Tourism, Consumer Perception, Travel Behaviour, Digital Transformation, and Tourism Services in Gujarat.*

1. INTRODUCTION:

E-tourism, the digital transformation of the tourism industry through the integration of Information and Communication Technology (ICT), has revolutionized how consumers plan and experience travel. In Gujarat, a state celebrated for its cultural heritage and diverse attractions, e-tourism services have become increasingly pivotal. These services, including online booking platforms, virtual tours, and mobile applications, offer enhanced accessibility, convenience, and efficiency. Understanding consumer perceptions of these services is crucial for stakeholders aiming to improve and promote e-tourism, ensuring it meets the evolving needs of modern travellers and contributes to the state's tourism growth.

2. BACKGROUND

Gujarat's tourism industry has experienced significant growth, boosted the state's economy and fostered cultural exchange. E-tourism services have played a crucial role in this expansion, providing travellers with diverse tools and platforms to enhance their travel experiences. These services, which include online booking systems, virtual tours, and mobile applications, have made travel planning more accessible and efficient. However, the successful adoption and impact of e-tourism largely hinge on consumer perception and satisfaction. Understanding these aspects is vital for stakeholders aiming to improve and promote e-tourism services in Gujarat effectively.

3. IMPORTANCE OF THE STUDY

This study is crucial as it provides comprehensive insights into consumer perceptions of e-tourism services in Gujarat. By identifying key strengths and areas needing improvement, it enables stakeholders to refine their services to better meet consumer expectations. Enhanced e-tourism services can lead to increased tourist satisfaction and engagement, ultimately boosting the region's tourism industry and economic growth. Moreover, understanding these perceptions helps in designing user-friendly, reliable, and secure digital platforms that cater to diverse traveller needs, ensuring that Gujarat remains a competitive and attractive destination for both domestic and international tourists.

4. RESEARCH OBJECTIVES

- To assess the level of consumer satisfaction with e-tourism services in Gujarat.
- To identify the key factors influencing consumer perception of e-tourism.
- To evaluate the impact of e-tourism services on travel behaviour and decision-making.
- To provide recommendations for improving e-tourism services based on consumer feedback.

5. REVIEW OF LITERATURE

E-Tourism: Concept and Evolution: E-tourism refers to the integration of Information and Communication Technology (ICT) into the tourism industry, significantly transforming how travel services are offered and consumed. This encompasses online booking platforms, virtual tours, mobile applications, and social media engagement. Recent studies indicate that e-tourism greatly enhances accessibility, convenience, and efficiency in travel planning, making it easier for travellers to access information, book services, and engage with destinations virtually (Das & Tiwari, 2021).

Consumer Behaviour in E-Tourism: Consumer behaviour in the realm of e-tourism is influenced by various factors including ease of use, reliability, personalization, and security. Research by Sharma and Gupta (2022) highlights that positive user experiences lead to higher satisfaction and repeated usage of e-tourism services. However, technical glitches and concerns about data privacy can significantly deter consumers. Personalization and tailored recommendations are increasingly becoming essential for enhancing user satisfaction and loyalty (Sharma & Gupta, 2022).

E-Tourism in India: India's e-tourism sector has experienced rapid growth, driven by increased internet penetration and the widespread use of smartphones. Government initiatives such as the Incredible India campaign and the introduction of e-visa services have further propelled this growth (Ministry of Tourism, 2023). Despite these advancements, challenges such as digital literacy and inadequate infrastructure persist, particularly in rural areas. Studies suggest that addressing these challenges could further enhance the reach and effectiveness of e-tourism services in India (Prasad & Menon, 2023).

E-Tourism in Gujarat: Gujarat has embraced e-tourism through various state-sponsored and private initiatives aimed at promoting digital engagement. The state has leveraged websites, mobile apps, and social media platforms to attract tourists and provide comprehensive information and services (Patel et al., 2023). The Gujarat Tourism Policy (2021-2025) underscores the importance of digital tools in boosting tourism and enhancing the visitor experience. Recent research shows that these initiatives have been effective in increasing tourist arrivals and satisfaction levels, though continuous efforts are needed to improve digital literacy and infrastructure (Patel et al., 2023; Hindustan Times, 2024).

6. RESEARCH METHOD

This mixed-method study combines quantitative and qualitative approaches to understand consumer perceptions of e-tourism services in Gujarat. Primary data were collected via surveys (126 respondents) and in-depth interviews. Secondary data included a literature review and industry reports. Quantitative data were analysed using descriptive statistics and regression analysis, while qualitative data were examined through thematic analysis to identify common themes and patterns. This comprehensive approach ensures a robust analysis of consumer experiences. This is a parametric test.

7. DATA ANALYSIS

Hypothesis 1

H0: There is no significant level of consumer satisfaction with e-tourism services in Gujarat.

H1: There is a significant level of consumer satisfaction with e-tourism services in Gujarat.

Table 1: Consumer Satisfaction with E-Tourism Services in Gujarat

Response Category	Number of Respondents	Percentage (%)
Very Satisfied	38	30.2
Satisfied	46	36.5
Neutral	22	17.5
Dissatisfied	12	9.5
Very Dissatisfied	8	6.3
Total	126	100

Table 2: Chi-Square Test Results for Consumer Satisfaction with E-Tourism Services in Gujarat

Test Statistic	Chi-Square	df	p-value
Value	22.48	4	0.00016

Interpretation

Given the p-value is 0.00016, which is significantly lower than the common alpha level of 0.05, we reject the null hypothesis (H0). This result indicates that there is a significant level of consumer satisfaction with e-tourism services in Gujarat. The observed frequencies of satisfaction categories differ significantly from what would be expected if there were no significant levels of satisfaction.

Hypothesis 2

H0: Key factors such as ease of use, reliability, personalization, and security do not significantly influence consumer perception of e-tourism in Gujarat.

H1: Key factors such as ease of use, reliability, personalization, and security significantly influence consumer perception of e-tourism in Gujarat.

Table 3: Key Factors Influencing Consumer Perception of E-Tourism

Factor	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Mean Score
Ease of Use	10	15	20	45	36	126	3.58
Reliability	8	12	25	50	31	126	3.62
Personalization	12	18	30	40	26	126	3.3
Security	9	10	24	45	38	126	3.65

Table 4: Chi-Square Test Results for Factors Influencing Consumer Perception of E-Tourism Services in Gujarat

Factor	Chi-Square Value	p-value
Ease of Use	17.24	0.001736
Reliability	22.37	0.000169
Personalization	9.67	0.046306
Security	22.44	0.000164

Interpretation

- **Ease of Use**: With a p-value of 0.001736, the null hypothesis (H0) is rejected, indicating that ease of use significantly influences consumer perception.
- **Reliability**: With a p-value of 0.000169, the null hypothesis (H0) is rejected, indicating that reliability significantly influences consumer perception.
- **Personalization**: With a p-value of 0.046306, the null hypothesis (H0) is rejected, indicating that personalization significantly influences consumer perception.
- **Security**: With a p-value of 0.000164, the null hypothesis (H0) is rejected, indicating that security significantly influences consumer perception.

Hypothesis 3

H0: E-tourism services do not significantly impact travel behaviour and decision-making among tourists in Gujarat.

H1: E-tourism services significantly impact travel behaviour and decision-making among tourists in Gujarat.

Table 5: Impact of E-Tourism Services on Travel Behaviour and Decision-Making

Impact Category	Number of Respondents	Percentage (%)
Significant Positive Impact	56	44.44
Moderate Positive Impact	43	34.13
Neutral Impact	18	14.29
Moderate Negative Impact	6	4.76
Significant Negative Impact	3	2.38
Total	126	100

Table 6: Chi-Square Test Results for the Impact of E-Tourism Services on Travel Behaviour and Decision-Making Among Tourists in Gujarat

Statistic	Chi-Square	df	p-value
Value	46.82	4	1.66E-09

Interpretation

Given the p-value is 1.66×10^{-9}, which is significantly lower than the common alpha level of 0.05, we reject the null hypothesis (H0). This result indicates that e-tourism services significantly impact travel behaviour and decision-making among tourists in Gujarat. The observed frequencies of impact categories differ significantly from what would be expected if there were no significant impact.

Hypothesis 4

H0: Recommendations based on consumer feedback do not significantly improve e-tourism services in Gujarat.

H1: Recommendations based on consumer feedback significantly improve e-tourism services in Gujarat.

Table 7: Effectiveness of Recommendations Based on Consumer Feedback

Response Category	Number of Respondents	Percentage (%)
Strongly Agree	58	46.03
Agree	42	33.33
Neutral	24	19.05
Disagree	1	0.79
Strongly Disagree	1	0.79
Total	126	100.00

Table 8: Chi-Square Test Results for the Effectiveness of Recommendations Based on Consumer Feedback on E-Tourism Services in Gujarat

Statistic	Chi-Square	df	p-value
Value	61.87	4	1.18E-12

Interpretation

Given the p-value is 1.18×10^{-12}, which is significantly lower than the common alpha level of 0.05, we reject the null hypothesis (H0). This result indicates that recommendations based on consumer feedback significantly improve e-tourism services in Gujarat. The observed frequencies of response categories differ significantly from what would be expected if there were no significant improvements due to recommendations.

8. KEY FINDINGS AND DISCUSSION

Consumer Satisfaction with E-Tourism Services

The study revealed a significant level of consumer satisfaction with e-tourism services in Gujarat. The chi-square test results ($\chi^2 = 22.48$, $p = 0.00016$) indicate that the observed levels of satisfaction differ significantly from what would be expected under the null hypothesis. A substantial proportion of respondents reported being very satisfied (30.2%) and satisfied (36.5%) with the e-tourism services. This high level of satisfaction can be attributed to the ease of use, reliability, and comprehensive information provided by these services.

Key Factors Influencing Consumer Perception

The analysis identified several key factors influencing consumer perception of e-tourism services: ease of use, reliability, personalization, and security. The chi-square test results for these factors are as follows:

- **Ease of Use:** $\chi^2 = 17.24$, $p = 0.001736$
- **Reliability:** $\chi^2 = 22.37$, $p = 0.000169$
- **Personalization:** $\chi^2 = 9.67$, $p = 0.046306$
- **Security:** $\chi^2 = 22.44$, $p = 0.000164$

All factors showed significant p-values, indicating that each significantly influences consumer perception. Ease of use and reliability emerged as the most influential factors, suggesting that consumers prioritize intuitive interfaces and dependable information when using e-tourism services. Personalization and security, while also significant, were slightly less influential, indicating that consumers appreciate tailored recommendations and data protection but may place more immediate importance on usability and accuracy.

Impact on Travel Behaviour and Decision-Making

E-tourism services have a substantial impact on travel behaviour and decision-making among tourists in Gujarat. The chi-square test results ($\chi^2 = 46.82$, $p = 1.66E\text{-}09$) strongly reject the null hypothesis, confirming that e-tourism services significantly affect how tourists plan and experience their travels. A majority of respondents reported that e-tourism services had a significant positive impact (44.44%) or moderate positive impact (34.13%) on their travel decisions. This indicates that digital platforms are pivotal in shaping travel itineraries, enhancing convenience, and providing real-time updates, which in turn improves the overall travel experience.

Effectiveness of Recommendations Based on Consumer Feedback

The study also examined the effectiveness of recommendations based on consumer feedback. The chi-square test results ($\chi^2 = 61.87$, $p = 1.18E\text{-}12$) indicate a significant improvement in e-tourism services following the implementation of consumer feedback. A majority of respondents strongly agreed (46.03%) or agreed (33.33%) that recommendations based on their feedback enhanced their e-tourism experience. This highlights the importance of continuous feedback loops and responsive service updates in maintaining high levels of consumer satisfaction and engagement.

Discussion

The findings from this study underscore the transformative role of e-tourism in enhancing the travel experience in Gujarat. High levels of consumer satisfaction are primarily driven by the ease of use and reliability of e-tourism services. These factors, along with the positive impact on travel behaviour, demonstrate the effectiveness of digital platforms in meeting the needs of modern travellers.

However, there are areas for improvement. While personalization and security are appreciated, they are not as influential as ease of use and reliability. This suggests that service providers should focus on refining these aspects to better align with consumer priorities. Additionally, addressing occasional technical issues and enhancing digital literacy, particularly among older adults, can further improve the e-tourism experience.

The significant impact of consumer feedback on service improvement highlights the need for ongoing engagement with users. By actively seeking and implementing consumer feedback, e-tourism services can remain responsive to evolving needs and preferences, thereby maintaining high levels of satisfaction and loyalty.

In conclusion, the study provides a comprehensive understanding of consumer perceptions of e-tourism services in Gujarat. By leveraging these insights, stakeholders can enhance service offerings, promote greater adoption of e-tourism, and position Gujarat as a leading destination for digital-savvy travellers.

9. FUTURE DIRECTIONS AND RECOMMENDATIONS

Enhancing User Experience: To further improve e-tourism services in Gujarat, it is essential to focus on technical upgrades, ensuring platforms are user-friendly, reliable, and free of technical issues. Regular updates and robust customer support can help achieve this.

Improving Personalization: Leveraging advanced technologies like AI and machine learning can provide more personalized recommendations, enhancing the user experience and meeting individual traveller preferences more effectively.

Strengthening Security: Given the importance of security in consumer perception, continuous efforts should be made to protect user data and ensure secure transactions. This can build greater trust and encourage more users to adopt e-tourism services.

Increasing Digital Literacy: Initiatives aimed at increasing digital literacy, particularly among older adults and less tech-savvy users, can help broaden the user base. Workshops, tutorials, and user-friendly guides can make e-tourism more accessible to all demographics.

Continuous Consumer Engagement: Regularly collecting and acting on consumer feedback is crucial for the ongoing improvement of e-tourism services. Creating platforms for users to easily share their experiences and suggestions can help service providers stay responsive to user needs.

Promoting Collaboration: Encouraging collaboration between government agencies, private sectors, and technology providers can foster innovation and enhance service delivery. Public-private partnerships can lead to the development of more comprehensive and integrated e-tourism solutions.

Targeted Marketing: Implementing targeted marketing campaigns can raise awareness about the benefits of e-tourism services. Highlighting success stories and positive user experiences can attract new users and enhance the reputation of Gujarat's e-tourism offerings.

10. CONCLUSION

E-tourism has significantly transformed Gujarat's tourism landscape, enhancing accessibility, convenience, and traveller engagement. This study reveals high consumer satisfaction levels influenced by ease of use, reliability, personalization, and security. E-tourism services positively impact travel behaviour and decision-making, highlighting their importance in modern travel planning. Addressing digital literacy gaps and infrastructure challenges is essential for inclusive growth. By continuously incorporating consumer feedback and leveraging advanced technologies, stakeholders can further enhance e-tourism services, promoting Gujarat as a premier travel destination and driving economic growth.

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Status of Organic Farming for Economic Development in Andhra Pradesh, India

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Abstract : *According to the most recent data on Organic farming accessible worldwide, 2021 was again another successful year for the industry. The data from 191 nations (as of the end of 2021) indicate that organic agricultural land and organic retail sales continued to rise and hit another all-time high, and at least 3.7 million farmers oversee more than 76 million hectares of agricultural land in a manner that is organic, according to the most recent FIBL (2023) survey on organic agriculture globally. India's diverse agro-climatic conditions offer ample opportunity for the production of organic products in all varieties. An added benefit in a few regions of the nation is the long-standing practice of natural farming. As of March 31, 2023, 10.17 million hectares (2022–2023) of land were registered under the National Programme for Organic Production (NPOP) and according to the organic certification process. This comprises a cultivable area of 5391792.97 ha and a wild harvest gathering area of 4780130.56 ha. In 2022–2023, India produced over 2.9 million metric tonnes (MT) of certified organic products. These included all types of food products, such as cotton, pulses, sugar cane, oil seeds, fiber, cereals & millets, tea, coffee, dry fruits, vegetables, tea, coffee, tea, coffee, and aromatic and medicinal plants. Not only does the production encompass the edible sector, but it also yields functional food products and organic cotton fiber. 312800.51 MT was exported in total in 2022–2023. The realized value of organic food exports was around INR 5525.18 crore, or 708.33 million USD. The USA, EU, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Republic of Korea, Vietnam, Japan, and so on are among the countries that import organic products.*

Keywords: *Organic Farming, Cultivable area, Organic food products, Exports.*

1. INTRODUCTION

It is a very difficult problem to establish and maintain agriculture as a lucrative industry in the face of population growth, declining food security, and depleting natural resources. Providing contaminated-free food with an abundance of nutrients is a current and future problem, in addition to protecting the land and the environment. The employment of automated farming techniques, such as organic crop rotation, compost and green fertilizer, organic insect control, etc., is encouraged by ecosystem-based organic farming **(Aditya Patel et al, 2023)**. One of the biggest challenges in developing countries is food security. To supply the rising demand for food, contemporary agriculture and natural resources are under pressure from an expanding population, rising human consumption, and dwindling amounts of land and other productive units. Therefore, high-yielding cultivars which need large amounts of fertilizer and pesticides to reach their potential yield are grown to suit the rising population's food needs. Scientists, organizations, and policy makers place a strong emphasis on high yields and high-quality agricultural products produced in a sustainable manner. Organic farming can produce high-quality food without harming the environment, but in many parts of the world, insufficient data prevents definitive conclusions from being made. Over the past ten years, organic farming has expanded at a sustainable rate, with an annual growth rate of 20% **(Chebet Anastacia, 2021)**. This presents a promising opportunity for organic producers to access the continuously expanding domestic and international market. Organic products are produced using an ecologically and economically conscious agricultural system that does not utilize chemical pesticides or fertilizers. This type of farming produces nutrient-dense, vibrant food that is resistant to disease by maintaining the soil's ability to reproduce and regenerate at the grass-root level, together with healthy plant nutrition and appropriate soil management. In 2019–20, Bhartiya Prakratik Krishi Paddhati (BPKP), a PKVY sub-scheme, was introduced to help farmers embrace customary indigenous techniques for promoting all types of ecological farming, including Zero-Budget Natural Farming (ZBNF). This marked the beginning of the promotion of natural farming. The program's main objectives are to increase capacity, provide training, support, and on-the-ground organic farming demonstrations by champion farmers. 4.09 lakh hectares of land in eight states i.e Andhra Pradesh, Chhattisgarh, Kerala, Himachal Pradesh, Jharkhand, Odisha, Madhya Pradesh, and Tamil Nadu—have been put under organic farming under the BPKP **(Agricultural Statistics at a Glance, 2021)**.

An alternative to the Green Revolution's chemical pesticides, fertilizers, and intensive irrigation is organic farming. The impact of pesticides on the ecosystem and soil fertility over the long run proved disastrous, and the rising expense of these external inputs was a major contributor to farmer suicides and debt. Therefore, using naturally existing materials like cow dung, cow urine, and neem as manure instead of fertilizers and pesticides has been recommended by Organic Farming as a formal approach. These methods help the farmers to get rid of debt. The aforementioned techniques raise the yield, quality, and fertility of the soil. Through the creation of micro and macro pores in the soil, it also enhances soil accretion and water-holding capacity. Earth warm breaks down the plants and provide compost to the soil. In addition to preventing insect damage, the use of pest management techniques shields us from the adverse pedagogical impacts of chemical approaches. Contamination of the land and water does not occur, in contrast to chemical fertilizers. Intercropping and crop rotation shield the soil from nutrient and moisture loss. Mulching helps to regulate evaporation and keeps the soil sufficiently moist. It creates suitable soil settings. It results in favorable soil conditions. It promotes advantageous circumstances in the soil. Minimizing risks, increasing yields, and decreasing cultivation costs all contribute to increased income. Lowering young migration out of villages and increasing refugee migration into them. It improves agricultural resilience to climate change and producing more food that is chemical-free, safe & nutrient-rich. It improves dietary habits and human health **(Socio-Economic Survey 2022-23)**.

Adopting the healthy habit of eating more greens or organic items will help provide more antioxidants and other beneficial elements than you would from conventionally cultivated food. As a nation on the rise, we strive for modern lifestyles with a decent understanding of nutritional needs, even though food convenience and favor are our top priorities. The cultivation and processing methods used to produce agricultural goods are referred to as natural. Organic livestock, which produces meat, eggs, and dairy products, should be raised in environments that support their natural behaviors and given only organic feed. Compared to traditional crops, naturally grown food has many more advantages, like being chemical-free, fresh from the farm, and environmentally beneficial. It is considered that patterns of consumption vary with the seasons, with time, and with place. Because of its ecologically responsible the basis economically feasible production, and sustainable basis, organic production has become more and more popular as a result of this scenario. Following that the inclinations of customers towards these goods and their purchase patterns point to the preservation of the environment as society moves towards becoming more sustainable. Terrace farming has been growing quickly these days, especially during the pandemics **(Sai Tanishka et al, 2021).** As a result, illnesses would not develop, and product quality would improve in terms of yield, income, and health. Prime Minister Narendra Modi acknowledged this farming technique during the UN Conference on Desertification (COP-14), saying that India is concentrating on it. The farming approach provides robust food systems. By methods of two of their initiatives:

- Paramparagat Krishi Vikas Yojana (PKVY)
- Rashtriya Krishi Vikas Yojana (RKVY)

India's government has been encouraging organic farming there.

2. Objectives

Particularly, the study has the following objectives

- to study the present status of organic farming in the state of Andhra Pradesh
- to study the area, production and exports of Andhra Pradesh and India during 2021-22

3. Methodology :

The research utilized secondary data. Conceptual modeling and an assessment of the literature represent the study's main research methodologies. The secondary data was mainly collected from The Agricultural and Processed Food Products Export Development Authority (APEDA), Zero Budget Natural Farming (ZBNF) which is being implemented by Rythu Sadhikara Samstha (RySS) Publications, Department of Agriculture, Government of Andhra Pradesh, Socio-Economic Survey 2022–2023, Statistical Abstract of Andhra Pradesh 2021 published by Directorate of Economics and Statistics etc,.

4. Concerns with Organic Farming

i. There is little government spending: The government unveiled the Rashtriya Krishi Vikas Yojana in 2018, which is the core initiative for the Green Revolution and has been allocated Rs 3,745 crore for the 2019–20 budget year. However, the Paramparagat Krishi Vikas Yojana, which was established to promote organic farming and soil health, only received Rs 325 crore.
ii. Many farmers returned to conventional farming after noticing a reduction in their organic farming yields after a few years of farming.
iii. Organic farming has clearly helped to maintain soil fertility, but it is still unclear how much of an influence it has had on raising productivity and farmers' revenue.
iv. Since converting to organic farming, Sikkim, the first organic state in India, has seen minor output losses.
v. Agricultural specialists believe that before the organic farming Model is extensively implemented across the country, its long-term effects and viability should be thoroughly examined.
vi. Widespread organic farming adoption may be detrimental to food security and farmer revenue. Therefore, a proper scientific proof of organic farming's efficiency is required.

5. Economic viability of organic farming

The worldwide cultural shifts that have occurred since the Industrial Revolution have swept away the noble, moral way of life that agriculture was once thought to represent. Previously a way of life, agriculture is now a means of production **(Krimsky & Wrubel, 1996)**. The traditional ideals of life are no longer relevant due to the industrialization of farming. For the traditional farmer, having land meant having everything: the ability to cultivate and alter it as one pleases; a close, innate love; hard work; and immense gratification from witnessing one's own creation. The creation of income was merely a side effect. In a community, farmers were also highly esteemed socially. The farmer was at the top of the social pyramid because he owned land and had control over the production of food. But agriculture too altered its hues when the goal of the human way of life shifted from one of nutrition and subsistence to one of leisure and pleasure **(Balachandran V.2004).** It is therefore crucial to emphasize the economic feasibility of any engagement method. The focus must be on the potential advantages of embracing the changes, whether it is an introduction to a novel idea or an encouragement to re-evaluate current behavioral patterns. Everything must have a market value, and organic farming is no exception. This is true even if switching to that method of agricultural production is not encouraged. This is especially true for farmers who are hesitant to deviate from the conventional means of subsistence. In order to convince them to switch to organic farming, a comparable pledge must be fulfilled. In the same way the allure of reduced labor costs, increased output, and substantial profits has driven away nearly entire countries from their tried-and-true lifestyles, a comparable assurance must be maintained to entice people to adopt organic farming practices. Farmers must be able to produce enough for revenue and self-sufficiency, as well as guarantee enough returns to cover costs, in order to be economically successful. A sustainable farm should be measured by yield, low hazards, and resource conservation **(Balachandran V.2004)**. For India and other comparable nations, organic agriculture is essentially the continuation of traditional agriculture, at least in terms of customs. But switching to organic farming does not imply going back to the old way of life. A small percentage of non-conforming people might choose it, but not most people who wish to raise their level of living. They may be drawn to esoteric aesthetics, ideals, and ideas, but the great majority, whose main goal is to become wealthy, will not be.

6. Organic Farming and Farmers' Income

- ❖ The major characteristic of Organic Farming is that the cost of production is zero and farmers do not have to buy any inputs to initiate this method of farming.
- ❖ Against the conventional methods, the Organic Farming used only 10 percent of the water that is used in the former method.
- ❖ As it promotes the use of the Indian local breed of the cow for 30 acres of land, it makes it possible for farmers to earn profits earlier than expected.
- ❖ As the Organic Farming covers all kinds of agro-climatic areas, it is mentioned to be suitable for all kinds of crops.
- ❖ Farmers can get more yields in the first year only giving them a benefit.
- ❖ The Organic Farming is also seen to ease out the debt pressure on the farmers as they don't have to take loans to buy any inputs for their farming.
- ❖ Farmers are expected to earn more money per acre and the chances of migration from villages to cities can also lessen.

7. Agro- Economic profile of Andhra Pradesh

Andhra Pradesh, which has 26 districts and a total size of 1, 62,970 square kilometers, is the eighth largest state in the nation. The state, which is located in a tropical area, boasts the second-longest coastline in the entire country, measuring 974 kilometers. Andhra Pradesh is one of the states in India with the highest emissions from agriculture **(Vetter et al., 2018)**. Throughout history as recorded, the growth of agriculture has served as the precursor to broad economic expansion and advancement. The focus for the entire country as a whole, as well as for the state of Andhra Pradesh, is on sustainable growth in the agricultural sector **(Socio-Economic Survey 2022-23)**. India produces more food grains than any other country in worldwide production each year, and it is one among the top producers of a number of crops. About 60% of Andhra Pradesh population depends on food grains for their major source of income. Agriculture, Horticulture, Livestock, Forestry & Logging, and Fishing & Aquaculture are all included in the broad category of Agriculture. With a growth rate of 4.54%, the agriculture and related sectors provided a GVA of Rs 2, 16,255 crores during 2022–2023 (AE) **(Socio-Economic Survey 2022-23)**.

7.1 Organic Farming in Andhra Pradesh

Organic farming is becoming more popular in India, especially in Andhra Pradesh, as people want to grow healthier food and are concerned about the effects of conventional agriculture on the environment. According to the government's recently released estimate, emissions from agricultural sector are 17.5 Mt CO2eq year-1 **(Vision 2029, 2018)**. Identification of the amount and sources of emissions from conventional management as well as possible alternative management practices is necessary for programs and policies aimed at reducing emissions from Andhra Pradesh agriculture. In 2002, the alternative management approach known as "Organic Farming" came into being. Government of Andhra Pradesh has been implementing climate resilient, Andhra Pradesh Community Natural Farming (APCNF) which was formerly known as ZBNF **(Socio-Economic Survey 2022-23)**. Organic farming is becoming more popular, especially in Andhra Pradesh, where the government plans to implement on 8 million acres with 6.5 million farmers by 2024 **(Rythu Sadhikara Samstha Programme, 2019)**. With the help of the government organization Rythu Samhikara Samstha (RySS), the initiative was launched in 131 village clusters in 2016 and has since swiftly grown to 268 more village clusters, including almost 500,000 agricultural families. According to **UN Environment (2018)**, this already places it among the biggest changes to the agricultural and food systems on the face of the world. The district wise details of organic farming practicing farmers up to December 2023 are mentioned below table no-1.

Table 1- Organic Farming in Andhra Pradesh

District wise details of Organic Farming farmers as on December 2023				
S.No	**Name of the District**	**Percentage of Progress**		
		Farmers	**Acres (in Ha)**	**Avg. acres**
1	Srikakulam	52	29	0.74
2	Parvathipuram Manyam	70	42	1.21
3	Vizianagaram	75	55	0.95
4	Visakhapatnam	62	39	0.64
5	Anakapalle	87	55	0.73
6	Alluri Seetha Ramaraju	75	27	0.94
7	Kakinada	86	57	1.0
8	Konaseema	88	52	0.85
9	East Godavari	80	51	1.08
10	West Godavari	73	41	1.05
11	Eluru	78	47	1.01
12	Krishna	77	40	0.88
13	NTR	87	51	0.91
14	Guntur	79	47	0.98
15	Palnadu	80	54	1.13
16	Bapatla	66	43	1.09
17	Prakasam	54	28	1.16
18	Sri Potti Sriramulu Nellore	60	39	1.01
19	Tirupathi	76	50	0.99
20	Chittoor	73	48	1.08
21	Annamayya	75	37	1.2
22	Y.S.R	78	42	1.34
23	Sri Sathya Sai	77	35	1.03
24	Ananthapuramu	62	29	1.33
25	Kurnool	62	29	1.11
26	Nandyala	72	39	1.26
	Total	**76**	**39**	**1.05**

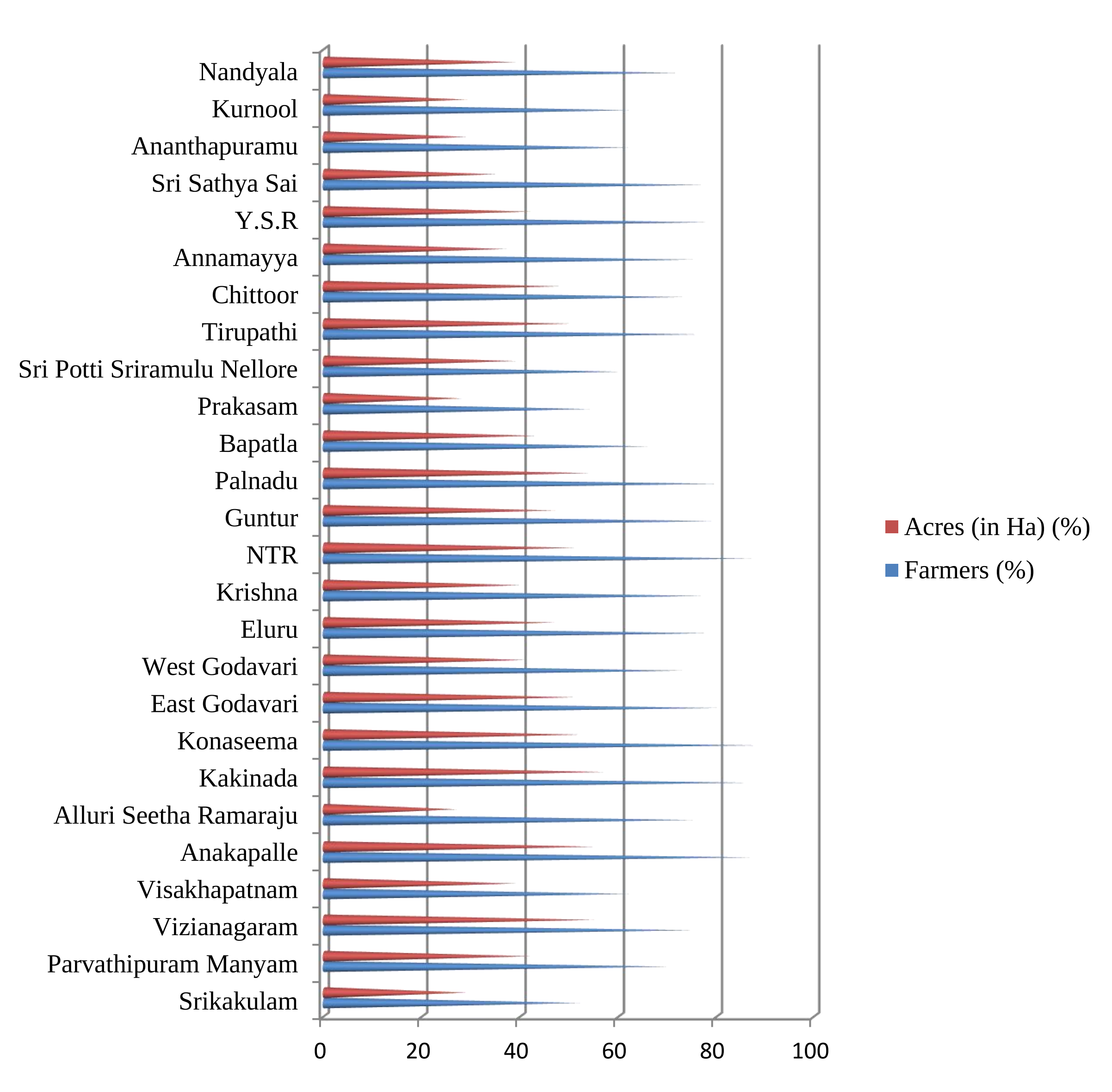
Source: Rythu Sadhikara Samstha (RySS) Publications, Department of Agriculture, Government of Andhra Pradesh

Note: Figures in the parentheses indicate the percentage to the respective Organic farming practicing Farmers.

The above table (see table-1 & fig-1) represents information on organic farming in various districts, including the percentage of organic farming farmers, the extent of land in hectares, and the average acres of the total farmers(it includes the chemical farmers, the farmers practicing partial & chemical-free farming (S2S, which likely stands for Seed to Seed). 960712 (76 percent) this represents the overall count of farmers who are engaged in organic farming practices across all the districts in Andhra Pradesh. 1011313 (39 percent) indicate the total extent of land, measured in hectares, that is under organic farming practices throughout the state. 1.05 percent, this represent the subset of organic farming average acres in hectares. In summary, the provided figures give an overview of the scale and distribution of organic farming in Andhra Pradesh.

The distinction between these categories is crucial in understanding the diversity of practices within the broader umbrella of organic farming. While all organic farmers aim to reduce reliance on synthetic inputs, some may adopt a more comprehensive approach by embracing organic farming. This can be valuable for policymakers, agricultural researchers, and practitioners to understand the distribution and scale of organic farming practices, particularly those adopting chemical-free approaches, across different regions in Andhra Pradesh.

Fig-1 Graphical representation of Organic Farming in Andhra Pradesh



The following are some significant aspects of Andhra Pradesh organic farming.

1. **Government Initiatives:** The government of Andhra Pradesh, like many other Indian states, has likely implemented various initiatives to promote organic farming. These initiatives may include financial incentives, training programs, and certification support for farmers transitioning to organic practices.

2. **Certification:** Organic farmers in Andhra Pradesh may seek certification from accredited bodies to label and sell their produce as organic. Certification ensures that the farming practices comply with organic standards.
3. **Training Programs:** To support farmers in adopting organic methods, there may be training programs conducted by agricultural departments, NGOs, or other organizations. These programs aim to educate farmers about organic practices, soil health, and sustainable agriculture.
4. **Market Linkages:** Efforts may have been made to establish market linkages for organic farmers. Connecting them with consumers who seek organic products helps create a sustainable market for organic produce.
5. **Awareness Campaigns:** The government of Andhra Pradesh and various organizations may conduct awareness campaigns to educate both farmers and consumers about the benefits of organic farming. These campaigns often highlight the environmental, health, and economic advantages of choosing organic products.

8. Organic Agricultural Statistics of Andhra Pradesh & India

a. Status of Organic Area during 2021-22

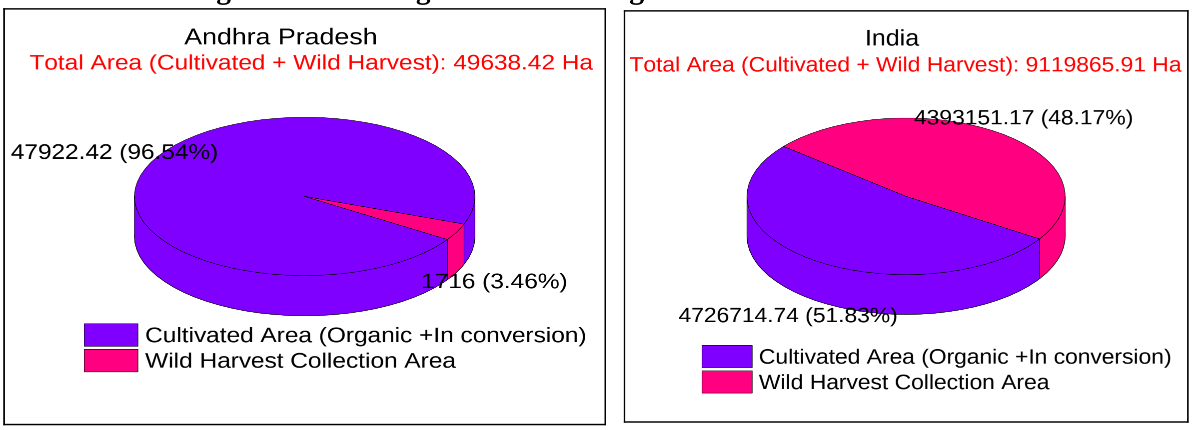
Table-2 Status of Organic Area during 2021-22

Area (in Ha.)	**Andhra Pradesh**	**India**
Cultivated Area (Organic +In conversion)	47922.42 Ha	4726714.74 Ha.
Wild Harvest Collection Area	1716.00 Ha	4393151.17 Ha.
Total Area (Cultivated + Wild Harvest)	**49638.42 Ha**	**9119865.91 Ha.**

Source: **APEDA**

According to the USDA-(United States Department of Agriculture-2021) there are 1.19 million certified organic farmers in India in the year 2021. 1.13 million additional farmers in the country employ organic agricultural practices through the Participatory Guarantee System (PGS India), a locally relevant quality certification programme. As of March 31, 2022, the total area in Andhra Pradesh and India, registered under the National Programme for Organic Production (NPOP) for organic certification was 49638.42 hectares, and in 911 9865.91 ha (2021–2022). This comprises cultivable area of 47922.42 ha and 472671 4.74 ha, as well as additional 1716.00 ha and 43931 51.1 7 ha for the collection of wild harvest (see table-2 & fig-2).

Fig-2 Status of Organic Area during 2021-22



b. Status of Organic Crop production during 2021-22

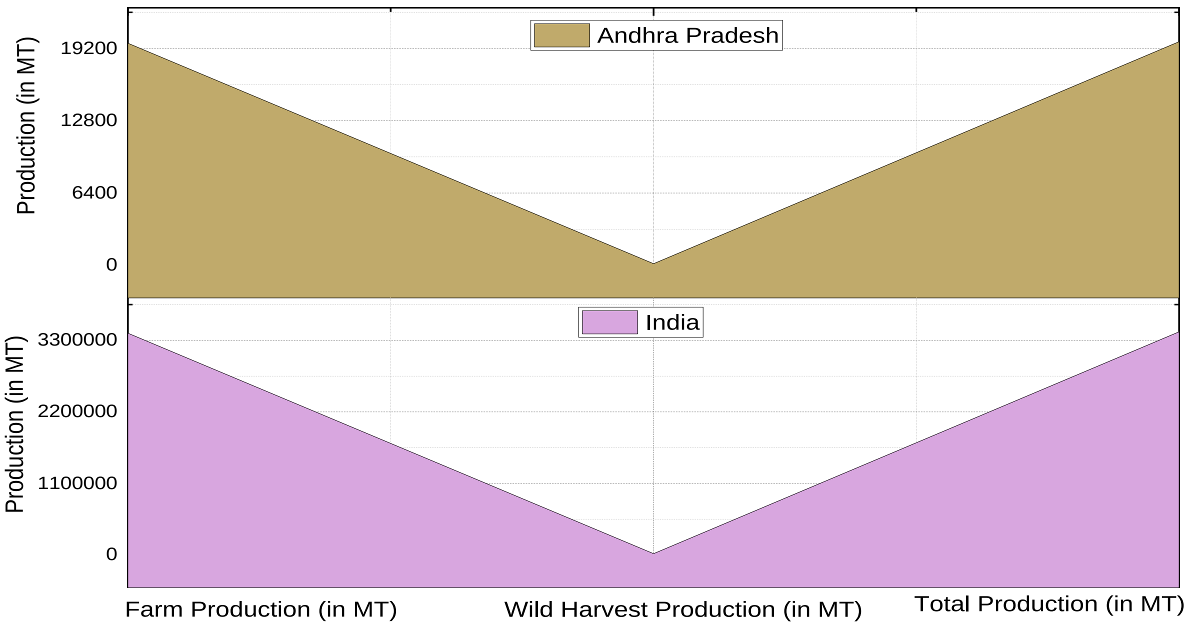
About 19792.25 MT and 3430735.65 MT (2021–22) of certified organic products were produced the state of Andhra Pradesh and India (see table-3 & fig-3). This includes all different types of food products, such as oil seeds, fiber, sugar cane, cereals & millets, cotton, pulses, aromatic & medicinal plants, tea, coffee, fruits, spices, dry fruits, vegetables, processed foods, etc. Not only does the production encompass the edible sector, but it also yields functional food products and organic cotton fiber. The largest group of commodities is fiber crops, which are followed in size by oil seeds, sugar crops, cereals and millets, aromatic and medicinal plants, spices and condiments, fresh fruit and vegetables, pulses, tea, and coffee.

Table-3 Status of Organic Crop production during 2021-22

Production (in MT)	Andhra Pradesh	India
Farm Production	19,659.26 MT	3410195.02 MT
Wild Harvest Production	132.99 MT	20540.63 MT
Total Production (in MT)	**19792.25 MT**	**3430735.65 MT**

Source: **APEDA**

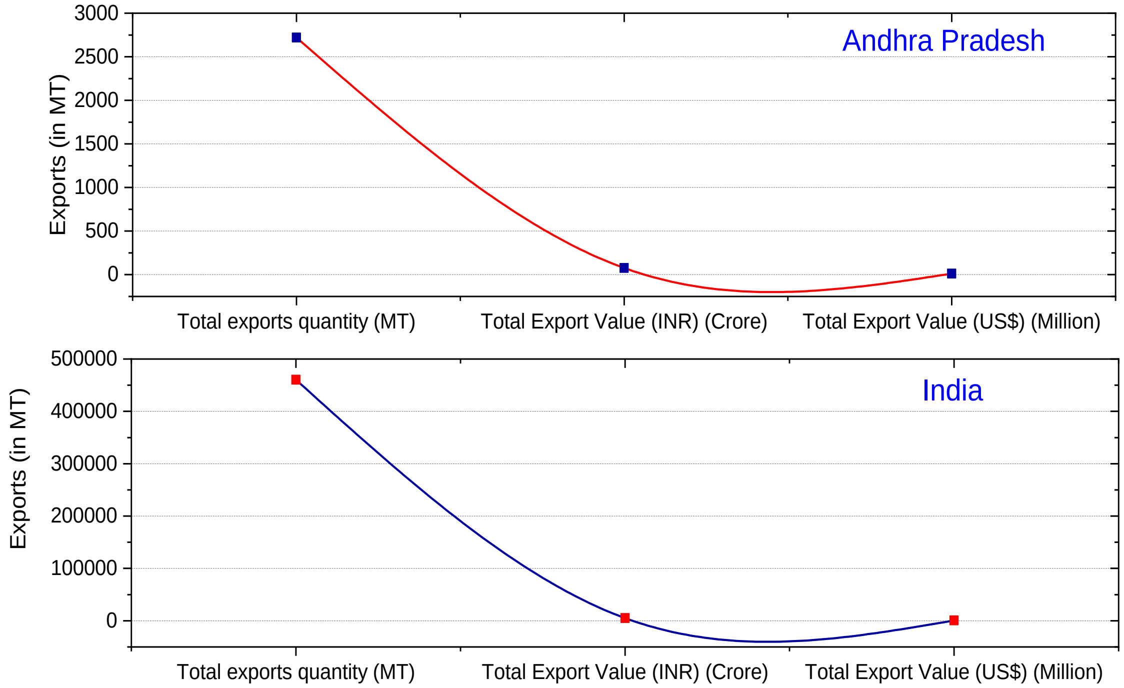
Fig-3 Status of Organic Crop production during 2021-22



c. Status of Organic Exports during 2021-22

In the state of Andhra Pradesh and India, the total export volume in 2021–2022 was 2720.27 MT & 460320.40 MT, around INR 76.76 crore (11.29 million USD) and 5249.32 crore (771.96 million USD) were realized from the export of organic food (fig-4). The USA, EU, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Korea Republic, Vietnam, Japan, and so on are among the countries that import organic products. Processed foods, which include soy meal (61%), are the most popular product in terms of export value realization. These are followed by oilseeds (12.85%), cereals and millets (12.71%), sugar (4.77%), plantation crop goods like tea and coffee (2.16%), spices and condiments (1.72%), pulses (1.11%), and other products.

Fig-4 Status of Organic Exports during 2021-22



9. Suggestions

- Establish organic marketplaces in urban areas and make sure the government provides NF farmers with inexpensive and simple access to certification for their organic products.
- Adopting the NF model can lower heavy credit, chemical costs, and stop farmer suicides. As a result, the government ought to expand the NF scheme while coordinating with the state's FPOs, SHGs, and NGO's.
- To use Seed Corporation to provide traditional seeds to NF farmers at lower prices.
- Expanding the procurement system, fixing a higher MSP for organic produce than for in-organic output, and strengthening the infrastructure of the agriculture market.
- To assist NF farmers in the state and the country, the government ought to set aside a specific portion of the state & central budget.

10. CONCLUSION

The organic food and beverage sector in India is still in its infancy. Nevertheless, because of the rising demand from consumers, it is growing quickly. The pandemic-related increase in consumer focus on healthy eating, new consumer-oriented products, greater availability in more places, and the emergence of new businesses offering organic products are all credited with this growth. Demand for imported organic food and beverage goods will continue to be driven by a growing focus on wholesome and immunity-boosting foods, with organic teas, juices, and apple cider vinegar leading the way. In the Indian market, organic dairy goods and fruits and vegetables continue to have the greatest growth potential. In India's organic sector, investors and exporters will continue to face transparent and frequently unpredictably changing regulations, despite the size and growth potential of the market.

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Evolution of Indian Currency

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Abstract: India is an extremely diverse country, a wide range of age groups, castes, communities, and faiths are residing here. Studying Indian civilization and, more significantly, the past inspires us to come up with precise and grounded concepts. This historical cycle of evolution can also be used to illustrate how power was centrally and decentrally distributed in India. This article enlightens the diverse rulers that governed different parts of India, their ideologies, and how those influences affected the development of currency. This will then serve as a guide for future generations as they develop novel concepts and unique yet intriguing systems. The study aids researchers in comprehending the cultural aspects of Islam, Hinduism, Buddhism, and Christianity in India as well as how these aspects affect the designs of currency. Utilizing coins and banknotes demonstrates how the human mind interacts with materials, concepts, and finished goods. Studying the past is now necessary in order to generate new formulations due to the emergence of new technologies such as digital communications, virtual reality, and the proliferation of internet-based systems. The design of Indian currency changed constantly as dynasties presented policies relevant to the era they ruled. This allows us to see how shifting political circumstances and altering imperial policies can bring new ideas to life. Since India aspires to become a global economic powerhouse, its currency must be competitive enough to withstand all strict requirements. The results of this study give the researchers a lot of options for adding effective features to future banknotes while taking the manufacturers' budgets into consideration.

Keyword: Currency, Coins, Banknotes, Technologies, Policies.

1. INTRODUCTION

In order to satisfy both parties involved in the transaction of products and services, buyers and sellers can trade with one another using currency as a medium of exchange. Both treading parties accept a specific value associated with the currency. Globally, governments are often in charge of managing and controlling currencies. The government sets the value of money and creates it. It has the power to alter a market's currency supply. The total quantity of currency in a system determines the percentage of inflation that will always exist in the economy.

Trade is facilitated by monetary circulation. Greater circulation will lead to greater economic growth. A system's inability to circulate currency can cause a recession, which has detrimental repercussions like hunger, starvation, and poverty. Every currency has a specific worth. The consumer gains purchasing power from possessing it. A person's socioeconomic chances increase with his or her wealth. No matter what social standing the bearer of a banknote has, it retains its worth. This gives the impoverished opportunity to become stronger via possession. The value of money can be reduced by the state. Additionally, the State can impose control over the populace by printing and distributing money.

The process of currency evolution is constant and ongoing. Numerous historical, political, social, and economic aspects of the era in question—when the specific currency was created—have an impact on it. Therefore, it is crucial to understand how Indian banknotes have changed over time in order to properly create future money. The Reserve Bank of India claims that India's cash to GDP ratio is steadily rising. In contrast, it increased to 10.9% in March 2018 and further 11.4% by March 2019. It had dropped to 8.8% in March 2017. 13.3% more has been added to this total than in September 2018. All of these indicators currently demonstrate how deeply rooted the currency notes are in the Indian economy.

A significant shift in the 21st century has been the proliferation of virtual currencies. Virtual currencies have become more prevalent in India in recent times. Digital currencies are being adopted by Indian society. Its dominance has been sustained by the continued demand for paper money. In light of the impending advent of such a transformative period in India, it is now necessary to examine the foundations of all transaction procedures and financial operations. This essay sheds light on the origins and progression of the Indian banknote. Examining the past of banknotes allows us to create more practical and safe mechanisms. Pragmatic decision makers can examine cross-cultural opportunities and get insight into our cultures by studying the evolution of currency. Even if digital currencies are becoming more prevalent in Indian marketplaces, paper money still accounts for the majority of financial transactions in India.

2. LITERATURE REVIEW

Dr. Vinita Verma (June – December, 2015): Journey of the Rupee: Meandering through Turbulent Times- The purpose of the article is to investigate how, after independence, Indian currency has experienced an elusive journey. Its progress over the last 65 years has been influenced by several financial and geopolitical advancements.

The study aims to demonstrate how a decline in crude prices will directly affect WPI (Wholesale Price Index) inflation, which will then directly affect the budget deficit. The government was able to accomplish sustainable growth and development as a result. As a result, the country's credit rating and reputation among foreign communities have improved.

Nirav Desai and Kritika Bansal (November–December 2014): Impact of Rupee Exchange Rate on Business Opportunities in India- In this article, we analyze India's macroeconomic environment in relation to the Rupee exchange rate and the deregulation of oil prices. These two variables are examined individually since they have had a significant role in determining the economy's business competitiveness. Numerous business opportunities resulting from both strong and weak Rupees and deregulated oil prices are examined.

Journey of Indian rupee since Independence (source: Times OF India- 13 August 2013): Over the past two years, there has been a significant amount of volatility in the money. Over the course of the preceding three months, this volatility intensified and had a substantial impact on all aspects of full-scale financial data, including growth, development, exchange, and speculation. The Indian rupee was valued at par with the US dollar at the time of its independence and was correlated with the British pound. India's financial record contained no instances of distant borrowing. After the Five-Year Plan was introduced in 1951, the legislature started taking loans from outside sources to meet the objectives. Depreciation of the rupee was necessary for this. Indians admit a fixed rate money administration following independence. The rupee was fixed between 1948 and 1966 at 4.79 to the US dollar. Due to two consecutive wars—one with China in 1962 and another with Pakistan in 1965—India's financial plan experienced a significant deficit, which forced the government to devalue the currency to 7.57 against the US dollar. In 1971, the rupee's link with British currency was loosened, and it was reestablished with the US dollar.

3. OBJECTIVE OF THE STUDY

- To study the historical perspective of Indian currency from ancient period till now.

- To know the different stages of Evolution of Indian currency.
- To examine the Recent Development of Indian currency.
- To know the impact of demonetization.
- To look into the current and future trends of Indian currency.

4. RESEARCH METHODOLOGY

The nature of present study is conceptual and no statistical tools have been used. The research which is used in this article is based on the secondary data gathered from web, magazines, newspapers, research papers, books, e-book, e-media etc.

5. ORIGIN AND EVOLUTION OF CURRENCY

Barter System

There was no money in the beginning. In the past, people traded goods via a system called bartering. This essential type of trade was common in prehistoric times and is still present now among populations with rudimentary economies, particularly those living in tribal areas across the globe.

Commodity Money

Certain goods gained greater significance than others. These goods were being circulated as a means of exchange and were accepted by all. In this sense, the commodity money functioned admirably for an extended period of time. For this purpose, animals such as cattle were employed. Even though there was a chance of illness and death, these creatures had the benefit of being able to move for themselves and breed. Subsequently, salt became into a valuable commodity due to its scarcity, particularly in the interior regions of continents.

Metallic Money

The discovery of metal by man led to a drastic change in lifestyle. Things got easier. Metals were employed in the early stages of civilization to make weapons and utensils. However, as time went on, people discovered the beauty and convenience of metals for transportation. And different dynasties began exploiting metals to make money all throughout the planet.

The most ancient currency, "Mudras" (coins), comes to mind when we examine the evolution of Indian money, particularly the evolution of coinage. These mudras are primarily mentioned in the Vedas and other ancient Indian manuscripts. However, in order to find the actual evidence and facts, one must travel back in time to the Harappan and Mohenjo-Daro eras of the Indus valley civilizations. That corresponded to the period between 2500 and 1750 BC. It is possible to find proof that punch-marked coins exist. Up until the first century AD, perforated marked coins were still in use. The majority of these coins were made of silver and included designs of hills, trees, animals, the sun, and different geometric shapes. Merchant groups were the first to adopt these, followed by the States. These coins are a representation of the thriving urban growth and trade that took place at that time. The Saka-Pahlavas, the Kushans, and the Indo-Greeks were the first to produce dynastic coinage. Most of these coins were in use throughout the second century BC and second century AD. The Greek gods and goddesses were heavily portrayed on Indo-Greek coinage. The coin's other side once featured the portrait of the coin's issuer, usually a king.

These coins are extremely important from an archaeological perspective. The only reason the historians could envisage the trades and commerce of that era was because of these coins. Western Kshatrapas introduced the Saka currency in AD 78. The official calendar of the Republic of India is derived from Saka measures. However, the iconographic forms of the Kushan coinages, which were introduced by the Kushan dynasty, are inspired from Indian, Greek, Mesopotamian, and Zoroastrian myths. These coins have images of Siva, Buddha, and Kartikeya to represent Indian mythology. Subsequently, Kushan coinages impacted later issues such as the Gupta and Satavahana. From 270 BC to 30 BC, the Andhras (the area between the Godavari and Krishna rivers) was known as the Satvahana era. During this time, the majority of the coins were made of copper and lead. The designs featured many creatures, including bulls, horses, lions, and elephants.The Kushan custom of having the king's portrait on one side and the image of a god on the revered side was carried on by the Gupta dynasty (4th–6th centuries AD). During the post-Gupta era, which spanned the 6th to 12th century AD and included the periods of Samudragupta, Chandragupta II, and Kumaragupta, the design of coins placed less emphasis on beauty. Coins lacked artistic interest and were boring. During the Harsha Dynasty (7th century AD), the portrait of the Seated goddess Lakshmi was first introduced.

It is easy to distinguish coins from the southern Indian kingdoms from those from the northern ones. The main distinction is found in the motifs, which include the fish (Pandya and Alupas), tiger (Chola), boar (Chalukya), bull (Pallava), bow and arrow (Cheras), lion (Hoysala), and others. The collection of several Middle Eastern, European, and Chinese currencies delves into the ancient Indian trade connections, the Silk Road, and the maritime trade of south Indian dynasties. The Sindh region was conquered by Arabs circa 712 AD. However, the main shift in the money system didn't happen until the Turkish Sultans arrived in Delhi in the 12th century. That was the pivotal moment in the currency system's and designs' flow.

The prevalent shift from the past and the prevailing motifs were presented. Islamic devices progressively took the place of previous motifs, most notably calligraphy in place of bulls and other animals. During the years 1206 AD to 1526 AD, there was a notable growth in the money economy. With gold, silver, and copper coins, the "tanka" was the unit of currency. The ratio of gold to silver in the monetary system was most likely standardized at 1:10. The technique of creating new currency persisted among the successors as well. The coins produced during the Tughlaq dynasty (1320–1412 AD) had outstanding craftsmanship and design. The enormous quantity of gold coins that were produced during Muhammad bin Tughlaq's rule serve as an indicator of the era's wealth.

However, the currency of the South was introduced by the Vijayanagar Empire, which was created in roughly 1336 AD by Harihara and Bukka. This coinage had a distinct metrology and design, which became a standard in the area and affected coin design all the way up to the 19th century. For several centuries to come, European and English commerce enterprises used the empire's standardization initiatives as a model.

Babur beat Ibrahim Lodhi in 1526 AD. And the Indian subcontinent was ruled by the Mughals. Through the introduction of standardization and consolidation of the coinage system throughout the Empire, the Mughals made a substantial contribution to the Indian monetary system. For a brief period between 1540 and 1545 AD, Delhi was ruled by Sher Shah Suri, an Afghan monarch. He instituted a tri-metallic system of coinage, consisting of a 178-grain silver coin called "Rupiya," 169-grain gold coins called "Mohur," and copper coins known as "Dam." The Rupiya coin, made of silver, persisted until the early 1900s. This Rupiya served as the prototype for the current Indian Rupee. Mughal money was expertly crafted, showcasing distinctive minting methods and inventive abilities. During the reign of Grand Mughal Emperor Akbar, currency designs reached a mature state of development. Emperor Jehangir, who succeeded his father Akbar, developed a personal interest in the currency. The Jehangir era is known for its massive coins, which are the largest in the world. Mughal coins are renowned for their incorporation of literary texts, portraits, zodiac signs, and superb. After the defeat of the Mughal Empire, the currency of the Province of Awadh, the powerful Maratha confederacy, and the Sikh government known as "Khalsa" was also adopted. However, a few little proveniences kept up the Mughal currency. More than a hundred Princely States were producing coins bearing the name of the Mughal Emperor when the British Crown assumed control from the East India Company in 1858. The Indian rupee was still denominated in silver throughout that time.

Paper Money

During the Middle Ages, merchandisers would save the receipts that the goldsmiths gave them as a form of guarantee. The exchange of gold and silver was made possible by this receipt. These receipts served as agents for regular transactional activity during the course of the passing period. As a result, paper money was created. The emergence of paper money seems to have marginalized and diminished the influence of coin money. Subsequently, only lesser denominations of metal coins could be produced. The introduction of paper money, as we know it now, to India occurred in the late 1700s. The decline of the Mughal Empire began around the middle of the eighteenth century. This was the period when colonial powers first arrived in India. The decline of native bankers was caused by the shifting power dynamics, upheavals, conflicts, and colonial institutions. As a result, these bankers' financial authority was transferred to the Agency. The state provided funding for these agency houses. Numerous agency houses among them went on to become their own banks. The General Bank of Bengal and Bihar, as well as the Bank of Hindustan (1770–1832), were the first banks in India to print paper money. In the latter half of the eighteenth century, paper money was introduced by the Bengal Bank and others.

The Paper Currency Act of 1861 granted the Indian government the exclusive right to issue notes. The issue of managing paper money, then greatly expanded geographical area of India was extremely challenging. As a result, the Presidential Banks were established. These banks were serving as middlemen for money circulation and promotion. However, there was a problem with these banks: they were only taking notes that were issued by the bank in question. The merchants found it quite challenging to go such a great distance in order to exchange currencies at that time. 'Currency Circle' was introduced as an idea to address this problem. The notes from many issuers were accepted lawfully in these circles. The number of these circles grew over time, and the function of presidency banks progressively diminished. Introduced as the "Victoria Portrait Series," they were the first British India notes, available in denominations of 10, 20, 50, 100, and 1000. These were printed on hand-molded paper made at the Laverstock Paper Mills, had two language panels, and were unifaced. The printed signature, the watermarks, and the registration numbers on the notes were all included as security measures. The British India Notes made it easier to move money between states. Following the financial transaction, the notes were split into two halves. The first set arrived by mail. Two sets would only be sent following the verification from the recipient. For security concerns, the half note became a very useful idea. A rise in the number of forgeries led to the withdrawal of the Victoria Portrait series, which was replaced with the single-faced "Underprint Series." The security elements of this new series, which debuted in 1867, were improved. Notes with a denomination of Rs. 5 were initially introduced in response to public demand. Prior to 1903 and 1911, notes could only be exchanged legally within the Currency Circle in which they were issued. After that, they were 'universalized,' meaning that they could be exchanged legally outside of the Currency Circle. Before the 'King's Portrait' series debuted in 1923, this series stayed almost unaltered. States all across the world introduced smaller denomination notes in response to the First World War, mostly for reasons of convenience and security. On November 30, 1917, the Rupee 1 was launched, and thereafter the Rupees 2 and Annas 8. Eventually, for cost-benefit reasons, the issuing of these notes was stopped. George V. was featured in the King's Portrait Series, which came in denominations of Rs. 5, 10, 50, 100, 500, 1000, and 10,000.

The introduction of printing machinery to India and the founding of the Currency Note Press in Nasik by the 1930s facilitated the seamless adoption of currency notes. As time went on, Nasik emerged as British India's primary hub for note printing. These notes have enhanced security features, such as multicolored printing, intricate portrait designs, and watermarks.

The Reserve Bank of India was formally established on Monday, April 1, 1935, with its central office located in Kolkata, which was then known as Calcutta. Since its founding, the Reserve Bank of India has been in charge of overseeing the country's monetary system. Sir James Wilson, the first member of the financial committee and later a member of the Viceroy of India's Executive Council, was particularly interested in directing the policies pertaining to currency printing.

India gained its independence from British rule at midnight on August 15, 1947. Similar to the liberation movement, currency management in India did not require significant effort to transfer control to the Government of India. In 1949, new notes with a denomination of one rupee were introduced. Symbols for India's independence have to be selected. As a result, Mahatma Gandhi's image took King's position. In independent India, Hindi was being printed on banknotes by the government as English became less significant in official affairs. In 1954, high denomination notes with values of Rs. 1,000, Rs. 5,000, and Rs. 10,000 were once again introduced. The early 1960s saw a reevaluation of notes due to shifting economic dynamics, and in 1967, note sizes were once more decreased. In order to combat the issue of counterfeiting, higher value notes were removed from circulation in 1978. The purpose of the Rupee 500 note was to meet the economy's growing demands. Mahatma Gandhi's image was attached to this note.

In 1996, the Reserve Bank of India introduced the "Mahatma Gandhi Series" of banknotes, which significantly altered the country's financial structure. Utilizing reprographic methods, this series offered contemporary security features such intaglio, windowed security thread, latent image, and watermark. Indian banknotes include a variety of designs. These motifs stand for historical advancements, Indian culture, and customs. Gandhian ideals were portrayed in this series. Mahatama Gandhi's encounter with Lord Frederick William Pethick-Lawrence is the source of the image found on Indian banknotes. The photograph was taken in 1946 at Rashtrapati Bhavan. This image was featured on the Mahatma Gandhi series, which is still widely used on banknotes today.

On November 8, 2016, the Indian government announced the demonetisation. New notes with improved security were released. The Rs. 1000 currency was removed from the system and was not replaced. New banknotes showcase India's cultural legacy and scientific advancements. In comparison to its previous equivalent, the size of the notes has decreased, and vibrant colors have been added. Indian banknotes feature images of historical monuments. One of them is symbol of Emperor Ashoka which stands for strength, bravery and assurance. This logo comes from the lion of Sarnath located in the Uttar Pradesh. There are four lions on it, but only three are visible. It is set on top of a circular abacus. The chakra is a symbol for the center. The eternal wheel of law is represented by this dharma chakra.

Plastic Money

In India, banks began actively introducing plastic money in the 1990s in the form of cards. However, when it first came out, it wasn't all that well-liked by Indian customers. The evolution of technology and consumer knowledge, along with changes in consumer demographics such as income, marital status, education level etc., have brought about the necessary shifts in customer preferences. Their perspective and choices about which products and services to accept or reject from the market have likewise changed as a result of these shifting tastes. As a result, both bankers and consumers are beginning to use plastic cards more frequently.

The Indian Rupee in Modern Times The card market in India is on par with the global leaders. These are a few signs. Use for profit: To avoid misuse, credit cards can be used online with a unique security code. Profitability has gone up as a result. These days, it's common to use credit cards to cover even hospital stays and school tuition. The highest safety regulations in the world are adhered to by players in order to prevent misuse. For instance, the issuing bank is automatically notified of any transaction above a specific amount and promptly contacts the cardholder via mobile phone to verify the purchase. The product features are also among the best globally. Nearly all credit cards provide common extras like heavily discounted medical insurance, complimentary accident insurance, and much more. The option to convert a large credit card purchase into a loan with a cheaper interest rate spread over a longer period of time is presented to the cardholder. obstacles encountered Due to competitive pressures, growing customer expectations, and declining profit margins, 21st-century banking has completely shifted to a customer-and technology-driven model. Banks have been utilizing technology to cut costs while increasing productivity, efficiency, and client convenience. Delivery channels that rely heavily on technology, such as mobile and net banking, have offered customers a multitude of options and exceptional ease, creating a win-win scenario. It is necessary to educate clients on credit cards in addition to the characteristics that set the cards apart. Given that Visa and Master Card frequently advertise, therefore raises consciousness. The best course of action is to highlight what makes it unique.

Digital Money

The Reserve Bank of India (RBI) had made the decision to stop issuing banknotes with a denomination of INR 2,000. People were allowed to swap these currencies by September 30 of that year, in a move that is reminiscent of the demonetization of 2016. This breakthrough could provide additional impetus to the payment industry, which has seen a change thanks to innovative technology and digital business models. In an effort to spur innovation within the payment ecosystem, banks are working with outside companies. To promote the use of digital payments, the government has made systems like the Unified Payments Interface (UPI) available. As a result, since 2018, the RBI has recorded a two-fold rise in digital payments in India. India had ₹149.5 trillion in card and UPI transactions in 2022. It's clear that technology is developing alongside end users, and as more payment options become available, the number of use cases grows. Since payments are the foundation of every financial institution, central banks must increasingly offer channels with cutting-edge features to stay relevant. One such channel, known as Central Bank Digital Currency (CBDC), attempts to assist central banks in broadly facilitating financial services. The Reserve Bank of India (RBI) views the e-Rupee, also known as the Indian CBDC, which is the digital version of the fiat currency that it issues and regulates, as the next generation of payment methods. It is anonymous, smooth, and widely used, providing customers with value and a positive experience. The e-Rupee presents a feasible substitute for paper money, whose production and distribution require a protracted procedure and high expenditures for the government. For instance, the cost estimate for each INR 100 note is approximately 15%–17% of the total cost over the course of a four-year lifecycle, which includes printing, distribution, and return due to soiling. Because of its carbon footprint, cash circulation puts strain on distribution and storage networks as well as the environment. More money in circulation puts strain on governance and regulators regarding printing, distribution, and storage, which raises a number of concerns like security, spoiling, and counterfeiting. The RBI has reported an upsurge in counterfeit 2,000 and 500 currency notes in the fiscal year 2021–2022, making counterfeits a serious issue. Carrying cash carries a significant risk of theft or loss. Central banks have more control over the distribution and use of e-Rupee.

6. CONCLUSION

The article on the evolution of currency informs the reader about the diverse rulers that governed different parts of India, their ideologies, and how those influences affected the development of cash. This will then serve as a guide for future generations as they develop novel concepts and unique yet intriguing systems. The study aids researchers in comprehending the cultural aspects of Islam, Hinduism, Buddhism, and Christianity in India as well as how these aspects affect the designs of currency. Utilizing coins and banknotes demonstrates how the human mind interacts with materials, concepts, and finished goods. Studying the past is now necessary in order to generate new formulations due to the emergence of new technologies such as digital communications, virtual reality, and the proliferation of internet-based systems. With each new ruler came constant change in the design of the currency. Policies from concerned eras were provided by dynasties. This allows us to see how fresh ideas can become reality by altering the empire's governmental policies and changing the governance environment. The current design of Indian currency is a combination of British deductions, Mughal ideas, Hindu philosophers' and mathematicians' notions, pictures of Buddhist monuments, and representations of post-independence achievements—all of which are transferred into paper via contemporary technical developments. The findings of this study will help designers connect Indian concepts and customs with global norms. India wants to become one of the world's economic superpowers. Her currency should therefore be strong enough to endure all strict requirements.

Because of this, the evolution of any system is greatly influenced by a variety of socioeconomic factors, political circumstances, the psychology of rulers, the locational impact of the environment, etc. However, cutting costs is still another important consideration when creating the parameters for currency notes. The results of this study give the researchers a lot of options for adding effective features to future banknotes while taking the manufacturers' budgets into consideration. In the near future, India plans to introduce its own currency made of polymers. So, this document might provide guidance to policy makers. And in this era of sustainability and environmentally friendly practices, the hints so received can be helpful in creating more sustainable solutions.

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Impact of In-service Teacher Trainings on English as Second Language Classroom Teaching

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Abstract: *The paper qualitatively content analyses the impact of Bengali Medium teachers' in-service training experiences on their English as Second Language (ESL) classroom teachings. Recorded-interview data was coded to find out in-service training objectives as well as the constraints, preventing new pedagogical skill transfer. Content analysis showed training contents are not tailored as per grass-root level requirements of ESL pedagogy. Problem areas go unaddressed further due to non-collaboration, teacher's unaccountability and absence of follow-up sessions. Thus, though on personal levels, in-service trainings are able to alter teachers' 'belief system', on professional levels, it has minimum impact on class teachings.*

Keywords: *In-service Teacher Training, English as Second Language, Pedagogical skills, Qualitative Content Analysis*

1. INTRODUCTION :

In-service teacher training programs endeavor to change a teacher's 'belief-system' in order to improve class practices. The concept of classroom teaching has evolved with time and so has the role of teachers. Being a 21st century teacher, it is hence important to realize how our roles have shifted from being the one who stands on the pedestal to 'teach' the 'ignorant' to the one who 'facilitates' learning. In-service teacher education provides teachers with those moments for self-updating in the altered fundamentals of classroom teaching. As per National Curriculum Framework for Teacher Education (2009), in-service teacher training programs have the following functions: (1) updates teachers on latest pedagogies and subject-contents (2) professionally advances serving teachers, (3) orients teachers to new roles and technologies. "However, the reality is far from this." (Kidwai, *et. al.* 2013).

2. Review of In-service Training Experiences :

Policy for teacher training at both primary and secondary levels in India was institutionalized during the colonial period. The first formal teacher training school in India was established at Serampore in Bengal in the name of Normal School by Carey, Marshman and Ward 1793 which catered to primary education. In 1882, Hunter Commission first recommended teacher training curriculum covering both theory and practice and also proposed one-year training for Secondary school teachers. Significant development occurred in 1884 when first one-year degree courses in Teacher Training were offered as Licentiate in Teaching (L.T.) and Bachelor in Teaching (B. T.). In 1906, the first secondary teacher's training institute was established in Bombay, followed by David Hare Training College in 1908 and Dhaka Teachers' Training College in 1909. The term training has a narrower perspective as pointed out by Kilpatrick much earlier when he said, "Training is given to animals and circus performers, while education is to human beings." Teacher Education thus is the more appropriate way to approach this field. After independence, Kothari Commission (1964-66) undertook to revolutionize Indian education and their aspiration is reflected in the first sentence of its report "The destiny of India is being now shaped in her classrooms." It recommended that teacher education programs should be of two years duration. National Education Policy, 1986, also emphasized on strengthening teacher education program and integrating technology. In the last decades of the 20th century, National Council of Teacher Education was entrusted as a regulatory body to recognize teacher education institutions of the country, alongside the Universities whose power was curbed. As we have moved into the 21st century, the rapid mushrooming of private teacher training institutions across India. There are about eleven thousand institutes in India which offer B. Ed colleges. In most states, more than 90 % are private institutions. Odisha, a good example, is the only state where there are no private institutions. On the other side, in West Bengal, only 50 out of 681 are public institutions. As for schools, there are 15 crores schools in India which need properly qualified teachers equipped with teaching skills, sound pedagogical theory and professional skills and so there should be proportionate number of teacher education institutions. Existing literature is unanimous in observing the potentials of in-service teacher training programs as well as the incongruence, existing between training programs and classroom practices. Studies have revealed how a teachers' pre-training concepts about teaching profession and subject pedagogy have undergone post-training "belief development" (Rao, 2019), "change in motivation" (Ashrafuzzaman, 2018) and advancements in pedagogical "knowledge and skill" (Kidwai, *et. al.* 2013). However, changes in teachers' pre-training belief system have not improved classroom practices. According to Sim (2011), two constraints were identified: (i) disproportionate class size; and (ii) student diversity in cognitive levels. According to Kidwai *et. al.* (2013) "budget constraint", "lack of teacher's motivation" and "lack of local participation in the decision-making regarding teacher training" have hindered the implementation process. Ashrafuzzaman (2018) observes "lack of support from authorities", "lack of supervision and monitoring", rush to complete the syllabus, "huge burden of duty and not getting gap between classes" as reasons for the incongruence. Fullan (2007) observes how lack of follow-up programs demotivate knowledge and skill transfer. The present study agrees with the above observations and makes further insights into the incongruence, mostly in the context of ESL (English as Second Language) pedagogy.

3. Background of the study

State-aided in-service teacher trainings are mostly planned by Sarva Shiksha Abhiyan (SSA) and operated through respective Sate Council of Educational Research and Training (SCERT). Once the in-service training contents have been designed, it is dispatched by SSA to respective SCERTs. The SCERTs then selects and trains resource personnel. The SCERT, next, entrusts the District Institute for Education and Training (DIET) to conduct the workshops through the resource personnel. These in-service workshops, on the occasions of new syllabus, can be on subject pedagogy; or, based on some new policies, have a general approach to the teaching profession. These trainings take place district wise in the respective DIETs and can last for a week or for just two days. However, despite its promising nature, the "quality of in-service teacher training in India has repeatedly failed to match the expectations that have risen with the introduction of new textbooks and policies." (Kidwai, *et. al.* 2013). The present study, thus, aims to qualitatively explore the constraints to new pedagogical skill transfer but only from the perspective of ESL (English as Second Language) pedagogy as practiced by Bengali Medium teachers of West Bengal.

4. Significance of the study

Existing literature is unanimous in observing the potentials of in-service teacher programs as well as the incongruence that exists between the programs and classroom practices. Studies have revealed how teachers' pre-training concepts about teaching profession and subject pedagogy have undergone post-training "belief development" (Rao, 2019), "change in motivation" (Ashrafuzzaman, 2018) and advancements in pedagogical "knowledge and skill" (Kidwai, *et. al.* 2013). However, changes in teachers' pre-training belief system have not improved classroom practices (Fullan, 2007; Sim, 2011; Kidwai, 2013; Ashrafuzzaman, 2018). The present study becomes significant in its endeavors to understand the causes for the incongruity. The study can contribute to the development of SSA's in-service training program designs. Although the study focusses on classroom application of in-service training experiences only of Bengali Medium teachers, teaching English as Second Language, the study's findings can be relevant to similar studies on the impact of in-service programs on other school disciplines, delivered through other Medium of Instruction.

5. Research Question

Why, in spite of having numerous in-service workshops on ESL pedagogy, the quality of ESL classroom teaching continues to be unimpressive?

6. Research Objectives

The study endeavors to find out:
1. In-service teacher training program objectives for English as Second Language (ESL) pedagogy in West Bengal
2. Classroom application of teachers' in-service training experiences

7. METHODOLOGY

Being it a qualitative study, 25 Bengali medium teachers, teaching English as Second Language were sampled by means of *purposive sampling technique* and were interviewed through a standardized interview schedule. Participants' words, audio-recorded with due permission, were transliterated (as they spoke in Bengali) and translated to English for qualitative content analysis through data coding. The coding process included two cycles of coding – in the First Cycle, initial codes were extracted from the data corpus by means of *In vivo* & *Descriptive coding techniques*. The initial codes were, next, grouped into categories & sub-categories by means of *Pattern coding technique* in the Second Cycle Coding (the categories & sub-categories have been treated as headings & subheadings in the preparation of the final research report). Next, the categories and subcategories have been synthesized into a theme – the theme, based on the codes extracted from the data, is actually a one-line response to the research question. The Theme has been finally elaborated upon through key assertions made by the researcher under each of the categories & sub-categories in the final research report.

Key Assertions

The present study finds that that in spite of having in-service workshops on ESL (English as Second Language) pedagogy round the year, the quality of Bengali medium ESL classroom teaching continues to be unimpressive. Hence, the *theme* extracted through content analysis was that: *There is negligible impact of in-service training experience on ESL pedagogy.*

The *theme* has been elaborated under two categories as per the two research objectives. [Discourses under each of the categories have been validated with participants' own words (as translated)]

Category 1: In-service teacher training program objectives for ESL pedagogy

The present study finds that in-service teacher training programs have the following objectives:

1. To develop student-centric attitude towards lesson delivery

Given the 'fear' that students often exhibit towards English language, in-service workshops aim teacher-trainees to have a positive attitude towards students. A participant shares, "*There was a language-oriented training, I remember, where they said not to say, "You have answered wrong!", and instead the teacher is to straightaway say what should have been said, instead."*

2. To train in judicious use of Bengali in ESL classes

Another area that in-service trainings have focused is judicious use of Bengali in ESL classes, a participant shares, "*In these trainings we are asked to reduce Bengali usage and gradually move towards use of more English words during English classes".*

3. To train in the latest Communicative Teaching Methods

These workshops often promote empowerment of language teachers through training in the latest methodologies for lesson delivery like the "*ICON (Interpretation Construction) model"* or on a "*new evaluation system – the PEACOCK model"* - as informed by the participants.

***Category 2*: Negligible classroom application of teachers' in-service training experiences**

The present study finds that, although the in-service training objectives are noble and student-centric, classroom application of newly acquired skills is negligible because:

1. Non-collaboration between programmer-designers and teachers

Program designers who plan the training contents, do not take inputs from the teachers, teaching English at the grass-root level. It is echoed in one of the participant's complain, "*Nothing progressive about the workshops. Very much mechanical. They are not interested in listening to the teachers."*

2. "Not rooted in reality"

Interviewed participants were unanimous in observing that although the program contents are rich, updated & child-centric, yet "*they are not rooted in reality*" because, as one of the participants observed, "*…in these trainings new ideas are shared but ultimately the resource people do not enter into the problem area…"*

3. Poor learning environment

Poor learning environment with minimum English language input makes implementation of advanced English language teaching methodologies, viz. the ICON and PEACOCK Models of teaching very difficult because these models require high levels of teacher-student communication in the target language.

4. Inadequate English language proficiency

Inadequate English language proficiency among students and teachers is another reason for inapplicability of the newly acquired skills. For instance, one of the objectives of these in-service workshops has been to train teachers in less use of vernacular in Second Language classes. But if English language proficiency of teachers themselves is poor, the training objectives cannot be met.

5. Inadequate human resource

Inadequate human resource overtaxes time and energy of available teachers. One of the participants observes, "*No, it has not been practicably possible…There is shortage of teachers, and environment of school premises is not at par".* If one teacher is being over burdened with classes, he/she will neither have the energy nor motivation for innovative lesson plans.

6. No monitoring system

Lack of a monitoring system makes teachers unaccountable for their classroom activities, as one of the participants shares, "*…often teachers are not interested in applying their training experiences, had there been a body to supervise then the pressure to perform could have pushed the teachers to apply their training experiences.".*

7. Disproportionate teacher-student ratio and irregular students

New knowledge application is difficult in massive class population with irregular students, one of the participants shared, "*I have tried to apply the PEACOCK model for Formative Evaluation but if you have 80 students, it is difficult… (Besides) if they don't attend class daily how will I evaluate whether they have empathy or whether they cooperate with each other."*

8. CONCLUSION

There is thus an incongruity between in-service program objectives and their classroom applications. If teachers are not applying their acquired pedagogical skills, then, no matter how updated the in-service programs are, they will be ineffective. Local participation of teachers in the decision-making and course-designing is needed so that real problems can be addressed. Schools, sending teachers to these in-service courses, must also see that resources are available for new skill implementation. The supervision and monitoring of new knowledge application must be taken up by the institutional head as a part of his/her leadership skills. Non-collaboration between program designers and program implementers as well as between the newly trained and institutional heads have reduced these in-service teacher education programs to be a mere formality of a required certification; or, in the words of a participant, these "*in-service trainings are often like rituals…a welcome break…",* without having any real-life usefulness.

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Empowering Paths: Policies of Coal India Limited and a Woman's Journey to Professionalism at Wani North Area (Western Coalfields Ltd.)

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Abstract: *Coal India Limited (CIL) is a central public sector enterprise owned by the Government of India's Ministry of Coal. With its headquarters in Kolkata, it stands as the world's second-largest government-owned coal producer. As of 2022, CIL is also the ninth-largest employer in India, employing approximately 272,000 individuals. Human Resource Development emphasis in Coal India has been set up to deal with the development of existing Human Resources as well as looking ahead with clear perspective with reference to technological advances and growth of manpower to fulfill demand of production vis-à-vis technology.*
Bright and talented students and professionals are hired through nation-wide competitive examinations and also through campus recruitments in order to fill various vacancies arising in the company. The employment policies of Coal India limited are commonly through advertisements for Recruitment of Management Trainees through Computer Based Test (CBT).
Apart from regular recruitment, there is a Life Cover Scheme, in the Social Security Scheme. It says, "In addition to the compensation payable under the Workmen's Compensation Act, an ex-gratia amount of Rs 45,000/- in case of death or permanent total disablement resulting on account of accident arising out of and in course of employment will be paid". This policy has been thoroughly examined through a detailed case study of Shubhangi Pawar.

Keywords: *Coal India Limited, Social Security Scheme, An employment scheme, Case Study.*

1. INTRODUCTION:

Coal India Limited

Coal India Limited was established in November 1975 with the goal of creating a nationalized and unified coal sector. Previously, coal mining was conducted by private miners who lacked interest in using scientific methods and often engaged in unhealthy mining practices. The living conditions for miners under private ownership were substandard. Integrated and comprehensive planning in coal mining emerged as a post-independence development. Initially, the National Coal Development Corporation (NCDC) was created, starting with 11 collieries, to explore new coalfields and accelerate the development of new coal mines.
The primary objectives included:

- Conserving the country's scarce coal resources, especially coking coal, by halting wasteful, selective, and destructive mining practices.
- Planning the development of available coal resources in a systematic manner.
- Improving safety standards in mining operations.
- Ensuring adequate investment for the optimal utilization of coal resources in line with growth needs.
- Enhancing the quality of life for the mining workforce.

These efforts aimed to create a more sustainable, efficient, and humane coal mining industry in India.

In 1975, the coal production was 79 million tons. And as on March 6, 2024, the country's coal production has reached 900 million tons. This surge in production not only contributes to essential infrastructure development but also creates substantial employment opportunities, particularly in coal-rich regions across the country. The coal-producing Public Sector Undertakings (PSUs) of the Government of India, notably Coal India Limited (including subsidiaries) and NLC India Limited, collectively employ a workforce of 369,053 individuals, including 128,236 contractual workers. Additionally, the sector supports approximately 3.1 lakh pensioners, underlining its significant impact on livelihoods and social welfare. The surge in coal mining activities, driven by escalating demand, is expected to continue fueling employment growth in the years ahead. Beyond providing direct employment opportunities, mining activities also generate significant indirect employment, contributing to socio-economic development across the nation. As the coal sector continues to expand, it remains committed to fostering inclusive growth and transforming the lives of thousands through sustainable livelihoods.

Employment policies of Coal India Limited:

Through advertisements for Recruitment of Management Trainees:
Coal India Limited (CIL) follows a non-discriminatory policy in employee management, ensuring equal opportunities for all, regardless of religion, caste, gender, or region. Recruitment of Management Trainees (MT) is primarily conducted through advertisements for a Computer-Based Test (CBT). Young, dynamic candidates are invited to apply online, and details of the test, including dates, are communicated via admit cards on a personalized login portal on the CIL website.
The CBT is a 3-hour test, comprising two papers of 100 marks each. Candidates must meet specific qualifications, as recognized by AICTE/UGC, and are responsible for their own expenses during the test. The final merit list is prepared based on CBT scores and uploaded on the CIL website.
Selected candidates are appointed as MTs in E-2 Grade with a pay scale of ₹50,000 – ₹1,60,000, increasing to E-3 Grade after successful training. Additional benefits include Dearness Allowance, HRA, Performance Related Pay (PRP), and pension schemes. Candidates may be posted anywhere in CIL's subsidiary companies.
Final selection is subject to a medical examination, and the Chairman of CIL holds the final authority on all recruitment-related decisions.

Resettlement & Rehabilitation Policy of Coal India Limited in case of land acquisition:
Resettlement & Rehabilitation (R & R) Policy was first formulated in 1994 and has been in operation with modifications from time to time. The R & R Policy, in vogue since 2000, was further modified in 2004, 2008 and 2012. The revised R & R Policy of CIL-2012 provides multiple options to the land loosers. It also bestows more flexibility to the Board of Subsidiary Companies to meet unique R & R problems to acquire land faster. Some of the operational features of the policy are as follows:-

- Land compensation to land oustees is paid as per the provisions of the relevant Act or State Government notification.
- Employment is provided to land oustees against every two acres of land.
- All the land losers who are not eligible for employment, are entitled to receive monetary compensation in lieu of employment at the rate of Rs. 5 lakhs for each acre of land on a pro-rata basis.
- A one-time lump-sum payment of Rs. 3 lakhs is paid in lieu of alternate house site. Monetary compensation is also provided for construction of work shed etc.
- Each affected family gets a subsistence allowance at the rate of 25 days Minimum Agriculture Wage per month for one year.
- Coal companies assist project affected people to establish non-farm based self-employment.

- Contractors are encouraged to give jobs to the eligible 'Project Affected Persons' (PAPs) on a preferential basis.
- As far as possible, coal companies shift tribal communities as a unit and provide facilities to meet the specific needs of the tribal community – thus allowing them to maintain their unique identity.
- Affected Tribal families are given one time financial assistance of 500 days of MAW for loss of customary right or usages of forest produce.
- Affected Tribal families settled out of the district are given 25% higher rehabilitation and resettlement benefits.
- At the rehabilitation site, a school, road with street light, pucca-drain, pond, tube well for drinking water supply, community center, place of worship, dispensary, grazing land for cattle and play ground are provided.
- The community facilities are available to all the residents of the resettlement colonies, including PAPs and the host population.
- The approach for operation of community facilities is flexible and all efforts are made to involve the State and local self- Government/Panchayat. The planning of community facilities and their construction is undertaken in consultation with the affected community.

Employment through Life Cover Scheme:

NATIONAL COAL WAGE AGREEMENT-IX
Memorandum Of Agreement - Joint Bipartite Committee For The Coal Industry. New Delhi.
Dated: 31st January, 2012

Chapter – IX Social Security
9.1.0 Life Cover Scheme
The existing Life Cover Scheme will continue except that the amount to be paid in addition to the normal gratuity shall be Rs.1,12,800/- w.e.f. 01.02.2012.
9.2.0 Workmen's Compensation Benefits.
It is agreed that –
9.2.1. The employees covered by this Agreement shall be entitled to the benefits admissible under the Workmen's Compensation Act. 1923.
9.2.2. The benefits under the Workmen's Compensation Act will not be affected adversely on account of the revision of wages by this agreement.
9.2.3. An employee who is disabled due to an accident arising out of and during the course of employment, will get full basic wages and dearness allowance from the date of accident till he/she is declared fit by the Company's Medical Officer. The disabled employee will have to remain under the treatment of the Coal Company's Medical Officer or in a hospital approved/referred by the coal company to be entitled to the benefit.
9.2.4. The compensation shall be paid on the basis of the last wages drawn immediately before the employee met with the accident.
9.2.5. It is further agreed that the payment of wages made to employees during the period of temporary disablement due to accident arising out of and in course of employment will not be deducted from the lump sum amount payable towards compensation for any permanent, partial or total disablement resulting therefrom.
9.2.6. In addition to the compensation payable under the Workmen's Compensation Act, an ex gratia amount of Rs.84,600/- in case of death or permanent total disablement resulting on account of accident arising out of and in course of employment will be paid. It will be effective from 01.02.2012.
9.2.7. As announced by the Hon'ble Minister of State for Coal on Coal India Foundation Day on 1.11.2007 at Kolkata, an amount of Rs.5 lakhs shall be paid to the next of kin of any employee dying out of a fatal mine accident.

9.3.0, 9.4.0 & 9.5.0:

Provision of Employment/payment of monthly monetary compensation to Dependent

(i) The Clauses 9.3.0, 9.4.0 & 9.5.0 of NCWA-VI will be operative in NCWA-IX till a revised scheme is jointly prepared keeping in view the various verdict of Hon'ble Supreme Court at the earliest.
(ii) A Sub-committee of JBCCI will formulate a scheme keeping in view various directives of the Supreme Court on the subject within three months of signing of the Agreement.
(iii) Meanwhile provision of employment as mentioned at (i) above, shall be on basic wage of Cat-I as trainee for a period of 6 months. During the training period they will have the status of permanent employee. On completion of training they shall be regularized as Cat-I employees. However, those dependents in possession of Technical/professional qualification in BE/Diploma will be considered for appointment in higher category, keeping in view their qualification, suitability and vacancy.
(iv) The monthly monetary compensation payable to the female dependent in case of death either in mine accident or for other reasons or medical unfitness of the employee shall be @ Rs.6000/- with effect from 1.5.2008.
(v) In case of death either in mine accident or due to other reasons or medical unfitness, if no employment has been offered and the male dependent of the concerned worker is 12 years and above in age, he will be kept on a live roster and would be provided employment commensurate with his skill and qualifications when he attains the age of 18 years. During the period the male dependent is on live roster, the female dependent will be paid monetary compensation as given in (iv) above.

2. Review Of Literature:

Pathak S N [2017]:In the case of Rita Giri vs The Jharkhand Urja Vikash Nigam Limited, Rita Giri applied for a compassionate appointment after her mother, Munni Devi, a permanent employee, died on 23.7.2011. Rita's application was delayed for four years, during which she got married. The Compassionate Appointment Committee ultimately rejected her application, citing her marital status as a disqualification. Rita approached the court seeking redress.

Chandurkar A S [2018]: In Ku. Shimla D/O Late Satiram Rajbhar vs Western Coalfields Limited, Satiram Rajbhar's widow sought compassionate employment for her son Nandkishor, as he was a minor when Satiram died in 2009. The widow received monetary compensation until Nandkishor came of age. Once Nandkishor turned 18, he was employed by Western Coalfields Limited in 2012, and the compensation to the widow stopped. His employment was regularized in 2013 after completing probation.

Shekhar B. Saraf, J. [2010]: In Dipali Mitra & Ors vs Coal India Limited, Shibdas Mitra, an employee of ECL, passed away in 2010, leaving behind his wife, son-in-law, married daughter, and son. His wife applied for a compassionate appointment for her son-in-law, claiming him as a dependent. However, ECL rejected the request, stating that the son-in-law was over the age limit of 45 as required for dependent employment under Clause 9.5.0.

3. Objectives of this research:

The Life Cover Scheme, in the Social Security Scheme, of Coal India Limited, is an exceptional scheme, which needed to be studied.

4. Research Methodology:

A case study method was adopted for this research

A case study is a research method that focuses on an in-depth examination of a specific case or a group of cases within a real-world setting. Frequently utilized in both social and natural sciences, case studies are valuable for several reasons:

- **Understanding Complex Phenomena:** They allow researchers to explore how and why events occur, providing insights into intricate issues within their natural environments.
- **Formulating Research Questions and Theories:** By examining cases in detail, researchers can generate meaningful research questions and develop new theories.

- **Analyzing Critical Events:** Case studies are often employed to analyze pivotal events, interventions, policy changes, or program-based service reforms.

Case studies are versatile and can investigate individuals, groups, organizations, or significant events. For example, in medicine, they may examine a patient or condition, while in business, they might analyze a company's strategy or market behavior. This method allows for a comprehensive understanding of complex situations, helping to evaluate various responses and outcomes. Through case study evaluation, researchers can assess what has worked, what has not, and identify areas for improvement. Case studies primarily aim to answer "how" and "why" questions, making them particularly useful for qualitative research. Multiple methods of data collection are typically employed in case studies to ensure a thorough analysis of a single "case" or unit. Ultimately, a case study is a focused, systematic investigation of an individual, group, or unit, often with the goal of drawing broader conclusions.

Interviews: Structured interview was conducted with Shubhangi Pawar, with her family members and at her work place.
Questionnaires: Standardized qualitative data were collected.
Document Review: The policy of Coal India Limited analyzed relevant documents, reports, and archival records.

Sources Of Data:
Primary Data: Interviews, Questionnaires.
Secondary Data: Records, documents, previous research.

5. Facts and Findings:

In this research it has been found that in the Social Security Scheme there is a Life Cover Scheme. Employment to dependents is being provided in the case of death/ disablement of an employee, while in service, one of his dependents is entitled for permanent employment in the Company.

In the case study of Shubhangi Pawar, her father Late Sri Uttam Pawar was appointed in the year 1982 in Neeljai open cast mines (Wani Area) as a Dumper operator and later he was transferred to Ukni Opencast mines. On 05/01/2001, Uttam Pawar was detected ‘Huntington’s Disease. ‘Huntington’s Disease (HD) is a neurodegenerative genetic disorder that affects muscle coordination and leads to cognitive decline and psychiatric problems. It typically becomes noticeable in mid adult life. He used to consume ‘Gutka’. He also used to consume liquor occasionally. After a long illness and beside treatment he passed away on 25th April 2009. At that time, Mrs. Kalpana Pawar was a 40-year-old homemaker with two daughters: Shubhangi and Shital Pawar. Shubhangi had just completed her Higher Secondary Education from LT College Wani, while Shital was in the 8th standard. Given their circumstances, none of the family members were in a position to immediately take up employment under the 'Life Cover Scheme.’

To manage household expenses and pay for Shubhangi and Shital's education, Mrs. Kalpana Pawar applied for gratuity on 25/05/2009. On 06/07/2009, ₹3,41,292/- was disbursed to Mrs. Kalpana Pawar, Shubhangi, and Shital. On 03/02/2010, ₹4,85,335/- was received from the Provident Fund, and an additional ₹60,000/- was paid through the Life Cover Scheme on 06/07/2009. Mrs. Pawar submitted a request to the company on 25/11/2009, asking for two years for Shubhangi to pursue a professional degree in the Auxiliary Nursing Midwife (ANM) course. The company approved the request, and on 18/11/2010, Shubhangi joined Western Coalfields Limited (WCL) as an Auxiliary Nursing Midwife after completing her course. She underwent six months of training, where she assisted senior nurses and doctors, including administering injections to patients. In 2012, Shubhangi completed her General

Nursing and Midwifery (GNM) from Prabhadevi School of Nursing, Chandrapur, Maharashtra, with first-division.

Educational Journey of Shubhangi Pawar:

- SSC - passed - 2007 - Vivekananda High School with 56% marks.
- HSC - passed - 2009 - LT College Wani with 55% marks.
- ANM - Auxiliary Nursing Midwife Course - passed - 2011 - Prabhadevi School of Nursing, Chandrapur, Maharashtra with first division diction, 85% marks.
- MSCIT - (Maharashtra State Computer Information Technology) - passed - in 2007, from Bhartiya Infotech.
- Driving license for two-wheelers in 2010.
- GNM - General Nursing and Midwifery - passed - 2012 - Prabhadevi School of Nursing, Chandrapur, Maharashtra with first division.

Professional and Community Involvement of Shubhangi Pawar:

- Shubhangi joined WCL (Western Coalfields Limited) on 18/11/2010 as an Auxiliary Nursing Midwife (ANM) after completing her nursing course, at Bhalar Dispensary when Dr K P Mishra was CMO.
- She underwent training for six months, assisting senior nurses and doctors, including administering injections to patients.
- Shubhangi has stated that at present there are sufficient numbers of medical staff at the dispensary. Around 50 - 60 patients visit the dispensary daily. As per need patients are being referred to central hospitals. Manager Nagar, Yuvraj Nade and Hari Om Sharma are her colleagues. She is not needed to work a night shift.
- Apart from her work, presently, she actively participates in CSR (Collective Social Responsibility) camps, offering healthcare services and medical education to rural communities. She has observed a lack of awareness about diseases, nutrition, birth control methods, and healthcare facilities in villages, emphasizing the importance of health awareness programs. One doctor, one pharmacist, and OPD (outdoor patient) assistant goes in that van. Around 100 patients take the privilege of these CSR camps. Usually only medicines are given, serious patients are called to dispensaries.
- She finds that people of the village are ignorant about diseases and nutrition values of foods. They casually consume ‘gootka’, ‘tambaku’, ‘Kharra’ etc.
- She found that village ladies accept abortion as a sin, They prefer to consume oral pills as birth control measures. For child delivery now they prefer to go to government hospitals. Health awareness camps are very necessary to be conducted in villages.
- She is happy that as compared to black magic these days people have more faith in medicine. Though these days they are aware of education but in villages educational facilities are very poor, good teachers, infrastructure, and other educational facilities are not at par.
- She has noticed that people do not know the balanced use of pesticides and fertilizers and they need guidance.
- She notes the lack of awareness about diseases, nutrition, birth control methods, and healthcare facilities in villages, emphasizing the need for health awareness programs.
- Despite the demanding nature of her work, Shubhangi remains committed to furthering her education, aiming to upgrade as a staff nurse after completing her General Nurse Midwifery (GNM) course in 2013.
- Shubhangi finds the medical profession incredibly rewarding as it allows her to serve the community.
- She has expressed her gratitude for the Life Cover Scheme, which provided her with the opportunity to secure a job at Coal India Limited. Shubhangi is very satisfied with both her professional and personal life.
- Her supervisors, including the Chief Medical Officer and her in-charge on duty, have praised her dedication to her work.

She has been working in Bhalar dispensary for the last 14 years (reporting on 1st May 2024).

Social Attributes of Shubhangi Pawar:

- Shubhangi is married to Dhananjay Prakash Gundukar. She has a baby boy, 3 years old. Her husband, Dhananjay is a Dumper Operator in Ukni Mines at North Wani Area. Her sister Shital Uttam Pawar is a Chemical Engineer. She has been working in a private firm for the last 6 -7 years.
- When she goes on duty, her mother and mother-in-law take care of my son.
- Her husband, mother, and mother-in-law have also acknowledged her ability to balance her professional and family life perfectly.
- She finds that in the medical field, she is able to help many people, especially when a person is in physical distress. She puts all her knowledge and effort into helping those in need. She finds this the best thing about her job.
- She finds herself comfortable with working men and women equally.
- Q. How would you like to rate your satisfaction regarding your job?
- Ans: 9/10
- Q. Why 9/10
- Ans: Because of the dual role. I want to do justice with my profession as well as with my family life. I want to pay full attention to raising my child. And, for all these I am forced to adjust with a few things.

A few crucial question regarding Life Cover Scheme:

- Q. Would you like for your children to join this profession?
- Ans: Yes, I find the medical profession as one of the most noble professions, so, I would definitely be happy if my son chooses a career in the medical field.
- Q. Would you like for your children to join Western Coalfields Limited or any other subsidiaries of Coal India Limited?
- Ans. Yes, Western Coalfields Limited and all other subsidiaries of Coal India Limited are definitely a good place to work in. The working culture and policies are very good for this company.
- Q. How would you like for your children to join this company?
- Ans. Yes, I would be happy if my children join Coal India Limited or other subsidiaries as an open candidate, but not as an 'dependent employment'.
- Q. Why do you not want to let your children join Coal India Limited, join as in 'dependent employment policy'?
- Ans. Through 'dependent employment policy' a candidate gets a 'Cat-1' job only, irrespective of educational qualifications. No doubt, Coal India lImited is one of the best organization of our country, but I do not find a few policies reasonable and one of them is 'dependent employment policy'.

The author extend heartfelt gratitude to Shubhangi, her family members, and her colleagues for providing all the necessary information.

Analysis of Data:

The data collected from feedback were tested on Likert Scale.

A Likert scale is a rating scale used to measure opinions, attitude or behaviors. It consists of a statement or a question followed by a series of 5 or 7 answer statements. It responds that they choose the option that best corresponds with how they feel about the statement or question. These are:

1.Strongly agree
2.Agree
3.Neutral
4.Disagree
5.Strongly disagree

On the Likert scale it scored a 3:4 ratio.
The 1/4% of respondents who were from an economically weak background and had less standard of education, were happy and perfectly satisfied that one can secure a government job through this Life Cover policy.
But, The 3/4% of respondents who were highly educated were unsatisfied and they strongly recommended necessary amendments in this Life Cover Scheme.
In addition to not recognizing educational qualifications, this policy excludes married daughters from receiving 'dependent employment' when the family loses its primary breadwinner, a point highlighted in the literature review.

6. Conclusions:
While Shubhangi and many others have found the 'Life Cover Scheme' beneficial in securing employment after the loss of a family member at the workplace, there are concerns about its limitations. The policy stipulates that regardless of the qualifications of the family member joining after the ex-employee's death, they are only eligible for a 'Category-1' job.
These jobs typically involve manual and menial tasks. During the research, a case was uncovered where the wife of an ex-employee, who held a PhD, was still offered only a 'Category-1' position, which she declined.

- The policy says, "Meanwhile provision of employment as mentioned at (i) above, shall be on basic wage of Cat-I as trainee for a period of 6 months. During the training period they will have the status of permanent employee. On completion of training they shall be regularized as Cat-I employees".
- The policy fails to acknowledge that a married daughter could still provide support to the family if offered 'dependent employment.'
- Furthermore, it does not account for situations where the initial dependent employee passes away within two or three years of being hired. In such cases, the policy treats the deceased employee as independent, disregarding the possibility of offering employment to another family member of the original deceased worker.

Recommendations:
This research recommends that Coal India Limited should review its 'Life Cover Policy' and make the necessary amendments to address the concerns, mentioned in conclusion.

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Report on Sustainable Shrimp Farm in Tien Giang Province: Economic Growth and Environmental Protection

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Abstract: *The development of an artificial shrimp farm in Tien Giang Province is a key initiative to enhance local aquaculture and promote economic growth for local people. This study reported the transition from traditional to artificial shrimp farming by reporting a shrimp pond in Go Cong Tay District, Tien Giang Province. The focus is on optimising water management, controlling environmental impacts and ensuring consistent yields in a pond rearing White Leg Shrimp (Litopenaeus vannamei). The shrimp farm used a controlled environment to improve shrimp health and growth. The technology allows water to be recycled, reducing the need for frequent water changes and reducing environmental impact, while also facilitating better disease management. Key water quality parameters such as temperature, pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), Dissolved Oxygen (DO), Ammoniacal Nitrogen ($NH4^+$-N), Nitrate Nitrogen ($NO3^-$-N), Phosphorus ($PO4^{3-}$-P), Iron (Fe), Zinc (Zn) and Copper (Cu) are monitored. The study also emphasises using high quality, environmentally friendly feed to improve shrimp health and minimise chemicals. The aim is to produce high quality shrimp that meet international standards, while at the same time protecting the local ecosystem. The study reported on the benefits and summarised the significant economic benefits to Tien Giang through the sharing of aquaculture jobs, the benefits to the local community and the contribution to the diversification of the regional economy. This is a sustainable process that meets both economic and environmental targets.*

Key Words: *Sustainable Aquaculture, Artificial Shrimp Farming, Environmental Management*

1. INTRODUCTION :

In many Asian countries, including Vietnam, shrimp farming plays an important but controversial role in economic development. Shrimp farming provides high economic returns and has environmental impacts when produced in coastal areas (Anh *et al.*, 2010). Vietnam, endowed with a coastline stretching 3,260 km and a network of rivers, streams, ponds, and lakes, coupled with a temperate climate, is exceptionally well-suited for aquaculture development (Boyd *et al.*, 2017). This natural advantage has enabled Vietnam to emerge as a global leader in the aquaculture sector (Dugassa and Gaetan, 2018). Vietnam witnessed the fastest growth rate in aquaculture exports globally. Shrimp farmers in Central Vietnam typically operated smaller ponds and tended to stock at higher densities compared to farmers in the Mekong Delta (Southern Vietnam) (Hung and Quy, 2013).

In 2008, Vietnam's fisheries and aquaculture sector achieved a production level of 4.6 million tons (Nguyen, Tran and Lebailly, 2016). This positioned Vietnam as the third-largest producer of aquaculture products and thirteenth in wild catch globally. The significance of aquaculture has increasingly surpassed that of traditional seafood exploitation in terms of output, quality, and production efficiency. Notably, in 2007, Vietnam's first year of WTO membership (link: Vietnam to Officially Join WTO in Early 2007; 23/12/2006). Vietnam's aquaculture output did indeed continue to rise, contributing to the overall growth in fisheries production. The country's focus on expanding aquaculture, particularly for species like shrimp and catfish, helped boost production levels and supported its position as a major global seafood exporter.

Despite these achievements and its vital role in the national economy and export portfolio, the Vietnamese aquaculture industry has not yet fully realized its potential. Persistent challenges include small-scale farming practices, insufficient planning, weak regulatory enforcement, disease outbreaks, and environmental pollution (Truong *et al.*, 2021); (Nguyen *et al.*, 2023). Moreover, the use of banned chemicals and antibiotics in aquaculture has led to contamination issues, adversely affecting the quality of aquatic products. To ensure the export of high-quality whiteleg shrimp (Litopenaeus vannamei) from Vietnam, it is crucial for shrimp farmers to conduct virus testing (T. T. G. Nguyen *et al.*, 2018); (Park *et al.*, 2020).

Among the various species cultivated, the whiteleg shrimp (Litopenaeus vannamei) is particularly noteworthy for its beneficial attributes. This species is preferred due to its high stocking density capability (up to 120 shrimp individuals/m²), adaptability to a range of environmental conditions. Production traits of intensive whiteleg shrimp (LitoLitopenaeus vannamei) farming across four provinces (Binh Thuan, Soc Trang, Kien Giang, and Ca Mau) in Vietnam (Thakur *et al.*, 2018).

This paper focuses on "Water Quality Management in the Production of White Leg Shrimp (*Litopenaeus vannamei*) at the Household Scale." The aim is to enhance practical skills, advance professional training, and devise effective water quality management strategies to improve shrimp farming practices.

2. RESEARCH METHOD

2.1. Experimental Design

- Objective: To evaluate the impact of water quality on the growth performance and environmental sustainability of White Leg Shrimp (*Litopenaeus vannamei*).
- Approach: The study utilized a combination of field experiments and laboratory analyses to provide a comprehensive assessment. The study evaluated how variations in water quality affect shrimp growth rates and overall health, providing insights into optimal farming conditions.
- Research Period: The study was conducted at a shrimp pond in Go Cong Tay District, Tien Giang Province (Figure 1), from July 7, 2020, to September 30, 2020.

2.2. Data Collection

- Field Sampling: Water and shrimp samples were systematically collected from the shrimp farming pond in Go Cong Tay District, Tien Giang Province.
- Sampling Frequency: Samples were collected regularly throughout the shrimp growth cycle to monitor changes over time.
- Water Quality Parameters: temperature, pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), Dissolved Oxygen (DO), Ammoniacal Nitrogen ($NH4^+$-N), Nitric Nitrogen ($NO3^-$-N), Phosphorus ($PO43^-$-P), Iron (Fe), Zinc (Zn) and Cu (Cu).

2.3. Data Analysis

- Laboratory Analysis: Water samples were analyzed at Nguyen Tat Thanh University, HCM City.
- Health and growth metrics of the shrimp by analyzing pictures every week.
- Statistical Methods: Statistical analyses were conducted to establish correlations between water quality parameters and shrimp growth performance, and to assess environmental impacts.

3. RESULT

The ponds on display are a good example of how the provincial farmers prepare (build and treat the water), manage (breed, feed and change the water) and harvest (collection and empty the ponds). The environmental impact of each stage can be significant. The growth and health of *L. vannamei* shrimp is promoted by incorporating artificial feed and fishmeal into their diets to provide essential nutrients. This practice improved feed efficiency, leading to increased production and better economic viability of shrimp aquaculture.

The assessment of water quality at the shrimp farming site revealed several critical findings in the table 1 as: Water temperature ranged from 23.3 ± 0.14°C to 29 ± 0.0°C, with an average of 27.5°C. This temperature range is conducive to high solubility of various chemical compounds and influences aquatic life. Optimal growth for aquatic organisms typically occurs between 20°C and 30°C. Temperature fluctuations affected shrimp growth, with a noticeable decline in the 3rd and 4th weeks due to reduced rainfall and sunshine, which led to lower temperatures during these periods. Dissolved oxygen levels varied from a high of 9.05 ± 0.07 mg/L to a low of 4.5 ± 0 mg/L. The DO concentration increased up to the 3rd week, then decreased through the 6th week, with a sudden cessation of increase in the final week. Dissolved oxygen levels was crucial for aquatic organisms; low levels can cause respiratory distress or mortality.

In the Nitrate-Nitrogen ($NO3^-$-N) levels ranged from 3.2 mg/L to 30 mg/L, exceeding the acceptable limit of 15 mg/L according to QCVN 08-MT-2015/BTNMT. High nitrate concentrations can contribute to eutrophication and negatively impact water quality. In Ammonium Nitrogen ($NH4^+$-N), the average $NH4^+$-N concentration was the permissible limit of <0.9 mg/L as specified by the National Standard. The $NH4^+$-N levels ranged from 0.8 mg/L to 10.1 mg/L. The concentration consistently exceeded the allowable value, with particularly high levels observed in weeks 1 and 4. Elevated $NH4^+$-N concentrations can negatively impact shrimp growth and development by interfering with nutrient absorption, leading to substandard shrimp quality. Phosphate concentrations (PO_4^{3-}-P) ranged from 0.7 mg/L to 8.2 mg/L, with most values exceeding the permissible limits set by QCVN 08-MT-2015/BTNMT. Elevated phosphate levels can lead to nutrient imbalances and eutrophication in aquatic systems.

Iron Fe levels ranged from 0.05 mg/L to 0.83 mg/L, with most values falling within the allowable limits set by QCVN 08-MT-2015/BTNMT. Iron concentrations were generally within acceptable ranges and did not pose a risk to water quality. Copper levels ranged from 0.03 mg/L to 1.16 mg/L, all within the allowable limits as defined by QCVN 08-MT-2015/BTNMT. Copper concentrations in the water were not found to be problematic in terms of regulatory standards. Zinc concentrations ranged from 0.64 mg/L to 1.82 mg/L, all within the acceptable limits specified by QCVN 08-MT-2015/BTNMT. Zinc levels did not exceed regulatory thresholds and were considered safe.

Therefore, the utilization of artificial food and fishmeal in the diets of *Litopenaeus vannamei*, maintaining high water quality in shrimp ponds is crucial for successful shrimp production and profitability. Good water quality promotes healthy shrimp growth, leading to better yields and economic gains from the 7th week (Figure 2). This study showed the super-intensive culture of white leg shrimp (*Litopenaeus vannamei*) in outdoor biofloc systems with varying levels of solar radiation, and highlights the implications for commercial applications.

4. DISCUSSION

Water quality is a key determinant of the growth and health of white leg shrimp (*Litopenaeus vannamei*), a vital aquaculture species in Tien Giang and South Vietnam. The use of artificial food and fishmeal in the diets of *Litopenaeus vannamei* enhances shrimp growth and health. These dietary components provide essential nutrients and improve feed efficiency, leading to better overall production and economic outcomes in shrimp farming (N. Van Nguyen *et al.*, 2018). In the aquaculture ponds of Tien Giang, essential water quality parameters such as temperature, salinity, pH, and dissolved oxygen (DO) are pivotal in influencing shrimp growth rates and overall pond productivity. This paper examines the complex interplay between these water quality factors and the growth of white leg shrimp within the context of South Vietnam's aquaculture practices.

Temperature exerts a significant impact on the metabolic processes, growth, and survival of white leg shrimp. The ideal temperature range for *L. vannamei* is between 28°C and 30°C. However, in South Vietnam, where temperatures frequently exceed this range, particularly during the hot summer months, maintaining optimal temperatures becomes a challenge. Deviations from this ideal range can result in slower growth rates and higher disease susceptibility. To address this, pond management strategies such as shading and water exchange are implemented to counteract temperature extremes and ensure favorable conditions for shrimp growth. The pH level of pond water influences nutrient availability and the overall health of shrimp. White leg shrimp thrive within a pH range of 7.5 to 8.5. Extreme pH values can impair nutrient uptake and increase disease vulnerability. In South Vietnam, where pH levels can fluctuate due to interactions between soil and water, it is critical to monitor and adjust pH levels regularly to support shrimp growth and mitigate pH-related problems. Based on water quality, it is crucial to recommend integrating various densities of white leg shrimp (*Litopenaeus vannamei*) postlarvae (PL) under pond conditions (Anh *et al.*, 2019). Dissolved oxygen is crucial for shrimp respiration and the health of aquatic ecosystems. *L. vannamei* requires dissolved oxygen levels exceeding 4 mg/L for optimal growth. In South Vietnam's aquaculture ponds, DO levels can vary due to factors such as organic matter decomposition and high stocking densities. Aeration systems are commonly employed to maintain sufficient oxygen levels, especially during periods of high demand. Proper aeration management and regular DO monitoring are essential to creating a suitable environment for shrimp. In this study, microalgal feed in shrimp farming primarily serves as a nutritional supplement, imparts coloration to the crustaceans, and boosts various biological activities (Tam *et al.*, 2020). White leg shrimp are adapted to salinities between 10 and 25 ppt (‰: parts per thousand) (Hoa *et al.*, 2021). While South Vietnam's coastal areas typically fall within this salinity range, fluctuations due to rainfall and freshwater inflow can impact shrimp growth. Reduced salinity, often caused by heavy rains, can stress shrimp and adversely affect their growth.

The growth of white leg shrimp in South Vietnam is closely tied to the effective management of various water quality parameters. Achieving optimal conditions for temperature, salinity, pH, dissolved oxygen, and ammonia levels is vital for enhancing shrimp growth and pond productivity. Aquaculture practitioners must adopt comprehensive water quality management strategies to address the challenges posed by environmental fluctuations and ensure conditions that support shrimp health and growth. Continued research and advancements in water quality monitoring and management technologies are expected to further improve the sustainability and profitability of shrimp farming in the region. The Vietnamese government supports farmers in implementing Vietnamese Good Aquaculture Practices (Viet GAP) to minimize disease transmission and safeguard the environment.

Ammonia, especially in its toxic unionized form, can have detrimental effects on shrimp health and growth. Elevated ammonia levels, often resulting from the breakdown of organic matter and excretions, can lead to reduced growth rates and increased mortality. Implementing regular water exchanges and utilizing biological filters are crucial in managing ammonia levels. Effective pond management practices, including maintaining optimal stocking densities and efficient feed management, are essential for mitigating ammonia-related issues and promoting healthy shrimp growth. In Nitrate Levels, the elevated nitrate concentrations, which often arise from organic matter decomposition and excessive feeding, can significantly impact shrimp health. High nitrate levels are linked to increased algal blooms, which can deplete dissolved oxygen and create stressful conditions for shrimp. Effective pond management, including regular water exchanges, is necessary to control nitrate and phosphate levels and maintain a healthy environment for shrimp (Khoa *et al.*, 2020). Managing the levels of copper, zinc, and iron is essential for the health and growth of shrimp in aquaculture. Regular monitoring and control of these trace metals are necessary to prevent toxicity and support a productive and sustainable aquaculture environment. By addressing these parameters, aquaculture practitioners can enhance shrimp well-being and improve overall pond efficiency. The findings showed that high stocking densities and limited light exposure could lead to reduced shrimp survival and biomass. Additionally, it was recommended that using a balanced mixture of microalgae and bacteria is more advantageous for shrimp farming.

Manage disease outbreaks and farming practices in white-leg shrimp aquaculture in Ben Tre Province, Mekong Delta, Vietnam, to improve information for better chemical use management (Phu *et al.*, 2019).

5. CONCLUSION

The growth of the white leg shrimp in a pond, Tien Giang Province was intricately linked to the management of various water quality parameters. Aquaculture practitioners in South Vietnam must employ comprehensive water quality management strategies to address the challenges posed by environmental fluctuations and maintain conditions conducive to shrimp health and growth of White

Leg Shrimp (*Litopenaeus vannamei*). Ongoing research and technological advancements in water quality monitoring and management will further enhance the sustainability and profitability of shrimp farming in the region.

6. ACKNOWLEDGE: We wish to thank the anonymous reviewers for their valuable comments.

7. CONFLICTS OF INTEREST : The authors do not have any conflicts of interest.

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Figure 1. The experimental pond in Tien Giang province

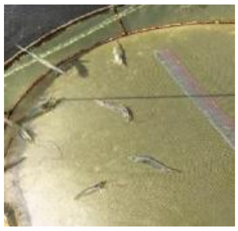
Shrimp growth during the study research			
Start time 	Week 1 	Week 2 	Week 3 
Week 4 	Week 5 	Week 6 	Week 7 

Figure 2. Weekly monitoring of shrimp individuals

Table 1. Summary of water quality description analysis

Parameters	Average	Research Area		National Standards	WHO Guidelines
		Min.	Max.		
Temperature (°C)	27.51 ± 0.08	23.3 ± 0.14	30 ± 0.00	*	*
pH	7.01 ± 0.03	6.28 ± 0	8.32 ± 0.03	5.5 - 9 [a]	6.5 – 8.5 [b]
EC (µs/cm)	15.77 ± 0.06	15.16 ± 0.14	18.18± 0.03	*	*
TDS (mg/l)	7.83 ± 0.02	6.32 ± 0	9 ± 0.01	*	*
DO (mg/l)	6.72 ± 0.03	4.5 ± 0	9.05 ± 0.07	< 4 [a]	< 1
$NH4^+$-N (mg/l)	4.28 ± 0.24	1.05 ± 0.35	10.25 ± 0.21	< 0,9 [a]	< 5.0 [b]
NO3-N (mg/l)	19.67 ± 0.32	2.8 ± 0.56	30 ± 0.00	< 10 [a]	< 3 [b]
PO_4^{3-}-P (mg/l)	4.51 ± 0.59	0.8 ± 0.14	9.45 ± 1.76	< 0,3 [a]	< 15 [b]
Fe (mg/l)	0.89 ± 0.14	0 ± 0	3.175 ± 0.36	< 1.5 [a]	< 1.0 [b]
Zn (mg/l)	1.12 ± 0.04	0.64 ± 0.03	1.82 ± 0.00	< 1.5 [a]	*
Cu (mg/l)	0.27 ± 0.01	0.03 ± 0	1.17 ± 0.02	< 0.5 [a]	< 0.5 [b]

[a] Group B1 (QCVN 08-MT:2015) National Technical Regulation on Surface Water Quality, Vietnam.

[b] (World Health Organization: 2011): Guidelines for Drinking-water Quality Fourth Edition.

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Investigating the Role of Management Information System (MIS) In School Administration: A Case Study Approach

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Abstract: *Information has become an important resource in every aspect of our lives. MIS is an indispensable tool in Business organizations in dealing with the large amount of data and the demands of information. MIS stands for Management Information System. It collects information from various employees, analyzes it, and provides it in the form of reports and graphs. Few universities are using MIS successfully. But MIS has not yet been completely introduced in schools. The administration of a school is more challenging than it appears, and there MIS comes into the picture.*
The selected school for this paper uses MIS as being a part of a big educational campus. St. John International School (SJIS), Palghar is a private CBSE school that offers primary, secondary, and higher secondary education from Grades I to XII. The author gathered information about the MIS from the MIS user manual, a brief interview with the Assistant System Analyst and the principal, and a questionnaire. The paper includes (I) the profile and organizational structure of the school, (II) the IT infrastructure and Management Information System (MIS) of the school, and (III) the Utility, Ease, and effectiveness of MIS in the school administration.
This study aims to determine the utility, ease, and effectiveness of MIS in school administration.

Key Words: *Technology in education, MIS, EMIS, School administration, Education etc.*

1. INTRODUCTION

We live in an age when information has become an important resource in every aspect of our lives. The data have no value in the organization until it is processed, transformed into information, and utilized for planning and control. Information is the main ingredient in decision-making. For this reason, authorities require the right information at the right time, in the right form, and at the right place. MIS is an indispensable tool in dealing with the large amount of data and the demands of information.

MIS stands for Management Information System. The term refers to a system for managing information. The process of managing information involves collecting, storing, processing, analyzing, presenting, and disseminating it for planning, decision-making, coordination, and controlling. The MIS collects information from various employees, stores it in a uniform and accessible manner, analyzes it, and provides it in the form of reports and graphs.

Every school deals with a large volume of data related to its students, parents, teachers, infrastructure, etc. There is a need for a system such as MIS to collect, store, and handle this data. Although technology is very common in teaching, school administration is traditionally managed. Computers are being used in school administration but not at the fullest level. The MIS in school administration is an integrated technology framework designed to automate the entire end-to-end management of educational information. MIS in the context of schools can be a Software System or suite of powerful tools that is specifically designed to help in school administrative functions.

1.1 AIM

The current study aims to understand the utility and effectiveness of MIS in school administration.

1.2 OBJECTIVES

- To conduct a Case Study Analysis to determine the utility and ease of MIS in school administration.
- To identify the key functions and benefits of MIS in school administration.
- To provide practical recommendations for overcoming barriers and challenges in implementing MIS in school administration.
- To provide insights for educational policymakers, school management, etc. into the effective implementation of MIS in school administration.

2. EMIS IN INDIA

School education statistics are collected and disseminated through the Educational Management Information System (EMIS) by four main agencies at the national level. The data collected through EMIS facilitates better education system planning.

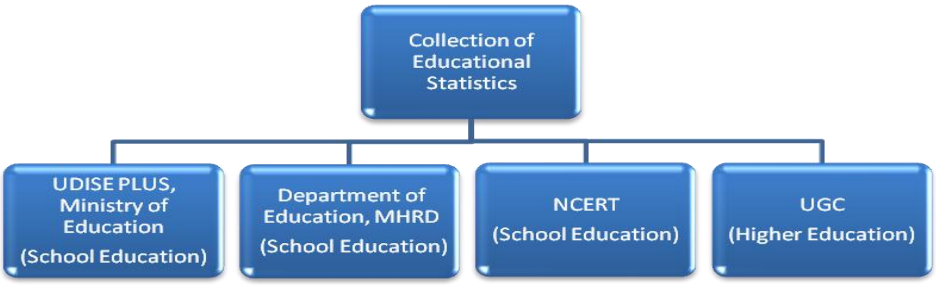

Figure 1 Education Statistics through EMIS

MIS is used in Higher Education institutions and universities in order to comply with government regulations and accreditation requirements for maintaining accurate data in structured and accessible formats. It enhances transparency across activities and processes in educational institutions. Initially, MIS was used to improve educational administration but currently educational institutions integrate MIS to align academic processes and improve learning outcomes. MIS is used in universities to handle voluminous amounts of data.

The administration of a school is more challenging than it appears. The management of students, parents, infrastructure, teachers, fees, and so on is not an easy task. For many years, the entire process was manual, performed on paper or in Microsoft Office. However, it is necessary to adopt advanced measures during advanced times. In this case, MIS comes into the picture in school administration.

3. REVIEW OF LITERATURE

Rather than having individual solutions for different sets of activities (piecemeal solutions), it is suggested that the stakeholders' representatives or concerned policymakers plan for the implementation of IT solutions in an integrated manner while keeping future needs in mind, rather than having a plethora of software solutions. A well-developed ERP (Enterprise Resource Planning) solution, a cloud computing-based process management system, is more advisable than piecemeal solutions. (Singh Swayam Prakash, 2011)

It is information technology that helps to generate information for managers and create knowledge. When there is a lack of an accurate information system, organizations either make wrong decisions or hesitate; both of these conditions are dangerous for organizations. It is the proper management of an information system, from which organizations create, store and use the information required by organizations. Employees need analytical skills to furnish the information in the proper way and change it into employee knowledge to perform a particular task successfully. The knowledge of using information technology (computer, internet, system software and application software) helps employees and organizations to receive, analyze, use information at reduced cost and with increased accuracy and promptness. (Pokharel Babin, ?)

The study revealed the effective utilization of MIS within the university by three groups of respondents namely senior administrative staff, lecturers and students. MIS has improved teaching, learning and other administrative work within campus. The senior administrative staff performs administrative functions such as curriculum planning, budgeting, supervision, evaluation and maintenance of human and material resources within the system. Documentations, filings, e-mailings, online registrations and many others have been successfully and effectively performed due to MIS. (Bright A. & Asare G. 2019)

MIS is one types of information system that supports the tactical decision-making of managers, and also monitors the current state of the organization. The implementation of new information systems is a significant investment for organizations. (Davies P. B. 2009)

MIS is mainly concerned with processing data into information for appropriate decision-making. (Das S. 2012)

4. RESEARCH GAP

Several studies have investigated the role of MIS in organizations, higher education institutions, and universities. There is a lack of such investigations in schools and in-depth analysis of real-world cases that specifically explore the role of MIS in school administration.

Past studies have evaluated the benefits of MIS for administrative processes and decision-making. However, a comprehensive investigation is needed to provide practical recommendations to schools for implementing MIS. There is a need for empirical evidence to understand how MIS can contribute to transparency, data-driven decision-making, and overall governance in school administration.

5. STATEMENT OF THE PROBLEM

The current study is an attempt to understand the utility, ease, and effectiveness of MIS in school administration with the help of primary data.

6. RESEARCH METHODOLOGY

An intrinsic case study method is used for this study in which the focus is on the case itself i.e. MIS. A private English medium CBSE school in Palghar, Maharashtra, India is selected to investigate the role of MIS in school administration.

The primary objective of this study is to determine the utility of MIS in the school administration of SJIS in the following aspects,

1. Requirement of IT Infrastructure and Setup for successful deployment of MIS in SJIS
2. Usefulness, Ease, and Effectiveness of MIS in the School Administration of SJIS
3. Functions performed by the MIS in the School Administration of SJIS
4. Benefits of MIS for the School Administration of SJIS

6.1 PRIMARY DATA

To conduct the current study, qualitative data were collected by using the Personal Semi-structured Interview method and by reading the MIS User Manual. A Questionnaire developed by Fred D. Davis under the Technology Acceptance Model (TAM) in 1989 was used to collect quantitative data.

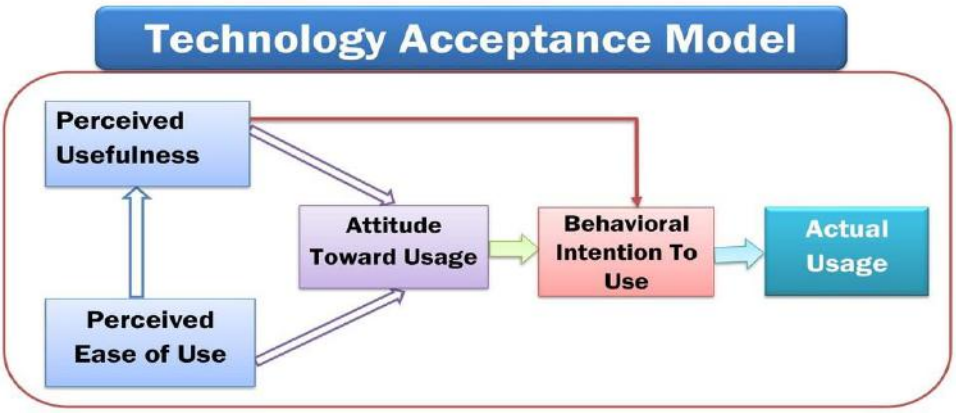

Figure 2 Technology Acceptance Model (TAM) by Davis, 1989

6.2 DATA COLLECTION

The Interview and Questionnaire were used as tools to collect data from the respondents. Semi-structured interviews were conducted with open-ended questions to investigate the requirement of IT infrastructure and setup for MIS and to understand the functions and benefits of MIS in school administration. The questionnaire was used to determine the usefulness and ease of using MIS in school administration. After obtaining the necessary approval for the study, interviews were conducted with the participants.

6.3 VALIDITY AND RELIABILITY

To ensure the validity of the research, the prepared interview questions and a questionnaire based on the TAM were reviewed by two experts in the field of education. The interview questions and questionnaire were adjusted and finalized as per the suggestions of the experts. A Pilot Study was also conducted to calculate the Reliability Quotient of the questionnaire. The Cronbach's Alpha was 0.973 which indicates excellent internal consistency within a questionnaire. The pilot study confirmed that the questionnaire is reliable.

7. RESULTS

7.1 Profile and Organizational Structure of the Selected School

St. John International School (SJIS), Palghar is a self-financing private school established by Aldel Education Trust in 2013 with the vision "Excellence in – Serving to Educate and Educating to Serve". The school is affiliated with the Central Board of Secondary Education (CBSE), New Delhi with affiliation number 1130753. It is located at St. John Technical & Educational Campus, Palghar, Maharashtra, India.

The mission of the school is,

- Building competencies with a focus on Holistic Development for Better Employability.
- To create the centre of excellence to impart quality education.
- To integrate knowledge, understanding, creativity, and human values in the learning process.
- To recognize and nurture the human intellect and scholarship.

Current strength in the academic year 2023-24

No. of Students	No. of Teachers	No. of Non-teaching Staff
1136	47	07

Total number of passed-out students till 2022-23: 195 students

School Infrastructure

Table 1 The infrastructure of SJIS

Sr. No.	Particulars	Total No.
1	Building with area in Sq.m.	8120
2	Classrooms	27
3	Computer Lab	1
4	Math and Science Labs	4
5	Library	1
6	Activity Room	1
7	Dance / Music / Yoga Room	3
8	Nurse Room	1
9	Counselor's Room	1
10	Exam Cell	1
11	Staff Rooms	2
12	Office	1
13	Playground	2
14	Smart Boards	25
15	Projectors	26

Achievements of the School

The School is prominent in Palghar District and always ahead in Cultural, Sports, Science and Technology related activities and secured various prizes and awards for the same.

Organizational Structure

The school is managed by a Board of Trustees responsible for policy decisions and budget allocation. The school is governed by the Governing Body Council and School Management Committee. The Principal of SJIS is responsible for planning, organizing, staffing, directing, coordinating and controlling along with the effective and efficient functioning of the school. In the teaching domain, three coordinators from 3 sections Primary, Secondary and Higher Secondary look after their academics, co-curricular activities and discipline. Class teachers and subject teachers look after academics, activities and discipline of their respective classes. In the non-teaching domain, one administrator, one accountant, two clerks, a librarian, a lab assistant and three peons are appointed. The detailed organizational structure of SJIS is provided in Figure 3 below:

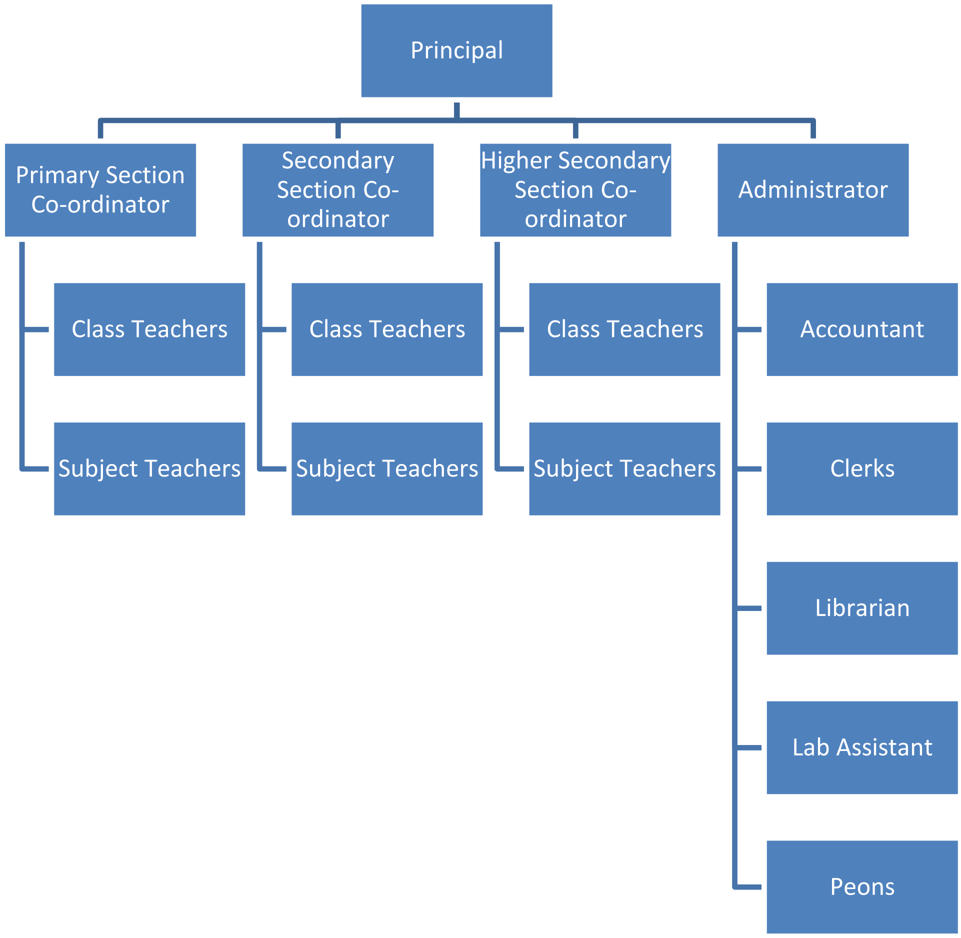

Figure 3 Organizational Structure of SJIS, Palghar

7.2 IT infrastructure and Management Information System (MIS) of the School

St. John International School is one of the institutions in St. John Technical and Educational Campus (2008) which started in 2013. The MIS was introduced on the campus in 2012. MIS was developed for the school in the year 2016 which was 3 years after the school was established.

MIS is a browser-based application, available on any system (PC) in a school that is connected to the LAN (Local Area Network).

IT Infrastructure and Software Requirements:
Operating System - Ubuntu 10.04 or higher
User Authentication Server - LDAP
Database - Postgresql 8.4
Coding Language - PHP
Browser - Firefox or Chrome

The various modules developed include the following:
1. Login and Authentication Module
2. Admission and Fee Management
3. Student Attendance and Unit Test Module
4. Feedback Module
5. Staff Attendance Module
6. Examination Module
7. Inventory Module
8. Parents' Information System

Unique LDAP Login ID and password are provided to the users to log into the MIS. The MIS identifies a user belonging to any one of four roles – the Admin Staff, the Teaching Staff, the Non-teaching Staff, the Students/Parents. Some sets of privileges are assigned to these user sets which are as follows,
Admin Staff - Student Admission, Collection of Fees, Student Details, Staff Details, Alumni Details etc.
Teaching Staff - Student Attendance, Coverage of Syllabus, Unit Test Marks etc.
Non-Teaching Staff - Data Entry
Students/Parents - View Student Attendance, Profile and Unit Test marks and give feedback about teachers etc.

Data Analysis and Reports:
1. Admission Analysis
2. Result Analysis
3. Students List Report
4. Students' Selective Reports
5. Students Fees Reports
6. Lectures and Practical Attendance Reports
7. Unit Test and other exams Reports
8. Internal Marks Report
9. Itinerary Attendance Reports
10. Lecture Count / Topics Taught Reports
11. Academic Monitoring Report
12. Staff Attendance Report
13. Staff Biometric Report
14. Staff Itinerary Report
15. Staff Leave Record Report

8. DISCUSSION
Utility, Ease, and Effectiveness of the MIS in School Administration of SJIS

Table 2 Information of the Respondents

Sr. No.	Gender	Age	Designation	Education	Total Experience in School Administration	Experience in MIS	Daily Hrs. of using MIS
1	Female	40	Principal	Post Graduate	9 Years	2 Years	0.5 Hrs.
2	Female	46	Accounts Executive	Graduate	12 Years	8 Years	5-6 Hrs.
3	Male	41	Admin Executive	Graduate	9.5 Years	4.5 Years	1 Hr.
4	Female	26	Junior Office Executive	Graduate	4 Years	4 Years	1 Hr.
5	Female	24	Junior Office Executive	Post Graduate	2.5 Years	2.5 Years	2 Hrs.
6	Female	41	Asst. System Analyst	Graduate	-	11 Years	6-7 Hrs.
7	Male	23	IT/System Assistant	Graduate	-	1.5 Years	5-6 Hrs.

Table 2 shows that there were a total of seven respondents – five females and two males ranging in the age groups 23 to 46 years with a Graduate or Post Graduate level of education. The minimum experience of school administrative staff in school administration and MIS is 2.5 years, the maximum experience of school administrative staff in school administration is 12 years, and that in MIS is 8 years. The Asst. System Analyst who developed MIS in the school has 11 years of experience in MIS while her assistant has 1.5 years of experience. The hours of using MIS by school administrative staff ranged from half an hour to 6 hours daily while Asst. System Analyst and her assistant work on MIS for 5 to 7 hours daily.

Table 3 Responses to Perceived Usefulness (PU) of MIS in School Administration

Particulars	Responses	Frequency	Percent	Percent of Agreement
MIS enables me to accomplish tasks more quickly and fast.	Agree	2	29%	100%
	Strongly Agree	5	71%	
MIS improves my job performance.	Agree	5	71%	100%
	Strongly Agree	2	29%	
My productivity can be increased due to MIS.	Agree	4	57%	100%
	Strongly Agree	3	43%	
I can do my job effectively due to MIS.	Agree	4	57%	100%
	Strongly Agree	3	43%	
MIS makes it convenient for me to perform my job.	Agree	4	57%	100%
	Strongly Agree	3	43%	
I find MIS useful in school administration.	Agree	4	57%	100%
	Strongly Agree	3	43%	
			Average	100%

Table 3 clearly shows that, 29% of the respondents agreed and 71% of the respondents strongly agreed that MIS enables them to accomplish their tasks more quickly and fast. 71% of the respondents agreed and 29% of the respondents strongly agreed that MIS improved their job performance. 57% of the respondents agreed and 43% of the respondents strongly agreed that their productivity increased due to MIS, they could do their job effectively due to MIS as MIS made it convenient for them to perform their job and they found MIS useful in school administration. There is 100% agreement on the Perceived Usefulness (PU) of MIS in School Administration.

Table 4 Responses to Perceived Ease of Use (PEU) of MIS in School Administration

Particulars	Responses	Frequency	Percent	Percent of Agreement
Learning to operate MIS is easy for me.	Neutral	1	14%	86%
	Strongly Agree	6	86%	
I find it easy to get MIS to do what I want it to do.	Neutral	2	29%	71%
	Agree	4	57%	
	Strongly Agree	1	14%	
My interaction with MIS is clear and understandable.	Neutral	2	28.5%	71.5%
	Agree	2	28.5%	
	Strongly Agree	3	43%	
I find MIS flexible to work with.	Neutral	3	43%	57%
	Agree	4	57%	
It is easy for me to become skillful at using MIS.	Neutral	1	14%	86%
	Agree	4	57%	
	Strongly Agree	2	29%	
I find MIS easy to use.	Neutral	1	14%	86%
	Agree	4	57%	
	Strongly Agree	2	29%	
			Average	76.25%

Table 4 clearly shows that, 14% of the respondents were neutral and 86% of the respondents strongly agreed that learning to operate MIS was easy for them. 29% of the respondents were neutral, 57% of the respondents agreed and 14% of the respondents strongly agreed that they found it easy to get MIS to do what they wanted it to do. 28.5% of the respondents were neutral, 28.5% of the respondents agreed and 43% of the respondents strongly agreed that their interaction with MIS was clear and understandable. 43% of the respondents were neutral and 57% of the respondents agreed that they found MIS flexible to work with. 14% of the respondents were neutral, 57% of the respondents agreed and 29% of the respondents strongly agreed that it was easy for them to become skillful at using MIS and they found MIS easy to use. There was 76.25% agreement and 23.75% neutrality in their agreement on the Perceived Ease of Use (PEU) of MIS in School Administration.

Table 5 Responses to Attitude towards using MIS in School Administration

Particulars	Responses	Frequency	Percent	Percent of Agreement
I think that using MIS in school administration is a good idea.	Agree	3	43%	100%
	Strongly Agree	4	57%	
I think that using MIS in school administration is beneficial for school.	Agree	3	43%	100%
	Strongly Agree	4	57%	
I have a positive perception about using MIS in school administration.	Neutral	2	28.5%	71.5%
	Agree	2	28.5%	
	Strongly Agree	3	43%	
			Average	90.5%

Table 5 shows that, 43% of the respondents agree and 57% of the respondents strongly agree that using MIS in school administration is a good idea and that using MIS in school administration is beneficial for the school. A total of 28.5% of respondents were neutral, 28.5% agreed and 43% strongly agreed that they had a positive perception of using MIS in school administration. There is 90.5% agreement and 9.5% neutrality in their agreement on Attitude towards using MIS in School Administration.

Table 6 Responses to Behavioural Intension (BI) to use MIS in School Administration

Particulars	**Responses**	**Frequency**	**Percent**	**Percent of Agreement**
I intend that I should use MIS frequently.	Agree	3	43%	100%
	Strongly Agree	4	57%	
I intend that I should use MIS more than any other application or software for the same purpose.	Neutral	2	28.5%	71.5%
	Agree	2	28.5%	
	Strongly Agree	3	43%	
			Average	85.75%

Table 6 shows that, 43% of the respondents agree and 57% of the respondents strongly agreed that they intend to use MIS frequently. A total of 28.5% of the respondents were neutral, 28.5% agreed and 43% strongly agreed that they intend to use MIS more than any other application or software for the same purpose. There is 85.75% agreement and 14.25% neutrality in their agreement on Behavioural Intension (BI) to use MIS in School Administration.

8.1 FUNCTIONS PERFORMED BY THE MIS IN THE SCHOOL ADMINISTRATION OF SJIS

After considering the specific needs of the school, SJIS implemented MIS for school administrative purposes to support effective school governance. The data sources and types of data collected were determined. A user-friendly interface that caters to the needs of different role-based users such as admin, teaching, non-teaching, parents and students was designed. As per the data collected in the interview and from the MIS User Manual, MIS streamlined data management and reporting in the school while performing the following functions,

Automated Routine School Administrative Tasks

MIS helps in routine administrative tasks such as admissions, fees, student records, student attendance, results, staff details, attendance, leave records etc. Automated tasks reduce work pressure, save time and reduce errors.

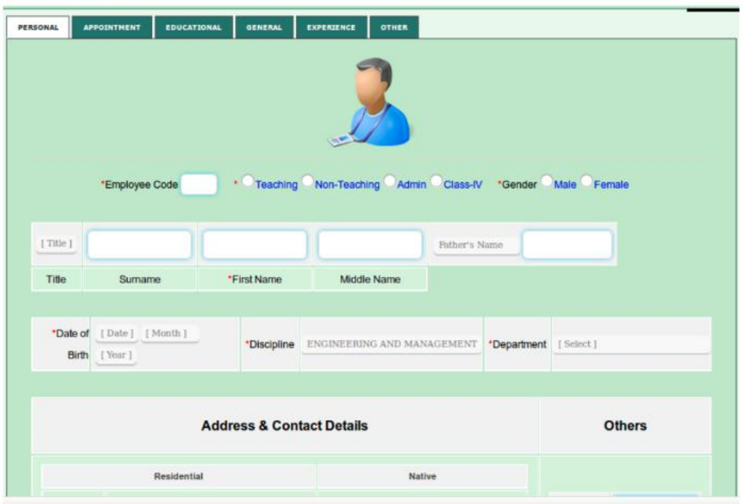

Figure 4 Staff Details

Information Sharing and Accessibility

Information sharing and accessibility within a school are highly important and MIS plays a crucial role in these activities. The MIS centralizes all the data from various sources and stores it in one place. It helps in accessing the information whenever staff needs it without delay or trouble. This approach improves the operational efficiency of the school.

Figure 5 Leave History

Collaboration among Staff and Stakeholders

The MIS is a centralized information hub. Role-based user access controls make it easier for stakeholders to access the required information and to provide feedback. It facilitates two-way communication.

Accountability Mechanisms and Transparency

The User interface helps in bringing accountability mechanisms to school administration. Every user is given an ID and password, so MIS can ensure that the data is accurately entered, stored and processed. It is possible to trace the actions of users which enhances accountability and brings transparency to activities.

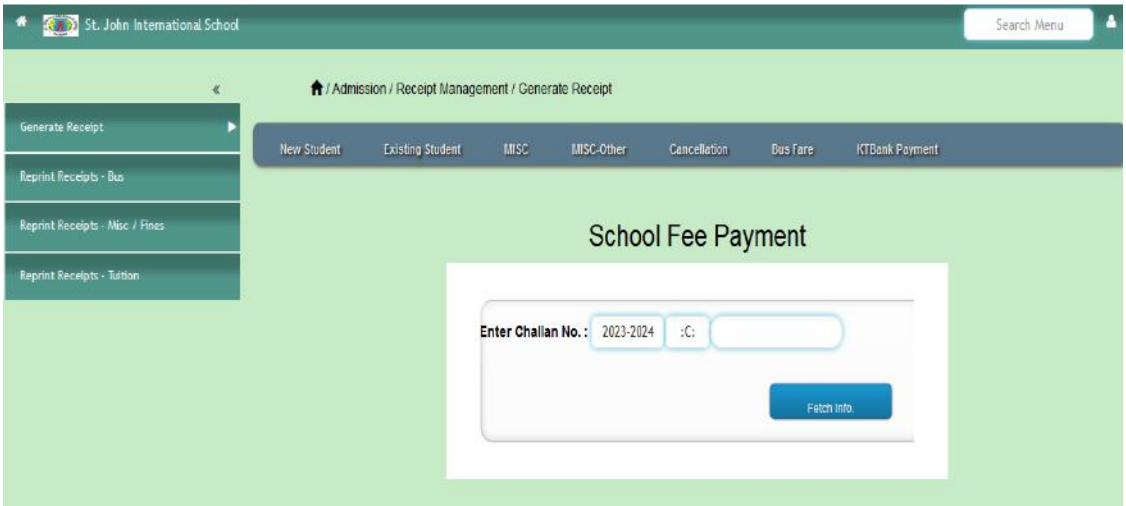

Figure 6 School Fee Payment

Data-driven Decision-making

The MIS plays a pivotal role in decision-making in school administration. There is access to reliable, trustworthy, recent and comprehensive information. MIS can filter data according to certain requirements and provides in-depth analysis which helps in accurate decision-making.

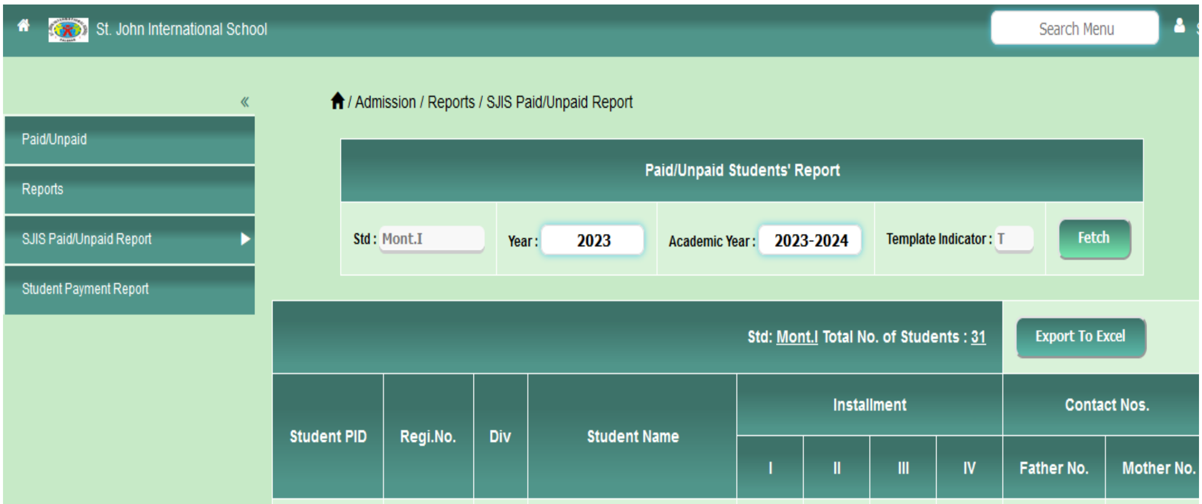

Figure 7 Paid/Unpaid Students' Report

8.2. Benefits of MIS in the School Administration of SJIS

According to the data collected in the interview and from the MIS User Manual, the following benefits of MIS in school administration exist,

Role-based User Access Controls

MIS allows administrator to set role-based user access controls that can ensure data security and privacy. The staff can see the data and reports relevant to their job responsibilities which can reduce data overload.

Figure 8 User Login

Data Quality Control

The MIS includes data validation features that maintain the accuracy and reliability of the information. The user can reduce errors while entering and storing information in MIS.

Customized Report Generation

MIS offers customized report generation tools with filters for various parameters or time periods. The reports are created according to the specific needs of the users. This approach saves considerable time and effort in the preparation of reports. There is no scope for errors or delays in these automated reports. These reports help staff to access data by clicking on a button and understanding complex data.

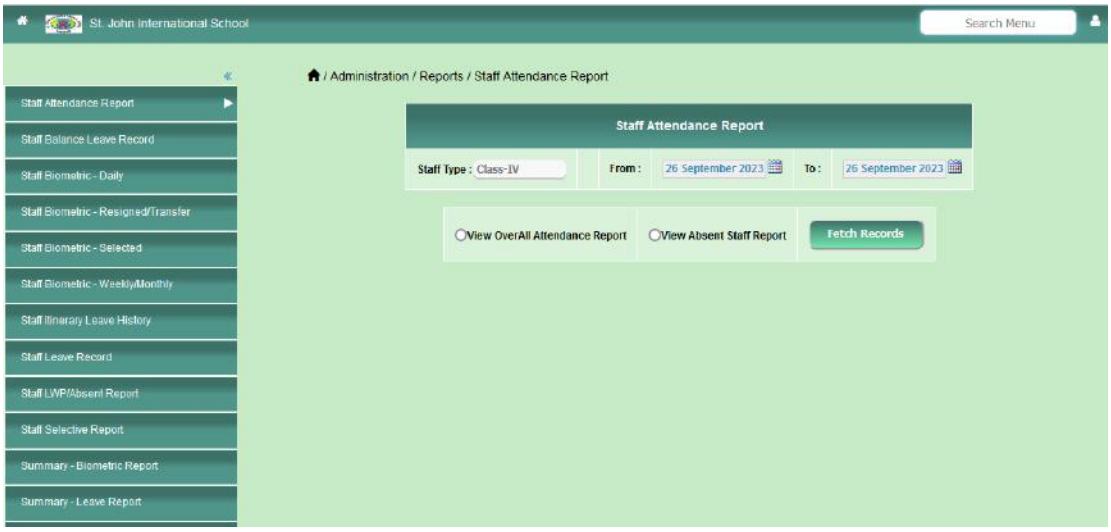

Figure 9 Staff Attendance Report

Search Functionality

Robust search capabilities within MIS make it easy for users to find specific information quickly. This approach reduces the time and energy spent looking for information in the large amounts of data.

Figure 10 Biometric Attendance

Real-Time or Near-real-time

MIS ensures the update of data in real-time or near-real-time so that users can have access to the most current and latest information.

Uploading Entries in Tally Software

MIS generates an XML file of all fees and receipts. This file can be used for uploading entries into the Tally software. This approach avoids retyping the same entries in Tally.

Figure 11 Export Data for Tally

Data Backup and Recovery

There is a regular data backup to safeguard against any data loss. Lost data due to technical failures or other reasons can be recovered due to this practice.

Data Archiving and Retrieval

MIS includes archiving capabilities where historical data can be stored and retrieved when needed.

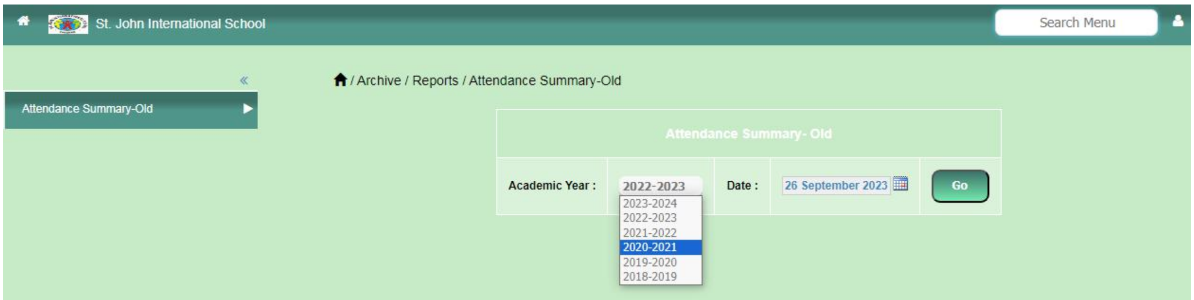

Figure 12 Data Archive

9. CONCLUSION

The findings of the study show the following,

1. MIS is useful in ensuring that school administration completes routine administrative tasks efficiently.
2. MIS is easy to use in school administration if regular and sufficient training is provided to staff. Users need hands-on practice in using MIS for more flexibility.
3. Administrative staff members have a positive attitude toward using MIS in school administration.
4. Administrative staff has a positive behavioural intention to use MIS in school administration.
5. A proper IT infrastructure and setup are required to run MIS effectively in school administration.
6. There are significant functions and benefits of MIS in school administration.

10. RECOMMENDATIONS

Based on the conclusions, the following recommendations are suggested,

Select Right Technology

It is necessary to choose appropriate technologies for MIS after considering factors - ease of use, compatibility, security etc. Future growth should be considered and scalability should be ensured to accommodate an increasing number of users and data in upcoming years.

Training and Support

It is important to provide complete training to all users so they can use MIS proficiently and establish a support system for troubleshooting and addressing users' concerns.

Continuous Improvements

Allow users to report issues, complaints, suggestions, feedback and changing administrative needs. Stay updated with technological advancements that can be utilized to improve MIS continuously. Review and update MIS regularly to serve its purposes efficiently.

Figure 13 Complaints/Suggestions

Documentation

Proper documentation, user manuals and guides can be created to assist users in navigating and understanding MIS effectively.

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Exploring the Unmet Spiritual Needs of Indian Married Women: A Qualitative Investigation

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Abstract: *This study investigates the unmet spiritual needs of married Indian women, a group whose distinct spiritual experiences have received little attention despite their crucial role in maintaining cultural and spiritual customs within families and communities. This study explores the intricacies of these women's spiritual journeys through a qualitative research approach, looking at how social duties and marital responsibilities influence their spiritual practices. The study reveals a shift towards personalized definitions of spirituality, tensions between conventional practices and modern lifestyles, and the significant impact of marital roles on spiritual fulfilment through in-depth interviews with thirty participants from diverse urban and semi-urban regions across India. The results highlight the need for more inclusive, women-centric spiritual spaces and draw attention to persistent barriers including time limits and societal expectations. This research contributes to the broader discourse on gender, spirituality, and social change in India, offering valuable insights for religious institutions, policymakers, and social organizations to better support the spiritual well-being of married women*

Keywords: *Spirituality, Women-Centric Spiritual Spaces, Barriers to Spiritual Fulfillment.*

1. INTRODUCTION

In India, spirituality and personal identity are deeply interconnected., reflecting a deep connection between traditional values and contemporary realities on the subcontinent. Indian married women often balance various roles as wives, mothers, and professionals, creating a unique position for them. The intricate details of married women's spiritual needs remain largely unexplored, despite extensive research into the spiritual lives of Indians in various regions and religions this becomes even more pivotal as married women play a critical role in ensuring that spiritual and cultural practices are upheld within families and communities. While recent studies have talked about the evolving notion of spirituality in urban India by (Mehrotra & Wagner ,2019), and gendered spiritual experiences by (Sharma & Sowmya ,2020), where they went one step further and did not concentrate on the space of married women. The current investigation is an attempt in this regard, that is, it is an exploration into the unmet spiritual needs of Indian married women vis-à-vis changing roles and responsibilities.

I. Conceptual/Theoretical Framework

The study is anchored on Mahoney's (Mahoney ,2010) framework concerning relational spirituality—spirituality that pertains to family relationships and life transitions. And, Pargament's (Pargament,2007) understanding of spiritually integrated psychotherapy—spirituality as another source of coping and personal growth—also informs this research. Feminist spirituality theories, particularly those that focus on the unique spiritual experiences of women and the potential for their spirituality to be a source of empowerment, provide another lens through which to view the spiritual journey of Indian married women in light of societal expectations and personal aspirations.

II. Definition of Key Terms

- Spirituality: “Often defined as a personal quest to understand profound questions about life's meaning and one's relationship to the sacred or transcendent. This quest may or may not involve religious rituals or community engagement” (Koenig et al., 2001).
- Unmet Spiritual Needs: This refers to the spiritual aspirations, practices, or experiences that individuals wish to express or engage in but are unable to due to various personal, social, or cultural constraints.
- Indian Married Women: Refers to women aged between 25-60 years who have been married for at least two years and are currently residing in India.

III. Statement of the Problem

India's rich spiritual traditions are deeply rooted, and women are central to maintaining the spiritual ethos within families and communities. However, the specific spiritual needs and experiences of married women in contemporary Indian society remain underexplored. These women often navigate complex roles and expectations, and their spiritual journeys are increasingly being disrupted in ways that are not fully acknowledged or addressed by existing spiritual institutions or practices.

IV. Research Questions

1. How do Indian married women conceptualize and experience spirituality in their daily lives?
2. What spiritual practices do Indian married women participate in, and how effectively do these practices address their spiritual needs?
3. In what ways does the role of a married woman in Indian society shape her spiritual journey?
4. What barriers do Indian married women face when attempting to fulfil their spiritual needs?

V. Objectives

- To explore how Indian married women understand and experience spirituality in their everyday lives.
- To identify the spiritual practices, they engage in and evaluate whether these practices fulfil their spiritual needs.
- To examine how societal roles influence the spiritual journeys of Indian married women.
- To investigate the barriers that prevent Indian married women from addressing their spiritual needs.

VI. Significance of the Study

To informing religious organizations and spiritual leaders on the unique spiritual requirements of married women, this study aims to encourage the creation of more accepting and supportive environments. It also contributes to the larger debate in India about gender, spirituality, and social transformation by providing perspectives that may improve married women's spiritual health. The results may also have an impact on policy choices pertaining to women's spiritual and health rights, creating settings in which their spiritual journeys are recognized and promoted.

VII. Delimitations

- The study is limited to married women aged between 25-60 who have been married for at least two years and currently reside in India.
- It focuses on personal experiences and perceptions of spirituality rather than specific religious doctrines or practices.

- Although efforts were made to include participants from diverse backgrounds, the study may not fully represent the experiences of all Indian married women, particularly those from very remote or marginalized communities.
- The study does not aim to compare the spiritual experiences of married women with those of unmarried women or men.

2. Review of Related Literature :

India offers a diverse spiritual landscape that is composed of the threads of multiple faiths that coexist and sometimes intertwine. Married women's spiritual experiences are still largely unexplored, despite an abundance of literature on Indian spirituality and religious practices. This analysis of the literature digs into previous study that is crucial for understanding Indian married women's spiritual requirements.

I. Reviews Related to Study Variables

Spirituality in the Indian Context: Scholars such as (Mehrotra &Wagner ,2019) have highlighted the profound role that spirituality plays in Indian culture, emphasizing its deep roots in daily life, social norms, and personal identity. (Narayanan ,2018) adds that the interpretation and expression of spirituality can differ widely across India's diverse communities and individuals.

Gender and Spirituality: Research by (Sharma & Sowmya ,2020) underscores the significant influence of gender on spiritual experiences and practices within India. Their findings suggest that women tend to engage with spirituality in ways distinct from men, often focusing more on domestic rituals and community-oriented practices. Nevertheless, their work does not specifically address the spiritual lives of married women.

Marital Status and Spiritual Practices: (Kumar et al.,2021) examined how marital status affects religious participation among Indian women. Their research indicates that marriage frequently leads to greater involvement in particular religious activities, especially those tied to household duties and family welfare. However, this increased involvement does not always equate to personal spiritual fulfilment.

Barriers to Spiritual Fulfilment: (Patel & Misra ,2022) identified various obstacles that Indian women encounter in pursuing their spiritual aspirations, such as the demands of domestic responsibilities, restricted access to religious education, and limitations on mobility. While their research provides valuable insights, it does not specifically consider the distinct challenges faced by married women.

Modernity and Traditional Spiritual Practices: (Banerjee ,2017) explores the tension between modernity and traditional spiritual practices, particularly the challenges that urban Indian women face in maintaining these practices while balancing contemporary professional and personal lives. However, the specific experiences of married women in this dynamic context remain insufficiently addressed.

Intergenerational Differences: (Singh & Kaur ,2023) conducted a study on the generational differences in spiritual practices among Indian women, noting a shift in how younger generations perceive and engage with spirituality. Although their findings are insightful, they do not deeply explore how these generational changes affect the spiritual needs of married women.

II. Gaps in the Literature

While the studies reviewed offer valuable context, there is a notable gap in understanding the specific spiritual needs and experiences of married women in India. The intersection of marital status, societal expectations, and personal spiritual aspirations remains an area in need of further investigation. Moreover, much of the existing research concentrates on religious practices, potentially overlooking the broader spiritual needs of married women.

III. Summary of the Review

An overview of the review based to the literature, spirituality has a significant role in defining daily life, social norms, and individual identities in Indian culture. The diversity of the nation's cultures is reflected in the vast differences in spirituality that occur between different groups and individuals. Spiritual experiences are greatly influenced by gender, with women usually placing more emphasis on rituals in the home and in the community. Particularly apparent for married women, whose distinct experiences are not sufficiently explored by existing studies. In addition, Indian women's perception of spirituality is complicated by the conflict between modernity and ancient spiritual practices, especially in metropolitan contexts. While there is evidence of intergenerational variations in spiritual practices, little is known about how these variations particularly impact the spiritual needs of married women. The literature study indicates an important deficiency in our knowledge of the spiritual requirements and encounters of married Indian women. Research that has previously been done has a tendency to concentrate more on religious rituals than on more general spiritual concepts, which may leave out some of these women's spiritual needs. By providing a more thorough examination of the unmet spiritual needs of Indian married women along with insightful information, this study aims to fill this gap. Offering a more thorough investigation of the unmet spiritual needs of Indian married women provides an important contribution to scholarly discussion with practical applications

3. METHODOLOGY

I. Research Approach

Given the gaps identified in the existing literature and the complexity of Indian married women's spiritual experiences, this study adopts a qualitative research approach. This method is particularly well-suited for exploring the nuanced and subjective dimensions of spirituality, enabling a deep dive into how these women navigate their spiritual journeys within the boundaries of their societal roles and expectations. "The qualitative design was chosen to delve into the unmet spiritual needs of Indian married women, motivated by the necessity of capturing the depth and intricacy of their personal experiences, beliefs, and perspectives on spirituality "(Denzin & Lincoln, 2018) and (Creswell & Poth, 2017).

II. Research Context

The research was conducted across a diverse range of urban and semi-urban areas in India, including major cities such as Mumbai, Delhi, Bangalore, Kolkata, as well as regions like Odisha, Punjab, and Kerala. This varied geographical context allowed for the inclusion of participants from a wide array of cultural and linguistic backgrounds within the country.

III. Research Design

A phenomenological approach was employed to explore the lived experiences of Indian married women in relation to their spirituality. This method is ideal for deeply understanding individual narratives and the meanings that participants attribute to their spiritual journeys, as noted by (Creswell & Poth, 2017) and (van Manen ,1990). In this study, the phenomenological approach was applied to capture the spiritual experiences of Indian married women through in-depth interviews. The research aimed to uncover how these women experience spirituality in their daily lives, how their spiritual practices have evolved over time, and how their roles as wives and mothers influence their spiritual journeys. This approach provides a comprehensive examination of the personal and subjective aspects of spirituality, offering valuable insights into the unique spiritual needs and challenges faced by this demographic.

IV. Research Setting

The interviews were conducted at times convenient for the participants, ensuring their comfort and privacy throughout the process.

A. Participants & Data Sources

The study involved 30 married women from various regions of India, representing a range of religious backgrounds, socioeconomic statuses, and age groups. The primary data source was the participants themselves, who provided rich, first-hand accounts of their experiences through in-depth interviews.

B. Sampling Method: A combination of purposive and snowball sampling methods was used to recruit participants:

- Purposive Sampling: Initial participants were selected based on specific criteria, with the aim of including women from diverse backgrounds.
- Snowball Sampling: Additional participants were recruited through referrals from the initial participants, helping to expand the diversity of the group.

The sample size of 30 was determined based on data saturation, practical constraints, precedent in similar studies, and the need for a diverse sample.

C. Demographic Information

Table 1

Characteristic	Category	Frequency	Percentage
Age Group	20-27 years	14	46.7%
	30-35 years	8	26.7%
	50-55 years	8	26.7%
Religious Affiliation	Hindu	21	70%
	Muslim	3	10%
	Christian	3	10%
	Sikh	3	10%
Geographical Location	Urban	20	66.7%
	Semi-Urban	10	33.3%
Marital Duration	2-10 years	5	16.7%
	11-20 years	14	46.7%
	21-30 years	11	36.7%
Occupation	Teachers	12	40%
	Office Staffs	8	26.7%
	Govt Employees	6	20%
	Doctors	4	13.3%
Language	Hindi	15	50%
	Malayalam	3	10%
	English	7	23.3%

D. Inclusion and Exclusion Criteria

Inclusion criteria:

- Women aged 25-60 years
- Woman who are working
- Married for at least two years
- Currently residing in India Cities (Urban &Semi urban)
- Able to communicate in Hindi, English, or a major regional language

Exclusion criteria:

- Women living outside India
- Women married for less than two years
- Women unable to provide informed consent due to cognitive or health issues

V. Data capturing methods

Responses were gathered from Indian married women living in urban and semi-urban areas across India, including cities like Mumbai, Delhi, Bangalore, Kolkata, and regions such as Odisha, Punjab, and Kerala. The data collection was carried out using unstructured questionnaires, a method chosen for its flexibility and its capacity to delve deeply into the participants' experiences, perceptions, and emotions. The unstructured format allowed the interviewer to adapt the questions based on the natural flow of the conversation, which facilitated a richer and more nuanced understanding of the subject matter (Denzin & Lincoln, 2018) and Creswell & Poth, 2017). Each interview lasted between 60 and 90 minutes, with the sessions being audio-recorded and later transcribed, all with the participants' consent was acquired before the interview session. The interview guide featured open-ended questions aimed at exploring participants' definitions of spirituality, their spiritual practices, the barriers they perceive to spiritual fulfilment, and how their marital status influences their spiritual journey.

VI. Credibility and Dependability of Data

- Member Checking: Participants were provided with summaries of their interviews to verify accuracy.
- Peer Debriefing: Regular discussions were held among the research team to challenge assumptions and interpretations.
- Triangulation: Multiple researchers were involved in data analysis to provide diverse perspectives.
- Thick Description: Rich, detailed accounts of participants' experiences were collected and reported.

VII. The Researcher's Role and Reflexivity

The researchers acknowledged their own backgrounds and potential biases throughout the research process. Reflexive journals were maintained to document personal reactions, biases, and decisions made during the study. The research team included both male and female researchers from diverse religious backgrounds to provide a balanced perspective.

VIII. Data Recording Procedures

Interviews were audio-recorded using high-quality digital recorders. Notes were taken during and immediately after each interview to capture non-verbal cues and contextual information.

4. Data Analysis :

Thematic analysis was employed to analyse the interview transcripts, following the approach outlined by Braun & Clarke ,2006). The six-phase process included:

1.Familiarization with the Data: Immersing in the data by repeatedly reading the interview transcripts and listening to the audio recordings, taking notes to capture initial thoughts and potential codes.

2.Generating Initial Codes: Systematically coding the data to identify significant features that could contribute to the overall themes of the study, coding both semantic (explicit) and latent (implicit) content.

3.Searching for Themes: Collating codes into potential themes based on patterns that emerged across the data, with themes refined iteratively as the coding process progressed.

4.Reviewing Themes: Refining themes to ensure they accurately reflect the coded data and the broader meanings across the dataset, involving two levels of review: checking themes in relation to coded extracts and ensuring themes reflect the entire dataset.

5.Defining and Naming Themes: Articulating the essence of each theme, describing how it relates to the research questions, and identifying sub-themes where relevant.

6.Producing the Report: Selecting vivid and compelling extracts that exemplify the themes, accompanied by analytic narrative that goes beyond description to provide insight into the meanings and implications of the themes.

Excel software was used to facilitate the retrieval of coded data.

In this study, thematic analysis was applied to the interview transcripts of Indian married women. After data collection, transcripts were reviewed and coded to identify common themes related to spirituality, such as "personalized spirituality," "barriers to spiritual fulfilment," and "spirituality as empowerment." These themes were then analysed to understand the broader patterns in how spirituality is experienced and expressed by the participants. Thematic analysis allowed for organizing the rich qualitative data into coherent themes that could be discussed in relation to the study's objectives and theoretical frameworks.

5. Limitations

This methodology enabled rich, in-depth data collection and analysis; the findings may not be generalizable to all Indian married women. The study provides valuable insights into the experiences of this group, but further research with larger, randomized samples would be necessary for broader generalization.

6. Ethical Safeguards/Considerations

The research was conducted in accordance with ethical standards approved by the institutional ethics committee. Informed consent was obtained from all participants, who were assured of confidentiality and anonymity. Participants were informed of their right to withdraw from the study at any time without consequence.

7. Results & Findings

Table 2

Main Theme	Sub-themes	Illustrative Quotes
1. Evolving Definitions of Spirituality	a) Personalized spirituality b) Spirituality in daily life	"For me, spirituality is not just about rituals. It's about finding inner peace and connection with something greater than myself." (Participant 7, 35 years old)"After marriage, I realized spirituality is also about how I treat others, especially my family. It's become more practical, less abstract." (Participant 13, 42 years old)
2. Tension Between Traditional Practices and Modern Life	a) Time constraints b) Adapting practices	"I want to do my morning puja, but with getting kids ready for school and preparing for work, there's just no time." (Participant 22, 38 years old)"Sometimes I feel guilty for not following all the rituals my mother-in-law expects. But I have my own way of connecting spiritually that fits my lifestyle." (Participant 5, 29 years old)
3. Impact of Marital Role on Spiritual Journey	a) Shift in practices b) New spiritual dimensions	"Before marriage, I could spend hours in meditation. Now, I'm lucky if I get 10 minutes to myself." (Participant 18, 33 years old)"Marriage brought new spiritual dimensions. I now see serving my family as a form of spiritual practice." (Participant 9, 45 years old)
4. Barriers to Spiritual Fulfillment	a) Time constraints b) Societal expectations	"Between work and home, there's no time left for spiritual pursuits. It's always at the bottom of my to-do list." (Participant 3, 37 years old)"I feel judged when I express interest in spiritual practices outside our family's tradition. It's easier to just conform." (Participant 26, 31 years old)
5. Desire for Inclusive Spiritual Spaces	a) Women-centric spaces b) Need for mentorship	"I wish there were spiritual groups specifically for working women, where we could discuss our unique challenges." (Participant 11, 39 years old"It would be nice to have a spiritual mentor who understands the pressures of balancing family, work, and personal growth." (Participant 20, 48 years old)
6. Intergenerational Differences in Spiritual Approaches	a) Generational gap b) Modern vs. traditional approaches	"My mother-in-law doesn't understand why I prefer meditation apps to temple visits. There's a generational gap in how we approach spirituality." (Participant 15, 27 years old)
7. Spirituality as a Source of Empowerment	a) Personal strength b) Self-assertion	"My spiritual practice is the one thing that's truly mine. It gives me strength to face daily challenges." (Participant 24, 52 years old) Through spirituality, I've found my voice. It's helped me set boundaries and assert myself in my relationships." (Participant 8, 36 years old)
8. Technology and Spiritual Practice	a) Digital spiritual resources b) Accessibility	"Online spiritual courses and meditation apps have been a game-changer for me. They fit into my busy schedule." (Participant 17, 32 years old)

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8. Discussions

I. Redefining Spirituality in the Modern Context

The trend toward more personalized and experiential definitions of spirituality aligns with (Narayanan ,2018) observation of varied spiritual expressions in India. This shift suggests an adaptive response to the challenges of balancing traditional expectations with modern lifestyles, as highlighted by (Banerjee ,2017). The redefinition of spirituality to include everyday actions, particularly within the family context, indicates a strategy for reconciling spiritual needs with marital roles.

II. Navigating Tradition and Modernity

The tension between traditional spiritual practices and modern life echoes the findings of (Kumar et al. ,2021). Our study extends this understanding by highlighting the specific challenges faced by married women in maintaining spiritual practices amidst professional and domestic responsibilities. The guilt expressed by some participants over their inability to adhere to traditional practices suggests an ongoing internal conflict that merits further attention.

III. The Transformative Impact of Marriage on Spirituality

Our results indicate that marriage significantly impacts women's spiritual journeys, often necessitating a reimagining of spiritual practices. This finding builds on the work of (Patel & Misra ,2022), who identified barriers to women's spiritual fulfilment. Our study specifically illuminates how marital status interacts with these barriers, revealing both constraints and new dimensions of spirituality.

IV. Persistent Barriers and the Need for Inclusive Spaces

The barriers to spiritual fulfilment identified in our study are consistent with previous research (Patel & Misra, 2022). However, our findings emphasize the unique challenges faced by married women and highlight a pressing need for more inclusive spiritual spaces. The desire for women-centric spiritual communities and mentorship suggests a gap in current spiritual infrastructures.

V. Generational Shifts and Technological Integration

The intergenerational differences in spiritual approaches observed in our study align with (Singh & Kaur's, 2023) research on changing spiritual practices among younger generations. The emerging role of technology in spiritual practices represents a novel finding, offering new opportunities for addressing time and accessibility barriers but potentially creating intergenerational tensions.

VI. Spirituality as a Tool for Empowerment

The role of spirituality as a source of empowerment and resilience for married women is a significant finding that has been underexplored in previous literature. This suggests that spirituality can be a powerful resource for women in negotiating their identities and roles within family and society.

9. Summary, Conclusions & Recommendations

I. Summary & Conclusion

This study explored the unmet spiritual needs of Indian married women through in-depth interviews with 30 participants from diverse backgrounds. The participants were aged between 25 to 60 years, with the majority residing in urban areas (20 participants) and the remaining in semi-urban areas (10 participants). The religious affiliations of the participants were as follows: Hindu (21), Muslim (3), Christian (3), and Sikh (3). This diverse sample allowed for the exploration of the unique spiritual experiences and needs of Indian married women across different cultural and socioeconomic contexts Table 1. Key findings in table 2**.** These findings highlight the complex interplay between personal spiritual aspirations, marital responsibilities, and societal expectations in shaping the spiritual experiences of Indian married women. There is a significant unmet need for women-centric spiritual spaces and resources that acknowledge the unique challenges faced by married women in India. Despite facing various barriers, many women find their spiritual practices to be a source of strength and empowerment in navigating their multiple roles. A generational shift is occurring in approaches to spirituality, with younger women more likely to embrace non-traditional and technology-aided spiritual practices. The integration of technology in spiritual practices is offering new avenues for spiritual engagement that fit within women's busy lives.

II. Recommendations

1.For Religious Institutions and Spiritual Leaders:

Develop more flexible and inclusive spiritual programs that accommodate the time constraints and diverse needs of married women.

2.For Families and Communities:

Recognize and support the spiritual needs of married women as an important aspect of their overall well-being.

3.For Policymakers and Social Organizations:

Develop policies and programs that support women's spiritual well-being, recognizing it as an important aspect of overall health and empowerment.

4.For Technology Developers:

Explore and develop digital platforms and applications that can facilitate spiritual practices for women with busy schedules.

5.For Researchers:

Conduct longitudinal studies to track changes in the spiritual needs and practices of Indian women over time.

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