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INDIA

A \$5 TRILLION ECONOMY:

Challenges and Gateways

EDITOR

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PSIT College of Higher Education

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About the Editor

Dr. Bhagwan Jagwani is a Management Professor, Trainer and Consultant in the area of Finance & Business Analytics. His expertise also lies in the areas of 'Outcome Based Education', 'Accreditation Process (NBA/NAAC)' and 'Functioning of the Internal Quality Assurance Cell (IQAC)'. He is presently associated as Director, PSIT College of Higher Education, Kanpur, one of the leading educational institutions of India.

Prof. Bhagwan possesses a work experience of 25+ years in industry and the Academia, which includes an association of more than 5 years with ICFAI, Hyderabad. He is professionally qualified as a Company Secretary and is presently a 'Fellow Member' of the Institute of Company Secretaries of India. He also holds a PhD and a Post Graduate degree in Commerce. Besides this, he is UGC-NET qualified and possesses various certifications in 'Business Analytics', 'International Finance', and 'Financial Derivatives' from renowned institutions like the Massachusetts Institute of Technology (MIT), USA; University of Pennsylvania, USA; IBM, India; and the National Stock Exchange of India. He is a certified trainer in the area of Predictive and Descriptive Analytics and also an expert on Outcome Based Education (Teaching, Learning and Evaluation) and Quality Assurance in educational institutions.

Till date, Dr. Bhagwan has conducted over 50 Management and Faculty Development programmes and training sessions in India and abroad. This includes names like IIT Guwahati, Remote Sensing Applications Centre, Lucknow (under the Department of Science and Technology, Government of Uttar Pradesh), St. Francis College for Women, Hyderabad, FMS - Institute of Rural Management, Jaipur, BIRLA Group of Institutions, Sonipat, School of Management Sciences, Varanasi & Lucknow, IILM Lucknow, Pranveer Singh Institute of Technology, Kanpur, CSJM University, Kanpur, Lohia Corp Ltd. (flagship company of the Lohia Group), Kanpur, RAMADA Hotel, Lucknow, etc. Through his workshops, Dr. Bhagwan has trained several corporate professionals, faculties of engineering and management disciplines, company secretaries, doctors, hospital administrators, etc. on topics like 'Finance for Non-Finance Professionals', 'Block Chain Technology', 'Art of Reading Financial Statements', 'Models of Strategic Thinking & Decision Making', 'Business Analytics', 'Applied Financial Econometrics', Outcome Based Education', 'Requirements of the NBA and/or NAAC Self-Assessment Report', 'Management Games', etc. He has also rendered consultancy services to a company with an annual turnover of over Rs. 50 crores in Kanpur.

Dr. Bhagwan has presented and published 30+ research papers in national and international conferences, ABDC and Scopus-indexed journals, including foreign journals. His research paper based on his doctoral thesis was awarded 2nd prize in a 'Doctoral Student' Paper Competition organized by AIMS International, Houston, USA. His research paper on 'Application of Data Envelopment Analysis', published in the journal of MDI Gurgaon, was part of an assignment given to students pursuing MBA programme at IIT-Delhi. Dr. Bhagwan has also been a recipient of 'Best Paper Presenter' and 'Best Faculty Guide' awards.

Born in the Philippines (South East Asia), Dr. Bhagwan has travelled abroad many times, and has also led international industrial-cum-study tours of management students to China and the UAE.

Prof. Bhagwan strongly believes in the law of 'Karma', and for him, 'Success is how high you bounce, after hitting the bottom'.

Foreword

It is an immense privilege to express that we, at PSIT College of Higher Education, Kanpur, are publishing a book titled '**India A \$5 Trillion Economy: Challenges and Gateways.**'

This book serves as a beacon of enlightenment, bringing together the finest minds and visionaries from across the nation to unravel the complexities of India's economic landscape and chart a course towards sustainable growth and prosperity.

India is one of the fastest growing major economies of the world and currently ranked as the world's fifth largest economy. The current structure of the diversified economy, the emerging dynamics, technological embrace and a large working-age population are some of the factors that will help in achieving the target. However, there may be a few challenges in every sector of the Indian economy that may become obstacles to achieve the desired results. The same needs to be identified & addressed so that we as a country can grow and achieve our target of becoming a \$5 trillion economy by 2027. The government is making all its efforts to achieve the desired results in every sector. We, the responsible citizens of India, should also contribute in all possible ways to the government's effort.

I extend my heartfelt gratitude to the esteemed authors and all those who have been directly and indirectly involved in the enriching journey for their invaluable contribution, support, and cooperation to embrace the spirit of collaboration, open-mindedness, and curiosity that helps us engage in robust discussions, challenge conventional wisdom, and explore novel approaches towards achieving our collective aspirations for India's economic advancement.

May our thoughts inspire actionable insights, foster meaningful connections, and catalyse positive change in our quest for a brighter, more prosperous future for India.

Best Wishes!

Prof. (Dr.) Bhagwan Jagwani
Editor

ENHANCING SUSTAINABLE PURCHASE INTENTIONS: THE ROLE OF AI-ENHANCED CUSTOMER RELATIONSHIPS IN SUSTAINABLE MARKETING

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ABSTRACT

In the contemporary landscape of sustainable marketing, the integration of Artificial Intelligence (AI) into customer relationship management has gained prominence for its potential to shape consumers' intentions towards sustainable product adoption. Traditionally, consumer behaviour studies have centred on attributes that directly benefit individuals, such as quality, price, and functionality. However, the perception of environmental sustainability has gained prominence in influencing consumer attitudes and intentions toward products. This conceptual paper delves into the intricate relationship between AI-enhanced customer relationships and consumers' sustainable purchase intentions, with a specific focus on the dimensions of trust and engagement.

Sustainable marketing has become an imperative in today's world, driven by growing environmental concerns and consumer demand for sustainable products. To address this shift, businesses are increasingly looking toward innovative solutions, and one such solution is the integration of Artificial Intelligence (AI) into customer relationship management. This paper explores the profound impact of AI-driven enhancements in customer relationships on consumers' trust and engagement, and how these factors influence their intentions to adopt sustainable products.

The primary purpose of this conceptual paper is to offer an in-depth exploration of how AI-driven enhancements in customer relationships influence consumers' trust and engagement, subsequently impacting their intentions to adopt sustainable products. By conceptualizing the interplay between these variables, this study aims to provide a theoretical framework that elucidates the mechanisms through which AI-powered interactions contribute to fostering sustainable purchase intentions.

This conceptual paper employs a literature-based approach, synthesizing existing research on AI, customer relationships, trust, engagement, and sustainable purchase intentions. By critically analysing and integrating relevant theories, models, and empirical findings, this article constructs a conceptual framework that illustrates the potential pathways linking AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions.

The conceptual analysis suggests that AI-enhanced customer relationships can foster trust through personalized interactions, accurate information provision, and reliable recommendations. These enhanced relationships, in turn, lead to heightened consumer engagement with sustainable products. The conceptual framework proposes that this positive feedback loop of trust and engagement significantly influences consumers' intentions to adopt eco-friendly offerings.

The conceptual framework unveiled in this paper has significant implications for businesses and marketers in sustainable marketing domains. By recognizing the role of AI-driven interactions in building trust and enhancing engagement, practitioners can tailor their strategies to strengthen these dimensions, thereby positively impacting consumers' attitudes and intentions towards sustainable products.

This conceptual paper contributes to the theoretical discourse surrounding AI's impact on sustainable marketing by offering a comprehensive framework that highlights the intricate relationships between AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions. This framework serves as a foundation for further empirical investigations and strategic applications, ultimately guiding businesses toward more effective approaches to promoting sustainable consumption patterns. As the fusion of AI and sustainable marketing continues to evolve, understanding the mechanisms driving consumer intentions becomes essential for fostering positive social and environmental change.

Keywords: Sustainability, Artificial Intelligence, Purchase intention, Sustainable Marketing, Customer relationship.

INTRODUCTION

Sustainable marketing has become an imperative in today's world, driven by growing environmental concerns and consumer demand for sustainable products. To address this shift, businesses are increasingly looking toward innovative solutions, and one such solution is the integration of Artificial Intelligence (AI) into customer relationship management. This paper explores the profound impact of AI-driven enhancements in customer relationships on consumers' trust and engagement, and how these factors influence their intentions to adopt sustainable products. The global shift towards sustainability has led businesses to reassess their marketing strategies, emphasizing environmentally friendly practices. AI technologies offer a chance to improve consumer connections in ways that support sustainability as they develop. As far as SPI is concerned, it is known that maintaining an awareness of continuous improvement, focused on the development of sustainable products and strategies, may influence consumer behaviour and generate competitive advantage for companies (Sharma & Vredenburg 1998; Kanter 2008). Thus, helping consumers to become more sustainability oriented will potentially lead to an increased intention to purchase sustainability.

Consumer engagement can be broadly defined as the development of a strong relationship between a business and its customers (Glavee-Geo et al., 2019). Consumer engagement pertains to the actions taken by consumers towards certain brands or businesses for purposes other than just consumption. According to Abbas et al. (2018), it has to do with customers forming strong emotional bonds with the brand. As a result, one way to conceptualize consumer involvement is as a complex idea that includes behavioral, emotional, and/or cognitive components. These aspects are essential for establishing enduring relationships that benefit businesses and their customers (Hollebeek et al., 2014). In the past, usage intention and loyalty have been connected to consumer involvement (Husnain and Toor, 2017).

Success in the era of the fourth industrial revolution depends on data, which is often enormous data sets that are primarily collected in an unstructured form (Dubey et al., 2020). Furthermore, consumer tastes and preferences are changing quickly in this fast-paced environment, which poses enormous challenges for businesses. According to Dubey et al. (2020), alterations in customer behavior might result in rapidly outmoded products and services. Therefore, it is necessary to modify operational procedures and introduce novel products and services to ensure customer satisfaction. The development of AI technologies and products powered by these technologies has accelerated due to recent advancements in sensor, communications, and deep learning technologies (André et al., 2018; Jiang et al., 2015; KPMG, 2019).

PURPOSE OF THE STUDY

This conceptual paper aims to elucidate the impact of AI-enhanced customer relationships for sustainable product on sustainable purchase intentions, with a specific focus on the mediating roles of customer engagement for sustainable Product, personal values and belief, and trust.

By conceptualizing the interplay between these variables, this study aims to provide a theoretical framework that elucidates the mechanisms through which AI-powered interactions contribute to fostering sustainable purchase intentions.

LITERATURE REVIEW

AI ENHANCING CUSTOMER RELATIONSHIPS The integration of technology into relationship management is still accelerating. According to Rust and Huang (2014) and Gupta, Agata, Kumar, Bijmolt, & Potapov (2020), information technology and advanced analytics play a crucial role in facilitating ubiquitous customer communication and augmenting the availability of customer data. This, in turn, empowers firms to provide personalized services and tailor customer relationships to maximize profits. In this article, we conduct a critical examination of how AI systems may affect the basic nature of customer relationship management. In particular, we focus on how AI's emerging abilities to manage customer relationships may result in differential treatment of customers and the implications thereof. Enhanced personalization can confer well-documented economic advantages to firms (Khan, Lewis, & Singh, 2009). In particular, the issues of identifying and leveraging the potentially significant differences across customers in terms of lifetime value have been fundamental for customer relationship management over the last two decades (Rust, Lemon, & Zeithaml, 2004).

Technological advancements, including chatbots and social media platforms, have supplanted conventional marketing methods like telemarketing and printed catalogues as the predominant channels and environments for consumer engagement in the era of artificial intelligence. Traditional marketing strategies, in general, concentrate on firm-level accomplishments like determining competitive advantages and enhancing financial gains. The potential of traditional marketing to improve customer relationships is particularly intriguing. Traditional marketing often focuses on the purchase point alone, missing every single detail and touch point of each and every unique consumer, even if "building deeper understanding, relationships, and offerings to individual customers" is crucial. Put otherwise, conventional marketing is not scalable and cannot account for every situation in which a customer comes into contact with the company or its products. Most significantly, traditional marketing has proven to be ineffective in improving customer relationships due to the comprehensiveness of customer relationships, which encompasses consumer trust, contentment, commitment, engagement, and loyalty. Artificial intelligence is therefore needed to bridge this gap. Artificial intelligence marketing (AIM) streamlines the curation of vast quantities of data and information pertaining to the marketing blend through the automation of AI in order to produce knowledge. The information is then put to use by AIM to carry out and automate marketing tasks, like producing market intelligence. With the help of this capability, AIM can go above and beyond to understand each customer's needs and preferences and to personalize their experience, making features that were previously unattainable now feasible. Whereas AIM can go down to the individual customer level across many actions (such as acquisition, consumption, and disposal) related to a product or service, traditional marketing, on the other hand, usually concentrates on the corporate level and acquisition/purchase activity alone. This section presents accepted definitions and examples of customer relationships in response to the wide range of definitions of the term.

CRM (Customer Relationship Management) is the process of managing and using data intelligently with technology solutions in order to create long-term relationships and an exceptional customer experience (CX). (Boulding et al. 2005; Payne and Frow 2005; Rababah 2011). If managed well, the data collected from all customer touch points can help companies generate personalised marketing, create new ideas, customize products and services, and gain competitive advantage. The digital age has seen the volume, speed and

variety of data increase, along with their processing power. This has led to the development of new technologies, such as artificial intelligence (AI). AI is the ability of a computer system to correctly interpret large quantities of data, to learn from this data, and to use that learning to achieve specific goals and tasks. (Kaplan & Haenlein 2019).

THEORETICAL BACKGROUND OF SUSTAINABLE PURCHASE INTENSION

In the past 40 years, numerous studies presenting PI constructs in a range of theoretical frameworks were published in marketing journal, making this a highly researched topic (Ostrom 1989; Bagozzi & Burnkrant 1979). Purchase intentions can be defined as: 'Purchase Intentions are an individual's conscious plan to buy a brand.' (Spears & Singh, 2004). The term can also be interpreted to mean a person's motivation, in the sense that they are conscious of their plan to act on a particular behaviour (Eagly & Chaiken 1994). Salgado, Lafuente, and others (2005) also concluded that buying behaviour is based on abstract attitudes, resulting from impressions from the environment or culture.

It has been demonstrated that SPI affects customer behavior and gives businesses a competitive edge. As a result, encouraging consumers to be more environmentally conscious could increase their desire to buy sustainable products.

The literature also presents the concept as 'Triple Bottom Line.' This is a term used in marketing mix perspectives to describe the '3Ps.' These are: Profit – Economic Benefits; people – Social Benefits; and planet – Environmental Benefits. (2005).

The construct 'Green Purchase Intention of Customers' was further developed so that we could understand how consumer involvement in the environment affects green purchase intent. (D'Souza et al. 2006, p. 150). They also found that even though the quality of these products was lower, consumers still bought them.

All SPI studies have used different items. Bredahl, for example, measured purchase intentions with a simple item, asking respondents: "I would intend to" with response scales in a range of 'definitely prevent it' and "definitely buy it". Lee, on the other hand, used a Likert type scale with four items to measure Green Purchase Intention.

In addition, research in the past has shown that engagement with a brand has a positive impact on consumer intentions to purchase a brand's product (Park & Jiang, 2010). The increase in purchase intent is a result of both direct and indirect customer involvement (Huerta Alvarez, et.al., 2020). In addition, research shows that stakeholders are more likely to reward and support businesses who engage in CSR. They punish companies that focus solely on profit. It is also shown by a strong correlation between the customer's purchasing behavior and their business's social responsibility activities. (Yeo et.al., 2018). We will carefully evaluate the impact of customer interaction on the intention to purchase sustainable products.

CONCEPTUAL FRAMEWORK

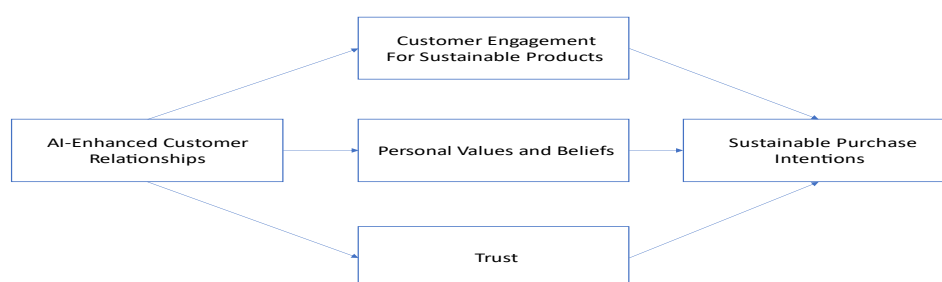


Figure 1

AI-ENHANCED CUSTOMER RELATIONSHIPS AI-Enhanced Customer Relationships represent the strategic application of artificial intelligence technologies and tools to elevate the dynamics of interactions and engagement between businesses and their customers. Through the adept use of AI capabilities, including machine learning, natural language processing, and automation, organizations can tailor and personalize customer interactions, ensuring a seamless and efficient experience across various touch points such as websites, mobile apps, chatbots, and virtual assistants.

Beyond mere responsiveness, AI contributes to enhanced customer engagement by forecasting and anticipating customer preferences. Through predictive analytics, businesses can orchestrate targeted marketing campaigns and initiate proactive customer service endeavours. This strategic understanding of customer sentiment and behaviour fosters not only timely responses but also the delivery of proactive solutions, thereby nurturing deeper and more meaningful relationships.

AI-Enhanced Customer Relationships harness the prowess of artificial intelligence technology to deliver not only personalized experiences and prompt assistance but also proactive engagement. By strategically deploying AI capabilities, businesses can not only optimize customer interactions but also gain nuanced insights, fostering connections that are not only meaningful but also conducive to enhanced customer satisfaction and enduring loyalty.

CUSTOMER ENGAGEMENT FOR SUSTAINABLE PRODUCTS Customer engagement for sustainable products is a pivotal element in promoting environmentally conscious consumption. Sustainable products, defined by their eco-friendly characteristics across materials, manufacturing processes, distribution, disposal, and energy efficiency, have consistently demonstrated a positive impact on consumers' purchasing intent. Recognizing the significance of fostering engagement in this context, businesses can implement multifaceted strategies to deepen customer connections with sustainable choices.

Education plays a crucial role in this endeavour. Transparent labelling, certifications, and informative marketing campaigns are instrumental in conveying the environmental and social impact of sustainable products. By enhancing customer knowledge, businesses empower individuals to make informed choices aligned with sustainability principles.

Moreover, involving customers in the product development process signifies a proactive approach. Seeking feedback, conducting surveys, and even co-creating sustainable products with customer input not only strengthens the commitment to sustainability but also cultivates a sense of ownership and loyalty among the customer base.

Creating a sense of community amplifies customer engagement. Providing platforms such as online forums, social media groups, and hosting sustainability-focused events allows customers to connect, share experiences, and collectively contribute to the promotion of sustainable practices. This sense of shared responsibility enhances the overall engagement and commitment of customers to sustainable choices.

Businesses can also incentivize sustainable choices through loyalty programs, discounts, or exclusive access to sustainable product lines. Collaborating with non-profit organizations and environmental initiatives further extends the reach and impact of sustainability efforts, creating a collaborative ecosystem that resonates with environmentally conscious consumers. Customer engagement for sustainable products encompasses a comprehensive approach, combining education, involvement, community-building, and collaboration. By implementing these strategies, businesses can foster active engagement, empower consumers to make sustainable choices, and collectively contribute to a more environmentally responsible future.

PERSONAL VALUES AND BELIEFS The role of personal values and beliefs in shaping attitudes and behaviors towards sustainable products is pivotal, reflecting a growing consumer consciousness about the environmental ramifications of their purchasing decisions. Sustainability, for many, transcends a mere consumer choice; it is a profound personal belief ingrained in a commitment to safeguard the planet and future generations. These individuals gravitate towards products produced through eco-friendly practices, possessing minimal carbon footprints, and adhering to responsible sourcing and manufacturing standards.

The influence of personal values and beliefs extends to financial considerations, impacting the willingness to pay a premium for sustainable products. A subset of consumers demonstrates a commitment to environmental or social causes by investing in sustainable alternatives, even when presented with a higher cost, thereby epitomizing the tangible manifestation of their convictions.

Furthermore, personal values and beliefs act as catalysts for active participation in sustainable initiatives. Consumers who prioritize sustainability often engage in practices such as recycling, waste reduction, and support for community-driven sustainability projects, underscoring the interconnectedness of personal values, behaviours, and broader environmental stewardship.

It is imperative to recognize the diversity in personal values and beliefs surrounding sustainable products. Cultural background, education, and individual experiences contribute to the nuanced tapestry of these convictions, further underscoring the complexity and individuality inherent in sustainable consumer choices.

In essence, the impact of personal values and beliefs on consumer attitudes and behaviors towards sustainable products is profound and multifaceted. Those who integrate sustainability into their value system not only fuel the demand for such products in the market but also exemplify a potent force for positive environmental and social change.

TRUST In the realm of sustainable products, the foundation of trust is paramount, serving as a linchpin in the decision-making process for consumers. Trust becomes particularly pivotal as individuals navigate the landscape of environmentally friendly and socially responsible purchases. At the core of this trust lies the fundamental belief that a sustainable product authentically aligns with the consumer's values and meets the claims of environmental and social responsibility made by the brand. This assurance is often fortified through transparent and credible means, such as certifications, labels, and third-party verifications that validate the sustainability assertions of the product.

Moreover, trust extends its roots into the reputation and track record of the brand or company behind the sustainable product. Consumers exhibit a greater inclination to place trust in products emanating from entities renowned for their steadfast commitment to sustainability, ethical practices, and transparency. The cumulative impact of positive experiences and reviews from fellow consumers further serves to reinforce trust, creating a robust foundation for the acceptance of sustainable products and the brand associated with them.

A critical dimension of trust-building is facilitated through open and honest communication between the brand and consumers. Brands that proactively furnish clear information about various facets of their products, including environmental impact, sourcing, manufacturing processes, and end-of-life options, cultivate an environment of trust and transparency. This transparency extends to addressing potential concerns or challenges related to sustainability, demonstrating a commitment to actively engaging with customer feedback and inquiries.

In essence, trust emerges as a linchpin in the widespread acceptance and adoption of sustainable products. The consumer's need for assurance in the authenticity of sustainability claims, alignment with personal values, and the credibility of the brand drives the importance of trust. Establishing this trust requires a multifaceted approach encompassing transparent

communication, reliance on credible certifications, and a demonstrable track record of ethical and sustainable practices. By fortifying trust, brands not only encourage consumers to make sustainable choices but also contribute to the overarching goal of fostering a more sustainable and conscientious future.

SUSTAINABLE PURCHASE INTENTIONS The concept of sustainable purchases transcends mere transactions, embodying a deliberate and conscious choice to select products that exhibit a minimized impact on both the environment and society throughout their entire lifecycle. At the core of sustainable purchases is a consumer ethos that champions products designed to be environmentally friendly, socially responsible, and conducive to a more sustainable future.

In navigating sustainable purchase decisions, consumers meticulously consider a myriad of factors. These considerations encompass the use of renewable materials, the employment of energy-efficient manufacturing processes, adherence to responsible sourcing practices, commitment to fair labor practices, reduction in packaging waste, and the product's end-of-life recyclability or responsible disposal. This holistic approach reflects a comprehensive commitment to supporting companies that prioritize both environmental and social considerations in their operations.

The motivation behind sustainable purchases is deeply rooted in the desire to effect positive change and contribute to a more sustainable world. Consumers recognize the far-reaching impact of their purchasing choices, understanding that such decisions have the potential to influence industries and propel a shift towards more environmentally conscious practices. Through the deliberate support of sustainable products, individuals emerge as advocates for change, actively contributing to the broader transition towards a greener and socially equitable society.

In essence, sustainable purchases represent a conscientious and intentional selection of products that resonate with environmental and social values. These choices are not merely economic transactions but rather active contributions to the ongoing creation of a more sustainable future. As consumers make these deliberate choices, they simultaneously champion businesses that prioritize responsible practices, creating a harmonious synergy between consumer values and corporate responsibility.

RELATIONSHIP BETWEEN AI-ENHANCED CUSTOMER RELATIONSHIPS AND SUSTAINABLE PURCHASE INTENTION THROUGH MEDIATING VARIABLE, CUSTOMER ENGAGEMENT FOR SUSTAINABLE PRODUCTS The intricate relationship between AI-Enhanced Customer Relationships, Customer Engagement for Sustainable Products, and Sustainable Purchase unfolds as a dynamic interplay with profound implications for consumer behaviour. The documents underscore the transformative impact of AI in bolstering the environmental sustainability of products, thereby positively influencing consumers' purchase intent. The personalized and tailored experiences facilitated by AI-enhanced customer relationships emerge as a pivotal factor, providing consumers with insights into the environmental benefits of sustainable products.

Customer engagement for sustainable products emerges as a significant mediating variable in this complex equation. The personalized experiences and tailored recommendations fostered by AI-Enhanced Customer Relationships contribute to heightened customer engagement with sustainable products. As AI analyses customer data and preferences to offer relevant recommendations and proactive support, consumers become more attuned to the sustainability aspects of the products they consider. This heightened engagement translates into increased awareness, knowledge, and a deeper connection with the environmental benefits associated with sustainable choices.

The synergy between AI-Enhanced Customer Relationships, customer engagement, and sustainable purchase is underscored by the ability of AI technologies to forge stronger connections with customers. Through personalized interactions, businesses can cultivate a sense of loyalty and trust, vital components that further amplify customer engagement and influence the likelihood of opting for sustainable products. AI's role extends beyond mere transactional efficiency; it becomes a catalyst for education, addressing concerns, and inspiring consumers to make environmentally conscious choices.

In essence, the interwoven dynamics of AI-Enhanced Customer Relationships, customer engagement, and sustainable purchase form a comprehensive framework where AI serves as a transformative force. The personalized experiences and insights provided by AI not only shape consumer engagement with sustainable products but also contribute to a broader shift towards more environmentally conscious consumer behaviour. As businesses leverage AI to foster meaningful connections, they not only enhance customer satisfaction but also actively contribute to the overarching goal of promoting sustainability in consumer choices.

RELATIONSHIP BETWEEN AI-ENHANCED CUSTOMER RELATIONSHIPS AND SUSTAINABLE PURCHASE INTENTION THROUGH MEDIATING VARIABLE, PERSONAL VALUES AND BELIEFS The intricate interplay between AI-Enhanced Customer Relationships, Sustainable Purchase Intention, and the mediating variable of Personal Values and Beliefs unveils a nuanced landscape where technology, consumer attitudes, and ethical considerations converge. While the documents primarily emphasize the impact of perceived environmental sustainability on purchase intentions, the role of personal values and beliefs emerges as a critical mediator in this dynamic relationship.

AI-Enhanced Customer Relationships can leverage personal values and beliefs as a foundational element in guiding sustainable purchase intentions. The capacity of AI to analyze vast datasets enables businesses to discern individual values and beliefs, paving the way for tailored interactions and recommendations. By aligning these recommendations with the ethical and environmental values of consumers, businesses can create a resonance that goes beyond mere transactional relationships.

Moreover, the mediating role of personal values and beliefs serves as a crucial link in this chain. As AI-enhanced customer relationships foster personalized experiences, consumers are not merely making transactional choices; they are engaging in a value-driven decision-making process. The alignment between AI-driven personalization, personal values, and sustainable purchase intentions creates a holistic consumer experience that transcends traditional modes of engagement. This symbiosis reinforces the notion that in the era of AI, customer relationships are not just transactional but represent a dynamic interplay of values, beliefs, and conscious decision-making in support of sustainability.

RELATIONSHIP BETWEEN AI-ENHANCED CUSTOMER RELATIONSHIPS AND SUSTAINABLE PURCHASE INTENTION THROUGH, MEDIATING VARIABLE TRUST The nexus between AI-Enhanced Customer Relationships, Sustainable Purchase, and the mediating variable of trust unveils a multifaceted dynamic within consumer behavior and decision-making. While the provided documents concentrate on the influence of perceived environmental sustainability on purchase intentions, the critical role of trust emerges as an implicit yet pivotal mediator in this relationship.

Trust is acknowledged as a cornerstone in shaping consumer behavior and purchase decisions. Trust forms a bedrock for establishing enduring customer relationships and significantly impacts consumers' inclination to engage with brands and make sustainable purchases. Within the realm of AI-Enhanced Customer Relationships, AI technologies wield the potential to cultivate trust by delivering personalized experiences, accurate

recommendations, and reliable information about the sustainability of products. The documents hint at the transformative impact of AI in providing efficient customer support, creating a sense of reliability, responsiveness, and competence—all essential elements contributing to the cultivation of trust.

However, it is crucial to recognize that trust is a multifaceted concept extending beyond the realm of AI technology alone. It is built through consistent and reliable actions, transparent communication, and ethical practices. While AI can enhance customer relationships, the establishment and maintenance of trust necessitate a holistic approach that encompasses organizational values, integrity, and a customer-centric ethos.

In essence, AI-Enhanced Customer Relationships act as a facilitator in trust-building by providing personalized experiences and anticipating customer needs. The inherent efficiency and responsiveness of AI contribute to customer confidence in a brand's ability to fulfill its promises.

LIMITATIONS OF THE STUDY While this conceptual paper strives to shed light on the intricate relationships between AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions, it is essential to acknowledge certain limitations inherent in the scope and methodology:

GENERALIZABILITY The findings and conceptual framework proposed in this paper are based on a synthesis of existing literature and conceptual analysis. The applicability of these insights may vary across different industries, cultural contexts, and consumer segments. Future empirical research is needed to validate and refine the proposed framework in diverse settings.

DYNAMIC NATURE OF TECHNOLOGY The field of AI and technology is ever-evolving. The capabilities, applications, and impact of AI on customer relationships may undergo rapid changes. This study captures a snapshot of the current landscape, and future studies should consider the dynamic nature of technology and its implications for sustainable marketing.

LIMITED EMPIRICAL VALIDATION The proposed conceptual framework is built on existing theories and models. Empirical validation through quantitative and qualitative research methods is necessary to establish the causal relationships between AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions.

DIRECTIONS FOR FUTURE STUDIES Building on the insights gained from this conceptual paper, several avenues for future research emerge

EMPIRICAL VALIDATION Conduct empirical studies to test the proposed conceptual framework. Surveys, experiments, and case studies can provide valuable data to validate the relationships between AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions.

LONGITUDINAL STUDIES Given the dynamic nature of technology and consumer preferences, longitudinal studies can track the evolution of AI-enhanced customer relationships and their impact on sustainable marketing over time. This approach provides insights into trends, challenges, and opportunities.

ETHICAL CONSIDERATIONS Investigate the ethical implications of AI applications in sustainable marketing. Understanding the ethical considerations surrounding data privacy,

algorithmic biases, and consumer manipulation is crucial for responsible and sustainable AI implementation.

INTEGRATION WITH OTHER TECHNOLOGIES Explore how AI collaborates with other emerging technologies, such as blockchain or the Internet of Things (IoT), to enhance sustainability in marketing practices. Investigate synergies and potential challenges in the integration of these technologies.

CROSS-DISCIPLINARY RESEARCH Foster collaboration between marketing experts, environmental scientists, and technologists. Cross-disciplinary research can provide a more holistic understanding of the environmental and social impacts of AI-enhanced sustainable marketing.

CONCLUSION

This conceptual paper delves into the transformative landscape of sustainable marketing, where the integration of Artificial Intelligence (AI) into customer relationship management emerges as a pivotal force shaping consumer intentions towards sustainable product adoption. The traditional focus on individual-centric attributes like quality, price, and functionality is evolving, with environmental sustainability gaining prominence in influencing consumer attitudes and purchase intentions.

The primary purpose of this study is to provide a comprehensive exploration of how AI-driven enhancements in customer relationships intricately influence consumers' trust and engagement, subsequently impacting their intentions to adopt sustainable products. By conceptualizing the interplay between these variables, a theoretical framework is proposed, elucidating the mechanisms through which AI-powered interactions contribute to fostering sustainable purchase intentions.

The methodology employed is a literature-based approach, synthesizing existing research on AI, customer relationships, trust, engagement, and sustainable purchase intentions. The conceptual framework constructed through critical analysis and integration of relevant theories, models, and empirical findings illustrates potential pathways linking AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions.

The findings of the conceptual analysis emphasize that AI-enhanced customer relationships can foster trust through personalized interactions, accurate information provision, and reliable recommendations. This trust, in turn, leads to heightened consumer engagement with sustainable products, forming a positive feedback loop significantly influencing consumers' intentions to adopt eco-friendly offerings.

The implications of the conceptual framework are substantial for businesses and marketers in sustainable marketing domains. Recognizing the role of AI-driven interactions in building trust and enhancing engagement allows practitioners to tailor strategies that positively impact consumers' attitudes and intentions towards sustainable products.

This conceptual paper contributes to the theoretical discourse surrounding AI's impact on sustainable marketing by offering a comprehensive framework that highlights the intricate relationships between AI-enhanced customer relationships, trust, engagement, and sustainable purchase intentions. This framework serves as a foundation for further empirical investigations and strategic applications, guiding businesses toward more effective approaches to promoting sustainable consumption patterns.

As the fusion of AI and sustainable marketing continues to evolve, understanding the mechanisms driving consumer intentions becomes essential for fostering positive social and environmental change. The robust interplay between AI, customer relationships, and

sustainable purchase intentions positions businesses at the forefront of driving meaningful and impactful change in consumer behaviour.

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THE ROLE OF ARTIFICIAL INTELLIGENCE IN PERSONALIZED EDUCATION: A COMPREHENSIVE REVIEW

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ABSTRACT

The incorporation of AI in education has sparked a major shift towards personalized learning, changing traditional education models. This in-depth analysis, titled "The Impact of Artificial Intelligence on Personalized Learning," explores the changing landscape of customized education. By examining a wide range of literature, the study emphasizes past and current patterns in how AI has influenced personalized education. The literature review shows a challenging connection between AI and personalized education, underscoring their interdependence. By conducting a detailed examination, the report pinpoints key ideas, structures, and new resources that support personalized teaching, dynamic evaluation, and analytics based on data. The methodology section outlines the rigorous search and evaluation criteria applied in this study, while the results section offers a thorough overview of AI's impact on personalized education. The discussion delves into the implications of AI-driven personalized learning, considering its potential benefits, challenges, and ethical concerns. By identifying current gaps and limitations, this review aims to support future research and guide educators, policymakers, and stakeholders. Ultimately, the study highlights the essential role of AI in shaping personalized learning experiences and the future direction of education.

Keywords: Artificial intelligence, Edtech, AI impact on education, Data-driven education, personalized teaching methods

INTRODUCTION

In an age defined by rapid technological advancements and shifting educational paradigms, personalized education has emerged as a critical focus of modern pedagogical discourse. Traditional approaches that take a one-size-fits-all methods to teaching and learning have increasingly come under scrutiny; as educators, policymakers, and researchers acknowledge the need to address the varying learning needs, preferences, and paces of students. The core principle of personalized education centres on tailoring instructional strategies and content to meet individual learners' unique requirements, fostering engagement, motivation, and, ultimately, improved academic outcomes. In this context, the incorporation of artificial intelligence (AI) has become a focal point, providing innovative solutions to the challenges of personalized education.

The significance of AI in the realm of personalized education cannot be overstated. AI technologies, such as intelligent tutoring systems, predictive analytics, cognitive computing, reinforcement learning, and virtual reality empower educational institutions to gather, process, and analyze extensive data on each student's learning journey. This data-driven approach enables the creation of highly adaptive and individualized learning experiences, which adapt in real-time to a student's strengths, weaknesses, and progress. The individualization of educational content, its submission, and control work through the systems' AI allow us significantly to qualify our approaches to teaching and learning and even revolutionize the inner workings of the educational process.

This research paper aims to provide a detailed overview of the topic of the Artificial Intelligence in personalized education. To achieve this, the paper will delve into a vast body of literature, encompassing historical contexts, contemporary trends, and emerging applications of AI in personalized learning. By scrutinizing the existing research landscape, this review intends to highlight the evolution and impact of AI in education, while also identifying gaps and opportunities for further exploration.

This research delves deeply into adapting artificial intelligence for customized learning, investigating diverse computational techniques, programs, and processes now utilized in classrooms. Additionally, this work appraises both positively and negatively the implications of individualizing education through machines, exploring how AI could enhance student success while simultaneously demanding mindful deployment to respect student privacy and promote fair outcomes for all learners.

This paper consists of seven sections. Following this introduction, the next section gives a detailed literature review, giving an overview of the historical origins and current advancements in personalized education and AI. The third section outlines the research methodology, explaining the criteria and methods used to select and evaluate the literature sources. The subsequent section presents the results of the literature review, categorizing and summarizing key insights and findings. The fifth section engages in an in-depth discussion of these results, offering critical analysis and interpretations. The penultimate section draws conclusions, emphasizing the significance of AI in personalized education and offering recommendations for educators, policymakers, and researchers. In conclusion, the paper wraps up with a thorough list of references, maintaining the academic integrity and rigor of the research.

In the pages that follow, we begin a journey through the ever-changing landscape of personalized education, where artificial intelligence plays a pivotal role in transforming the educational experience for learners worldwide.

LITERATURE REVIEW

The literature review in this research paper is focused on exploring the extensive collection of scholarly works that have explored the intersection of personalized education and artificial intelligence (AI). This comprehensive review serves as the foundation for understanding the historical evolution, fundamental concepts, and contemporary trends that shape the landscape of personalized education enhanced by AI technologies.

HISTORICAL BACKGROUND

Recognizing the historical context in which these concepts have developed is crucial for understanding the transformative potential of AI in personalized education. Personalized education, in its essence, can be traced back to progressive educational movements that emphasized individualized learning experiences as early as the 19th century. Pioneers such as John Dewey advocated for the belief that education should be personalized to align with the unique requirements and preferences of each student.

However, it is in the digital age that personalized education gained momentum. The introduction of computers and the internet enabled the development of digital learning spaces that could customize and personalize content for each learner. Early forms of computer-based instruction laid the groundwork for more sophisticated AI-driven systems.

KEY CONCEPTS

Central to personalized education is the idea that learners differ in their abilities, preferences, and learning trajectories. Key concepts in personalized education include adaptive learning, differentiated instruction, and competency-based education. Adaptive learning systems utilize AI algorithms to assess a student's performance and adjust the content and pace accordingly. Differentiated instruction customizes teaching approaches and resources to accommodate the unique needs of each student, whereas competency based education emphasizes mastering particular skills or knowledge areas at an individual's own speed.

CURRENT TRENDS

The contemporary landscape of personalized education is marked by several prominent trends. To begin with, the increase in digital educational tools like MOOCs and LMS has offered a vast amount of information for AI to use in tailoring learning experiences. Secondly, AI-powered chatbots and virtual tutors offer instant support and guidance to students, enhancing their learning experiences. Thirdly, the emergence of educational data analytics empowers educators to obtain valuable insights into student performance and modify their teaching strategies accordingly.

RELEVANT STUDIES AND FRAMEWORKS:

Within this burgeoning field, numerous studies and frameworks have contributed to our understanding of personalized education and AI integration. For instance, the concept of the "flipped classroom" has gained traction, where AI is employed to deliver content outside of the classroom, thereby freeing up in-person time for collaborative activities and discussions. Moreover, approaches such as Universal Design for Learning (UDL) emphasize the importance of creating adaptable learning spaces for a wide range of students.

AI tools like natural language processing and machine learning algorithms have been deployed in adaptive learning platforms, recommendation systems, and intelligent tutoring systems. Research studies have explored their efficacy in improving student engagement, retention, and academic achievement.

In conclusion, the literature review reveals a dynamic and evolving landscape at the confluence of personalized education and AI technologies. Historical foundations, key concepts, and current trends underscore the significance of AI in revolutionizing education. As we advance in this evaluation, our understanding of the complex link between AI and individualized education deepens. This lays the groundwork for deeper analysis and discussion in subsequent sections of this research paper.

METHODS

The methodology used in this thorough evaluation is essential for maintaining the validity and dependability of the study. This part details the methodology used for selecting sources, search techniques, databases used, and keywords to collect relevant research articles and studies on the topic.

RESEARCH APPROACH

The research approach for this comprehensive review is systematic and inclusive. It involves a meticulous search, selection, and evaluation process for academic articles, reports, and studies published in peer-reviewed journals, conference proceedings, and reputable educational databases. The structured method aims to reduce prejudice and guarantee the integration of various viewpoints and discoveries.

CRITERIA FOR SOURCE SELECTION

1. **Relevance:** Chosen sources should specifically relate to personalized education and the incorporation of artificial intelligence in educational settings. Excluded are studies that are not relevant or are off-topic.
2. **Publication Quality:** Only sources that have been published in peer-reviewed journals, reputable conference proceedings, or from established educational institutions will be taken into account.
3. **Recency:** To make sure the most current research and advancements in AI and personalized education are included, priority is placed on recent publications from the past 5-10 years.

4. **Methodological Soundness:** Studies included must demonstrate robust research methods, including clear objectives, data collection techniques, and appropriate statistical or qualitative analyses.

SEARCH STRATEGIES

The search for relevant literature is conducted using a combination of manual and electronic methods. The following strategies are employed:

1. **Online Databases:** Widely recognized educational databases such as ERIC (Education Resources Information Center), IEEE Xplore, JSTOR, PubMed, Google Scholar, and academic libraries' electronic databases are searched comprehensively.
2. **Keyword Selection:** A thoughtfully selected set of keywords and phrases related to personalized education and artificial intelligence is developed. This includes terms like "personalized learning," "adaptive learning," "AI in education," "machine learning," "educational technology," and related variations.
3. **Boolean Operators:** Boolean operators such as "AND," "OR," and "NOT" are used to combine keywords effectively, refining searches to ensure relevance.
4. **Manual Search:** Key journals, conference proceedings, and reference lists of relevant articles are manually searched to find sources missed in the initial database searches.

DATABASE SEARCH EXAMPLE

An example of a search query used is:

("Personalized education" OR "Adaptive learning")
AND
("Artificial intelligence" OR "Machine learning")
AND
("Education" OR "Learning")

DATA COLLECTION AND SCREENING

Once the search results are obtained, a systematic screening process is applied. Initially, titles and abstracts are reviewed to assess relevance, and duplicate entries are removed. Subsequently, the full content of selected articles is reviewed to determine if they meet the previously established inclusion criteria.

DATA SYNTHESIS AND ANALYSIS:

The selected articles and studies are synthesized, categorized, and analysed to draw insights and identify trends and patterns in the role of AI in personalized education. This analysis informs the subsequent sections of the research paper, including the Results and Discussion sections.

In essence, the approach for this thorough review is designed to guarantee a rigorous and comprehensive analysis of the literature on artificial intelligence's role in personalized education. This research paper aims to provide a thorough and trustworthy summary of the topic by following strict criteria, using efficient search methods, and methodically evaluating sources.

RESULTS

The results section of this comprehensive review distills the key findings of the literature review, offering a structured analysis of AI's role in personalized education. Through categorization and summarization, common themes, challenges, and emerging trends in the field are identified, illuminating the prevalence and impact of AI applications in personalized education.

KEY INSIGHTS AND THEMES

1. **Adaptive Learning:** A prevalent topic in the literature is the implementation of AI-powered adaptive learning systems. These systems utilize machine learning algorithms to customize content and pace according to unique abilities, learning styles, and progress of individual students. Studies consistently highlight the potential of adaptive learning to improve student engagement and achievement.
2. **Data-Driven Decision-Making:** Educational institutions are increasingly turning to AI-driven analytics to collect and analyse data regarding student performance. This data-centric approach empowers educators to make well-informed decisions regarding instructional techniques and interventions. Moreover, it facilitates early identification of students who may be at risk of academic setbacks.
3. **Virtual Tutors and Chatbots:** The integration of virtual tutors and chatbots powered by natural language processing (NLP) has gained traction. AI-powered tools support students by giving them instant help, answering queries, providing clarifications, and assisting with coursework. The literature underscores their potential to enhance the learning experience and offer personalized help.
4. **Content Personalization:** AI is being harnessed to personalize educational content, from textbooks to digital resources. Recommender systems suggest additional materials and resources tailored to a student's learning history and preferences. This personalization not only caters to individual interests but also reinforces learning objectives.
5. **Competency-Based Education:** Competency-based education models, supported by AI, focus on students mastering specific skills or competencies rather than following a fixed curriculum. AI helps monitor improvement and skill development, allowing students to advance at their own speed.

CHALLENGES

1. **Privacy and Ethical Concerns:** Concerns have arisen over privacy, security, and ethical use of data due to AI gathering and analysing sensitive student information. Safeguarding personal information and ensuring responsible AI practices are paramount.
2. **Teacher Readiness:** Numerous educators encounter challenges in adapting to AI-driven educational tools and strategies. Training and professional development are essential in order to maximize the advantages of AI in the field of education.
3. **Equity and Access:** Addressing the digital divide is crucial, as ensuring equitable access to AI-powered personalized education remains a challenge due to unequal access to technology and digital resources among students.

EMERGING TRENDS

1. **AI-Enhanced Assessments:** AI is increasingly used in formative and summative assessments to provide immediate feedback and adapt assessments to individual learning levels.
2. **AI-Generated Content:** AI-generated content, including quizzes, exercises, and even essays, is being explored as a way to reduce educator workload and provide tailored practice materials.
3. **AI for Special Education:** AI is being applied to develop personalized education plans for students with special needs, providing customized support and resources.

PREVALENCE OF AI APPLICATIONS

While it's challenging to provide precise statistics on the prevalence of AI applications in personalized education, the literature consistently demonstrates a growing interest and adoption of AI in educational settings. Case studies and surveys from various institutions

showcase successful implementations and positive outcomes, indicating a rising trend in AI integration.

To sum up, the results of this review of literature emphasize the significant change brought about by AI in individualized learning. Key topics, obstacles, and upcoming patterns demonstrate the changing environment in which artificial intelligence is transforming education. Even though there are continuing obstacles regarding privacy and fairness, research shows that AI has the capability to enhance educational experiences by making them more efficient, interesting, and personalized. The subsequent part, the Discussion, will delve into the consequences and importance of these results on a more detailed level.

DISCUSSIONS

The discussion section delves into a comprehensive analysis and interpretation of the results of the literature review, exploring the multifaceted implications of AI-driven personalized education on teaching and learning outcomes. This section delves deeper into the possible advantages and disadvantages of introducing AI in education, identifying any gaps or constraints in the current research.

IMPLICATIONS FOR TEACHING AND LEARNING

1. **Enhanced Personalization:** Personalized education driven by AI has the potential to revolutionize teaching by enabling educators to tailor content and instruction to meet the unique requirements of individual students. This leads to increased engagement and improved learning outcomes as students receive instruction that aligns with their unique strengths and weaknesses.
2. **Data-Informed Instruction:** Educators can leverage AI-generated data to make informed decisions about instructional strategies. Early identification of struggling students allows for timely interventions, ultimately improving retention rates.
3. **Efficiency and Time Management:** AI tools such as chatbots and virtual tutors have the ability to lessen the administrative tasks for teachers, allowing them extra time to engage in valuable interactions with their students.
4. **Lifelong Learning:** AI's flexibility makes it ideal for aiding in lifelong learning, enabling individuals to constantly enhance their skills and knowledge in their professions.

BENEFITS OF AI IN EDUCATION

1. **Improved Learning Outcomes:** Personalized education powered by AI has demonstrated the potential to boost student achievement and retention rates.
2. **Accessibility:** AI can provide accessibility features for students with disabilities, ensuring that all learners can access educational content.
3. **Efficiency:** Automation of administrative tasks, grading, and content delivery can save educator's valuable time.
4. **Scalability:** AI can help institutions provide personalized education at scale, accommodating a large number of learners.

DRAWBACKS AND CHALLENGES

1. **Privacy Concerns:** The collection and utilization of student data bring about privacy concerns. Safeguarding sensitive information is crucial to maintain trust in AI systems.
2. **Equity Issues:** The disparity in digital access can amplify educational inequalities, as some students lack equal opportunities to technology and the internet. This inequality limits their involvement in AI-enhanced personalized education.

3. **Teacher Training:** Teachers need sufficient training to effectively incorporate AI into their teaching methods. Inadequate training could lead to AI tools being underutilized or used improperly.
4. **Overreliance on Technology:** Relying too heavily on AI in education can potentially devalue the significance of human interaction.

ADDRESSING GAPS AND LIMITATIONS

While the literature reviewed provides valuable insights, some gaps and limitations are worth addressing:

1. **Lack of Longitudinal Studies:** The majority of studies focus on short-term outcomes. Additional longitudinal studies are necessary to comprehend the enduring impacts of AI in education.
2. **Diversity and Inclusion:** The literature often lacks diversity in terms of study populations and settings. Future research should focus on diverse student groups and educational contexts.
3. **Ethical Considerations:** More focus must be paid to the ethical considerations of artificial intelligence in the field of education. Investigations need to delve into the ethical application of AI in collecting data and making decisions.
4. **Quantitative vs. Qualitative Research:** The literature often leans toward quantitative research. Qualitative studies could offer more profound insights into the experiences of students and educators.

In conclusion, personalized education powered by AI offers transformative potential for enhancing teaching and learning outcomes. The benefits include enhanced personalization, data-informed instruction, efficiency gains, and scalability. However, challenges related to privacy, equity, teacher training, and potential overreliance on technology must be addressed. Future studies should strive to incorporate a range of perspectives, ethical considerations, and a mix of quantitative and qualitative approaches to provide a comprehensive insight into the influence of AI in the field of education. While tackling these obstacles and possibilities, integrating AI into education is expected to revolutionize the educational setting, offering more effective, comprehensive, and flexible learning opportunities for all.

CONCLUSION

In conclusion, this thorough assessment has emphasized the substantial impact of artificial intelligence (AI) on individualized learning or personalized education. Through an extensive exploration of the literature, we have identified key themes, challenges, and emerging trends that underscore the significance of AI in reshaping educational practices. AI-powered personalized education represents a significant shift by providing tailored learning experiences that cater to the unique needs, preferences, and learning speeds of each student..

The results show that AI has brought about a new era of improved customization, decision-making based on data, and increased effectiveness in education. Educators can leverage AI to provide adaptive instruction, timely interventions, and more meaningful interactions with students. This transformative potential extends beyond traditional educational settings, making lifelong learning accessible and adaptable to the evolving demands of the modern workforce. Yet, despite these notable advantages, we must also confront the challenges and ethical considerations linked with AI in education. Privacy concerns, the digital divide, and the need for comprehensive teacher training necessitate careful attention. Maintaining the core essence of education requires finding a harmony between technological advancement and human interaction.

As we look ahead to the future, AI's role in education is poised for continued growth and development. The potential for AI-generated content, advanced virtual tutors, and more

equitable access to personalized education holds promise. Researchers, educators, and policymakers must collaborate to harness AI's potential effectively. This includes conducting longitudinal studies, promoting diversity and inclusion in research, and prioritizing ethical considerations.

In light of these findings, we offer recommendations for stakeholders in education. Educators should embrace ongoing professional development to harness the power of AI effectively. Policymakers should prioritize equitable access to technology and data privacy regulations. Researchers should focus on addressing existing gaps in the literature, examining the ethical aspects of AI and ensuring that AI advancements adhere to educational principles. In the changing field of personalized education driven by AI, we must all work together to ensure that technology improves, not obstructs, the process of gaining knowledge and learning.

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EXPLORING THE IMPACT OF AI INTEGRATION IN THE INDIAN IT INDUSTRY: A COMPREHENSIVE REVIEW ON WORK-LIFE BALANCE, CHALLENGES AND GATEWAYS

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INTRODUCTION

AI integration in the Indian IT industry is a transformative trend with the potential to revolutionize various sectors, optimizing efficiency and decision-making processes. The burgeoning startup ecosystem in cities like Bengaluru and Hyderabad reflects a surge in innovative AI solutions across domains such as education, agriculture, and healthcare (**Analytics India Mag (AIM), 2024**). Complementing this, government initiatives, as outlined in the National Strategy for Artificial Intelligence (2018), underscore a vision for responsible AI adoption, emphasizing ethical considerations under the tag #AIFORALL (**Sood, 2023**). Major corporations, spanning e-commerce and banking sectors, are actively incorporating AI to enhance operational efficiency, streamline processes, and provide personalized customer experiences (**Mohanty, 2022; Bundhun, 2023**). Simultaneously, leading educational institutions are investing in AI research and offering specialized courses, cultivating a pool of AI talent that contributes to the swift adoption of AI in India (**Sood, 2023**).

This research embarks on a comprehensive exploration of AI integration within the Indian IT landscape, aiming to unravel its nuanced facets. The study's objectives align with the need to navigate the complexities of this technological evolution and address critical aspects defining the intersection between AI and the Indian IT industry. Through meticulous analysis, the research examines the current state of AI integration, providing insights into existing applications and implementations, identifying patterns, successes, and areas for improvement. As the study unfolds, attention shifts to the Impact on Work-Life Balance, recognizing the transformative effects of technological advancements on the daily lives of IT professionals. By exploring how AI technologies influence work dynamics and schedules, the research sheds light on the delicate balance between technological integration and workforce well-being. Delving further, the research investigates the challenges associated with AI Integration, examining hurdles faced by IT professionals during the integration process.

This includes a scrutiny of potential drawbacks on both the work environment and personal lives. Subsequently, the study transitions to explore Gateways to Enhance Work-Life Balance in the AI-Integrated IT Environment, proposing strategies and solutions gleaned from successful case studies and best practices.

In the context of AI integration in the Indian IT industry, examining the impact on work-life balance assumes paramount importance. As AI technologies permeate various sectors, the human-centric approach becomes crucial, aligning with the broader theme of #AIFORALL. Addressing talent retention concerns and fostering a positive workplace culture, the research aims to contribute to strategic decision-making by providing insights beyond operational considerations. The overall goal is to ensure that AI integration in the Indian IT industry enhances the overall quality of life for professionals, aligning with the human aspects of technological evolution.

CURRENT STATE OF AI INTEGRATION

AI applications and implementations in the Indian IT sector are undergoing rapid and diverse evolution, promising to be a major contributor to the country's economic growth. Projections

from a NASSCOM report suggest that AI is poised to add a substantial USD 450–500 billion to India's GDP by 2025, contributing significantly to the ambitious USD 5 trillion GDP target, constituting 10% of the overall target (**Analytics India Mag (AIM), 2022**). This remarkable forecast underscores the profound impact AI is expected to have on various sectors, exemplifying its pivotal role in shaping India's economic trajectory.

One of the primary domains witnessing robust AI integration is digital transformation. Indian companies are leveraging AI to elevate customer experiences, optimize operations, and foster innovation in their products and services. Tata Consultancy Services (TCS) stands out with its AI-powered platform, Ignio, designed to automate and simplify intricate IT processes and tasks, showcasing the potential of AI in streamlining operational efficiencies (**Tata Consultancy Services, 2018**). Similarly, Infosys has introduced Nia, an integrated AI platform harnessing data, machine learning, natural language processing, and cognitive automation to address complex business challenges, demonstrating the multifaceted applications of AI in digital transformation (**Alto, 2017**).

In the healthcare sector, AI is emerging as a transformative force, aiding Indian healthcare providers in improving diagnosis, treatment, and patient outcomes. The collaboration between Microsoft India Development Center and Apollo Hospitals has given rise to an AI-powered Cardiovascular Disease Risk Score API. This innovative tool predicts the risk of heart disease based on various factors, showcasing AI's potential to enhance preventive healthcare through data-driven insights (**Microsoft, 2018**). Additionally, Wipro's AI-based solution, Holmes, is making strides in breast cancer detection by assisting doctors in analyzing mammograms, emphasizing the role of AI in revolutionizing healthcare diagnostics (**Wipro, n.d.**).

The e-commerce industry in India is experiencing a paradigm shift driven by AI, with key players like Flipkart and Amazon India embracing AI technologies. Flipkart's deployment of an AI-based voice assistant that understands multiple languages and dialects exemplifies how AI is enhancing customer engagement and personalization in the e-commerce space (**Sreekumar, 2020**). Amazon India, on the other hand, has strategically utilized AI to optimize its delivery network, improve inventory management, and enhance fraud detection mechanisms, showcasing the versatility of AI applications in optimizing e-commerce operations (**Amazon, 2023**).

These examples underscore the transformative impact of AI across different sectors in the Indian IT industry. However, they represent only a fraction of the broader landscape, indicating myriad opportunities and challenges for further AI integration. The collaborative and inclusive approach advocated by the Indian government through initiatives such as the National AI Mission, the Responsible AI for Social Empowerment (RAISE) 2020 summit, and the AI for All initiative reflects a concerted effort to foster innovation and development in the AI space.

The extent of AI adoption across various domains within the industry showcases a remarkable surge, reflecting widespread acknowledgment of its transformative potential. In the digital transformation domain, a substantial 74% of Indian IT firms have adopted AI, with 50% reporting significant benefits, according to a report by NASSCOM (**Digital Adoption, 2023**). This highlights a high level of AI adoption, with notable examples being TCS Ignio, Infosys Nia, and Wipro Holmes.

In healthcare, a moderate level of AI adoption is evident, with 36% of Indian healthcare organizations implementing AI, according to a PwC report (**Kennedy, 2023**). Notable examples include Microsoft-Apollo Cardiovascular Disease Risk Score API, Wipro Holmes for breast cancer detection, and Niramai for thermal screening.

In the e-commerce domain, a lower level of AI adoption is observed, with only 16% of Indian e-commerce firms adopting AI for customer-facing functions, as reported by EY (**Haan,**

2023). Emerging examples include Flipkart voice assistant, Amazon India delivery network optimization, and Myntra fashion recommendation.

While these domains showcase the current state of AI integration, numerous untapped opportunities exist in education, agriculture, manufacturing, and social welfare. The challenges and opportunities for AI adoption in these domains depend on factors such as data availability, business needs, technical capabilities, ethical considerations, and regulatory frameworks. A collective effort from the Indian IT sector, the government, and other stakeholders is imperative to overcome these challenges and harness the full potential of AI for the benefit of society and the economy.

It can be said that the current state of AI integration in the Indian IT industry reflects a dynamic landscape marked by significant achievements and promising prospects. The examples discussed across digital transformation, healthcare, and e-commerce underscore the diverse applications of AI, showcasing its ability to drive innovation, optimize operations, and enhance customer experiences. As India positions itself at the forefront of AI adoption, a collaborative and inclusive approach remains crucial to unlocking the full spectrum of opportunities and addressing challenges across various domains. The future of AI in India appears both promising and exciting, poised to play a central role in shaping the nation's technological and economic landscape.

IMPACT ON WORK-LIFE BALANCE

AI technologies wield a profound influence over the work dynamics and schedules of IT professionals, ushering in a paradigm shift in their daily tasks. The advent of AI has introduced transformative elements that manifest across various dimensions of the professional landscape, fostering efficiency, creativity, and collaboration. One pivotal aspect is the automation of tasks, liberating IT professionals from the shackles of repetitive, error-prone endeavours. Tools like GitHub's Copilot exemplify this by generating code snippets, troubleshooting issues, and anticipating bugs, thus expediting coding processes (**Morgan McKinley, 2023**).

Beyond task automation, AI facilitates streamlined workflows, impacting project management, task allocation, and progress tracking. Platforms like Asana harness AI for real-time collaboration, intelligent task recommendations, and predictive analytics, thereby enhancing project management efficiency, particularly for remote teams (**Ezpe, 2024**). Moreover, AI's role in decision-making amplifies its influence, offering data-driven insights, forecasts, and suggestions derived from extensive data analysis. Trello, for instance, employs AI-driven predictive analytics to forecast project timelines and optimize task scheduling, augmenting productivity for remote teams (**Ezpe, 2024**).

Collaboration among IT professionals undergoes a metamorphosis through AI-driven enhancements in communication, coordination, and feedback mechanisms. This is especially crucial in the context of remote work settings, where AI-driven language translation, transcription, and natural language processing break down communication barriers, fostering effective collaboration. Microsoft Teams exemplifies this by integrating AI-enhanced chatbots that assist with scheduling, answer queries, and provide information, thereby bolstering team collaboration (**Ezpe, 2024**).

Nevertheless, within these progressions, challenges and risks emerge, spanning from ethical dilemmas to the prospect of job displacement. While AI serves to empower IT professionals, there exists a necessity for a proactive adjustment to the evolving work landscape. Essential for IT professionals is the acquisition of new skills, a commitment to lifelong learning, and a perspective that regards AI as a tool to enhance capabilities and foster creativity. These imperatives are crucial for navigating the transformative terrain that AI introduces to the professional realm.

The impact of AI on work-life balance is a nuanced interplay between positive and negative outcomes, contingent upon how AI is implemented and managed. On the positive front, AI emerges as a catalyst for improved work-life balance by automating tedious tasks, streamlining workflows, enhancing decision-making, and fostering collaboration. The potential for a four-day workweek, facilitated by AI technologies like large language models (LLMs), is a testament to the positive trajectory envisioned for the workforce (**Lopez, 2023**). Conversely, negative impacts arise from challenges such as ethical dilemmas, skill gaps, increased workload, and blurred boundaries between personal and professional life. The potential for AI to inadvertently exacerbate stress, reduce human interaction, and impact mental and physical health underscores the importance of a balanced approach. Mitigating these challenges requires strategic measures, including reskilling and upskilling initiatives, ethical and responsible AI use, and the establishment of clear boundaries and expectations. Incorporating relevant statistics and case studies further illuminates the real-world impact of AI on work-life balance. A global survey by IBM indicates that employees leveraging AI report improved work-life balance, increased productivity, and heightened job satisfaction (**Goldstein, 2023**). Additionally, a case study involving a French bank's implementation of an AI system for loan application processing showcases tangible benefits, reducing workload and stress for loan officers while enhancing customer service (**Milanez, 2023**). Similarly, a US-based software company optimized remote work policies through an AI platform, resulting in heightened employee engagement, retention, and well-being, along with substantial cost savings (**Workplace Intelligence, 2020**). In synthesis, the infusion of AI into the professional sphere presents a dual-edged scenario, delivering unparalleled efficiencies alongside the imperative for a proactive stance to avert potential drawbacks. Achieving a symbiotic equilibrium between AI and work-life balance requires a strategic equilibrium, involving the cultivation of skills, adherence to ethical principles, and a conscientious separation of professional and personal domains. The instances and research expounded emphasize AI's transformative capacity, compelling stakeholders to approach this paradigmatic transformation with a discerning perspective that acknowledges both the prospects and hurdles on the horizon.

CHALLENGES ASSOCIATED WITH AI INTEGRATION:

AI integration into existing business processes represents a transformative journey for IT professionals, marked by a multitude of challenges spanning technical, organizational, and ethical dimensions. As businesses seek to harness the benefits of AI, IT professionals grapple with the intricacies of AI implementation, navigating hurdles that range from data quality concerns to the transformation of job roles.

One of the paramount challenges faced by IT professionals revolves around the quality and availability of data, the lifeblood of AI systems. AI's efficacy hinges on vast datasets, yet ensuring the relevance, reliability, and representativeness of data remains a substantial hurdle. This challenge is compounded by issues of data security, privacy, and governance, necessitating adherence to stringent standards and regulations like General Data Protection Regulation (GDPR) (**Çıtak, 2023**).

Infrastructure and scalability pose additional hurdles, demanding high-performance computing and storage resources. The complexities of managing these resources, coupled with the associated costs, require IT professionals to carefully navigate the integration process. Leveraging cloud-based solutions, such as AWS, Azure, and Google Cloud, emerges as a strategic approach to address these challenges while providing scalability, flexibility, and cost-effectiveness (**Insights for Professionals, 2021**).

A significant challenge in the AI integration landscape pertains to skills and expertise. The complex nature of AI technologies, which includes machine learning, natural language

processing, computer vision, and deep learning, demands that IT professionals possess a diverse skill set. It is crucial for professionals to collaborate with various stakeholders, including business users and data scientists, to ensure the alignment of AI systems with business objectives **(Chen, 2023)**.

Ethics and trust form a cornerstone of the challenges associated with AI integration. The societal impact of AI, affecting decision-making and outcomes, underscores the importance of ensuring ethical and trustworthy AI systems. Transparency, accountability, fairness, and explainability become guiding principles in navigating the ethical considerations, while addressing potential risks such as bias, discrimination, and misuse **(Klubnikin, 2023)**.

To surmount these challenges, IT professionals need to adopt best practices and strategies. Data quality management, encompassing processes like data cleansing and validation, emerges as a linchpin in ensuring the high quality of data used in AI integration. Adherence to ethical and responsible AI principles is vital, guided by frameworks and tools that promote transparency and accountability **(Çıtak, 2023; Klubnikin, 2023)**.

Cloud-based solutions, with their scalability and accessibility, offer a pragmatic approach to address infrastructure-related challenges. Continuous learning and collaboration constitute indispensable strategies for IT professionals, fostering the acquisition of evolving skills and competencies. Platforms like Coursera and Kaggle become valuable resources for staying abreast of AI advancements **(Insights for Professionals, 2021; Chen, 2023)**.

The disadvantages of implementing AI add complexity to the scenario, presenting challenges that reach beyond the professional sphere into individuals' personal lives. The imminent risk of job losses attributed to AI automation is substantial, as projected by McKinsey, indicating that as many as 375 million global workers might have to transition to new occupations or acquire additional skills by the year 2030 **(Thomas, 2023)**.

Increased workload and expectations emerge as another facet of the drawbacks, impacting the well-being of workers who contend with the rapid pace set by AI. IBM's survey highlights that 54% of workers using AI report increased stress, signalling the potential toll on mental health and work-life balance **(Rozenzals, 2023)**.

The advent of flexible and remote work arrangements, while facilitated by AI, introduces the risk of blurred boundaries between work and personal life. The pressure to be constantly online and available may hinder the ability to disconnect from work, as evidenced by Microsoft's study indicating increased work hours for remote workers in India **(Tableau, n.d.)**.

Furthermore, reduced human interaction and socialization emerge as potential drawbacks, particularly in remote work settings heavily reliant on AI and technology for communication. Buffer's study underscores the challenge of loneliness faced by remote workers, highlighting the importance of addressing the human aspect amidst technological advancements **(Russell & Susskind, 2021)**.

Ethical considerations, job role transformations, and other challenges present additional layers of complexity in the AI integration narrative. Ethical dilemmas demand adherence to principles of transparency, accountability, fairness, and explainability to ensure AI aligns with human values and goals **(Upwork, 2023)**. Job role transformations, driven by AI's ability to automate tasks and create new roles, necessitate continuous learning and adaptability **(Ramos, 2023; IBM, n.d.)**.

Other challenges encompass technical, organizational, and social dimensions, including data quality and availability, infrastructure and scalability, skills and expertise, trust and acceptance, and regulation and governance **(Pazzanese, 2020; Vadapalli, 2022)**. These challenges collectively underscore the multifaceted nature of AI integration and the need for a comprehensive and nuanced approach.

Therefore, the challenges associated with AI integration create a complex landscape that demands strategic thinking and proactive measures from IT professionals. From data quality management to ethical considerations and from infrastructure scalability to addressing drawbacks on personal lives, the journey of AI integration requires a delicate balance. Navigating these challenges with resilience and a commitment to ethical and responsible AI practices will be pivotal in unlocking the transformative potential of AI in the evolving landscape of technology and work.

GATEWAYS TO ENHANCE WORK-LIFE BALANCE:

In navigating the challenges posed by AI integration and seeking to improve work-life balance, organizations can adopt strategic solutions tailored to their unique contexts. Several successful case studies and best practices showcase how organizations effectively manage the delicate balance between AI adoption and employee well-being.

IBM, a global leader in AI, stands out as an exemplar in the realm of successful AI adoption and employee reskilling. Recognizing the dynamic nature of AI, IBM has invested significantly in reskilling and upskilling its workforce. Through initiatives like the AI Skills Academy, Coursera, and edX, employees are equipped with the necessary skills—such as creativity, critical thinking, and emotional intelligence—to navigate the evolving landscape of AI (Silva & Lawler, 2022; White, 2023).

Crucially, IBM has cultivated a culture of trust and transparency, involving employees in the development and deployment of AI. By ensuring ethical and responsible AI practices, IBM has established a framework that aligns AI initiatives with human values and goals. This approach not only enhances the effectiveness of AI integration but also contributes to employee well-being (Silva & Lawler, 2022; White, 2023).

Vistra, a major US power producer, provides another insightful case study. Leveraging an AI-powered heat-rate optimizer, Vistra reduces emissions and optimizes plant efficiency. The organization places a strong emphasis on employee well-being by offering training and support, empowering employees to make final decisions based on AI recommendations. Vistra's approach goes beyond mere implementation; it actively engages employees in evaluating and improving the AI tool, fostering a collaborative and inclusive environment (Applaud, n.d.).

Asana, a cloud-based project management platform, serves as a noteworthy example of harmonizing AI integration with employee well-being. By incorporating AI to automate task assignments and enhance workflow processes, Asana demonstrates how technology can augment efficiency. Simultaneously, the organization places a premium on the well-being of its workforce. Asana's commitment is evident through various benefits such as flexible work hours, unlimited paid time off, wellness programs, and mental health support. The organization goes a step further in creating an inclusive work environment by promoting diversity, equity, and belonging (Fox, 2023; G-Group Dev, 2023).

These case studies underline the importance of a nuanced and context-specific approach to AI integration and employee well-being. The success stories of IBM, Vistra, and Asana exemplify that effective management of AI adoption requires a commitment to continuous learning, ethical considerations, and prioritizing employee welfare. By adapting these best practices to their specific organizational contexts, other companies can chart a course towards successful AI integration while fostering a work environment that enhances employee well-being.

FINDINGS AND DISCUSSION:

The study on AI integration in the Indian IT industry has uncovered a dynamic landscape marked by significant achievements and promising prospects. The current state of AI

integration reflects a surge in adoption across various sectors, with digital transformation, healthcare, and e-commerce showcasing notable examples like TCS Ignio, Microsoft-Apollo Cardiovascular Disease Risk Score API, and Flipkart's AI-based voice assistant. The government's initiatives, such as the National AI Mission and the Responsible AI for Social Empowerment (RAISE) summit, emphasize a collaborative and inclusive approach. The high levels of AI adoption, particularly in digital transformation (74% adoption rate), signal a transformative wave. However, the research acknowledges untapped opportunities in education, agriculture, manufacturing, and social welfare, emphasizing the need for a combined effort to overcome challenges and utilise the fullest potential of AI for societal benefit.

The impact of AI on work-life balance is a subtle interplay between the pros and the cons in context of outcomes. AI technologies, exemplified by tools like GitHub's Copilot and platforms like Asana and Trello, positively influence work dynamics. Automation of tasks, streamlined workflows, and enhanced collaboration contribute to improved work-life balance. Yet, challenges such as ethical dilemmas, skill gaps, increased workload, and blurred boundaries between personal and professional life are identified. Strategic measures, including reskilling initiatives and ethical AI use, are crucial to mitigating these challenges. Incorporating statistics and case studies reveals that employees leveraging AI report improved work-life balance, increased productivity, and heightened job satisfaction. However, negative impacts, such as increased stress, highlight the importance of a balanced approach.

Challenges associated with AI integration encompass technical, organizational, and ethical dimensions. The quality and availability of data, infrastructure scalability, skills and expertise, and ethical considerations form significant hurdles. Cloud-based solutions, adherence to ethical AI principles, and continuous learning are proposed as strategies to overcome these challenges. The drawbacks of AI implementation, including job losses, increased workload, and blurred work-life boundaries, necessitate a comprehensive and nuanced approach. The multifaceted nature of AI integration demands strategic thinking and proactive measures from IT professionals to unlock its transformative potential while addressing societal concerns.

Gateways to enhance work-life balance in the AI-integrated environment involve strategic solutions tailored to organizational contexts. Successful case studies of IBM, Vistra, and Asana highlight the importance of reskilling initiatives, employee involvement in AI development, and a commitment to employee welfare. These examples showcase that effective management of AI adoption requires continuous learning, ethical considerations, and prioritizing employee well-being. The research aligns with the broader theme of #AIFORALL and aims to contribute to strategic decision-making by providing insights beyond operational considerations. The ultimate goal is to ensure that AI integration in the Indian IT industry enhances the overall quality of life for professionals, emphasizing the human-centric approach to technological evolution.

RECOMMENDATIONS

Recommendations for policymakers, industry stakeholders, and IT professionals are essential to ensure a harmonious coexistence of AI and well-being in the Indian IT sector. Policymakers should prioritize the development and implementation of comprehensive frameworks that promote ethical AI practices, transparency, and accountability. Initiatives, similar to the National AI Mission and RAISE summit, should continue to foster collaboration, innovation, and inclusivity in AI adoption.

Industry stakeholders should invest in reskilling and upskilling programs to equip the workforce with the evolving skills demanded by AI integration. Companies can emulate

successful models like IBM's AI Skills Academy, emphasizing continuous learning in creativity, critical thinking, and emotional intelligence. Moreover, organizations should adopt a culture of openness and employee involvement in AI development, ensuring that the workforce actively participates in shaping AI applications.

IT professionals should proactively embrace lifelong learning, staying abreast of AI advancements through platforms like Coursera and Kaggle. Balancing the positive impacts of AI, such as automation and enhanced productivity, with potential drawbacks requires strategic measures. Professionals should actively engage in initiatives promoting ethical AI use, and companies should prioritize employee well-being through flexible work arrangements, mental health support, and inclusive work environments. A collaborative effort between policymakers, industry, and professionals is paramount to navigating the complexities of AI integration, fostering a symbiotic relationship between technological evolution and the well-being of the workforce.

CONCLUSION

In conclusion, this research delves into the transformative landscape of AI integration within the Indian IT industry, shedding light on its multifaceted impacts, challenges, and gateways to enhance work-life balance. The current state of AI integration showcases remarkable achievements, with examples spanning digital transformation, healthcare, and e-commerce. The study emphasizes the need for a collaborative and inclusive approach, aligning with government initiatives like the National AI Mission and RAISE summit, to harness the full potential of AI across various sectors. The nuanced interplay between positive and negative outcomes on work-life balance underscores the significance of strategic measures, including reskilling initiatives and ethical AI use.

Challenges associated with AI integration, spanning technical, organizational, and ethical dimensions, necessitate a comprehensive and nuanced approach. The research offers valuable insights into mitigating these challenges through data quality management, ethical considerations, and cloud-based solutions. Additionally, it addresses the drawbacks of AI implementation, such as job losses and increased workload, highlighting the need for resilience and a commitment to ethical practices.

Gateways to enhance work-life balance, exemplified by successful case studies of IBM, Vistra, and Asana, emphasize the importance of continuous learning, employee involvement, and a commitment to well-being. Recommendations for policymakers, industry stakeholders, and IT professionals underscore the collaborative effort required to navigate the complexities of AI integration, ensuring a harmonious coexistence with the well-being of the workforce. The study contributes to the current knowledge pool by giving a comprehensive understanding of the AI landscape in the Indian IT industry and offering practical recommendations for a human-centric approach to technological evolution.

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THE IMPACT OF SOCIAL MEDIA ON DIGITAL ADVERTISING OF FMCG PRODUCTS IN KANPUR RURAL

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ABSTRACT

In the contemporary world, social media has secured an essential place in everybody's life. Its influence extends even to remote areas, connecting people through platforms such as Facebook, Instagram, WhatsApp, and more. This widespread adoption is largely attributed to the increasing affordability of smartphones and cost-effective data plans in recent years. Social media has evolved into a primary source of entertainment, with individuals across various demographics engaging in the consumption of short videos on platforms like Facebook, Instagram, and YouTube. These applications not only serve as entertainment hubs but also empower users to make and share their own stuff, fostering meaningful connections among people. The user base for such activities continues to grow steadily, especially evident at the time of the COVID-19 pandemic when lockdowns confined public to their homes. Social media emerged as a vital tool for connectivity and entertainment during this period, leading to a substantial increase in platform usage. Notably, Facebook witnessed a remarkable 300% profit surge during the lockdown. The accessibility of high-speed networks, including 3G and 4G, has played a pivotal role in extending the reach of social media to rural areas. Mobile phone companies have contributed significantly by offering smartphones at affordable prices, often accompanied by EMI facilities. This has facilitated the integration of social media into the lives of individuals who, just a few years ago, were unfamiliar with the internet and social platforms due to economic constraints. The transformation is not limited to entertainment alone; rural communities are now actively participating in various online services such as online banking and shopping. This shift signifies a broader acceptance and understanding of the digital landscape, breaking down barriers that once hindered access to the online world.

In this context, the paper explores the significance of social media as an advertising tool, examines its impact on consumer purchasing behavior, and identifies the preferred types of online advertising. The growing presence of social media and its integration into daily life underscore its transformative power and the crucial role it plays in shaping modern communication and connectivity.

Keywords: Smartphone, Rural markets, Internet, FMCG, Social Media, Digital Advertising.

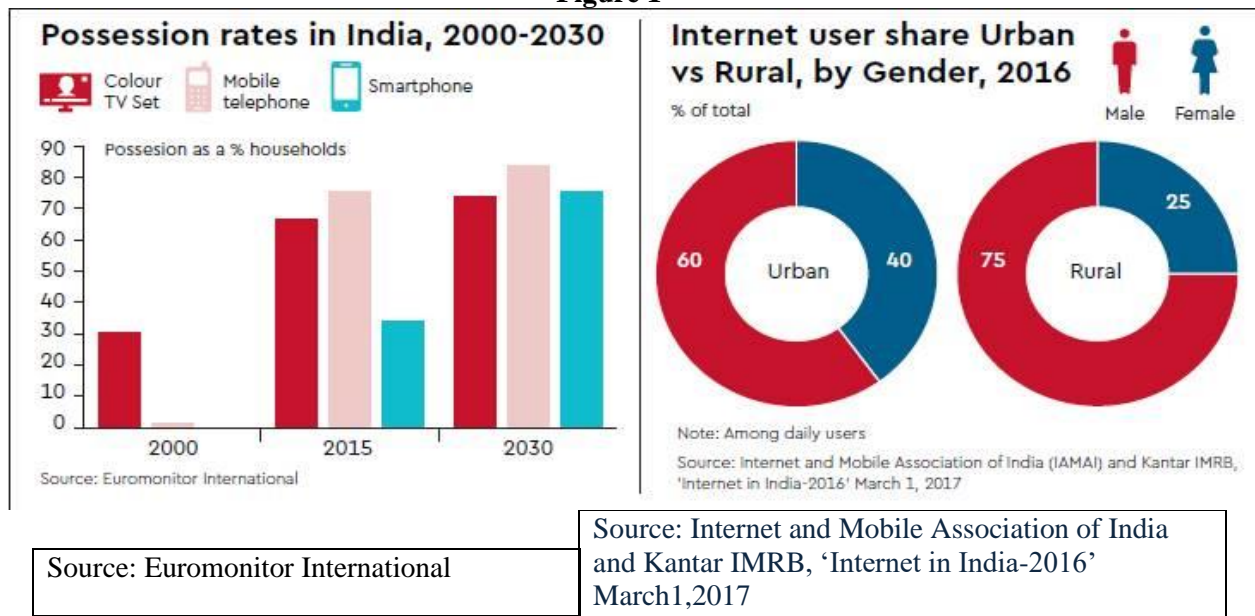
INTRODUCTION

A notable trend emerged in 2021, as at least 27.9% of rural households invested in new smartphones, specifically for their children's education, attributed to the challenges posed by the COVID-19 pandemic. This marks a substantial increase from the 9.1% recorded in 2020, showcasing the pivotal role of smartphones in facilitating remote learning during the health crisis.

Highlighting the digital landscape, rural India boasted 277 million internet users in November 2019, surpassing urban India's 205 million, as indicated in a statement by the Internet & Mobile Association of India and Nielsen. This digital shift has ushered in numerous opportunities, significantly playing a vital role to the enhancement of the quality of life for rural residents. The widening access to smartphones and the internet has not only bridged the

urban-rural digital divide but has also paved the way for enhanced educational and economic prospects in rural communities.

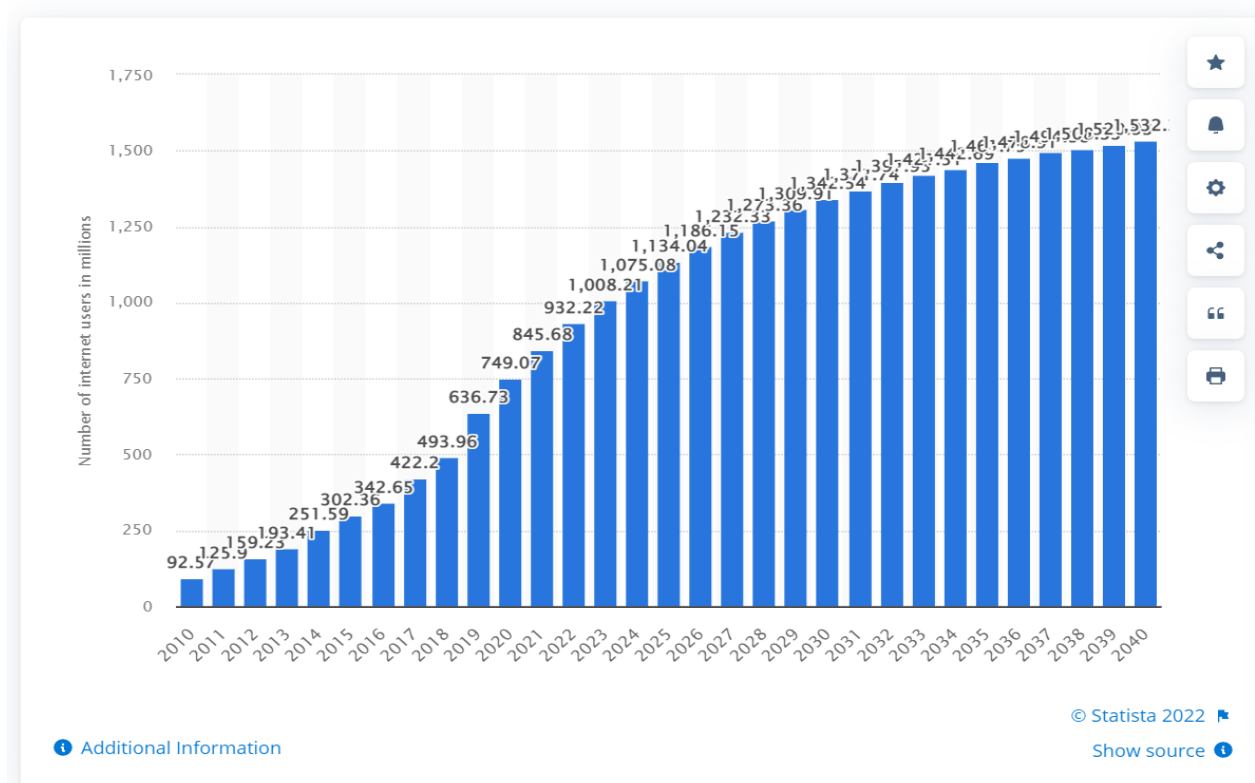
Figure 1



INTERNET USERS FROM 2010 TO 2020 IN INDIA WITH APPROXIMATIONS UNTIL 2040

Figure 2

(in millions)

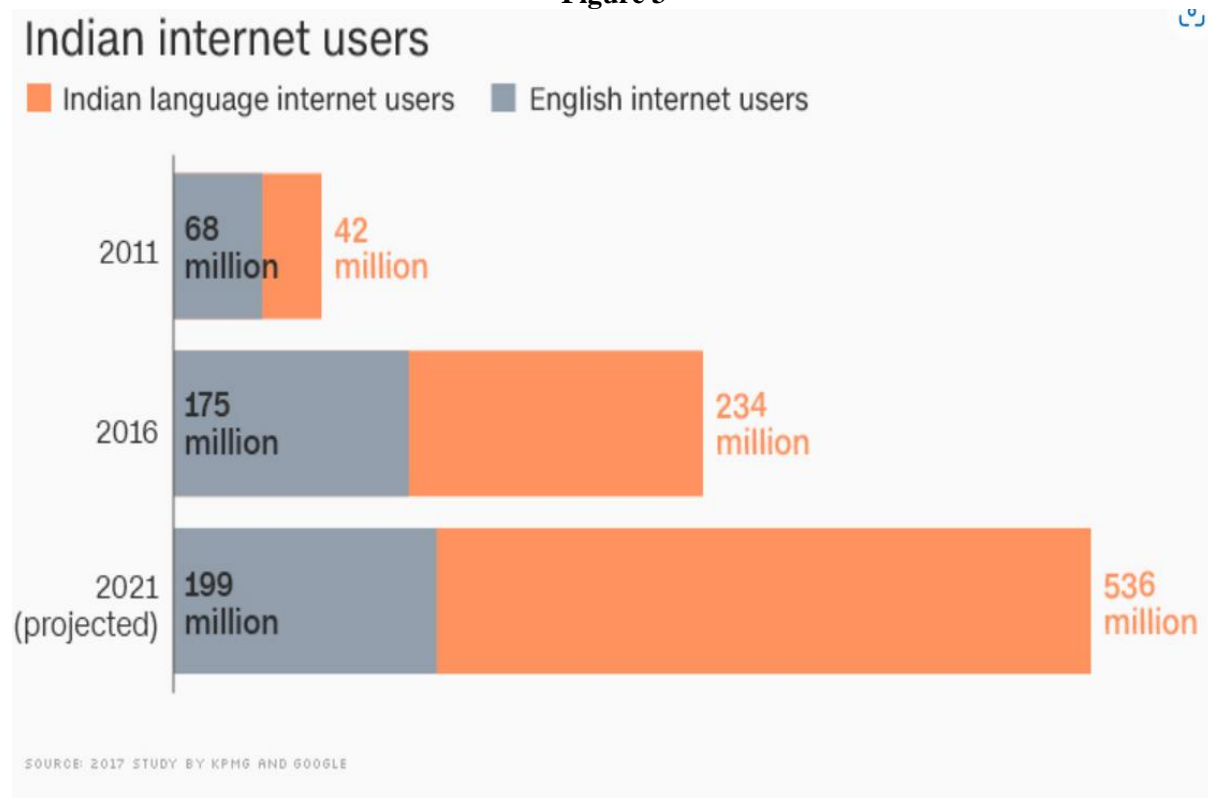


Source: www.statista.com/statistics/255146/number-of-internet-users-in-india/

In 2020, India achieved a significant milestone with a total of 749 million internet users across the nation. Projections indicated that this number was poised to soar to over 1.5 billion consumers by 2040, underscoring the immense market potential for internet-based products

in the South Asian country. As of 2019, India had secured the 2nd position globally in terms of internet users, trailing only behind China. This surge was not confined to urban areas alone, as both urban and rural regions were witnessing a dynamic progression in internet accessibility. Despite the substantial number of internet consumers in the country, achieving equality in internet dispersion remains a gradual process. Gender disparity is evident, with fewer women accessing the internet compared to men, a phenomenon more pronounced in rural India.

Figure 3



Source: <https://money.cnn.com/2017/04/25/technology/google-india-languages-translate/>

Google has initiated an ambitious campaign to engage nearly a billion Indians in the realm of the internet. The tech giant revealed its latest endeavour by incorporating support for nine Indian languages in the newly AI-enabled Google Translate. Additionally, Google has expanded the repertoire of Indian languages on its custom mobile keyboard, Gboard, doubling the count to 22 languages by 2022. This development empowers millions of Indian users to seamlessly communicate, search for emojis, and share GIFs in their local languages. The impetus behind Google's keen interest is underscored by a recent study conducted in collaboration with KPMG, revealing that a significant 60% of India's 409 million internet users engage with the web in diverse local languages. The study predicts a surge in non-English internet users, estimating a staggering 536 million Indian-language users online by 2021, nearly tripling the number of English-speaking users. This substantial growth is expected to include a significant portion of the approximately 900 million Indians yet to harness the power of the internet, with 90% anticipated to operate in languages other than English.

Google, however, is not the sole player in this endeavour, as Facebook, Microsoft, India's wealthiest individual, and the government are all actively competing to facilitate greater internet accessibility for the Indian population. This collective effort reflects a shared

commitment to bridge the digital divide and bring the benefits of the internet to all corners of the country.

SOCIAL MEDIA STATISTICS OF INDIA 2022

In the contemporary landscape, social media has secured a vital aspect of routine life for the Indian population. On average, individuals dedicate approximately 2.36 hours per day to engage with various social media platforms. The year 2022 witnesses a remarkable surge in social media users, with numbers soaring to 467 million, driven by the widespread availability of internet connectivity across the country. Consequently, social media has evolved to occupy a central and indispensable position in the lives of internet consumers in India.

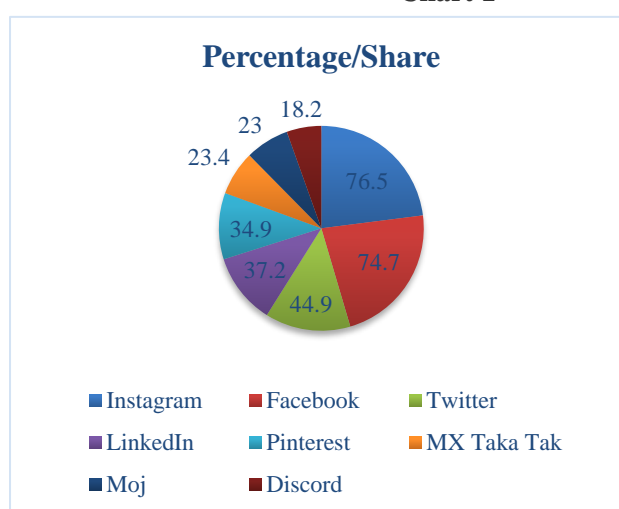
POPULAR SOCIAL MEDIA PLATFORMS OF 2022 IN INDIA

Table 1

Sl.	Platforms	Percentage
1	Instagram	76.50
2	Facebook	74.70
3	Twitter	44.90
4	LinkedIn	37.20
5	Pinterest	34.90
6	MX Taka Tak	23.40
7	Moj	23.00
8	Discord	18.20

Source: [India Social Media Statistics 2022 | Most Used Top Platforms – The Global Statistics](#)

Chart 1



In 2022, Instagram has emerged as the leading social media platform in India, boasting a significant 76.50% of the total registered social media users. Notably, a substantial portion of Instagram's user base comprises young individuals, particularly teenagers. The parent company, Facebook, now known as Meta, acquired Instagram for a noteworthy \$1 billion, transforming it into a lucrative basis of earnings for developers and a significant avenue for industries to promote their products and services.

Following closely behind, Facebook holds the second position, with 74.70% of Indian users registered on the platform. It continues to be immensely popular among corporations, political figures, and the general public in the country, solidifying its status as a major communication tool for the foreseeable future.

While Instagram and Facebook dominate the social media landscape, other platforms also carve out their space. Twitter boasts a user base of 44.90%, while LinkedIn and Pinterest have 37.2% and 34.9% users, respectively. New entrants in the social media scene include MX TakaTak, a locally crafted short video community by MX Media & Entertainment, capturing the attention of 23.40% users. Moj, another short video app, follows closely with 23.0% users. Lastly, Discord has garnered 18.20% users, providing a unique space in the social media ecosystem.

This diverse array of social media platforms reflects the dynamic digital landscape in India, with each platform catering to specific user preferences and interests. As social media continues to evolve, these platforms contribute significantly to shaping digital interactions and communication in the country.

Fig. 04



Fig. 05

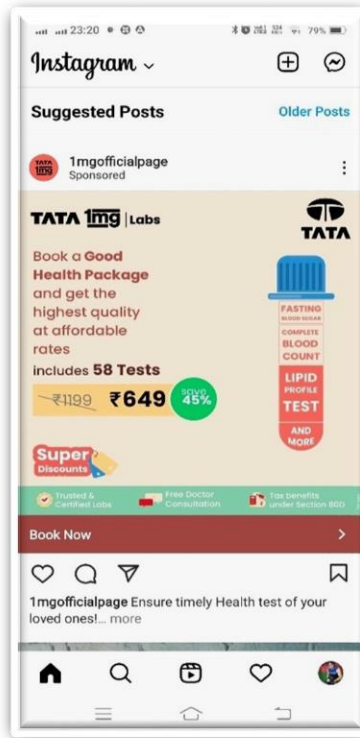
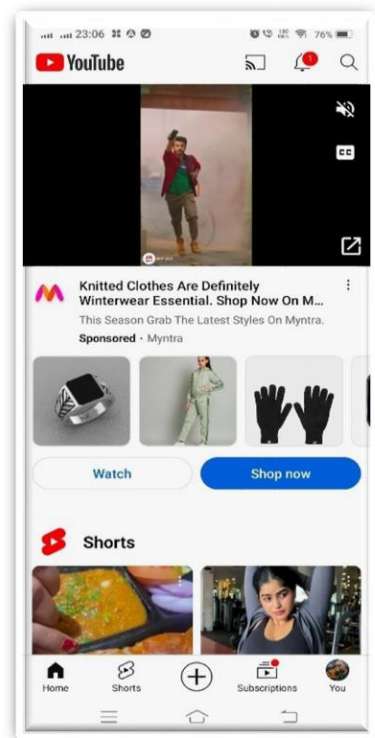


Fig. 06

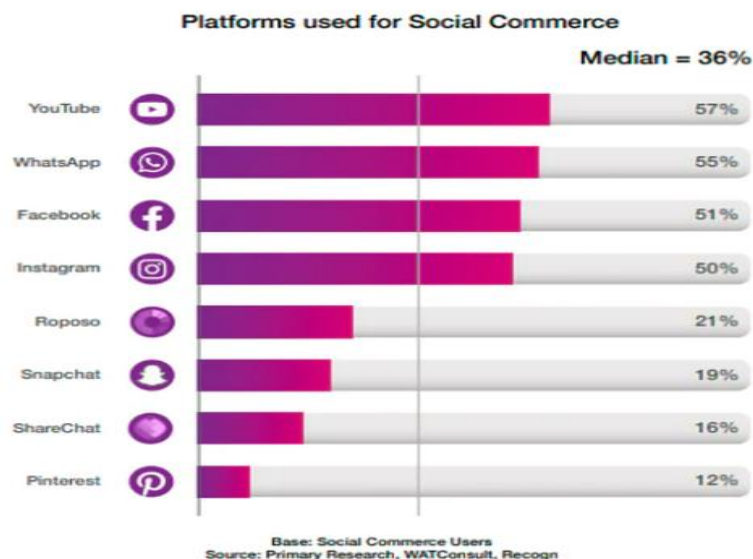


Source: <https://www.facebook.com/kamal.rathaur>. Instagram: mrfit_ksr. YouTube: MrFit_KSR.

IN INDIA, 228 MN SOCIAL COMMERCE SHOPPERS BY END OF THE YEAR 2022 WITH 45% GROWTH CONSUMER BASE

Heeru Dingra, the CEO of Isobar India group, highlights the noteworthy influence of social media and e-commerce on the daily routines of steady Indian internet consumers. Dingra notes the ripe shopping settings on social media, emphasizing the enormous potential for driving sales through these platforms. Consequently, there is a crucial necessity for an optimized arrangement centered around establishing purchaser trust and delivering positive experiences.

Fig. 07



Source: www.afaqs.com/news/mktg/india-to-have-228-mn-social-commerce-shoppers-by-2022-end-45-growth-from-current-user-base

LITERATURE REVIEW

The literature review has been meticulously examined to extract pertinent information shedding light on the existing studies in this domain:

Dr. Astha Bhanot and Ram Bhawan Singh (2023), A vast reservoir of untapped potential lies in rural digital marketing, yet strategies are currently emerging to unlock its latent opportunities. Digital technology holds the promise of significantly enhancing consumption in rural India over the long term. Moreover, it is poised to generate employment opportunities, thereby elevating household incomes and contributing to the overall progress of the national economy. Findings from this research indicate that rural markets harbor untapped potential, presenting a promising avenue for forward-thinking businesses to explore and capitalize on.

P. Praveen (2021), said the consumer behavior and psychology literature has witnessed significant developments in recent times, mainly in the framework of social media and digital marketing. Substantial tasks have been done to enhance our understanding of these dynamic fields. To propel this body of literature forward, especially considering the rapid pace of digital advancements, research endeavors that seek to expand our insights into crucial phenomena, explore emerging trends, and formulate theories in areas lacking established theoretical foundations will prove to be highly beneficial.

According to Muhammad Kashan Javed, Muhammad Kashif, and Aziz-Ur-Rehman, (2020), during corona pandemic the online shopping also has been impacted because of corona virus spread. People were thinking that virus may come their home with articles they will buy. But in future the rate of the online shopping will be increased.

In a study conducted by Dr. Madhubala and Mr. Deepak Verma in 2018, it was observed that consumers in India are increasingly turning to the internet to seize lucrative deals available nationwide, surpassing traditional methods. The research highlighted that individuals perceiving shopping services on social networking sites as useful and user-friendly are more inclined to make purchases through these platforms. The study emphasized the significant potential for businesses to reach diverse target groups, especially given the substantial number of consumers utilizing social media platforms such as Facebook, MySpace, Twitter, and LinkedIn for their buying decisions.

P. Sathya's 2017 findings underscored that digital marketing has become an effective avenue for companies to connect with customers. Particularly for small businesses, digital marketing offers a cost-effective and efficient means to market products and services across numerous devices, such as tablets, smartphones, TVs, laptops, and social media. The study suggests that for sustained growth, digital marketing strategies should prioritize consumer preferences.

Examining the suitability of Social Networking Sites (SNS) for advertising, a 2016 study by Anubhuti Jain, Muskan Karamchandani, and Pooja Jain emphasized the attention and usage these platforms command. The study advocated for targeted advertising on SNS, considering the preferences of the target audience, avoiding intrusive formats like pop-ups and banners. Additionally, the study highlighted the effectiveness of digital advertising for new entrants and marketers, with impactful ads featuring music and sound.

A study by DR Fortin and RR Dholakia in 2005 explored the impacts of different levels of engagement and vibrancy in web-oriented advertisements. The results revealed that the impact of interactivity reaches a plateau at medium and high levels, showing falling returns. The study presented a multistep model of the effect of engagement on promotion efficacy.

Novak and Hoffman (1996) found that consumers react to web advertising similarly to traditional media, suggesting comparable actions of advertising efficiency. Port, Drèze, and Husherr (1999) observed similarities in response to internet advertising compared to other media but noted web advertising's ease of being overlooked. Lynch and Ariely (2000)

concluded that customers are less price-oriented when presented with diverse products on the web.

Various studies, including those by Ghose and Duo (1998), Gallagher et al. (2001), Strangelove (1994), Bush and Harris (1998), Palanisamy and Wong (2003), Qimei Chen and William D. Wells (1999), Laurent Flores (2007), and Briggs and Stipp (2000), delved into aspects such as the multimedia nature of web advertising, the positive relationship between online customer expectations and banner ad effectiveness, and the development of reliable scales to measure attitudes toward websites.

In summary, the literature comprehensively explores diverse facets of digital marketing, web advertising, and consumer behaviour, offering valuable insights for future research and the production of effective advertising strategies in the ever-evolving online landscape.

OBJECTIVES OF THE STUDY

1. Exploring the Significance of Social Media for Promotional Activities.
2. Evaluating the Impact of Social Media Platforms on Consumer Purchasing Behavior.
3. Identifying Consumer Preferences in Online Advertising.

RESEARCH METHODOLOGY

The research design which is descriptive has been used for conducting the study. A convenience sampling technique was employed to select 113 respondents as a sample from the rural area of Kanpur district in the state of Uttar Pradesh (UP). A structured questionnaire has been used to gather primary data, consisting exclusively of close-ended questions. To ensure better comprehension by respondents, the questionnaire was translated into Hindi. Subsequently, the collected data were thoroughly analyzed. In addition to primary data collection, secondary data were sourced from numerous outlets such as the internet, journals, magazines, among others. This dual-method approach, incorporating both primary and secondary data, improves the comprehensiveness and robustness of the research, giving a more holistic view of the research problem.

DATA ANALYSIS

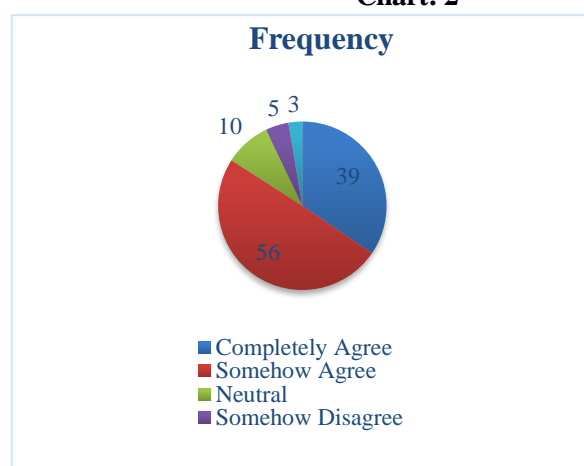
The findings and interpretation after analysis of the data are as follows:

VARIABLE 1: SOCIAL MEDIA USERS

Table: 2

Frequency Analysis			
People have accounts on different social media platforms			
	Valid	113	
	Missing	00	
Mean		01. 91	
		Frequency	Percent
Valid	Completely Agree	39	34. 5
	Somehow Agree	56	49. 6
	Neutral	10	8. 8
	Somehow Disagree	5	4. 4
	Completely Disagree	3	2. 7
	Total	113	100. 0

Chart: 2



The provided table above indicates that 84% of individuals possess accounts across different social media platforms. A 9% portion of the respondents expresses neutrality towards the statement, showing a lack of complete agreement or disagreement. Furthermore, 07% of the respondents fall into the category of non-users, signifying that they do not have any accounts

on social media platforms. This distribution offers valuable insights into the prevalence and diversity of social media usage among the surveyed individuals.

Table 3: CHI-SQUARE TEST

	People have accounts on different social media
Chi-Square	098. 991 ^a
Df	04
Asymp. Sig.	0. 000

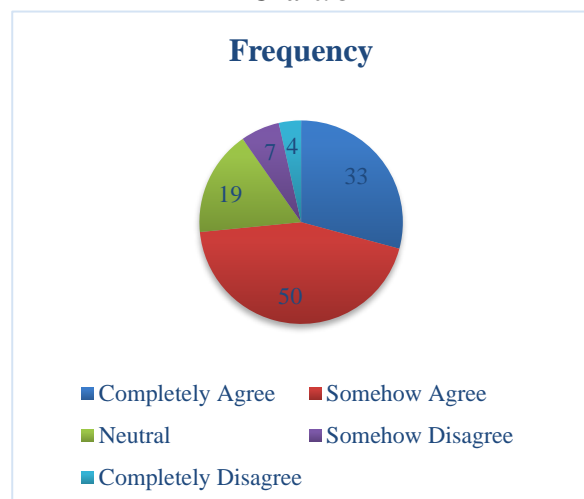
The presented table reveals a Chi-Square value of 98.991, accompanied by a Degree of Freedom of 04, and the significance is noted at the 00.01 level. Consequently, the alternate hypothesis asserting that "Most people have accounts on various social media platforms and other commercial websites" is accepted. The statistical analysis supports the conclusion that there is a important association between the variables under consideration, reinforcing the hypothesis regarding the prevalence of individuals having accounts on diverse social media platforms and other commercial websites.

VARIABLE 2: ATTRACTION OF ATTENTION

Table: 4

Frequency Analysis			
Online advertising attracts attention of the people			
N	Valid	113	
	Missing	0	
Mean		2. 26	
		Frequency	Percent
Valid	Completely Agree	20	17. 7
	Somehow Agree	61	54. 0
	Neutral	17	15. 0
	Somehow Disagree	13	11. 5
	Completely Disagree	2	1. 8
	Total	113	100. 0

Chart: 3



Within the provided table of mean frequency, it is evident that 71.7% of participants have expressed agreement with the statement. Additionally, 17% of participants have accepted a neutral stance, showing a lack of complete agreement or somehow disagreement. Additionally, 14.3% of respondents have disagreed with the statement. This distribution of responses provides a comprehensive overview of the sentiments and views expressed by the surveyed respondents on the subject in question.

Table: 5: CHI-SQUARE TEST

	Online advertising attracts attention of the people
Chi-Square	89. 788 ^a
Df	04
Asymp. Sig.	00. 000

In the provided table above, it is noticeable that the Chi-Square value stands at 89.788, accompanied by a Degree of Freedom of 4, and the significance level is noted at .01. As a result, the alternate hypothesis asserting that "Online Advertising Catches Attention" is accepted. The statistical analysis supports the conclusion that there is a significant association

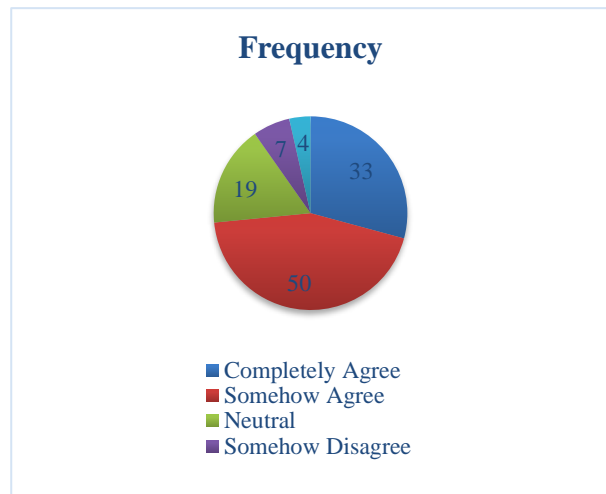
between the variables in question, affirming the validity of the hypothesis regarding the attention-catching nature of online advertising.

VARIABLE 3: SOURCE OF AWARENESS

Table: 6

Frequency Analysis			
Source of information about numerous products and services is social media platforms			
N	Valid	113	
	Missing	0	
Mean		2. 11	
		Frequency	Percent
Valid	Completely Agree	33	29. 2
	Somehow Agree	50	44. 2
	Neutral	19	16. 8
	Somehow Disagree	7	6. 2
	Completely Disagree	4	3. 5
	Total	113	100. 0

Chart: 4



In the provided table above, the data reveals that 73.4% of respondents have expressed agreement with the statement. Furthermore, 16.8% of participants have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. Conversely, 09.7% of respondents have disagreed with the statement. This distribution of responses provides a comprehensive snapshot of the sentiments and opinions expressed by the surveyed individuals concerning the given statement.

Table 7: CHI-SQUARE TEST

	Source of information about numerous products and services social media platforms
Chi-Square	064. 655 ^a
Df	04
Asymp. Sig.	0. 000

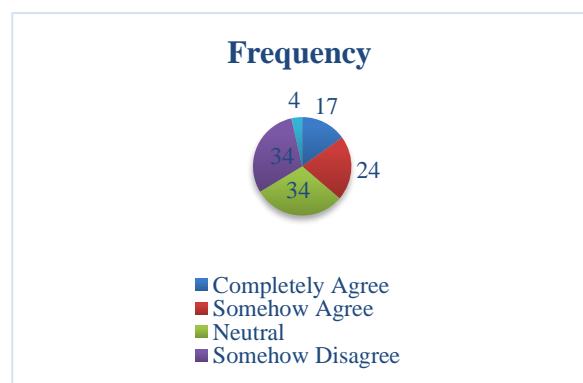
In the provided table, it is evident that the Chi-Square value is 64.655, with a Degree of Freedom of 4, and the significance level is noted at 0.01. Consequently, the alternate hypothesis stating that "Online ads are a good source of getting knowledge about various products and services" is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, endorsing the validity of the hypothesis regarding the informative nature of online advertisements.

VARIABLE. 4: TRUSTWORTHINESS

Table: 8

Frequency Statistics			
Online purchases are trustworthy			
	Valid	113	
	Missing	0	
Mean		2. 86	
		Frequency	%age
Valid	Completely Agree	017	015. 0
	Somehow Agree	024	021. 2
	Neutral	034	030. 1
	Somehow Disagree	034	030. 1
	Completely Disagree	04	03. 5
	Total	113	100. 0

Chart: 5



In the provided table above, it is illustrated that 036% of participants have shown agreement with the given statement. Additionally, 30% of respondents have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. On the divergent, 33.6% of participants have disagreed with the statement. This distribution of responses gives a complete overview of the sentiments and opinions conveyed by the surveyed individuals regarding the statement in question.

Table 9: CHI-SQUARE TEST

	Online purchases are trustworthy.
Chi-Square	028. 283 ^a
Df	04
Asymp. Sig.	0. 000

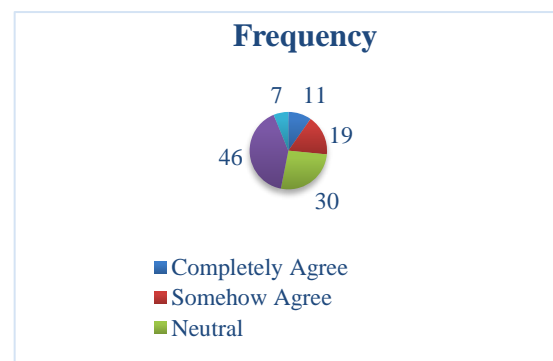
The presented table indicates a Chi-Square value of 28.283, accompanied by a Degree of Freedom of 4, and the significance level is observed at .01. Hence, the alternate hypothesis, asserting that "Online purchases are trustworthy," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, affirming the validity of the hypothesis regarding the trustworthiness of online purchases.

VARIABLE 5: TIME SPENT

Table: 10

Frequency Analysis			
I gave enough time to check online ads.			
		Frequency	% age
Valid	Completely Agree	11	9. 7
	Somehow Agree	19	16. 8
	Neutral	30	26. 5
	Somehow Disagree	46	40. 7
	Completely Disagree	7	6. 2
	Total	113	100. 0

Chart: 6



In the provided table above, it is demonstrated that 26.5% of respondents have expressed agreement with the given statement. Simultaneously, another 26.5% of participants have taken a neutral stance, indicating a lack of complete agreement or somehow disagreement. In contrast, a majority of 46.9% of participants have disagreed with the statement. This distribution of responses offers a detailed snapshot of the sentiments and opinions conveyed by the surveyed individuals regarding the provided statement.

Table 11: CHI-SQUARE TEST

	I gave enough time to check online ads.
Chi-Square	043. 947 ^a
Df	04
Asymp. Sig.	0. 000

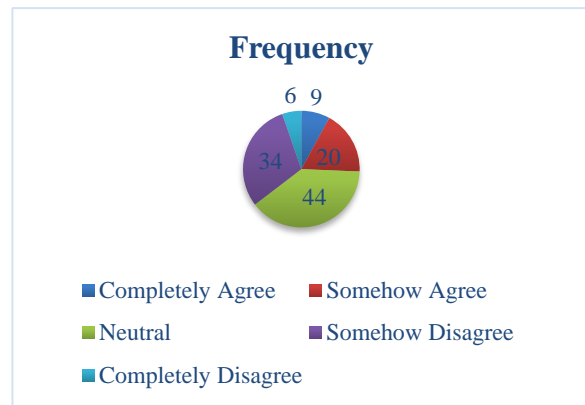
From the provided table above, it is evident that the Chi-Square value is 43.947, with a Degree of Freedom of 4, and the significance level is noted at 0.01. Consequently, the alternate hypothesis, which posits that "A considerable amount of time is being spent on checking online advertising," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, endorsing the validity of the hypothesis regarding the time spent on online advertising.

VARIABLE 6: INFLUENCE

Table: 12

Frequency Analysis			
Online ads inspire me to buy product online.			
N	Valid	113	
	Missing	0	
Mean		03. 07	
		Frequency	Percent
Valid	Completely Agree	9	8. 0
	Somehow Agree	20	17. 7
	Neutral	44	38. 9
	Somehow Disagree	34	30. 1
	Completely Disagree	6	5. 3
	Total	113	100. 0

Chart: 7



In the provided table above, it is evident that 25.7% of respondents have expressed agreement with the given statement. Furthermore, 38.9% of respondents have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. On the contrary, 35.6% of participants have disagreed with the statement. This distribution of responses provides a detailed overview of the sentiments and opinions conveyed by the surveyed individuals regarding the given statement.

Table 13: CHI-SQUARE TEST

Online ads inspire me to buy product online.	
Chi-Square	046. 690 ^a
Df	04
Asymp. Sig.	0. 000

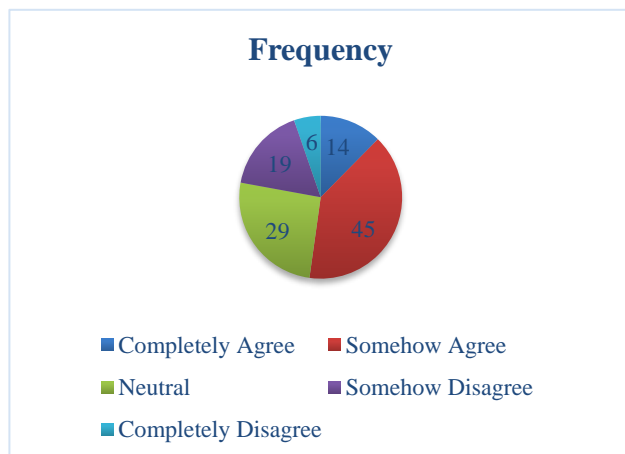
In the provided table, it is indicated that the Chi-Square value is 46.690, accompanied by a Degree of Freedom of 4, and the significance level is observed at 0.01. As a result, the alternate hypothesis, asserting that "Online ads stimulate impulse buying," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables under consideration, validating the hypothesis regarding the influence of online advertisements on impulse buying behavior.

VARIABLE 7: HELPFULNESS IN BUYING DECISION

Table: 14

Online ads are helpful while buying decisions.			
N	Valid	113	
	Missing	00	
Mean		02. 63	
		Frequency	Percent
Valid	Completely Agree	014	012. 4
	Somehow Agree	045	039. 8
	Neutral	029	025. 7
	Somehow Disagree	019	016. 8
	Completely Disagree	06	05. 3
	Total	113	100. 0

Chart: 8



The presented table illustrates that 52.2% of respondents have expressed agreement with the statement. Additionally, 25.7% of respondents have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. On the contrary, 22% of participants have disagreed with the statement. This distribution of responses gives a complete overview of the sentiments and opinions conveyed by the surveyed individuals regarding the given statement.

Table: 15: CHI-SQUARE TEST

	Online ads are helpful while buying decisions.
Chi-Square	040. 053 ^a
Df	04
Asymp. Sig.	0. 000

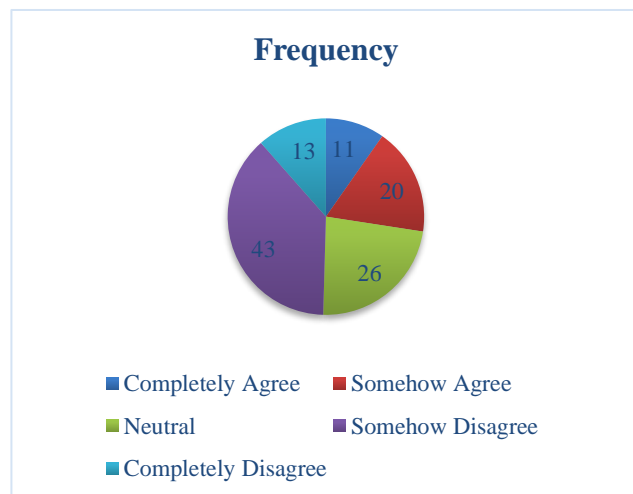
In the provided table, it is evident that the Chi-Square value is 40.053, with a Degree of Freedom of 4, and the significance level is observed at 0.01. Consequently, the alternate hypothesis, asserting that "Online ads help in making purchase decisions," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, affirming the validity of the hypothesis regarding the impact of online advertisements on purchase decision-making.

VARIABLE 8: PREFERENCE OF MEDIA

Table: 16

Frequency Analysis			
More than TV and any other advertising media, I trust on online advertisements.			
N	Valid	113	
	Missing	0	
Mean		03. 24	
		Frequency	%age
Valid	Completely Agree	011	09. 7
	Somehow Agree	020	017. 7
	Neutral	026	023. 0
	Somehow Disagree	043	038. 1
	Completely Disagree	013	011. 5
Total		113	100. 0

Chart: 9



The presented table indicates that 27.4% of respondents have expressed agreement with the statement. Additionally, 26% of respondents have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. Conversely, a majority of 49.6% of participants have disagreed with the statement. This distribution of responses gives a complete overview of the sentiments and opinions conveyed by the surveyed individuals regarding the given statement.

Table 17: CHI-SQUARE TEST

	More than TV and any other advertising media, I trust on online advertisements.
Chi-Square	029. 257 ^a
Df	04
Asymp. Sig.	0. 000

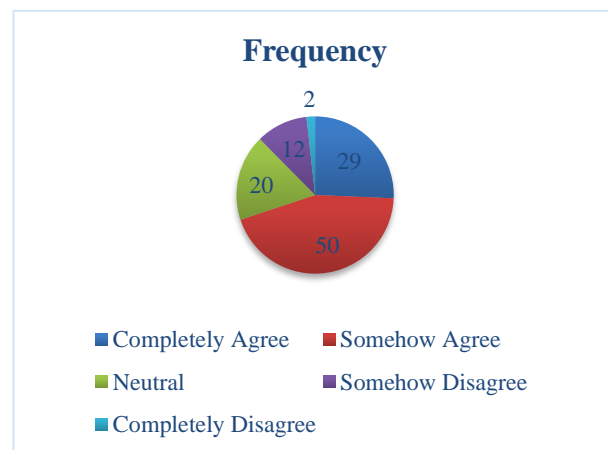
The provided table reveals a Chi-Square value of 29.257, with a Degree of Freedom of 4, and the significance level is noted at 0.01. As a result, the alternate hypothesis, which asserts that "Online advertising is more reliable than TV and any other advertising media," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, affirming the validity of the hypothesis regarding the perceived reliability of online advertising compared to other media channels.

VARIABLE 9: CREATIVITY OF ADVERTISEMENTS

Table: 18

Frequency Analysis			
Social media advertising is more creative.			
N	Valid	113	
	Missing	0	
Mean		2.19	
		Frequency	% age
Valid	Completely Agree	029	025.7
	Somehow Agree	050	044.2
	Neutral	020	017.7
	Somehow Disagree	012	010.6
	Completely Disagree	02	01.8
	Total	113	100.0

Chart: 10



The presented table illustrates that 69.9% of participants have expressed agreement with the given statement. Additionally, 17.7% of respondents have taken a neutral stance, showing a lack of complete agreement or somehow disagreement. On the divergent, 12.4% of participants have disagreed with the statement. This distribution of responses provides a comprehensive overview of the sentiments and opinions conveyed by the surveyed individuals regarding the given statement.

Table: 19: CHI-SQUARE TEST

	Social media advertising is more creative.
Chi-Square	059.080 ^a
Df	04
Asymp. Sig.	0.000

The provided table demonstrates a Chi-Square value of 59.080, accompanied by a Degree of Freedom of 4, and the significance level is noted at 0.01. Consequently, the alternate hypothesis, asserting that "Online ads are creative," is accepted. The statistical analysis supports the conclusion that there is a significant association between the variables in question, affirming the validity of the hypothesis regarding the perceived creativity of online advertisements.

LIMITATIONS OF THE RESEARCH

The study was taken place with a restricted sample size of 113 Internet users, chosen at the convenience of the researcher. Consequently, it is important to admit that the study's results should not be extrapolated universally. The findings are contingent upon the assumption that the information given by the participants is accurate. Due to the respondents' engagement in their regular activities, there was reluctance among some individuals to participate fully in the questionnaire. Furthermore, it's imperative to note that the research was exclusively conducted in the rural areas of Kanpur, thereby overlooking several potential samples beyond

the district boundaries. The limited scope of the study necessitates caution in generalizing the results to broader populations or diverse geographic areas.

CONCLUSION

As evidenced by this study, individuals exhibit a preference for online shopping over traditional methods, with social media emerging as a pivotal factor in facilitating online advertisers. The success of online sellers in gaining the trust of buyers is attributed to factors such as delivering genuine products, offering competitive pricing, providing return options, and facilitating refunds. Online sellers leverage the power of social media to gain insights into the buying behavior, preferences, evaluation methods, and product usage patterns of users on these platforms. Consider a scenario where a social media user, passionate about fitness, posts content related to the gym on their account. Companies specializing in gym equipment, sportswear, supplements, and related products strategically target such individuals to promote their offerings on the user's social media page. Social media proves to be an immensely effective tool for creating awareness about products and services, particularly due to the widespread use of smartphones, enabling people to access social media on the go. In the contemporary landscape, no other advertising medium proves as effective as online advertising, particularly on social media platforms. This trend is further accentuated by the growing popularity of social media, making it the preferred virtual space for teenagers. The dynamism and immediacy of online advertising, especially on social media, contribute significantly to its increasing efficacy and influence in shaping consumer preferences and behaviors.

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CURRENT ISSUES AND CHALLENGES IN MAKING SUPPLY CHAIN ENVIRONMENTALLY SUSTAINABLE

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ABSTRACT

Supply Chain Management is an emerging business term and it is gaining popularity in recent years. The emphasis has been shifted towards implementing numerous changes in traditional methods that prove to be effective. The integrated efforts of supply chain always play a crucial role in delivering a product from producers to customers. Products are to be delivered successfully to customers is a big challenge for all the members of supply chain management. In the present era of competition and technological advancements, maintaining sustainability poses a growing challenge. Balancing sustainability while delivering products to customers is particularly challenging as customer satisfaction takes precedence in supply chain management. We encounter numerous challenges in supply chain management on a daily basis. This paper aims to raise awareness about the challenges faced by channel members, enabling proactive preparation and timely identification of solutions. This research began with a comprehensive review systematically and analysis of articles from leading journals in transport, logistics, sustainability, and environmental fields. It culminated in the formulation of research propositions aimed at fostering the continued progress of supply chain management. This paper presents research propositions derived from the emerging challenges, offering guidance for future sustainability endeavors to inform researchers, industry professionals, and policymakers.

Keywords-Supply Chain Management, Sustainable Development, Environment, Channel Members, Logistics.

INTRODUCTION

The concept of Supply Chain (Póvoa et al., 2018) emerged over thirty years ago with Oliver and Webber (1982) introducing the initial definition for managing such systems. Since that time, the field of Supply Chain Management has experienced significant growth in research and industry. Nowadays, Supply Chains (Varsei, 2016) serve as foundational systems within any organization. In its traditional form, the forward supply chain is perceived as a collection of processes designed meeting customer demands. This encompasses various network entities like manufacturers, suppliers, warehouses, retailers, transporters and customers. Ensuring customer satisfaction while minimizing costs is the primary aim of this supply chain model. Supply Chain Management (Abbasi & Nilsson, 2012) encompasses the planning and managing of the activities which are connected with procurement, sourcing, conversion, and all the activities of logistics management.

Supply Chain Management (Power, 2005) integrates the essential business processes from end-user through original suppliers, delivering goods, services, and information that create worth for buyers and other stakeholders. The extensive goal is to be improved the long-term performance of both individual companies and the entire supply chain. Process of Production is often spread around the world. Central companies, customers and Suppliers are connected by capital flows, material and information. During various production stages (Seuring & Müller, 2008) Environmental and Social impact aligns with the product's value. Consequently, Supply Chains of central companies might be accountable for the social practices of their suppliers. India (Bala, 2014) is an emerging as a prominent global manufacturing center and service provider. The rising demand in both domestic and

international markets is paving the way for a myriad of opportunities within the Indian industry.

Supply Chain (Ballou et al., 2000) is an emerging term which maintains the management of production flow activities. Supply Chain has been broadening its initiatives to encompass not just economic but also environmental aspects. In today's time there (Koh et al., 2007) is a big competition among all the enterprises. To sustain in the global world, they enhance the value of their goods and services in comparison to their rivals. They want to provide high quality products in the market so that customer could be satisfied. However, merely having a product is insufficient for retaining current customers and to attract new customers. In this context, it (Cox, 1999) becomes evident that supply chain management and production efficiency are equally vital as delivering the end-product to customers.

The term "sustainable development" emerged (Abbasi & Nilsson, 2012) in the 1970s and gained popularity among Specialists in development circles and environment. Despite its widespread global recognition, there is no universally accepted definition. According to Brundtland report, the most commonly recognized definition comes which is a United Nations-sponsored report: "Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Sustainable development principles (Kumar, 2015) have been extensively discussed within supply chains and logistics, keeping ideas such as sustainable supply chain management. The Brundtland Report (Rajeev et al., 2017) published in 1987 by the World Commission on Environment and Development (WCED) under the Kyoto Protocol focused on advocating for changes in industrial practice and consumption patterns for sustainability. Sustainable Development (SD) is defined as "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs" by WCED. Sustainable development of logistics (Rubio & Parra, 2014) involves engaging in activities that yield the greatest economic and social gains while minimizing adverse environmental losses.

RELATED WORK

A Sustainable Supply Chain (SSC) (Ghadimi et al., 2019) must be represented as intricate network systems encompassing diverse entities responsible for managing goods from suppliers to customers, including associated returns. These systems take into account social, environmental and economic impacts. The treatment of such systems (Tseng et al., 2019) has gained significance recently, as companies face the challenge to deal with sustainable issues generated by growing awareness in societies towards social and environmental matters. Sustainable Supply Chain Management (SSCM) (Seuring et al., 2008) is a set of managerial practices that includes environmental impact as inevitability and considering all stages across the complete value chain for each goods and services. In this context, the question of how to plan, design and operate Supply Chain Sustainability (Póvoa et al., 2018) in an uncertain environment remains an unanswered research question that has not been answered yet. Sustainable Supply Chain Management (Gupta et al., 2011) is a multi-disciplinary perspective that covers the entire product life-cycle. This approach (Abbasi & Nilsson, 2012) suggests several extensive themes in our approach to environmental sustainability. Initially, organizations need to perceive the environmental consequences of their actions as a fundamental aspect in decision-making, rather than merely complying with social pressure or government regulations or exploiting it as a passing trend to appear environmentally conscious. Second, companies must consider the environmental impact throughout all the segment of value chain, encompassing producers, distributors, customers, suppliers and partners. Furthermore, the sustainability concept within organizations should extend beyond a limited functional viewpoint, adopting a broader perspective that encompasses concerns,

challenges, and solutions across functional boundaries. The increasing (Seuring et al., 2008) awareness of climate change and environmental deterioration has heightened the need for businesses to reassess their supply chain practices. Supply chain members (Carter & Easton, 2011) must meet environmental and social criteria to stay integrated in sustainable supply chains, while it is expected that competitiveness would be sustained by fulfilling customer requirements and relevant economic parameters.

The logistics and Supply Chain Management (SCM) (Abbasi & Nilsson, 2016) research community faces a significant challenge in examining and suggesting different remedies for the creation of sustainable supply chains. When companies (Pagell & Shevchenko, 2014) are dealing with toughest times because of decreasing demand and low prices on their goods and services, in the supply chain social and environmental issues seem to be an attractive area for cost-reduction measures. However, synchronizing sustainability efforts with cost-saving endeavors is an alternative. As an example, there is a (Halldórsson et al., 2009) Wal-Mart, which unveiled arduous measures to improve environmental and social standards in factories that supply the major American retail company. These measures encompass aspects such as wastewater discharges, factory gas emissions, and management of hazardous and toxic waste. According to a company report, the implementation of this agreement will be phased, starting with suppliers in China in January 2009, and it will be expanded to other suppliers worldwide by 2011. An international standard is still lacking to measure carbon footprint in supply chains. However, experiments and pilot studies must be conducted to evaluate the suitability of different methods in the absence of an agreed-upon standard. While the UN's Global Compact enjoys broad international acceptance, there is a divergence of opinions regarding the most suitable auditing process to ensure adherence to codes of conduct. EU directives cover a range of areas, including end-of-life vehicles, packaging materials, tires etc. Nevertheless, the implementation of these directives varies in many ways and pace across many regions in Europe.

METHODOLOGY

- To discuss all the issues and challenges which are being faced by Supply Chain Management in the present age.
- To discuss strategies for making supply chains more environmentally sustainable.
- To cast light in those remedies by which an issues and challenges can be minimized which Supply Chain is facing in this modern era.
- To propose research propositions that contribute to further advancements in supply chain management.

The study started with content analysis and systematic review of articles from leading journals in transport, logistics, environmental and sustainability domains. It concluded by formulating research propositions contributing to advance supply chain management further. This paper aims is to furnish management researchers with a condensed overview of the present state of Sustainable Supply Chain Management research, and a roadmap for future research directions.

SUPPLY CHAIN CHALLENGES

A significant challenge (Singh, 2016) which is being faced by firms and industries is to become greater responsible towards the environment and society. Various industries have distinct impacts on the environment and ecology through their operations. Traditionally Supply Chain (Groznika & Trkman, 2012) was not facing so many challenges and managing it was easy but in modern era. Worldwide, supply chains have faced challenges due to unmet demand and constrained capacity of logistics. The main sources of risk stem from market volatility in the supply chain. Factors such (Halldórsson et al., 2009) as trade conflicts,

shifting consumer demand, raw materials shortages, the impact of climate change, more stringent environmental regulations, economic uncertainties and industrial unrest collectively contribute to the risks and challenges associated with SCM. The key challenges (GEP, 2022) which are being faced by supply chain management are included in figure 1:

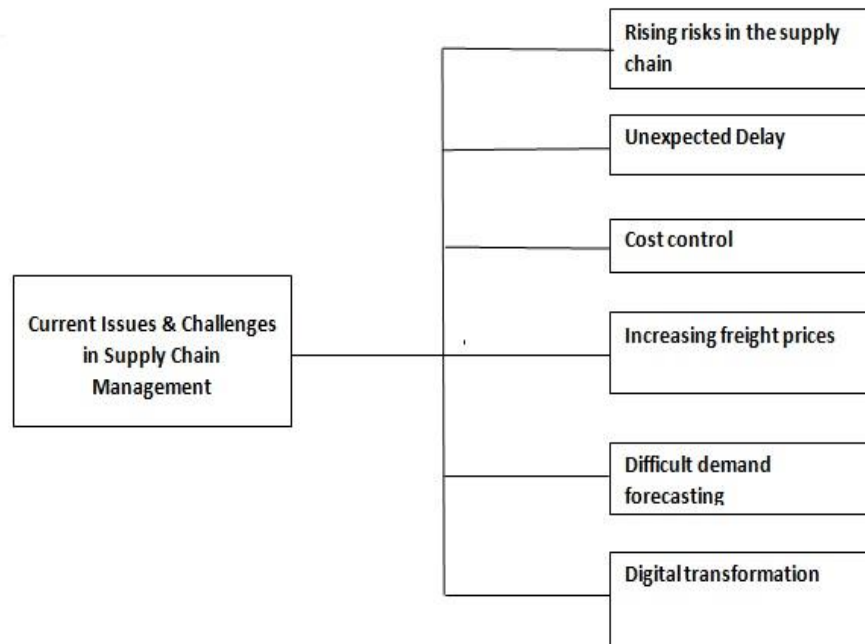


Figure 1 Current Issues & Challenges in Supply Chain Management

Rising risks in supply chain- Instability in the market is the main driver of risks within the supply chain. These risks stem from various factors, such as fluctuating consumer demand, raw material shortages, the impact of climate change, increasingly stringent environmental regulations, policy changes, economic uncertainties, and instances of industrial unrest. Collectively, these elements add to the challenges and complexities faced in supply chain management.

Unforeseen Delay- The inherent nature of global supply chains, characterized by extensive distances and numerous steps, renders makes them prone to delays. Prolonged lead times for products lead to unexpected disruptions in shipments.

Cost Control - Worldwide, there has been a notable increase in the costs of energy, raw materials, labor and freight. To ensure continuous operations and maintain the delivery of high-quality products at affordable prices, businesses need to implement stringent cost control measures.

Rising freight prices- Freight prices have increased due to higher energy costs and a surge in demand for container shipping. During the pandemic, the increased demand for container shipping can be attributed to the e-commerce boom observed.

Challenging demand forecasting- The pandemic and subsequent disruptions of supply chain have made it extremely difficult to accurately predict demand, complicating the estimation of manufacturing needs and inventory levels.

Embracing Digital Transformation - The imperative for enhancing supply chain operations necessitates a digital transformation involving the adoption of technologies like AI, drones, Internet of Things and robotics. Nevertheless, the primary challenge in supply chain management lies in successfully incorporating these technologies into current operational frameworks.

Report of United Nations Corporate Sustainability (Póvoa et al., 2018) highlighted an intense shift in corporate attitudes towards sustainability (United Nations, 2013). Despite facing (Metta & Badurdeen, 2013) one of the worst economic recessions in almost a century, commitments to sustainability principles in the supply chain are currently at a remarkably high level. However, while companies (Póvoa et al., 2018) are making strides in setting expectations for sustainability of supply chain but many companies fail to implement concrete measures to follow through on such a commitment. Several justifications exist for this phenomenon. **Firstly** Within the organizations, understanding the real meaning of Sustainability in Supply Chain and how this should be effectively managed between the different entities involved. **Furthermore**, as interest in responsible Supply Chain Management (SCM) continues to grow, a number of initiatives have emerged in various sectors, promoting diverse methods and standards. **Consequently**, it becomes essential to clearly understand the significance of SSC and what is deemed important at the corporate level. Moreover, global supply chains' complexity and sheer scale require tools to support decision-making processes from the strategic to the operational level. This is particularly important in addressing the escalating reality of uncertainty in the supply chain.

Reverse logistics (Beamon, 1999) involves integrating activities into the pre-existing networks. These networks include processes for collecting and treating end-of-life products through recycling, remanufacturing, repair and ultimately disposal of some used parts.

ANALYSIS WORK

Some Strategies which can be helpful to make Supply Chain more Sustainable in Environment

There are (GEP, 2022) many practices by which Supply Chain can make more Sustainable. Companies need to make such practices to be implemented.

Automate processes – The process of automation will be helpful to make balance warehousing costs, inventory levels and customer demand. With the help of Automation will increase production to fulfill customer demand. The implementation of forecasting automation eliminates the risk of inventory shortages and stock outs, reduces overhead costs and enhances inventory optimization.

Gain end-to-end visibility- To enhance the efficiency of supply chain operations, it is essential to have comprehensive visibility of the entire process, from raw material procurement to customer delivery. This can be accomplished by tracking and monitoring the supply chain through data logging. Effective control over all supply chain processes is enabled by the analysis of the obtained data.

Partner with industry peers- Given the complexity of the modern supply chain, traditional methods such as operating with Excel spreadsheets are insufficient. Continuous and Ongoing collaboration with vendors, industry peers, manufacturers, regulators, financiers and logistics teams is essential to keep the supply chain running. Only having expertise in operating excel spreadsheets is not enough, you will have to maintain partnership and make relationship with all the persons who come in touch.

Nowadays, profit enhancement and cost leadership (Taghikhah et al., 2019) are not primary concern of supply chain management. Driven by economic growth, the escalating pace of environmental degradation and resource depletion has shifted attention towards socio-environmental concerns. In the field of supply chain research, this heightened awareness has increased the focus on sustainability, emerging to the concept of a Sustainable in Supply Chain.

CONCLUSION

The conclusion highlights a significant need for frameworks and models considering the complexities associated, adopt holistic approach, and challenge the foundational assumptions of maximum published research i.e. positivism and economic growth. In this article Sustainability mainly focuses on environmental issues. Undoubtedly, social and environmental issues are gaining increasing prominence on the trade agenda. The evident signs of global warming and its dismal impacts on climate and life on earth can no longer be ignored. The international community will adopt substantial measures against greenhouse gas emission and other environmentally harmful activities in the future. In light of these environmental concerns, companies must revisit their supply chain strategies.

It is illustrated that sustainability is a multidimensional concept, encompassing various layers ranging from operative reverse logistics to strategic sustainability at the corporate level. From a Supply Chain Management perspective, a significant gap is identified in the sustainability discussion, specifically relating to the network dimension of Supply Chain Management. Typically, discussions on sustainability explore individual companies, overlooking a holistic chain perspective. However, current discussions indicate that positive outcomes can generate for the entire supply chain by sustainable cooperation. The connection between economic performance and Sustainable Supply Chain Management is not well documented, both in research and practical applications. The question of whether companies can maintain their commitment to sustainability arises due to the current, global economic and financial crisis.

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TO STUDY THE ENABLERS AND BARRIERS OF TRANSITION FROM TRADITIONAL TO DIGITAL SHOPPING WITH SPECIAL REFERENCE TO RURAL AREAS OF UTTAR PRADESH

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ABSTRACT

Rural areas play an important role in the development of the economy. Due to the recent changes and advancement of the technology, the concept of digitalization has apprehended the urban areas and intending towards the rural areas. The population of urban areas is very much aware and comfortable with the digital shopping as compared with the rural areas. In this research paper, we have discussed various enablers and barriers which are responsible for the transition of traditional shopping to digital shopping in rural areas. The descriptive research design has been used and data is collected from various secondary sources. The review of online shopping is done to draw implications for decision making. It has been found that the people of rural areas are relying on traditional shopping but with the recent development of e-commerce services, digital shopping is expanding its base across the country. The consumers belief and attitude towards online shopping plays an important role. The study concluded that online shopping is growing rapidly but there is a low acceptance in rural areas.

Keywords: Rural Areas, Traditional Shopping, Digital Shopping, Enablers and Barriers

INTRODUCTION

With the continuous and prominent evolution in technology, our way and method of doing shopping has changed. Earlier, we used to do traditional shopping which is buying the goods and services physically by going to a particular place known as market available nearby us and shopping from there but during COVID 19 pandemic when we were unable to move out of our homes many shops and businesses got destroyed as there were no customers coming up. There comes the concept of Digital Shopping which was introduced many years ago but it was not into practice in India. During Covid pandemic, it came into practice and application where every businessman tried to shift their business to online mode and if not so they started a new business online which would become popular and profitable as customers liked the approach of doing shopping at home without going outside. So, digital shopping refers to the shopping which is done with the help and use of online services like internet. During COVID era, many businesses and apps providing online services flourished like Big Basket, Amazon, Nykaa, Myntra and many more.

But the challenges are still there in digital shopping as this approach has been well accepted and used by urban areas but less in rural areas. Due to unavailability of advanced technology services as well as lack of awareness regarding usage of digital platforms the rural people are unable to make use of it and gain advantage. There are many other barriers or hindrance which limits the rural people from going for digital shopping like security problems, inability to examine the goods physically, delivery problems, fear of getting cheated or deceived etc. which will be discussed ahead comprehensively. Also what all factors enabled a shift from traditional to digital shopping needs to be known and discussed in order to reach to a meaningful conclusion and to attract the rural consumers along with winning their trust, safety and assurance.

LITERATURE REVIEW

Alba et al. (1997) drew implications for participants in electronic marketplaces based on an assessment of the research that was already in existence. They suggested that non-store retail forms, such as internet purchasing, might be appealing in places like rural areas that don't have a strong retail sector.

According to a research conducted by **Donthu and Garcia in 1999**, age affects the characteristics and influences of online purchasing. Internet buyers were found to be older and earned more money, according to the findings of a telephone interview conducted with 790 internet users in a metropolis.

Hoffman et al. in 1999 deduced from their analysis of the results to two bi-annual polls that the privacy concerns associated with online purchasing were a major source of worry for customers.

Previous research made by **Chiang and Dholakia in 2003** and **Lynch et al. in 2001** shows that products that customers believe they must touch or try on are those that need to be available in-person or at least be purchased through an offline channel.

According to **Forsythe and Shi in 2003** results from an online poll of 641 internet users revealed that browsers rather than shoppers thought there was more danger involved in online purchasing

Lenvin et al. in 2003 discovered that the need for an offline shopping strategy for things like apparel stems from the ability to physically see a product before making a purchase.

Farag et al. in 2006 said that people with low store accessibility shop more frequently online, according to a longitudinal study of panel data.

Nonetheless, apparel and textiles have been the most popular products in online retail, and no other sector of the industry has been impacted by the internet more than retail sales (**Heinemann and Schwarzl, 2010**).

Yaobin Lu's 2011 study focused on the elements that influence customers' choices to switch from offline to online mediums that offer equivalent services. The study found that the innovativeness and relative benefits of new technology had a beneficial effect on customers' inclinations to change their usage. The study's findings also demonstrated that, in relation to the corresponding advantage, customers' inclination to move from offline to online service utilization is impacted by their previous online experience.

In the **2012 study**, **Sinha and Kim** looked at how factors like money, product, and convenience risks; product delivery and return policies; and an individual's creativity, mindset, subjective norm, and perceived control of behaviors over technology all affected Indian consumers' shopping habits. Convenience risk is the only element that significantly influences Indian buyers' decisions to make online purchases, according to the study. Gender discrimination, however, showed that female consumers are primarily concerned with the convenience risk, whereas male customers are more concerned about anticipated risk factors and non-delivery of the goods. Issues with online ordering include payment methods, server problems, and more. **Malhotra (2014)**

According to **Das and Sarkar in 2017**, real-world purchasing experiences are preferred by many over virtual ones.

According to **Varma et al. (2020)**, privacy, trust, security, and an organization's reputation all have a big impact on customers' intentions to make online purchases, with trust being the most important factor.

In **2020**, **Daroch et al.** identified six factors that limit consumers' willingness to shop online: trust, reputation, and services provided; fear of bank transactions; insecurity and inadequate product information; traditional shopping being more convenient than online shopping; and belief, expertise, image and services provided. When consumers shop online, trust, attitude, subjective standards, behavioural control, and utility all have a favorable influence on their

intentions. But the biggest obstacle to planning an online purchase is the perception that there are dangers associated with it.

RESEARCH METHODOLOGY

Research methodology refers to the methods used to collect the research data. There are two sources through which we can collect data – primary source and secondary source. Primary source refers to the method in which the investigator collects the data himself by either going to the houses of the target population and then asking questions to them or preparing a set of questions in the form of questionnaire and circulating it to the target population and whatever data is obtained then analysing the data and reaching to a certain conclusion.

Now there is another method through which we can collect data by collecting the data from the third-party organisations (who have already collected the data), internet, newspapers, magazines, articles etc. This source is known as secondary source.

The source of data used in this research is secondary source where the data is taken from journals, articles, google, newspapers etc. The study is a descriptive study catering to the rural areas of Uttar Pradesh, how they are facing problems in adopting the change from Traditional Shopping to Digital shopping and also what all reasons led to a shift from traditional shopping to digital shopping.

OBJECTIVES OF THE STUDY

1. To identify and explore the enablers responsible for transition from traditional to digital shopping in rural areas.
2. To identify the barriers or challenges for the transition from traditional to digital shopping in rural areas which are causing a great difficulty for rural people to adapt the technological change and do online shopping.

SHIFT FROM TRADITIONAL TO DIGITAL SHOPPING IN RURAL AREAS

As we know that rural areas are dominating the population and more than 70% people live in rural areas, so whatever changes comes in the technology or in the environment needs to be equally accepted in rural areas as much important it is for urban areas. Before COVID period i.e. before 2019, people in rural areas were doing shopping through traditional methods i.e. they were shopping from local areas, local vendors and whatever goods they want they can easily find it and fulfill their needs and demands. But after CORONA virus came in 2019, everyone stopped going outside and were forced to stay in their homes so that they don't get affected from the virus. The waiting time was long for people to go out on the streets and begin their shopping and also many of the businesses had to shut down because of disappointing and weak sales. Since human needs are continuous and there is a need to fulfil them so how the needs can be fulfilled during this bad time of COVID 19 and when all the businesses have shut down or closed. So, in order to solve this problem a new concept came into existence i.e Digital or Online shopping where you can do shopping through online platforms and apps such as Amazon , Flipkart, Myntra, Grofers, Shopsy, Snapdeal etc. which provides many facilities such as customer service, home delivery etc. This made it easy for people to adapt to the drastic change in the environment and from here the era changed and the era of digitalisation came. This period i.e. time of COVID19 led to a shift from traditional to digital shopping. Both rural areas and urban areas tried to adopt the change but the change was easily and quickly accepted in urban areas than rural areas.

ENABLERS OF TRANSITION FROM TRADITIONAL TO DIGITAL SHOPPING IN RURAL AREAS

The factors that led to a shift from traditional to digital shopping in rural areas are as follows:

1. **Easy accessibility** - Ease is a key benefit of online shopping since it provides an incomparable degree of comfort. The ability to do in-depth research, evaluate items from many manufacturers, and buy a product with only a few clicks while relaxing in your own home is just amazing. Same-day and next-day delivery mean you won't even need to stay up long for your item to arrive. Furthermore, the vast majority of online shops provide free delivery. On the other hand, while making an offline purchase, determining the best fit and comparing items requires repeatedly walking through numerous stores and making sure to personally check and choose the right item.
2. **Better Prices** - Most e-commerce businesses provide amazing yearly sales discounts. Apart from the discount, one of the biggest advantages of shopping online is that you get cashbacks. Banks and electronic wallets have happily jumped on the e-commerce wave by providing Reward Points and instant Cashback incentives in addition to brand discounts.
3. **Variety** - The fact that geographic restrictions are no longer an issue when purchasing online is just one of its many benefits. When you shop offline, your options are limited to the stores and brands that are close to you. With internet shopping, on the other hand, you may find products from all over the world that can be shipped to your location with only a few clicks, making a wide range of options available to you.
4. **Online Payment** - Given the pandemic, contactless payments are imperative, and internet purchasing makes it possible. Prior to the epidemic, one of the main issues with online purchasing in its early phases was putting your trust in merchants and marketplaces when providing personal credit or debit card information. However, the hesitation to make online purchases is steadily decreasing as internet buying becomes more and more secure with time. By gradually addressing the issue of trust and providing clients with the choice of online or cash-on-delivery payment, the acceptability has been developed (COD). In addition to addressing the issue of trust, COD provided a way for people who lacked the funds to make purchases online with credit cards.
5. **Shop without pressure** - Another significant advantage of online shopping is the freedom to make decisions without the interference or compulsion of salespersons, who are usually present in physical locations. Persuaded by experienced store salesmen, customers often purchase products on their own initiative, irrespective of the fact that they required the product. With online shopping, this is no more the case because you can search for and place a demand for the exact things you wish to purchase. However, internet shopping can also be dangerous if you don't exercise self-control.
6. **Saving Time** - One of the primary benefits of online shopping is the reduction of time and effort involved. Online marketplaces aim to offer seamless shopping experiences, allowing customers to discover and shortlist products while on the go or in between tasks. When shopping offline, customers still need to schedule dates and times for going to the shops, which may delay their delivery of necessary supplies.
7. **Sending Presents is Easy** - Online shopping platforms allow us to dazzle our loved ones with gifts. Internet sellers will package the gift and mail it to the postal code we gave. They will even wrap the gift. Therefore, on important occasions like birthdays or anniversaries or weddings, there's no reason to send a present instead of using a long-distance excuse.
8. **Simple Comparison of Prices** - When making a buying decision online comparing and researching products and their costs is easy. As though when looking for gadgets. We can compare products, read reviews, and find rates which contrasts with alternative reachable choices.
9. **Online Surveillance** - Online monitoring makes it easier for customers to track the status of their orders and deliveries when they shop online.

BARRIERS OF TRANSITION FROM TRADITIONAL TO DIGITAL SHOPPING IN RURAL AREAS

The factors which are preventing the rural people from doing online shopping are as follows:-

1. **Buying on Faith** - When you buy individually, you may thoroughly inspect an item to ensure that it is the right measurement, subject matter or quality before committing to a purchase. But, you have to be prepared to accept a "purchase prior to investigate" approach when it comes to online purchasing. One major drawback of shopping online is that you are unable to try on the apparel you want to purchase.
2. **Not Everything You See Is Often Available** - Not only can you try things on individually, but you can also buy anything while you possess it in your palms. When you shop online, that's not always the case. Dealing with items that have gone or inaccessible is something that commonly occurs while trying to make orders. This could be really problematic if you're searching for presents and something has to be supplied by a specific date.
3. **There Could Be Unexpected Charges** - Although it is less expensive to not have to travel to and from places, the overall price of the item you bought online may increase due to delivery charges and other expenditures. For example, if you choose to give back an item to the seller, you may be asked to pay restoration charges or other costs associated with doing so. Furthermore, depending on the item, the location, and the business, the expense of delivering may match or surpass the price of the items.
4. **Lack of Awareness** – Rural people are not much aware of online shopping. They find difficulty in using online apps or websites and they also don't know from where to shop online. So this is the biggest barrier which is preventing them to do online shopping.
5. **Delay in Delivery** - One additional drawback of online purchasing is the delay that occurs between placing an order and really receiving what you ordered. Midnight shipping is sometimes costly even though many online businesses are improving their speed of delivery. Transportation schedules may also be further delayed by bad weather and other factors.
6. **Risk of Fraud**-Frauds such as cracking, banking frauds, impersonation, manipulating and numerous other scams can occur when making purchases online. Cases of fraud have increased after the increase as well. There are now a ton of secondary e-commerce websites online. Because of this, we must exercise caution when making purchases online as there are numerous counterfeit websites that offer alluring deals and discounts. Scammers can even use phone calls made in the name of trustworthy businesses to collect the purchaser's cards or bank details.
7. **Lack of Privacy:** The privacy and security of online shoppers are at risk. Credit card numbers, addresses, and other sensitive information can be gathered and used by online distribution platforms. Should cybercriminals manage to breach an online store, your personal data may be at risk.
8. **Absence of Prior Shopping Experience** - When purchasing online, there is no actual market visitation, so there is no genuine purchasing experience with marketplace tours, exhibition spaces, and merchandise.
9. **Faulty Goods** - This is one of the primary drawbacks of internet shopping. During the digital purchasing procedure, a product is taken out of its packaging and goes through a number of different locations. During transportation, fragile objects could break or receive scratches. We often witness instances in which customers receive distinct goods and vacant containers in their daily lives. Users may then experience problems as a result of various exchanges and pay back policies.
10. **Returning may get challenging:** Although certain refund and return policies are easier, many sellers make it harder for customers to complete the process. Many documents need

to be accurately filled out, such as those for monitoring, delivery, wrapping, and labeling. Many people avoid doing this because it might be frustrating at times.

Table 1: factors influence rural consumers not to buy online

Particulars	Percentage	Rank
Product cannot be examined	21	2
Lack of trust	40	1
Problem in delivery system	12	3
Product may be of inferior quality	11	4
Lack of high-speed internet connection	4	6
Lack of proper information	9	5
Other	3	7

As can be seen from the above chart, the greatest obstacle to not making an online purchase is people's lack of faith in the products that are sold online. Product cannot be examined comes in second place and is another barrier to internet shopping.

People refrain from making purchases online by the inferior product and delivery infrastructure. Another thing that is discouraging people from shopping online is incorrect information.

CONCLUSION

Knowing that online shopping has become more common due to technological advancements, both urban and rural areas use it more frequently. Our study examined these developments and came to the conclusion that certain factors, such as enablers, are encouraging the use of digital shopping in rural areas, while other factors, such as barriers, make it difficult or impossible for rural citizens to take advantage of this convenience. It would be simpler for rural residents to shop online if the government concentrated more on removing obstacles and turning them into advantages. This would also strengthen our economy and bring in more money to achieve India's objective of becoming a \$5 trillion economy.

FINDINGS

Our study founded some points which are listed below-

1. There are some advantages of online shopping which are prompting the rural people to make use of online services and make online purchases.
2. There are some disadvantages of online shopping which are making it difficult for rural people to make use of online platforms for doing shopping.
3. Illiterate people which are not aware of digital technology and don't know how to use it are finding more difficulty in adopting the change.
4. If the government focuses more on barriers which are preventing the use of online shopping by rural people and tries to remove them and convert it into positive points then it will make it easy for rural people to go for online shopping
5. As India is moving towards digitalisation, focusing more on online shopping would help the country in boosting the economy faster and accomplish it's goal of reaching dollar 5 trillion economy as soon as possible.

SUGGESTIONS

Based on our research study, the suggestions which needs to be given are as follows :-

1. Rural customers require education on several topics such as product usage, product information collection, consumer rights, consumer law and how to use online technology.
2. Fake websites should not be there which attract the people to do online shopping and result in loss of money.
3. Privacy should be maintained of users availing the facility of online shopping so that their data doesn't get misused by anyone.
4. Every product which is shown on online apps for shopping should be made available atleast so that people can purchase it, it should not be like that if people select any product on the app for purchasing it, it is out of stock or not available as it results in losing the trust of users.
5. Goods should not be defective on delivery, they should be handled with care if the good is made of any such material which can break.
6. There should be no communication gap between rural customers and marketers, rural communication services, such as telephone services, should be upgraded.
7. It is recommended that the government construct roads and trains in rural areas to facilitate the easy delivery of goods to people living there.
8. It is recommended that marketers strive to establish credibility with rural consumers by offering high-quality items.
9. An efficient distribution system would ensure that goods are delivered to final customers at the lowest possible cost and in the shortest amount of time.

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ENTREPRENEURIAL ROLE OF WOMEN IN THE DEVELOPMENT OF INDIAN ECONOMY

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ABSTRACT

Women entrepreneurs constitute a concept providing is widely accepted in the advent of the modern era. In additional, women's entrepreneurship is mandatory to flourishing the nation's economy. It additionally comprises other advantageous social consequences that are profoundly connected to the international business environment. It is also noteworthy that women plays a role in entrepreneurial activity. It is also essential to our nation's sustainable development. Notably, female entrepreneurs are consistently reaching new heights and demonstrating advancement over time. The primary objective of this paper is is of evaluating the present circumstances of female entrepreneurs in India and to explore various policies and initiatives that the Indian government has intermittently implemented to foster the exponential development of women's entrepreneurship out there. The paper incorporates secondary evaluation of information to investigate the drawbacks stumbled across by female entrepreneurs and scrutinizes the assortment of factors that inspire and encourage them to pursue entrepreneurship. The role of women in the growth of the Indian economy has been studied using a descriptive research design. It has been discovered that women's involvement in entrepreneurship is critical to long-term advancement in society and commerce.

Keywords: Women Entrepreneurs, Indian Economy, Motivating Factors, Government Initiatives

INTRODUCTION

The course of action of starting a new company endeavor is known as entrepreneurship; it usually involves seeing market opportunities, taking calculated risks, and gathering the necessary resources. Entrepreneurs that are successful typically have great communication and management skills, are determination, enjoy taking risks, and are creative thinkers. Evidence for the business idea, studying the target market, creating a business plan, procuring provides the foundation finance, and obtaining the necessary permits constitute the initial document steps in launching a company. Entrepreneurs start business enterprises in more than one industry, from local business owners to information technology companies.

Entrepreneurs have played major role in boosting and shaping the India's economy in recent decades by accelerating the growth and development in entrepreneurial companies and sectors like technology telecom agriculture and financial services and also have accelerated the economic growth and development by building the innovative products and services they have addressed with the critical Indian problems relating with connectivity productivity healthcare education etc .It has also contributed to the employment generation of our country and as the Indian startups are emerging and companies has given massive employment generators in India's expanding working age population they are providing abandoned white collar job opportunities that pay well examples are like it sectors company already employed millions it also helps in global integration with the software pharma auto competent producers and other entrepreneurs founded benches have enabled India deeper integration with their global economy Indian entrepreneur companies are playing key role in positioning India as a global and R &D hub and strategic manufacturing base. It also helps in rural economic economy upliftment as entrepreneurs are playing big role in rural economy by

facilitating modern agriculture financial inclusion of the unbanned last small distribution via commerce increasing sources and raising productivity and living standard successful Indian entrepreneurs have inspired thousands of startups in recent years creating a vibrant culture of technology business model innovation this culture has immense potential to create future global Indian multi-national thus, entrepreneurs serve as the economies innovation powerhouses creating jobs uplifting the living standards facilitating Indian global trade integration and linked the foundation for sustained long term growth through solution to the local problems.

Some of the successful entrepreneurs who have contributed in our boosting and shaping the country's economy are as follows Asim Premji chairman of Wipro Limited and another global giant that tech services industries transformed a vegetable oil company into an IT powerhouse with a net worth of estimated at \$15 billion . Vijay Shekhar Sharma founder of digital payment startup Paytm revolutionized mobile and digital payments in India since 2010 net worth was estimated at \$2.4 billion and many pioneering entrepreneurs have created massively successful ventures while solving the key Indian problems.

LITERATURE REVIEW

In the Indian setting, number of academic studies have examined the primary motivating elements that push women toward entrepreneurship. Pull factors, such as the need for self-identity, personal growth, and job success, are identified by Goyal and Parkash (2011) as the main drivers of female entrepreneurship. Likewise, Pillai et al. (2020) highlight as primary drivers non-financial objectives such as the pursuit of recognition, enhanced independence, and self-fulfillment.

Krishnamoorthy and Balasubramani (2014), on the other hand, divide motivations into push and pull variables. Pull variables are similar to what was previously described. Nonetheless, their research identifies distinct motivators for female entrepreneurs that stem from outside influences. .Nonetheless, their research identifies distinct motivators for female entrepreneurs that stem from outside influences. Family pressure, a lack of alternative job options, the requirement to maintain household income, and other responsibilities are a few of these.

While adopting a more comprehensive view of developing nations, Tambunan (2009) also identifies several context-specific societal elements that encourage and drive Indian women to pursue entrepreneurship. One of the main motivators is still the desire to have flexible work schedules in order to manage work and family obligations.

Although growth trends and motivations offer helpful context, the focus of scholarship has also changed to objectively assessing the success of women-owned businesses in India. Robust state-level analysis by Rajan and Panicker (2020) shows that MSMEs led by women outperform male-owned businesses in terms of profitability, capital efficiency, and revenue growth. Similar revenue outperformance by female entrepreneurs is echoed by Gupta and Mirchandani (2018), even after adjusting for business size, age, and industry differences.

The experiences, initiatives, and barriers to women's entrepreneurship in five Nordic countries—Denmark, Iceland, Norway, Sweden, and Finland—are detailed in Damwad's 2007 book. A few major barriers are mentioned, including funding, a lack of experience and expertise in the corporate world, markets, and entrepreneurship, work-life balance, which includes both stagnation and desire for advancement, and—most significantly—women, given the diversity of other groups. The study contrasts early-stage male and female entrepreneurship in the Nordic region with that of the United States. Additionally, it contrasts different plans and programs created by Nordic nations and the organizations that support them. The approaches used to analyze women's entrepreneurship, both quantitative and qualitative, are the focus of the OECD and the European Commission. The Nordic nations

require a framework for policy learning in order to create an appropriate policy mix that encourages women's entrepreneurship.

As stated by Mohiuddin (1998) in his research on female entrepreneurs, Mohiuddin (1998)⁶ noted that women make up half of Bangladesh's total population. Without the participation of a sizable segment, the nation's economy cannot expand properly. The development and administration of the rural sector by rural women entrepreneurs was also included in this work.

In summary, while the review section provides a sound baseline understanding of women entrepreneurship motivations, there remain gaps regarding localization, validation and segment analysis that must be addressed through coupling with larger databased studies.

OBJECTIVES

- Conducting studies on the Indian environment
- To investigate the hardships or constraints that women entrepreneurs encounter
- Monitoring the government program aimed at encouraging women to start their own businesses

RESEARCH METHODOLOGY

The present investigation into the use is reliant on an in-depth investigation of secondary data snapped up from multiple viewpoints. Books, national and international journals, and public and private publications that are easy to access on the online medium and in libraries are numerous instances of these sources. The research being conducted looks at an assortment of many aspects of female entrepreneurship. This research is a desk study that uses secondary data from numerous pages, journals, and papers. The nature of this research is descriptive. Through every phase research papers that have been accepted about women in entrepreneurship were collected from a number of databases, including Emerald, SAGE, JSTOR, WILEY, and others. A total of twelve papers by academics received acceptance for the research endeavor and underwent analysis with the thought process of glanced at the numerous others themes, component parts, or segments related to the conceptualization of women entrepreneurship.

EMERGENCE OF THE WOMEN ENTREPRENEURSHIP IN INDIA

An ensemble of women who activate and function a venture or business enterprise has been designated as women entrepreneurs. In order to kind of stand on their own a couple of inches in addition to having the confidence demonstrating their inner expertise and the launching a business, women entrepreneurs take advantage of push and pull parameters. An enterprise in which is managed and maintained by a woman possessing the bare minimum financial share of fifty-one percent has been designated as a women's entrepreneur by the Indian government.

Women entrepreneurs serve as engines of India's economic growth and development by creating jobs, enabling innovation, and providing essential goods and services to society. Women-led entrepreneurial ventures boost productivity, household incomes, and living standards - thus driving sustainable and inclusive national development. Women's entrepreneurship and participation in business has been growing steadily in India over the past few decades. An increasing number of women have ventured into the start-up ecosystem and small business arena across the country. As per recent government data, women comprise around 14% of total entrepreneurs in India, representing a tremendous rise compared to previous decades. From local handicraft sellers to tech startup founders, Indian women entrepreneurs today operate in diverse industries - though sectors like retail, textiles, food and wellness continue to have major women participation.

These female entrepreneurs drive India's economic expansion and advancement by fostering innovation, generating employment opportunities, and offering necessities to the populace. Women-led businesses raise living conditions, productivity, and household incomes, which promotes equitable and sustainable national development. Despite the many systemic and sociocultural obstacles that still hinder female entrepreneurs, their accomplishments demonstrate their critical role in India's economic success story.

Within this, women's entrepreneurship warrants keen attention given its immense yet underutilized potential to energize development and growth. Women entrepreneurs exemplify traits like resilience and innovation that drive the establishment and success of micro-enterprises, small-scale businesses as well as high growth startups.

Studies reveal that women-led ventures often financially outperform male-owned firms, indicating the business case for gender-inclusive entrepreneurship ecosystems. As visionary Dr. APJ Abdul Kalam highlighted, empowering women remains key to boosting economies. Recent decades have proven that supporting women-owned enterprises facilitates sustainable and inclusive development. business ownership poses multifaceted challenges for women stemming from societal expectations regarding family commitments. Achieving work-life balance remains an overarching priority.

Work-life balance entails managing professional ambitions and personal responsibilities with equal dedication. For women entrepreneurs this specifically involves juggling business goals with household duties, childcare and family needs. Such balance enables the required mindset to spot entrepreneurial opportunities, take calculated risks and provide leadership across business facets from ideation to customer experience.

WOMEN ENTREPRENEURS IN INDIA

It was rare for Indian women to work for themselves in any capacity during the 1970s and 1990s. The women were drawn to a variety of job options during this time, including teaching positions, LIC, and work in various banks. They were also observed in low-productivity industries including household and agricultural work. It was unheard of for a woman to engage in medium- and small-scale business ventures. They were seen as homemakers, and it was criticized to think that a woman could pursue entrepreneurship. Up until the early 1990s, the field was dominated by men. Following the implementation of policies pertaining to privatization, liberalization, and globalization, women began to adapt to the shifting landscape and their own entry into Women benefited from the computerization process as well. Women were first employed in companies that produced homemade goods like pickles and papads during this early era. Subsequently, however, the emphasis was moved to the small- and medium-sized business entrepreneurial activities associated with the manufacturing, and service sectors.

Women's involvement in the heart of economic growth has been acknowledged by the Indian government and the Planning Commission. It is often known that female entrepreneurs may successfully combat poverty in both urban and rural settings. Through a range of initiatives and programs, the Indian government empowers Indian women to take the initiative and pursue a variety of entrepreneurial ventures.

The Prime Minister Rojgar Yojna (PMRY), the Integrated Rural Development Programme (IRDP), the Training of Rural Youth for Self Employment (TRYSEM), the Development of Women and Children in Rural Areas (DWRCA), and the Entrepreneurship Development Programs (EDPs) are a few examples of the various initiatives run by the Planning Commission and the Government of India. Furthermore, the government has increased tax exemptions, concessions, and tax incentives for women. Pursuant to the initiatives of the Indian government, banks, non-governmental organizations, and several other groups,

women are encouraged to launch and run their own enterprises. They have additionally aided in women's empowerment

Subsequently is anticipated that accomplishment of the core of my studies of a sustainable and equitable economy depends heavily on the empowerment of women. In order to give women the opportunity to involvement more fully in the corporate sector, the barriers preventing their empowerment must be eradicated. It's occasionally challenging for mothers who stay-at-home moms to transition from evolved into business owners. Despite having their longstanding existence in this field, women are still experiencing obstacles and high expectations in subsequent years.

THE INDIAN GOVERNMENT'S INITIATIVES ARE INTENDED TO ENCOURAGE WOMEN ENTREPRENEURS:

1. The Trump administration has given prominence to women's advancement in its policies subsequent to accumulating independence. Government and Non-Governmental Organization have focused increasingly on the economic contribution that women make through running their own companies and working for themselves. The First Five-Year Plan proposed a number of social programs for women (1951–1956). The establishment of the Central the Promotion of Social Welfare Board, the Mahila Mandals, and the inhabitants Development Programs were a few milestones in this direction.
2. Women's empowerment was closely linked to the concept of intensive agricultural development projects during the second Five-Year Plan (1956–1961).
3. Female education was one of the beginning welfare programs endorsed by the Third and Fourth Five-Year Plans (1961–1966) and 1969–1974).
4. The Fifth Five-Year Plan (1974–1979) gave women's training a lot of measurements because it was necessary for them to have protection and income.
5. The International Women's Decade and the Committee on the Status of Women in India Report the submissions coincided with this plan's timeline. In 1976, the Women's Welfare and Development Bureau was officially established under the Ministry of Social Welfare. During the Sixth Five-Year Plan (1980–1985), there was a discernible movement from welfare to development. It recognized that women's limited access to resources remained a significant barrier to their advancement. Emphasizing the need for female empowerment and equality was the Seventh Five-Year Plan (1985–1990). It was the first time when qualitative components became the center of attention.
6. The Eight Five-Year Plan (1992–1997), especially at the local level, gave women's empowerment a high priority through Panchayati Raj Institutions.
7. The Ninth Five-Year Plan (1997–2002) introduced the Women's Component Plan concept, which allotted at least 30% of funds and benefits to groups that assist women. The Tenth Five-Year Plan (2002–07) aims to empower women by implementing the recently passed National Policy for Empowerment of Women (2001) and to guarantee the survival, safety, and development of women and children through a rights-based approach. Empowering women is the eleventh five-year plan's (2007–2012) main objective.
8. The Tenth Five-Year Plan (2002–07) aims to empower women by implementing the recently passed National Policy for Empowerment of Women (2001) and to guarantee the survival, safety, and development of women and children through a rights-based approach.
9. The Eleventh Five Year Plan (2007–2012) aims to empower women in the fields of politics, law, education, and the economy.

10. The Twelfth Five Year Plan (2012–2017) aims to ensure the equality of all women in a way that empowers them to take charge of their decisions, resources, and attitudes of society. This is achieved by enhancing their economic, social, and political freedom and establishing all national policies, plans, and initiatives. The momentary the Indian government's agencies and ministries are in charge of about 27 initiatives aimed that are tailored toward women.
11. The Prime Minister's Rojgar Yojana (PMRY)
12. The Integrated Rural Development Programme (IRDP)
13. The Khadi and Village Industries Commission (KVIC)
14. The Training of Rural Youth for Self-Employment (TRYSEM)
15. The Entrepreneurial Development Programme (EDPs)
16. The Management Development Programme
17. (MDPs), the Women's Development Corporations (WDCs)
18. the Marketing of Non-Farm Products of Rural Women (MAHIMA)
19. the Assistance to Rural Women in Non-Farm Development (ARWIND)
20. Indira Mahila Kendra,
21. Indira Mahila Yojana,
22. Yojana Mahila Samiti,
23. Nidhi Mahila Vikas
24. Microlending Program,
25. Kosh, Rashtriya Mahila
26. Mahila Vikas Nidhi (r), Mahila Udyam Nidhi (q) from SIDBI,
27. SBI's Shree Shakti Scheme, for example
 - a. Credit Programs for NGOs,
 - b. MSECDP, or Micro and Small Enterprises Cluster Development Programs
28. Programs offered by National Banks for Agriculture and Rural Development,
29. The RGMVP, or Rajiv Gandhi Mahila Vikas Pariyojana
30. Priyadarshini Project: An initiative in the Mid Gangetic Plains to Empower Rural Women and Provide for Their Livelihood, The Support to Training & Employment Program (NABARD-KFW-SEWA)
31. Bank Initiative Women's exhibitions and micro and small business promotional packages authorized by the Cabinet Committee on Economic Affairs with marketing assistance

OBSTACLES FACED BY FEMALE ENTREPRENEURS

In comparison to men, women entrepreneurs encounter a greater number of issues because they deal with issues not only as business owners but also as individuals. Among the issues are those related to mobilizing diverse resources, including as capital, marketing, sales, labor, raw materials, technology, and competition, .technologies, issues with land, sheds, water, electricity, taxes, and the like, as well as a lack of assistance from both the government and families. Thus, their issues ,originate from both the inside and the outside as well as While some of these issues are widespread and universal, others are more specialized and connected to the business's industry. There is no set method for handling problems that arise from the external world, which affects some people. The entrepreneurs themselves must solve the issues; else, the operation of the business will be impacted. Their success has been attributed to the rapid and productive handling of the situations.

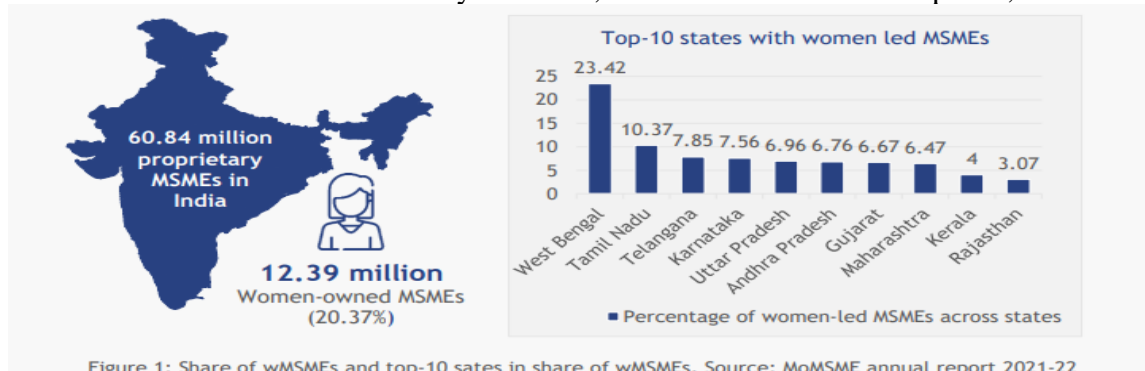
1. **Less Confidence:** Women business owners lack self-assurance in their abilities and power. Their family members don't support their business development. Even if things have changed recently, women still need to adapt further if they want to see more progress in their own businesses:

2. **A scarcity of Exposure to Fiscal Sustainability** :They belong to reluctant to successfully get providing funding for primarily because they have no authentic assets and no collateral in the market. The tangible asset is legitimately that is controlled by very few women. progressively a result, the monetary and working capital are unfavorable.
3. **Competition from Male Entrepreneurs:** Women entrepreneurs face obstacles in the business management process due to competition from their male rivals. Due to their inferior organizational abilities compared to men, female entrepreneurs must contend with the limitations imposed by male competitors.
4. **Mobility Restriction:** Women entrepreneurs' freedom to travel is limited by the conservative nature of Indian society. Men move more freely than women do. When compared to men, women lack the determination to travel throughout the day and at night, in addition to to different states and regions.
5. **Social issues:** The incorrect perception of women in society as a result of inadequate knowledge and education, economic regression, and a low willingness to take risks. Problems with management: These stem from a lack of experience and general management expertise, a shortage of skilled workers, low labor turnover and absenteeism, unclear goals, and transportation issues affecting women.
6. **Production issues** :It include things like a shortage of land, plots, and facilities, erratic input supply, inadequate technical support for production identification, outdated technology for quality assurance and research and development, and inadequate inventory management.
7. **Marketing Issue:** They are having trouble selling their items since they don't know enough about it and are relying too much on local markets; they are also facing fierce competition from large.

INDIA'S LANDSCAPE OF WOMEN ENTREPRENEURS

Characteristics	Values
Total number of MSMEs in India	63 million
Percentage of MSMEs owned by women	20%
Number of people employed by women-owned MSMEs	22 - 27 million
Recommend analysis	Proportion of female-run entities across all proprietary MSMEs
Recommend analysis	States with highest density of MSMEs

The data is sourced from the Ministry of Micro, Small and Medium Enterprises, 2021.



The data is sourced from the Ministry of Micro, Small and Medium Enterprises (MoMSME), 2021.

Characteristic	Male	Female	Total
Percentage of MSME workers	76%	24%	100%
Number of MSME workers (in millions)	89.46	26.49	110.98
Distribution of female MSME workers (in millions)	-	13.75 (Rural)	-
Distribution of female MSME workers (in millions)	-	12.74 (Urban)	-

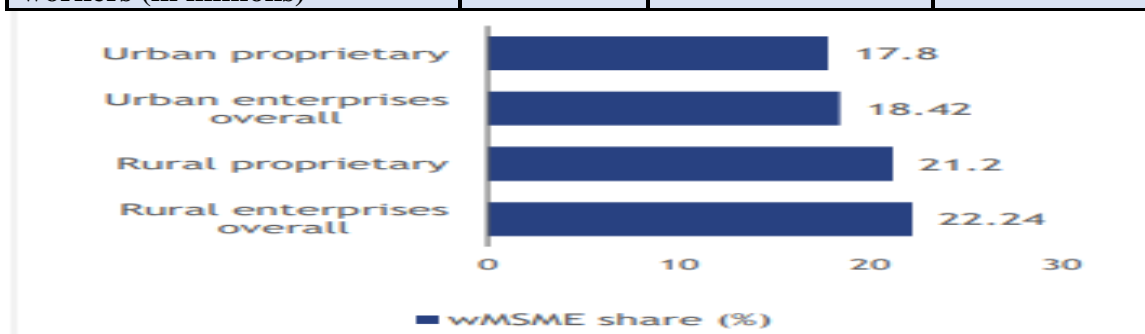


Figure 2: Share of wMSMEs in rural and urban sector
Source: MOSPI, 2016, 2019

Characteristic	Value
Proportion of MSMEs in India that are micro enterprises	More than 99%
Most women-owned businesses	Single-person micro-enterprises
Percentage of women-owned companies with employees	17%
Percentage of women-owned companies with 6 or fewer employees.	95%
Proportion of women-led businesses	Decreases as the size of the enterprise grows

Source : The data is sourced from the Ministry of Micro, Small and Medium Enterprises, 2021.

FINDINGS

- Women business owners still have difficulty obtaining financing. Research indicates that on average, women start firms with 50% less capital than males.
- It is also less common for women to obtain funding from venture capital.
- Certain industries tend to have a higher concentration of female entrepreneurs.
- The retail trade, professional/scientific/technical services, social assistance and health care, and other services account for over 40% of firms held by women.
- Women are starting fewer enterprises in high-tech industries.

SUGGESTIONS

- Boost the number of women enrolled in technology accelerator programs and incubators to aid in the growth of businesses.
- Provide specialized instruction on financial planning, business formalization, digital platform use, and compliance with legislation to female entrepreneurs.

- Inform women running microbusinesses about government incentives and subsidies for small businesses.
- Give women access to professional development and leadership programs so they can acquire the skills needed for managing positions in businesses.

CONCLUSION

The tale of India's economic growth is one in which women entrepreneurs are playing an increasingly significant role. Women's entrepreneurship must be supported and encouraged if the Indian economy is to flourish in a comprehensive and inclusive manner. The economy must continue to support policies that encourage entrepreneurship, open up markets and capital, foster entrepreneurial ecosystems, and adapt rigid social norms if we are to fully realize the immense potential of Indian women entrepreneurs. These aren't choices; they are requirements. Positive societal effects of rising economic empowerment and the dismantling of stereotypes among Indian women include improved health and education, reduced inequality, and increased female literacy, improved health and education, as well as less inequality

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LEVERAGING AI & INFORMATION TECHNOLOGY FOR INDIA'S \$5 TRILLION ECONOMY BY 2027: CHALLENGES AND GATEWAY

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ABSTRACT

India's pursuit of a \$ 5 trillion economy by 2027 necessitates strategically integrating Artificial Intelligence(AI) and Information Technology(IT) across different sectors. The Team parcel report showed the global request size of Artificial Intelligence in 2022 was estimated at \$ 136 billion, and it's anticipated to grow at a CAGR of 37 percent from 2023 to 2030. As per the report, the AI generated profit in India stood at \$12.3 billion in 2022. Furthermore, it is projected that the nation's AI software market would expand at a compound annual growth rate (CAGR) of 18% by the end of 2025. The public AI plan of NITI Aayog advocates for "AI for All" to support inclusive growth, and India's grasp of AI and development of capacities demonstrates this. According to NITI Aayog, the emphasis areas for AI- led results for social impact include healthcare, husbandry, education, smart metropolises and structure, smart mobility, and transportation. This conference paper explores the pivotal role of AI and IT in achieving this economic milestone, presenting insights into challenges, and proposing gateways for prostrating them. The paper aims to contribute actionable recommendations to stakeholders in management, technology, engineering, and other specialized areas.

Keywords: India, \$5 Trillion Economy, Artificial Intelligence, Information Technology, Economic milestone, Digital Transformation.

INTRODUCTION

Artificial Intelligence (AI) has swiftly appeared as a revolutionary influence across various industries, leaving an increasingly noticeable impact on economic growth. India is determined to become a \$5 trillion economy by 2027, which means that information technology (IT) and artificial intelligence (AI) must be strategically integrated into a variety of industries. In the economic realm, AI is reshaping the way businesses function, governments make decisions, and societies prosper. Its role in economic growth extends to government and policy-making, as governments worldwide recognize its potential to enhance public services and decision- making processes. AI's capabilities in analyzing vast datasets, predicting economic trends, and optimizing resource allocation are key factors in this transformative role.

The global AI landscape is experiencing substantial growth, with a projected market size of \$305.95 billion in 2024, according to the Team Parcel report. Forecasts indicate a compound annual growth rate (CAGR) of 37% from 2023 to 2030, highlighting AI's transformative potential in various industries. In 2022, India contributed significantly to this growth, generating a profit of \$12.3 billion through AI, with the AI software sector expected to maintain an 18 percent CAGR by the end of 2025. India has a significant role in the AI revolution as the country with the fastest-growing economy and largest population in the world.

Recognizing the crucial role of AI in inclusive growth, NITI Aayog, India's premier policy think tank, has introduced the "*AI for All*" initiative. This initiative emphasizes leveraging AI to address social challenges in sectors such as healthcare, agriculture, education, smart cities, infrastructure, and transportation. Acknowledging AI's potential to transform economies. In

the 2018–2019 budget speech, the Hon. Finance Minister directed NITI Aayog to launch the National Programme on AI. The goal of this programme is to direct new and emerging technology research and development. NITI Aayog has taken a three-pronged approach in compliance with this mandate, which includes working with experts and stakeholders, developing a national strategy for creating a thriving AI ecosystem in India, and initiating exploratory proof-of-concept AI initiatives.

AI-powered automation and optimization algorithms have streamlined production processes, supply chain management, and resource allocation, enabling businesses to operate more efficiently, reduce costs, and increase productivity – ultimately contributing to a boost in economic output.

LITERATURE REVIEW

Endogenous growth models are essential to the field of study looking at the relationship between economic growth and technology. According to **Arrow (1962)**, technology develops as a by-product of ordinary production, with an emphasis on information accumulation or "learning-by-doing" as the driving force behind increased productivity and ensuing prospects for economic progress. Technical advancement, according to Arrow, is based on knowledge and experience and shows up as additional physical capital added to the production process in order to increase "productive efficiency."

Zeira (1998) presents a theoretical framework accounting for intermediate commodities in manufacturing, building on Schumpeterian theory. According to this theory, technology increases capital consumption and replaces labour in the manufacturing process. Especially, countries find it difficult to keep up with the rapid advances in technology, which causes differences in how people use technology and, in turn, in production and productivity.

Acemoglu and Restrepo (2018) offer a "task-based" framework in which they see technical innovation as critical to increasing productivity, and automation and task creation as essential types of innovation. At first, they treat automation and new activities as interchangeable, but as automation requires capital investment, it changes the manufacturing process's capital-labour ratio. But by providing novel, complex jobs that take use of labour's comparative advantage, a balance is preserved. This theoretical framework imagines both types of innovation coexisting and advancing simultaneously along a steady, balanced growth trajectory.

Although these theoretical understandings clarify the relationship between scientific discoveries, information and communication technology (ICT) improvements, and economic expansion, there is still a dearth of actual data about modern technical innovations such as artificial intelligence (AI) and machine learning.

One of the challenges is the lack of sufficient data, particularly for long-term growth assessments, at both the business and macro levels.

Scientific publications and patents are frequently used as measures for technological innovation in empirical research. Under Schumpeterian theory, patents denote the right to monopoly revenues from newly invented technologies, promoting "creative destruction" as antiquated technologies are replaced. On the other hand, the quality of research and development (R&D) is measured by scientific publications. Scholarly publications are considered economic growth drivers, presuming that information from journal articles becomes actual technological inputs for industry.

According to **Kim and Lee (2015)**, patents have a greater impact on economic growth than scientific journals. They view academic publications as sources of scientific information, yet patents contain technological knowledge that is mostly the result of businesses' own R&D work. Numerous studies demonstrate the beneficial effect of patents on economic growth, even in the face of certain recent studies that show contradictory results.

There are differing conclusions from studies on how cross-country growth is impacted by scientific research as indicated by the quantity of scientific publications. While **Ntuli et al. (2015)** discover varying causation between research output and growth among OECD nations, **Kim and Lee (2015)** find no significant impact. **Mueller (2006)** indicates that research production has a beneficial influence on local economic performance at the regional level, contrary to the existing literature which indicates a weak or ambiguous association between academic research and national growth.

Given that artificial intelligence (AI) is emerging as a new general-purpose technology (GPT), this study focuses especially on this particular technological advance, machine learning. When AI is compared to earlier technologies, particularly ICT, it becomes clear how different they are in terms of how they affect different industries and how they might be adopted. Empirical evidence supporting AI as an engine of economic growth is still limited because of the lack of available data.

RESEARCH OBJECTIVES

- Explore the influence of Artificial Intelligence (AI) across diverse sectors within the Indian economy.
- Identify the obstacles associated with AI in the Indian context.
- Delve into the necessary initiatives required to address challenges and facilitate the effective implementation of AI in India.

RESEARCH METHODOLOGY

This study combines both descriptive and analytical methods to thoroughly examine the subject. The research relies on secondary data obtained from a variety of credible sources, including books, magazines, journals, blogs, websites, and reports. This approach ensures a comprehensive exploration of the topic and enhances the robustness of the findings.

DEFINITION OF AI

Although there isn't a single, globally accepted definition for artificial intelligence (AI), many international organizations have similar viewpoints. AI spans a wide spectrum of technologies. It describes the capacity of machines to carry out cognitive functions such as perception, thinking, learning, problem-solving, and decision-making. Artificial Intelligence (AI) has come a long way from its first conception as a system that could mimic human intelligence. Intelligent systems can now perform a variety of activities, promoting connectedness and improving productivity, thanks to significant developments in data processing, collecting, and computational capacity. Due to its growing capabilities, artificial intelligence is being used extensively in a variety of industries.

Artificial Intelligence (AI) is the umbrella term for a range of technologies that allow robots to mimic human abilities like perception, comprehension, and action. Through image, sound, and speech analysis, technologies like computer vision and audio processing enable robots to actively sense their surroundings. Inference engines and natural language processing help AI systems analyse and comprehend data. Expert systems and other related technologies enable AI systems to do physical tasks, demonstrating their real-world functionality. The ability to learn from experience enhances these skills over time, leading to increasingly complex and extensively used AI systems in businesses.

EVOLUTION OF AI

The modern world is experiencing an unparalleled period of technical advancement in a multitude of domains, denoting the advent and endurance of the "AI Spring." Important elements influencing this optimism are as follows:

- a. Easy access to processing power: By 2032, the worldwide cloud computing market is expected to have grown from its 2022 valuation of \$495.3 billion to \$2495.2 billion. From 2023 to 2032, the cloud computing market is expected to grow at a compound annual growth rate of 17.8%. This access is made possible by the quick rise in processing power.
- b. Significant reduction in data storage costs: We are living in a time where hard drive data storage is becoming exponentially less expensive per gigabyte. With data storage costs falling from USD 500,000 per gigabyte in 1980 to 1.5 and 2 cents per gigabyte, we are getting close to near-zero marginal costs.
- c. Increase in digital data: According to IDC predictions, the world's data volume will reach 163 zettabytes, or one trillion gigabytes, by 2025. Comparing this to the 16.1ZB of data created in 2016, there has been a tenfold increase. Professor Barry Smyth of University College Dublin says it best when he says, "Data is to AI what food is to humans." AI is constantly advancing due to the exponential explosion of data in an increasingly digital society.

FOCUS AREAS OF AI FOR ACHIEVING A FIVE TRILLION ECONOMY

Agriculture

Although India has diversified from being solely an agrarian economy, the agriculture and allied sector still employs 49% of India's workforce, contributes to 16% of the country's GDP, and plays an important role in ensuring food security for approximately 1.3 billion people. Achieving and sustaining an 8–10% yearly growth rate for the Indian economy necessitates a 4% or higher growth rate in the agriculture sector. Doubling Farmers' Income has been prioritized as a National Agenda by the Government of India, emphasizing supply chain perspectives, market development, and productivity enhancement.

AI is poised to have a substantial global impact on agricultural productivity throughout the value chain. Markets and Markets Research estimated the value of Artificial Intelligence in agriculture at USD 432 million in 2016, projecting a growth rate of 22.5% CAGR to reach USD 2.6 billion by 2025. Agricultural tech startups, particularly those leveraging robotics and machine learning, have attracted over USD 800 million in the last five years. From analysing satellite images to enhancing plant microbiome strains, these startups are utilizing AI and robotics to address agricultural challenges and raised of \$ 500 million. In 2022 alone, approximately 50 Indian AgTech startups raised \$ 23.5 billion and expected \$ 79.7 billion by 2030, showcasing a notable surge in startup participation in this sector.

Various AI applications are poised to impact productivity and efficiency across the value chain for agriculture, including:

1. Soil Health Monitoring and Restoration: Without requiring infrastructure for laboratory testing, distributed soil health monitoring is made possible using image recognition and deep learning models. AI systems enable farmers to take prompt action for the restoration of soil health by combining data signals from distant satellites with locally captured images.
2. Crop Health Monitoring and Real-Time Action Advisories: AI is able to forecast advisories that are important for rain-dependent agriculture that is susceptible to climate change. These advisories include sowing, pest management, and input control. Agronomic factor monitoring made possible by AI, high-resolution weather data, and remote sensing allows for comprehensive crop monitoring that gives farmers and extension agents useful information.
3. Improving agricultural Mechanization Efficiency: The use and effectiveness of agricultural machinery are revolutionized by image recognition algorithms combined with local and remote sensed data. Particularly in horticulture methods that call for constant monitoring, artificial intelligence (AI) helps in weed eradication, early disease

detection, and precise harvesting and grading.

4. **Raising Producer Price Realization:** AI tools use predictive analytics to improve price discovery, cut down on supply chain intermediary inefficiencies, and provide precise supply and demand information. This helps farmers who face low levels of price realization (as low as 20% for fruits and 18% for vegetables). Predictive modelling and increasing farmers' share of price realization depend on big data analysis from sources including e-NAM (which has data on over 138 million operational holdings), the Agricultural Census, AGMARKET, and more than 110 million soil health samples.

Manufacturing Sector:

In India, the manufacturing industry employs about 12% of the labour force and generates 15% of the GDP of the nation. With Edge AI's disruptive influence, the industrial sector is positioned to play a critical role in India's economic aspiration of becoming a USD 5 trillion economy. The Indian government announced major investments in the Union Budget 2023–24 to teach young people in new technologies like artificial intelligence. The founder and CEO of Creative Synergies Group, Dr Mukesh Gandhi, believes that this is a positive move towards closing the skills gap and advancing India's economy towards the USD 5 trillion ambition.

When combined with Cloud 2.0, Edge AI presents significant prospects for Indian industrial firms. It allows for operational optimization, predictive maintenance to reduce downtime, real-time data processing to monitor equipment performance, and maintenance demand prediction. The 'State of Smart Manufacturing Report', released by Rockwell Automation recently, showed that the highest percentage of manufacturing companies investing in technology is found in India. 1,350 manufacturers from 13 important manufacturing nations participated in this survey. Manufacturing processes have always had to deal with issues including high production costs, labor-intensive jobs, and little flexibility. But the manufacturing scene has undergone a major change with the incorporation of AI, thanks to the introduction of intelligent automation, predictive maintenance, and improved data-driven decision-making skills.

AI's financial impact in the manufacturing sector is notable in five key areas.

1. **Predictive Maintenance:** By anticipating possible problems in advance, maintenance records with historical data can be used to forecast machine behaviour and minimise downtime.
2. **Predictive Quality:** Significant cost savings can be achieved by anticipating and reducing failures.
3. **Scrap Reduction:** Reducing scrap improves overall product quality by using metrics to forecast behaviour across product specifications.
4. **Increasing Yield/Throughput:** By anticipating potential deviations from specifications, a machine or process can take proactive steps to preserve quality and minimise the requirement for quality passes.
5. **Demand and Inventory Forecasting:** Accurate demand and movement of vital part forecasting leads to large inventory reductions. This is made possible by a full grasp of plant operations and production data.

In order to employ AI in manufacturing responsibly, legislators, business executives, technologists, ethicists, and the general public must work together. Enacting strong regulatory frameworks that uphold ethical standards and guarantee accountability in the development and application of AI is imperative for governments. Responsible rules for AI research and development should be given top priority by industry stakeholders, and ethical impact evaluations should be included into the product lifecycle.

Impact of AI on the Growth of Service Sector in India:

The service sector is a crucial component of India's economy, contributing significantly to GDP and employment. The integration of Artificial Intelligence (AI) in the service sector is poised to bring about transformative changes, fostering efficiency, innovation, and enhanced customer experiences.

1. Improved User Experience:

Chatbots and virtual assistants driven by AI are transforming customer service in sectors including banking, e-commerce, and telecommunications. These automated systems can respond to common questions, offer prompt assistance, and raise client satisfaction levels. The expansion of service-related enterprises is facilitated by the efficiency improvements resulting from AI-driven customer service.

2. Data-Driven Decision Making:

AI facilitates data analytics, enabling businesses in the service sector to make informed decisions. Whether it's optimizing supply chains, predicting market trends, or identifying areas for operational improvement, AI-driven insights empower organizations to navigate the complex landscape of the service industry, contributing to sustainable growth.

3. Healthcare Services Transformation:

One of India's most exciting and demanding industries, healthcare is predicted to reach \$65 billion by 2024 at a compound annual growth rate (CAGR) of more than 37% from 2020 to 2025. In order to address the country's healthcare issues, the Indian government has been implementing a number of significant initiatives, such as the Ayushman Bharat Mission, the development of district hospitals to provide long-term care for non-communicable diseases, the transformation of 1.5 lakh Health and Wellness Centres, and the promotion of e-Health. High obstacles to accessing healthcare facilities can be addressed by the use of AI in healthcare, especially in rural areas where there is a shortage of healthcare experts and poor connectivity. Use cases including AI-driven diagnostics, individualised care, early detection of possible pandemics, and imaging diagnostics, among others, can be implemented to achieve this. India's healthcare system is still multi-layered and complex, and despite the clear economic potential, it is ready for many disruptions from developing technology. The fact that both large corporations and startups are increasingly investing in the development of AI-focused healthcare solutions suggests that this use case is perhaps the most obvious and intuitive one that is ready for intervention through AI-driven solutions. Over the next few years, there will likely be an exponential surge in the use of AI in healthcare applications. India now has a chance to address some of its long-standing issues with delivering adequate healthcare to a sizable portion of its people thanks to growing technological advancements, innovator interest, and activity. AI, robots, and the Internet of Medical Things (IoMT) together have the potential to become the healthcare industry's new nervous system, offering answers to issues in the field and assisting the government in achieving its goals. Artificial Intelligence (AI) technologies have the potential to supplement limited human resources and laboratory facilities, help remove obstacles to accessibility, and serve a significant portion of India through early detection, diagnosis, treatment, and decision-making.

4. Educational Services and Skill Development:

The use of technology in teaching to enhance user or student learning outcomes is known as educational technology, or Ed-Tech. It consists of a range of digital resources and tools, such as hardware, software, multimedia, and network equipment. With the use of educational technology, students may study at their own pace, anywhere, at any time, using resources like micro learning courses and gamified content.

- With \$4.3 billion in total revenue in 2022, the Indian edtech market grew at a compound annual growth rate (CAGR) of 16.8% from 2017 to 2022.

- With total revenues of \$1.9 billion, or 44.3% of the industry's total value, the pre-K–12 and K–12 sector held the greatest share of the market in 2022.

Only four months after funding USD 30 million from Belgium-based Verlinvest, one of India's top EdTech businesses, Byju's, raised \$40 million from Tencent in July 2017. The Chan Zuckerberg Foundation and Sequoia Capital are two more investors in Byju. The way that educational services are delivered is changing thanks to AI-powered learning systems. Tools for skill evaluation, individualised tutoring, and adaptive learning systems all support the expansion of the education industry.

5. Logistics and Supply Chain Optimization:

In the logistics and supply chain segment of the service sector, AI applications enhance efficiency by optimizing routes, predicting demand, and automating warehouse operations. This results in cost savings, improved delivery timelines, and overall growth in the logistics services industry.

CHALLENGES AND CONSIDERATIONS

While the impact of AI on the service sector is profound, challenges such as data security, ethical considerations, and the potential displacement of certain job roles need careful attention.

Addressing these challenges is crucial to ensure that AI integration is not only growth-oriented but also socially responsible and sustainable. India's manufacturers lead the world in technology expenditure, yet the country still lags behind in terms of digital maturity. During the same era, Lenovo issued another survey which revealed that 48% of Indian firms are still in the early stages of digital maturity. However, as time goes on, things should become better. Nevertheless, upon analyzing the three sectors collectively, the problems are grouped around recurring themes of:

- a. Insufficient supportive data ecosystems.
 - b. Minimal AI research activity
 - i. Fundamental technologies and core research.
 - ii. Developing market applications from fundamental research.
 - c. A lack of access to AI knowledge, resources, and opportunities for skill development
 - d. Exorbitant resource expenses and insufficient knowledge on the integration of AI in business operations
 - e. Imprecise regulations regarding privacy, security, and morality.
 - f. An unattractive intellectual property regime to promote AI development and application
- Although not all-inclusive, these issues have the potential to provide fundamental building blocks for India's ascent to the forefront of artificial intelligence if they are resolved quickly by concerted, cooperative efforts by all relevant stakeholders, with the government taking the lead.

WAY FORWARD IN HARNESSING THE POWER OF A.I.

A balanced approach to AI policy that takes into account both local demands and the greater good is required in light of India's unique challenges and goals, as well as the expansion of AI and the country's aim to lead in this emerging technology. India's AI future must take into account our strengths—or lack thereof—in the field, which calls for significant, transformative projects headed mostly by the public sector and supported by the business sector.

India ranks fifth in the world for both amount and quality of AI research expertise, with the results of its efforts being inadequate. The scientific community, which is confined to a small number of academic institutions, depends more on individual brilliance than on institutional knowledge.

The situation is further worsened by the business sector's low commitment to AI research. More has to be done, even in light of some encouraging recent developments like the Karnataka government's plan to work with NASSCOM to create an AI Centre of Excellence.

RECOMMENDATIONS

1. Create a multi-stakeholder marketplace:

In order to promote the creation of cost-effective and sustainable AI solutions for industries like healthcare, education, and agriculture, fair and conducive conditions for all participants in the value chain must be created. The Value Chain for AIA small or medium-sized business or startup finds it very challenging to vertically integrate all of these processes and have the internal ability to implement them all simultaneously prior to going on sale. Consequently, there is a barrier to admission for new players. On the other hand, a strong, consistent price discovery mechanism is necessary for incentives to align and long-term business models to evolve for the various value chain components in order for diverse firms to participate in varied activities while still producing useable products. The difficulty of collecting raw material (data) in the first place is another well-documented and important barrier to entry; as mentioned earlier, most useful data is owned by a small number of organizations to overcome information asymmetry, create a fair playing field, and encourage and facilitate cooperation amongst the many parties involved in the AI ecosystem.

2. Facilitating the generation of large fundamental annotated data collections :

In India, the absence of annotated data in the home context has emerged as a significant hurdle to the development of AI solutions for both startups and core research. The availability of universal data corpora that can be applied across product functionalities can provide as a ready source of data (in 'plugin' mode) for startups, allowing them to tailor solutions to the Indian environment. There is evidence that the availability of huge corpora can stimulate research and innovation in machine learning. This process is inherently arduous, and despite advances in automatic annotation, such as the development of Google Net object categorization, human annotation and data set training is not projected to be substituted in the foreseeable future (National Strategy for Artificial Intelligence 75). This is best demonstrated by the booming investments and businesses in this sector. As of 2017, Alegion, Scale, CloudFactory, Mighty AI, and CrowdFlower, all firms that enable human interaction in data annotation, had received approximately USD 50 million in investment capital. Given the nature of this task, the government must investigate assistance in the creation of large datasets across domains as a means of laying the groundwork for startups and enterprises to develop applications and services tailored to the Indian context, lowering entry barriers for startups and academia while also encouraging international expertise to focus on problems in the Indian context.

3. Partnerships and collaboration:

Any structure created to support AI must take into account the fact that this is a highly collaborative field. Promoting the development and deployment of AI tools across a range of industries requires a complex strategy that involves numerous stakeholders and encourages collaboration. In their 2007 study, Perkmann and Walsh examined various degrees of collaboration in research and divided them into three groups, each with unique traits. Mechanisms like the creation of specialized e-cells at universities like IIT Bombay, IIT Madras, and IIM Ahmedabad, among others, are being used in India to stimulate academic entrepreneurship. But they are not up to par. Low-level cooperation, such as direct knowledge transfer, is being embraced by MNCs and startups in order to grow. Though in limited measure, National Strategy for Artificial Intelligence 76 is also seeking research collaborations. Other types of cooperation, nevertheless, are essentially non-

existent.

4. Spreading awareness of the advantages:

AI provides. Another significant barrier to adoption is limited exposure for the work being done around the country. Unless known through networks, work is frequently reproduced without awareness of past work in the field or interaction with specialists. There is a need for an AI Database on an online portal where registered users can access and retrieve this information. This database, mostly administered by the government, might serve as a single source of truth for specialists and projects under development. The resources might include information such as researchers indicating their knowledge and experts with hands-on experience implementing AI solutions demonstrating their qualifications. This knowledge source can also serve as a venue for discussing various aspects of research collaboration, as well as finding relevant partners and specialists to deliver on AI initiatives. There is a need to educate senior level officials in government agencies, public sector undertakings, and other domestic firms about the numerous benefits that AI provides, by organizing workshops and live demonstrations of potential AI applications and how their implementation can help augment rather than replace the human workforce.

5. Supporting startups:

In an economy that is evolving quickly, like India's, startups and smaller businesses are what drive growth. However, they face obstacles in the AI space, which calls for specific government intervention.

- a. In order to facilitate the exchange of ideas and advice between startups at different stages of maturity, as well as to provide space and other infrastructure facilities for incubation, it is imperative that AI startups establish incubator hubs in partnership with state governments and private sector stakeholders.
- b. The creation of a fund to give grants to business owners so they can function and expand. This should be directed towards helping companies get through their early years of operation, when they can't get venture capital funding or can't afford to give up a sizable chunk of their company to get early stage seed financing.

CONCLUSIONS

Unlocking the full potential of Artificial Intelligence (AI) requires its adoption across the whole value chain, which includes government agencies, startups, the private sector, and Public Sector Undertakings (PSUs). This might start a positive feedback loop between supply and demand, having a big effect on several industries. In light of the research paper "Leveraging AI & Information Technology for India's \$5 Trillion Economy by 2027: Challenges and Gateway," it is clear that taking proactive steps is necessary to overcome these obstacles. It is advised that IP awarding agencies, courts, and tribunals construct IP facilitation centres to serve as middlemen between practitioners and AI developers. They should also provide thorough training to these groups of individuals. This all-encompassing strategy seeks to close the gap and create an atmosphere that is favourable for AI innovation, greatly aiding India's aspirational objective of building a \$5 trillion economy by the year 2027.

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INDIA'S DEFENSE AND SECURITY RELATIONS WITH CENTRAL ASIA: A BRIEF ANALYSIS OF CHANGES AND CONTINUITIES

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ABSTRACT

Central Asia is considered as a part of India's extended neighborhood. The policy of extended neighborhood aims at diversifying India's geopolitical partners and secure India's widening interests. As a part of this policy India is actively developing its relations with Central Asia. With the disintegration of USSR in 1991 and the consequent rise of new independent states changed the geopolitical dimensions of this region. Further, with globalization the character of the security concerns has also changed and non-traditional security threats such as energy security and terrorism have become a key concern. As a result of these developments and India's expanding interests, mutual challenges and convergences have become a key feature of India's foreign policy. It is in this context that India-Central Asia relations needs to be examined. Over a period of time India has enhanced defense and security cooperation with Central Asia. The Connect Central Asia policy and Prime Minister Shri. Narendra Modi's visit to Central Asian states in 2015 are considered to be significant initiatives in deepening cooperation with Central Asia. In this context, the research paper will briefly examine changes and enhancements in India's defense and security relations with Central Asia during the Congress and BJP led government over a past decade. This comparison will help us in analyzing the changes and continuities in India's relations with Central Asia and help us in building valid conclusions regarding India's foreign policy in 21st century with reference to Central Asia states.

Keywords- India, Central Asia, Defense & Security, Cooperation, Foreign Policy, Changes and Continuities.

INTRODUCTION

India and Central Asia have a long history of relationship.. The relationship could be traced back to ancient times. India has been frequently invaded by Central Asian inhabitants. Historical precedents for India's interaction with Central Asia can be traced back to the Kushans in the third century A.D., Timur in the fourteenth century, and Babur later on.. There is a significant cultural influence of India in Central Asia which can identified in the form of cultural contacts between Central Asian inhabitants and Indians. The Buddhist faith has a significantly greater impact in Afghanistan and Central Asia than it does in India. The Buddhist monks who travelled Central Asia were followed by Indian traders. The well-known silk route passed through the northern parts of India. Ptolemy, the Roman mathematician, astronomer, and geographer, wrote about and named the city of Indikomandana, or the city of the Indians, pointing out that it was situated in modern-day Uzbekistan to the north of the Amu-Darya(Joshi, n.d.). These historical relations have led to development of cultural, political and economic relations not only in historical times but also in contemporary times.

In contemporary times the relations with Central Asia, however, were routed through USSR. Though India maintained relations with Central Asia, however, they were filtered through USSR. Following the disintegration of USSR, the autonomous units of the region under the control of USSR declared independence.

India's relation with Central Asia is analyzed and viewed from the perspective of history and cultural relations. However, the sudden changes in the international political scenario post disintegration of USSR and the associated emerging geopolitics in the Eurasian region as

well as the rise of regionalism whereby regional security came to be viewed as a way of promoting and protecting the national interests in an era of globalization made Central Asian region a critical region for all the major powers. As a result, major powers such as China, USA, Russia ensured that their interests are not only protected but also ensured that they are well-entrenched in the region. India being the regional player and natural ally decided to engage with the Central Asia and decided to enter and engage the region which is geopolitically and geostrategically significant to India (Pradhan, 2018).

India and Central Asia recognized each other's importance from the perspective of mutuality. The convergences were primarily from the angle of strategic as well as cultural relations. It is now well established that India and Central Asia can build their relations from base of cultural relations which they enjoy for centuries. India, as a result has ensured that it develops a very an enduring bond with all the five Central Asian republics. Robust relations are being built on bilateral as well as multilateral levels through cooperation in the field of security in terms of economic, energy and strategic. Prime Ministers Dr. Manmohan Singh as well as Narendra Modi have enhanced Central Asian engagement and have tried to cover broad areas including everything from energy security including the development of gas pipelines, trade and commerce, connectivity, security and countering terrorism and cooperation in health care and pharmaceuticals.

REGIONALISM: THEORETICAL FRAMEWORK

In world politics, regionalism denotes an attempt by nations in a given geographic area to realise an increased cooperation and collaboration in several areas of governmental operations, including military, political, economic, and social-cultural exchanges. States in a given region frequently cooperate and integrate regionally as a result of regionalism. This phenomena occurs in almost every part of the world, and since the 1990s, more attention has been paid to its development.

For the purposes of understanding the importance of Regionalism in India Central Asia relations the idea of functional approach will be useful in this context. The functionalist approach to regionalism was first explored by David Mitrany in his book, *A Working Peace System*. As per this approach, the growing importance of regionalism can be understood as a result of increased interdependence among the nations in technical and trade related areas which leads to regional cooperation and regionalism. These technical areas understood as 'functional' areas imbibes a habit of cooperation among the nations states and leads to cooperation in other areas besides the technical and trade related aspects. This spillover effect is responsible for greater cooperation among the states which in turn develops regional integration.

Regional integration, though, was in earlier phases was associated with geographically contiguous areas and culturally homogeneous areas, has now extended to areas which are diverse and may not be geographically continuous. Further, new regionalism which primarily came up after 1990s has been seen as a result of the several forces such post Westphalian order, increased role of transnational forces, domineering impact of globalization of finance, trade and technology, increased importance of trade and economic activities etc.

The relations between Central Asia and India needs to be analysed, therefore, from the perspective of regionalism. The idea of mutual convergences is dominant aspect of relations. The regional cooperation not only acts as a way to fulfil the national interests but also act as a way to manage the regional interests and challenges. The functional approach explained above is clearly visible in the India Central Asia relations. Starting from technical aspects, it has now reached to areas which cover strategic concerns such as security in all its dimensions. Thus, the research paper will utilize the framework of the functionalist approach to relations between India and Central Asia.

LIMITATIONS OF THE STUDY

The relations between India and Central Asia have several dimensions. Each government has designed and developed policies suiting to the requirements of the time, availability of resources and the global conditions existing at the time. Hence, for the purposes of the study, the policies of only Congress led and BJP led government for the last one and half decade have been considered. Further, the study is limited to two dimensions of the relations namely national security and energy security. The research paper explores the continuities and changes in the policies concerning the above mentioned two dimensions of the relations between India and Central Asia.

STRATEGIC AND GEO-ECONOMIC INTERESTS OF INDIA IN CENTRAL ASIA

India's attempt to re-engage Central Asia over the last three decades has been necessitated by requirement of realizing the Indian interests in following critical and broad areas:

- To achieve the goal of affordable, reliable energy for sustained economic growth by ensuring access to the natural resources of the region such as uranium, natural gas and oil.
- To check any activities of Pakistan which goes against the national interests of India.
- To safeguard India's security interests in the region with reference to the ascendance of fundamental Islamist forces in Central Asia.
- To prevent and keep a check on drug trafficking and potential weapons proliferation in central Asia and to promote interests in the trade, industry and other commercial areas.

The central Asian nations can in turn play an important role for promoting India's interest in following areas:

- Central Asian Republics may prove to be resourceful in supporting the rise of India as emerging regional/global power status.
- India's endeavour for permanent membership of the United Nations Security Council can be fulfilled with the support of Central Asian republics.
- Robust relations with Central Asia will provide India with an opportunity to play a significant role alongside the US, Russia and China in Asian regional politics.

Central Asia is, therefore, significant in India's energy security policy as well as the national security concerns. Further, India is equally concerned at the changing geopolitical situation in Afghanistan which it considers as a part of its neighbourhood. Hence, from the perspective of national security, Central Asia plays an important role for India. It is in this context that comparative analysis could be made between UPA led government and BJP led government with reference to engagement with Central Asia.

NATIONAL SECURITY: CONTINUATION AND CHANGES IN POLICY

For reasons of national security, India places a great deal of significance on Central Asia. The Indian government views the region, notably Afghanistan, as a breeding ground for radical Islam that could give rise to violent organisations in the area. A further source of concern for security is the growth of drug trafficking in Central Asia. Therefore, there is a tight relationship between the instability in the region between Afghanistan and Pakistan and India's security. The unholy partnership between Pakistan and the Taliban has on multiple instances aided in terrorist attacks against India (Pradhan, 2018).

From the above analysis it becomes clear that India plays a bigger role in Central Asian security edifice as it is vital for her to prevent fundamental threats to her national security. India is trying to resolve its security concerns from the perspective of regional security dialogue. India's interest were gathering momentum against the background of

multilateralism in the Eurasian region (Joshi, 2017). This was exemplified by the establishment of Shanghai Cooperation Organization (SCO) in 2001. India was given the status of observer in year 2005 during the UPA government while it was given full membership status during the BJP led government in 2017. Thus, we could see the continuation of the policy in both the governments in terms of using the regional dialogue platforms to realize the national security concerns. The SCO's primary agenda is regional security, energy, and transport connectivity concerns. Thus, the platform could be successfully utilized by India to protect and promote its interests in Central Asia.

With an aim to promote stability in the region, India has taken several initiatives to tackle the security threats that India has. One of the initiatives is establishing joint working groups (JWG) on security. In 2012, India established with Tajikistan while such group was established with Kazakhstan in 2015. Thus, the approaches could be seen to have convergences in both the governments.

In addition to these measures, India has setup a military base at Ayni in Tajikistan in 2004. In 2011, the Indian Government declared the plans to initiate joint military research centre with Kyrgyzstan. Alongwith the initiative, India has also requested Kyrgyzstan to join UN Peacekeeping operation.

In April 2013, both the government issues a joint statement which stressed the importance of security cooperation with an aim to deal with threats emanating from instability in Afghanistan. Thus, the foundation of security relations with Central Asia was strongly laid during the UPA period from 2004 to 2014.

In continuation with national security concerns and cooperation with Central Asian states, the BJP government has taken some important initiatives which represent a change in the approach to relations. The governments' fresh initiatives and meetings, such as the India-Central Asia Dialogue at Foreign Ministers' level (for which the third meeting was held in 2021), participation of the Secretaries of National Security Councils of Central Asian countries in the Regional Security Dialogue on Afghanistan which was held in 2021 in India (Zafar, 2022) presents a change in the approach whereby the government has started to institutionalize the India's bilateral and multilateral relations with Central Asia. Such an approach was missing in early regimes which primarily focussed on agreements, MOUs and such other initiatives. This institutionalization can be compared with policies pursued by India with other nations such as USA where we could witness institutionalization of dialogue. The institutionalization of dialogue could be seen in the following initiatives (Zafar, 2022) :

- The India-Central Asia Dialogue at Foreign Ministers' level.
- Regular meetings of the Secretaries of the National Security Councils to discuss security developments in the region.
- Agreeing to establishment of an 'India – Central Asia Centre' in New Delhi, which will be dedicated as the Secretariat for the India – Central Asia Summit.

Regionalism is now effectively seen in the relations with Central Asia which can be analysed from the recent principles stated by Prime Minister Narendra Modi. In the Delhi Declaration of the 1st India-Central Asia Summit held in 2022, Prime Minister Modi underlined the principle of "Support of All, Development for All, Trust of All, Efforts of All" for regional development, peace and prosperity. While underlining this principle, he expressed the views that cooperation between Central Asia and India is required for regional security and prosperity.

One of the important changes in policy with reference to the security relations with Central Asian states is the direct dialogue between the National Security Advisor (NSA) of India and NSA's of all five central Asian states which could be seen in the first meeting in 2022 of the National Security Advisors/Secretaries (NSAs) of India and Central Asian countries (Gupta, 2022) . The significance of this development lies in the context of increased role of

regionalism in the foreign policy of India with reference to Central Asia as stated above. Time and again India and Central Asia have highlighted Afghanistan as cause of regional security concern all the central Asian states share the border with Afghanistan. Similarly, Af-Pak region poses a threat to the Indian security. It is a well-known fact that Taliban has been supported by Pakistan. As a result, with new development of Taliban taking over Afghanistan has a direct impact on national security of India as the region may be used to support activities of anti-India terror groups in connivance with Taliban. Further, this is also a cause of concern for Central Asia as the ideology of Islamic may spill-over to Central Asian states through Afghanistan as it is neighbor to Central Asia states. Thus, there is mutual concern for both India and Central Asia. With this mutuality, the NSAs met for the first time to discuss the common security concern. Thus, the regional security is now firmly institutionalized in the relations between central Asia and India. Significant issues such as terror financing and cross border terrorism were discussed along with issuing of the common communique.

As part of the increased cooperation with the Central Asian states India has offered capacity building programmes in the areas concerning drug trafficking and terrorism. Further, India has agreed to cooperate with the central Asian states in the areas of cyber security and create a secure cyber ecosystem for these states. Thus, drug terrorism and cyber security are new areas of cooperation that have been developed during the BJP government as a part of the foreign policy concerning Central Asia. This can be concerned as changes in the policy of Central Asia.

Thus, connect central policy unveiled by Congress government has been continued during the BJP government while changes are also visible by way of opening up of new areas of cooperation.

ENERGY SECURITY

A continuous and assured supply of energy is critical for sustaining India's economic growth. However, India has been dependent on the West Asia for fulfilling its energy requirements. Therefore, any disturbances in the region have a direct impact on the supply of energy products in India. Hence, diversification of energy sources in terms of suppliers is inevitable for India. Further, it should be reliable, affordable and sustainable. It in this context that relations with Central Asia assume importance as it could be platform to secure India's energy security. Central Asian states being rich in energy resources such as oil, gas and uranium are therefore, strategically important for India.

India has already taken steps during the UPA period and signed agreements with Central Asian states. Nirmala Joshi has pointed out an important development in the context of energy security. While apprising the relations between India and Central Asia she analysed that in 2009, India and Kazakhstan signed a Strategic Partnership Agreement (SPA) whereby Kazakhstan agreed to supply Uranium (Joshi, 2017). The policy was continued when a new four-year deal on supply of 5000 tons of enriched uranium to India was signed during PM Modi's visit to Kazakhstan in 2015 to provide uranium for India's 21 operating nuclear reactors thereby suggesting continuity in the policy (Dave, 2016). Further, an agreement was signed between ONGC Videsh Limited and KazMunaiGaz for the purchase of 25 per cent stake in the Satpayev oil block in 2011 during the visit of Prime Minister Dr. Manmohan Singh.

PM Narendra Modi during his visit to Turkmenistan in 2015 as a part of his tour has emphasized the renewal of TAPI gas pipeline in order to expand India's footprint in Central Asia. At the same time, taking into account the hurdles in the TAPI pipeline, he has also hinted on the possibility of exploring a new project between India, Turkmenistan and Iran for collaborating on developing a gas pipeline (Dave, 2016). Thus, in the context of gas pipeline India may be seen to be following continuation and changes in the policy. The continuity can

be discerned in the context of already existing TAPI gas pipeline while changes could be seen in form of exploration of possibility of new gas pipeline. However, it needs to be underscored that in both the regimes gas pipeline projects have not taken off successfully.

According to Dave, more than 80 per cent of Tajikistan's territory is mountainous as well as Tajikistan possesses nearly 4 percent of global hydropower generation potential. However, the potential remains unexplored (Dave, 2016). Though India has spent around \$20 million for developing hydropower during over period of time yet there has not been any significant progress in the tapping the potential. Thus, during the timeline of both the governments the potential of hydropower projects remains to be untapped. Hence, there is a potential to develop in future hydropower projects in Tajikistan.

CONCLUSION

While making an analysis of the comparison between foreign policy of India designed by Congress led and BJP led government concerning Central Asia seems to be following the traditional path of changes and continuities. The contours of the foreign policy is continued there are marked changes in the strategies developed by both the governments. However, there are areas where relations have not yet developed to its full extent such as energy security. The current as well as future governments will have to ensure that unexplored as well as less developed areas of cooperation are identified and policies are designed to rectify the same.

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CHALLENGES AND ROADBLOCKS IN MAKING THE INDIAN RUPEE A GLOBAL CURRENCY ON THE PATH TO A \$5 TRILLION ECONOMY

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ABSTRACT

India is pushing for the use of the Indian rupee in cross-border transactions with nations that are subject to US sanctions. 88% of the worldwide currency market turnover is in US dollars. Developing nations may benefit from using the Indian Rupee as a substitute for the USD-based transaction system. India will have to designate more trading partners who has the financial means to purchase commodities from India. India's top export markets are the United States and the European Union. Oil-exporting nations have enormous potential as well, so it would be wise to include them in discussions about international trade and exports. The article's main focus is on the Indian rupee's current situation, government initiatives, and challenges and barriers to full convertibility of Indian Rupee globally.

This article presents an overview of the Convertibility of the Indian Rupee as an alternative to inter - Border Trade, as well as a discussion of the advantages and difficulties in fully convertibility of Indian Rupee in cross border trade which is also a vital for India to become a '\$5 Trillion economy'. In the paper, a survey of economic experts & professionals, managers are undertaken to learn more about the Convertibility of the Indian Rupee as an alternative to inter - Border Trade. Lastly, the author tries to offer creative suggestions for Convertibility of the Indian Rupee.

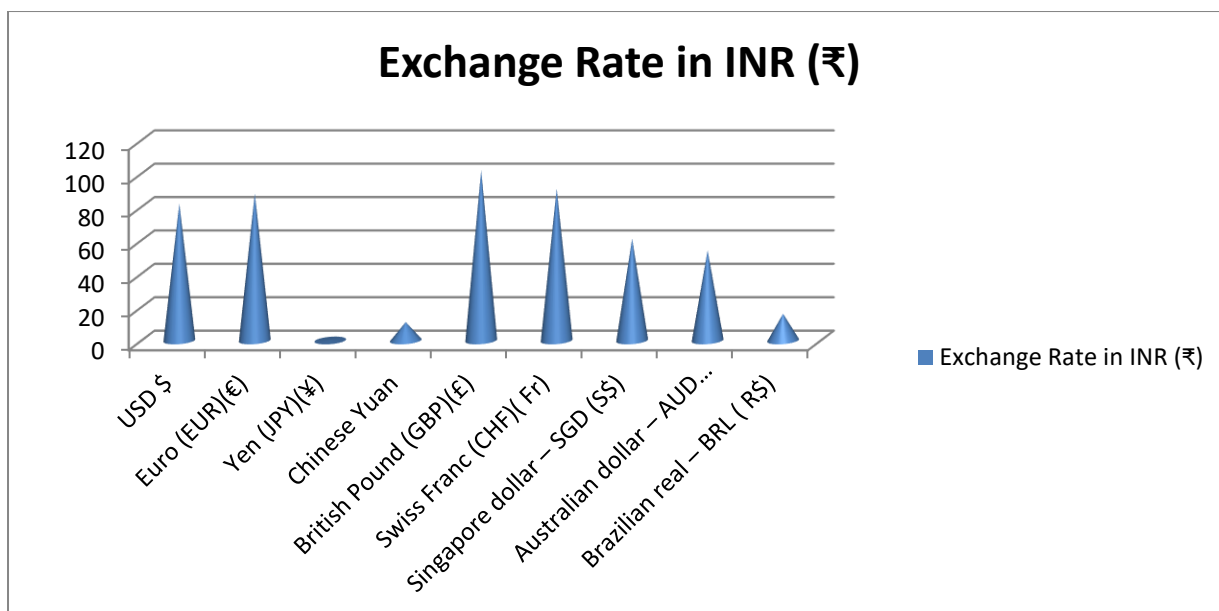
Keywords-Currency, trade, rupee, India, institutions, government, export, finance

OVERVIEW

The world economy and trade are currently going through a challenging time, partly because to the COVID-19-caused recession and the resurgence of geopolitical tensions in Eastern Europe. A currency crisis characterized by acute shortages and instability of foreign cash is imminent for many emerging nations in Asia, Africa, and Latin America. While not always the case, Americas' frequently sanctions on nations (Iran, Russia, etc.) have been imposed using the US dollar as a weapon, forcing nations to find other ways to conduct business and collect payments. In this case, switching from the USD-based settlement system to one based on the Indian Rupee (INR) could be advantageous to India as well as the nations that the US has imposed sanctions on. The Reserve Bank of India's move to encourage transactions in the Indian rupee is definitely a positive move, even though this internationalization of the currency will call for a number of short- and long-term measures.

(The money used by the parties directly involved in international transactions in their respective national currencies is referred to as international currency). Currency exchange, regardless of the nature of the transaction—buying products, services, investing in financial assets etc. The US dollar (USD) is most popular currency in world accounts around 88% of global forex trade, the euro, the Japanese yen, and the pound sterling were the next most popular currencies in the world's currency market as of July 2023,. The Indian rupee's portion of this was only 1.7%.

Exchange of currencies, whether the transaction pertains to the purchase of goods, services or financial assets, etc. As of July 2023, the US dollar (USD) accounted for about 88% of the



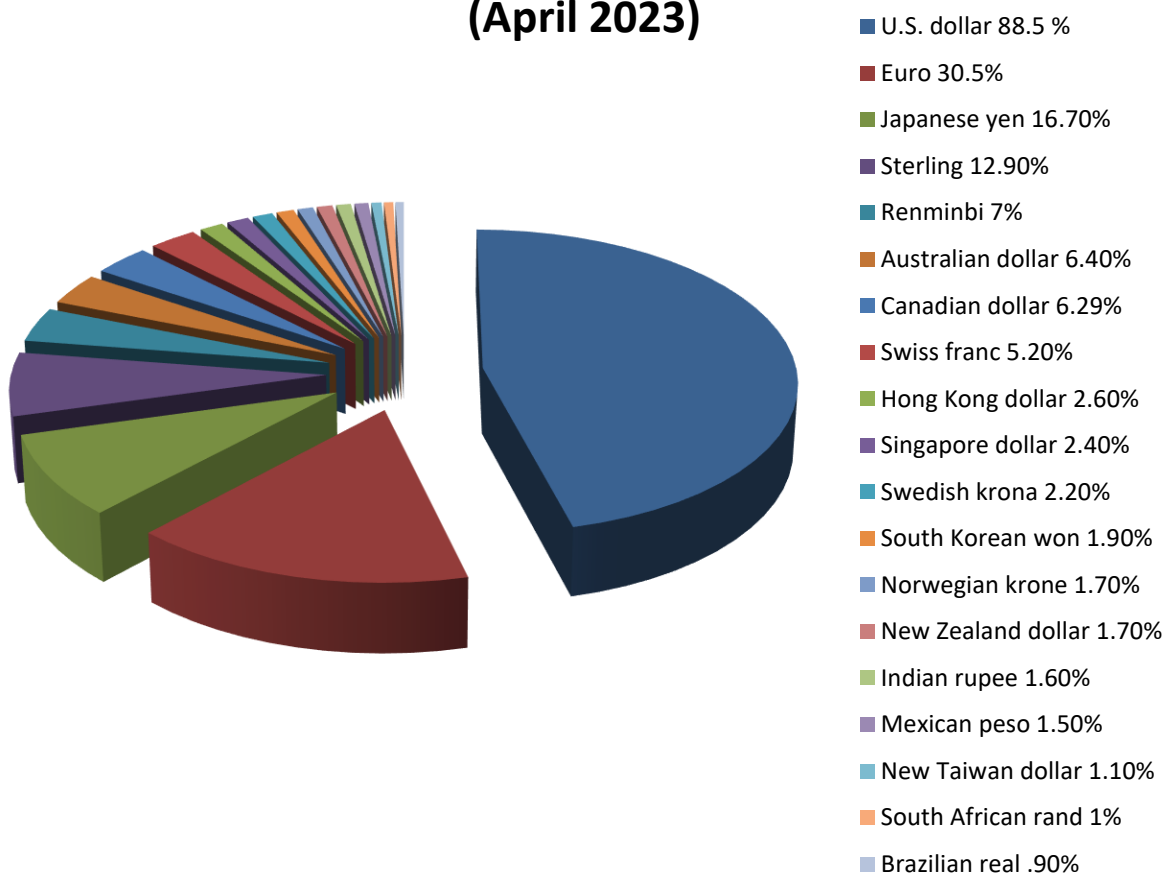
Exchange rate of India Rupee (₹) against some dominant global currencies

<i>Currencies</i>	<i>Exchange Rate in INR (₹)</i>
<i>USD \$</i>	<i>82</i>
<i>Euro (EUR)(€)</i>	<i>88.13</i>
<i>Yen (JPY)(¥)</i>	<i>0.55</i>
<i>Chinese Yuan</i>	<i>11</i>
<i>British Pound (GBP)(£)</i>	<i>102</i>
<i>Swiss Franc (CHF)(Fr)</i>	<i>91</i>
<i>Singapore dollar – SGD (S\$)</i>	<i>61</i>
<i>Australian dollar – AUD (A\$)</i>	<i>54</i>
<i>Brazilian real – BRL (R\$)</i>	<i>16</i>

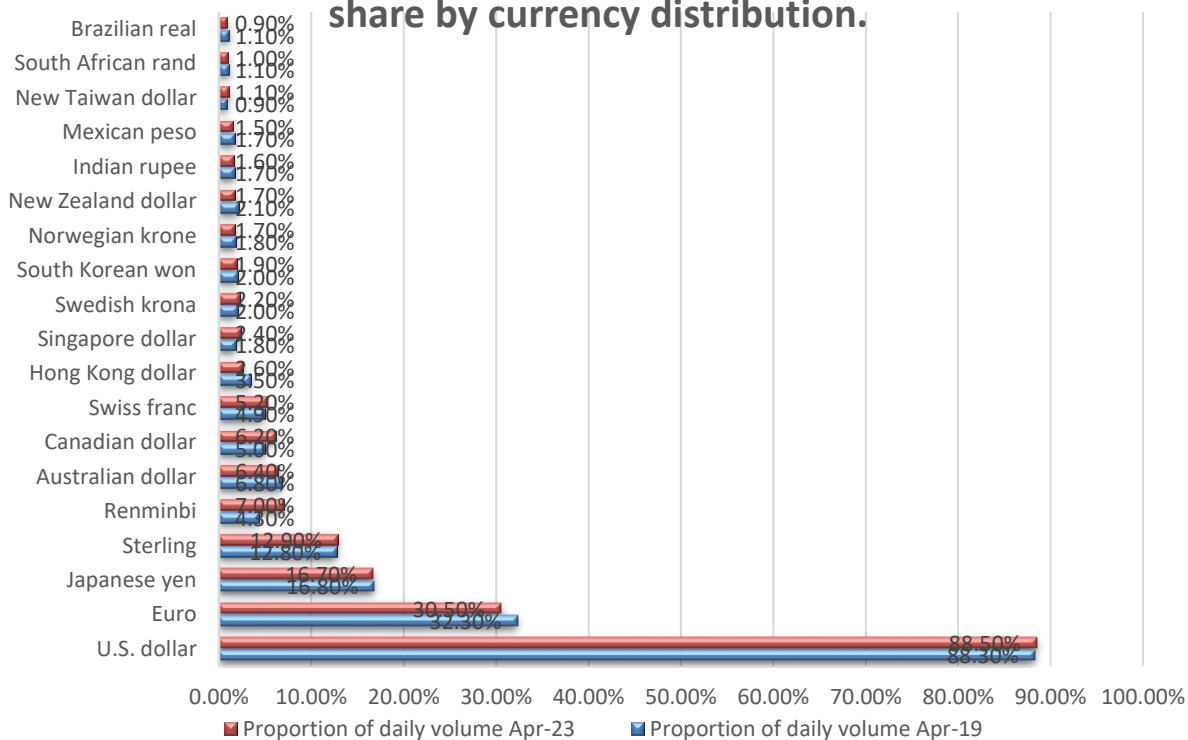
The Indian Rupee is being made international in order to support the expanding process of cross-border currency transactions using Indian currency. This is mostly related to import-export trade, but it also includes other current account and capital account operations. In contrast to other currencies, such as the US dollar, it will allow trade to be settled internationally in Indian Rupees.

While the capital account handles cross-border transactions involving loans and investments, the current account handles the import and export of goods and services. It is created using the money that was received.

Share of Dominant currencies in Global Market (April 2023)



Comparison of worldwide foreign exchange market share by currency distribution.



Precipitating Factors: A 'trigger' was the exclusion of seven Russian banks from the SWIFT system as part of the ongoing economic sanctions imposed on Russia following the war in Ukraine. In 2022–2023, this payment plan will become even more crucial because India is now more reliant on Russian oil that is subsidized and Russia is now its second-largest source of crude oil.

India's efforts: The RBI published a circular in July 2022 titled "International Trade Settlement in Indian Rupees," which lists the prerequisites for both trade settlement and cross-border rupee transactions. The ability to use the excess Rupee balance for capital and current account operations in accordance with mutual agreement is a crucial aspect of this arrangement. Therefore, foreign companies with balances in Rupees are allowed to purchase real estate in India. More recently, the RBI devised a framework for the settlement of rupee trade with eighteen countries in March 2023. It has been agreed that banks in these nations may open Special Vostro Rupee Accounts (SVRAs) for the purpose of settling payments in Indian Rupees, such as for the settlement of commerce between India and Malaysia in Indian Rupees in April 2023.

The RBI created a new payment settlement structure in July 2022, which the Indian government plans to employ to promote its goal of encouraging the use of Indian currency in cross-border trade as part of its Foreign Trade Policy, 2023. The interconvertibility of Rupee is also vital for India vision to become a '\$5 Trillion economy'

Importance: Less reliance on the USD for international trade will be the main benefit of the rupee's internationalization. It will give India more negotiating leverage in global commerce. By removing the possibility of currency fluctuation, the increased usage of the rupee in overseas trade will lower the currency risk for Indian enterprises. It can lower operating expenses, increasing exports' competitiveness on the international market. Furthermore, India needs to keep foreign exchange reserves if a sizable portion of its commerce may be settled in local currency.

The need might be drastically reduced. Is the United States Dollar the Reserve Currency of the World? According to data from the International Monetary Fund (IMF) on foreign exchange reserve holdings, the USD's share has remained relatively unchanged at roughly 60%, with the Euro coming in second with a 20% share, especially in the wake of the conflict in Ukraine. The British pound and the Japanese yen come next to these two currencies. Swiss franc, Australian dollars, and Chinese yuan renminbi all have smaller stakes than the Australian dollar. Due to the need for assets denominated in dollars worldwide as well as the US dollar's widespread recognition as a medium of exchange for international trade, the currency is still in demand. The US government issues debt that is purchased by nations worldwide as well as the global demand for assets denominated in dollars. Countries all across the world purchase US government debt as a hedge against exchange rate changes, which have an impact on reserve values. Therefore, the US dollar's status as a global reserve currency is far from permanent.

Major Obstacles in the Way of Rupee Internationalization: Economists claim that the partial convertibility of the rupee is a significant barrier to its internationalization. A nation's degree of economic growth and financial market maturity typically determine how convertible its balance of payments (BOP) is. Therefore, while EMEs are convertible to varying degrees, advanced economies (AEs) are nearly totally convertible.

Rupee-trading regime not easy to implement: After months of talks, India and Russia decided to halt their bilateral trading in rupees for this reason among others. Additionally, India was unable to convince Russia to retain the rupee in its treasury in full; in fact, Russia has been hesitant to engage in rupee-ruble commerce despite India's significant trade deficit with Russia (which would result in a significant rupee balance for Russia).

Balancing exchange rate stability and domestic monetary policy: The rupee will be more susceptible to external economic shocks as it becomes more globally interconnected, such as fluctuations in commodity prices or shifts in interest rates globally. Because of this, the central bank (RBI) may find it more challenging to uphold both exchange rate stability and a monetary policy that is focused on the domestic market.

Less control over the money supply: When a currency is internationalised, those who are not residents as well as those who are can purchase and sell financial products (including bonds, stocks, and other securities) valued in the home currency. This implies that variables both within and external to the nation might have an impact on the supply and demand of a certain currency.

In the event that the rupee follows this path, the RBI will have less control over the money supply inside its borders, which could make it challenging to keep interest rates steady and in step with the demands of the domestic economy.

Risks associated with full convertibility of the rupee: In order to effectively internationalize the rupee, the government must eliminate all restrictions on the purchase and sale of rupees by domestic and foreign entities. This would eliminate all barriers to the flow of capital into and out of the nation and necessitate full convertibility on the capital account. To guard against the possibility of outside financial shocks to the Indian economy, successive Indian administrations have so far refrained from fully converting the capital account.

Steps may be taken to help the rupee become more globally recognized.

China's emulation: Of the rising economies, China is the only one with control over its capital account. China essentially keeps a trade surplus with most nations. India is currently making progress in this field as well under the 'Atmanirbhar Bharat' initiative. To lessen its reliance on imports, India needs to provide it with greater finance and R&D.

Better planning: It is imperative for India to carefully consider and plan the implementation of the rupee internationalization process to ensure that it does not negatively impact the foundations of the economy. To maintain economic stability, the government must carefully weigh the advantages against any possible hazards and take the necessary action. Additionally, India needs a sizable and well-developed domestic financial sector that is better equipped to handle shocks from the outside world. The RBI also has to conduct its monetary policy in a way that makes it easier to control.

Focusing on export growth: India hasn't done much to promote rupee commerce thus far, and it will take some time for the concept to catch on. For the time being, the only nations that will likely be able to use the rupee are those that are in a deficit with India. India will have to designate more trading partners who has the financial means to purchase commodities from India. India's top export markets are the United States and the European Union. Including oil-exporting nations in the export market would be a wise move because they have a lot of potential.

Other concrete steps that the government can take: The prerequisite for making rupee an international currency is to get rid of all capital account restriction.

Elimination of limitations on the purchase and sale of local currency in forward and spot markets. Allow foreign enterprises, financial institutions, government agencies, and individuals to hold the nation's currency and financial instruments; allow local businesses to issue export and import invoices in their own currency.

A route to full convertibility was outlined in the two Tarapore committee findings from 1997 and 2006. It might be necessary to bring India's per capita income at par with developed nations from its present \$2,600. This would require it to attain a level comparable to industrialized nations, which is more than or equal to \$13,000 per annum. May be if we continue to grow at 7 per cent for next 25 years, by 2047, we could become a strong economy which can permit full capital account convertibility.”

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AN INVESTMENT DECISION: EXPECTED AND EARNED YIELDS FOR PASSIVE INCOME FROM CAPITAL MARKET INVESTMENT

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ABSTRACT

The purpose of this study is to examine the attitudes of capital market investors toward earned and expected returns when they make direct, indirect, and passive income investments. Based on survey data collected both offline and online, quantitative analysis is used from 200 investors in the capital market. The findings show that factors including marital status, education level, and gender don't usually have an impact on an investor's choice of investments. Furthermore, earned returns for investors across all investment classes are typically less than anticipated returns. In contrast to indirect capital market and other investments, direct capital market investments had a higher chance of earning better returns and a lower chance of earning inferior yields, according to the data.

While the majority of investors think that generating passive income is essential to reaching financial independence, few the purpose of this study is to examine the attitudes of capital market investors toward earned and expected returns when they make direct, indirect, and passive income investments. Based on survey data collected both offline and online, quantitative analysis is used from 200 investors in the capital market. The findings show certain genera are successful in producing high yields. This illustrates how challenging it is to achieve financial success with just passive income investments. To improve an investor's passive income portfolio and achieve financial freedom, active income is still required.

Keywords: Investment, earned yield, Expected yield, Active income, Passive Income, Capital Market, investment decision, Investment risk and return, financial freedom

INTRODUCTION

There are many different passive investing alternatives available today, either in bonds, debentures, mutual funds, equity funds, or intangible assets like bitcoin. or in material possessions like gold, real estate, antiques, land, etc. Varied investment types have varied benefits and drawbacks, including payback, risk, and rate of return. Passive income is any revenue derived from assets that don't need your participation. In this case, your money serves you. The idea of passive income has always been appealing, and the economic crisis that followed the Covid-19 epidemic has only served to emphasize how important it is. The term "passive income" in the finance industry describes the money received from real estate, side projects, investments, and freelancing. The basic goal of generating passive income is to generate a consistent flow of income without having to work a full-time job every day. Usually, it takes funds obtained from extremely little labor or active jobs and relatively little time spent as necessary for jobs that are currently open. There is a catch to earning money without having to work for it, even though it may seem too good to be true. One must make an initial financial and time commitment to generate passive income; it does not just happen. Purchasing, developing, or contributing to assets that generate cash flow is the first step toward obtaining passive income. Your return for that initial investment, if all goes according to plan, will be a steady stream of money that you can enjoy over time. Remember that the IRS defines "income from passive activities" more narrowly. If the income is from a business in which you do not materially engage, rental properties, or equipment leasing, then specific tax rules apply to your tax return. It may seem too good to be true to earn money without having to work for it, but there is a catch. One must make an initial financial and time commitment to generate passive income; it does not just happen. The acquisition, creation, or

contribution of assets that generate cash flow is the first step toward obtaining passive income. Your return for that initial investment, if all goes according to plan, will be a steady stream of money that you can enjoy over time. Remember that the IRS defines "income from passive activities" more narrowly. If the income is from a business in which you do not materially engage, rental properties, or equipment leasing, then specific tax rules apply to your tax return.

PASSIVE INCOME CATEGORIES

As previously said, purchasing, developing, or contributing to an asset that brings in money are ways to establish a passive income stream.

- **Purchase:** Annuities, rental properties, dividend stocks, and bonds are examples of investments that generate passive income. Or you could purchase a tiny company.
- **Create:** You can design a profitable good or service.
- **Contribute:** You can fund a limited partnership or an already-existing company. Another option is to list an existing asset you possess for sale or lease. One way is to rent out a room in your home.

POPULAR METHODS TO GET PASSIVE INCOME:

There are three main types of popular passive income strategies:

- a. Conventional sources of income:** Due to their low work requirements, fixed-income and dividend-paying assets are well-liked options for passive income. You pay your bills on time, monitor your financial portfolio, and conduct the upfront research.
- b.** You can accelerate your income growth by reinvesting dividends or interest payments if you don't need the cash flow right now.
- c. Rental homes:** The ability to finance real estate with a mortgage at a reasonable cost makes owning property for rental revenue quite alluring. The value of the property is also less erratic than that of stocks. The trade-off is that passive income from real estate is frequently less passive than one might anticipate. Unless you employ a real estate

HOW TO USE FINANCIAL MARKETS TO GENERATE PASSIVE INCOME:

Investing in dividend stocks is one method of creating a source of passive income. A dividend is a distribution of earnings made by the firm in which you have invested regularly, such as quarterly, half-yearly, or annually. The top dividend-paying businesses gradually raise their payouts, which aids investors in increasing their future income. Additionally, dividend stocks aid in portfolio diversification and are typically less volatile than growth equities. Additionally, investors can increase their profits if they decide to reinvest the money they have earned. Stated differently, equities with a solid track record of paying dividends are referred to be dividend yield stocks. These businesses have a stable track record and cash flow, which enables consistent revenue generation regardless of market conditions. It is reasonable to conclude that dividend stocks are a fantastic way to generate passive income.

i. Exchange-traded funds and dividend index funds: Choosing which particular stocks to purchase takes a great deal of time, work, and investigation. Therefore, rather than picking individual stocks to purchase, one can instead invest in index funds or exchange-traded funds that carry dividend stocks. Those who prefer a "hands-off" approach might make use of this type of passive investing. Because market movements tend to be less volatile across an index than they are for individual stocks, index funds aid in balancing portfolio risk. Index funds are collections of different stocks that aim to mimic the performance of a specific index, such as the S&P 500. With dividend exchange-traded funds (ETFs), you can benefit from index funds' diversification without having to constantly monitor stock performance. If one does

not already have one, one must open a Demat & Trading account to invest in dividend stocks, index funds, ETFs, or other publicly traded assets.

ii. Bonds and Funds Tracking Bonds: Investing in bonds allows investors to lend money to businesses while earning interest income rather than acquiring a share of the business. Bonds yield a lesser return on investment than stocks, but they are also thought to be safer investments. Bonds, on the other hand, are another excellent way to generate Passive Income and may be used to invest a portion of your portfolio due to their reduced volatility and relative safety when compared to stocks.

iii Dividend through Mutual Funds: Mutual Funds are another source of earning Passive Income through their dividends and have gained much popularity in recent times. They have evolved to grow over time and help individuals build money for their future financial goals. Mutual Funds have an option of earning dividends which acts as a good source of Passive Income. However, one must note that the dividend declared gets reduced from the fund's NAV. Also, the dividend that one earns is added to their income and taxed as per the applicable tax rates. Like ICICI Mutual Fund Freedom SIP, UTI Mutual Fund Pragati SIP, etc.

iv. Invest in Closed-End Funds: Because of their special characteristics, Closed-End Funds (CEF) are an excellent way to generate passive income. Unlike traditional mutual funds, certificated exchange funds (CEFs) are unique in that they do not issue new shares and can be purchased and sold much like stocks. Closed-end funds are listed on the stock exchange, much like equities. This makes it possible for investors to monitor changes in market prices. While passive income investments can be a terrific way to increase income, it's crucial to compare the potential returns of these options to those of index funds. Investing in an index fund is a passive method of stock market investing. For example, investing in a Nifty50-based index fund will expose you to the overall market without requiring you to participate in day-to-day trading. Additionally, you have the option to invest in sector-specific index funds. Options like gold, banking, and foreign markets are a few examples.

The multiple-decade increase in Sensex and Nifty's value provides hard evidence for investors' historical preference for index funds. Even while the markets lost steam after severe setbacks like the 2008 financial crisis and the significant decline in March and April of this year because of the Covid-19

vi. Stocks with dividend yields: Dividend yield stocks are those that have a strong track record of delivering dividends to shareholders. These businesses have a stable cash flow and a track record of success. Because of this, dividend stock investments can provide you with income consistently regardless of the state of the market.

v. ETFs: Individual investors find exchange-traded funds (ETFs) to be an appealing alternative to mutual fund schemes because they often offer lower costs and more daily liquidity. ETFs are run passively. An exchange-traded fund (ETF) is designed to replicate a specific market index, which gives rise to the passive management style of fund management. Mutual funds known as exchange-traded funds (ETFs) track the performance of a certain index, such as the NIFTY 50, NIFTY Next 50, NIFTY Bank, etc. These exchange-traded funds (ETFs) have the potential to track indexes for a variety of asset classes, including bonds (10-year G-Sec ETF), equities (NIFTY 50 ETF), gold (Gold ETF), tri-party repo (Liquid ETF), etc. Every security in an exchange-traded fund (ETF) has the same weight as the stocks in the underlying benchmark index.

vi. Investment Trust: One excellent way to get passive income is through mutual funds, which offer the possibility of receiving dividends. It is important to remember that the declared dividend is deducted from the fund's NAV. Additionally, one's income is increased by the dividend they get, which is then taxed at the relevant rates. 2020 was an outstanding year for the Indian stock markets. Indian capital markets were first negatively impacted by the COVID-19 pandemic, as evidenced by the declines in indexes across size and sector between February 2020 and May 2020. But starting in June 2020, all size and sector indexes saw a bull run that lasted until the end of the year. S&P BSE SENSEX TR saw a rise.

LITERATURE REVIEW

Venkataraman, M., Reddy, M. V. B., & Reddy (2018)³ studied the perception of 100 investors towards mutual funds because it's an important tool to convert small amounts of savings into investments. He studied the perception of investors concerning the amount of investment, the reason for investment, the method of investment, and the period of investment and found that investors are investing a very small portion of their income in mutual funds and the main reason behind investing in a mutual fund is tax saving, better returns with the safety of investment and liquidity, generally, they are investing with the help of agents and in SIP of the reputed scheme of top most companies and they invest for long term with the specific financial goal.

Goel, S. and Mani, M. (2018)⁴ They have investigated 11 years of data of 143 mutual fund schemes through the Data Envelopment Analysis methodology. Empirical analysis shows that few mutual fund schemes are performing efficiently and need to reduce the load and expense ratio to attract more investors and portfolio managers. It was advised to the mutual fund Companies to do more and more awareness campaigns in rural areas and small-town areas which will help them to enhance the market in the whole country and also maximize ELSS style followed by balance, growth, and income fund as many of the investors are investing for tax saving purpose along with a good return and other advantages

Reddy, B. A. & Ram, A. S. (2018)⁵ They called sector to the selectivity and timing performance of a specialized group of mutual funds. They analyzed 22 sectors and found the results are consistent with Treynor and Mazy (1966), Henriksen (1984), Chang and Lewellen (1984) Ro macho and Cortez (2006) Sector fund managers exhibit some positive but statistically insignificant selectivity skill, but sector funds show no indication of possessing market timing skills. Despite their specialization, a large number of sector fund managers have poor timing skills. Even though sector fund managers concentrate on a single industry rather than the entire market, they nevertheless struggle to predict the upward and downward movements of their businesses.

OBJECTIVES

1. To find out the role of capital market investment in generating Passive income sources.
2. Which avenue of capital market instruments is preferred more for passive income sources?
3. To find out the awareness of capital market passive income instruments.

RESEARCH METHODOLOGY:

A quantitative strategy was used in this investigation. It made use of a questionnaire designed through professional workshops and a review of the literature, which was disseminated both offline and online using judgmental sampling. Questions about investor demographics, expected and earned returns, attitudes toward financial freedom, and perceptions of passive income in various investment types—namely, real estate direct and indirect investment and non-real estate (RE) investment—were asked using a non-comparative scale questionnaire.

To guarantee the quality of the questionnaire, ten sample questionnaires were used for a pre-test. Three real estate investment experts were consulted to assess the content veracity.

ANALYSIS:

Gender	M	F				
	76	24				
Age	18-30	31-40	41-50	51-60	61 above	
	23	40	30	5	2	
Income Slab	0-1L	1-3L	3-5L	5-L above		
	1	30	40	29		
Educational status	Illiterate	12th	UG	PG	PhD	other
	4	6	25	30	15	20
Types of Job	Govt.	Private	PSU	Contractual	Adhoc	Daily wage
	20	30	10	20	15	5

Are you satisfied with your monthly active source of income?				Yes	NO
				35	75
Do you have a source of income from any other than salary Y/N				Yes	NO
				15	85
Do you know about various sources to get passive income, Y/N				Yes	NO
				95	5
Which avenue you are investing for passive Income	Rental Property	Money Back Scheme of Financial Institutions		In Security Market	Other contribution
	15	30		25	30
Why passive income source you needed	Freedo m of workin g time	To reduce stress, anxiety, and fear of the future.	To pursue doing things you love	To live and work from anywhere	For financial stability and growth.
	13	40	5	7	35
Do you have already invested in any scheme of capital market for passive income? Y/N	Yes	NO			
	17	83			

Which avenue of capital market instruments is preferred more for passive income sources? Stock, ETF, Mutual Fund, Bonds, and others	Stock	ETF	Mutual fund	Bond	Other
	15	5	20	7	53
Do you think Passive income helps in enhancing living standard Y/N	Yes	NO			
	95	5			

FINDINGS

- Most of the people are not satisfied with his/her monthly active income.
- People need passive income sources due to the following regions.
- Most of people don't know, how to generate a passive source of income by small investments.
- Very few people received passive income from a passive source
- Most of the people chose the following instruments to generate passive income.
- Most of the respondents don't know that the security market provides various instruments to generate passive income through small investments.
- Most of the respondents who invested in the security market invested in Mutual Fund

RECOMMENDATION

There is a need to make awareness programs in the rural and semi-urban areas about the security market and their investment avenues risk and return, It also requires to spared awareness of passive income benefits.

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Venkataraman, M., Reddy, M. V. B., & Reddy, T. N. INVESTORS'PERCEPTION TOWARDS

REVOLUTIONIZING LEARNING IN THE DIGITAL AGE: IMPACT OF ARTIFICIAL INTELLIGENCE

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ABSTRACT

The present research seeks to investigate the influence of artificial intelligence (AI) on the field of education, particularly within virtual classrooms and adaptive learning environments. The study places emphasis on examining the practical application and repercussions of AI in teaching, learning, and administrative processes. Employing an evaluative narrative and framework derived from an initial analysis, the literature review is utilized as a robust research strategy and methodology. The progress in artificial intelligence has resulted in the creation of computers, machines, and other entities endowed with human-like intelligence, encompassing cognitive, learning, adaptive, and decision-making capabilities. Survey results indicate widespread acceptance and integration of AI in education by individuals and educational institutions. Initially, AI manifested as computer technology, evolving subsequently into intelligent teaching platforms accessible online. Over time, technologies such as web-based chatbots, humanoid robots, embedded computer systems, among others, have been implemented to facilitate educational tasks, either autonomously or in conjunction with instructors. This study concentrates on the educational landscape in schools and colleges, with the goal of offering educators and policymakers valuable recommendations for harnessing AI in education to propel India's economic development in the digital age.

Keywords- Artificial Intelligence (AI), Teaching, Learning, India, Education, Economy

INTRODUCTION

The application of Artificial Intelligence (AI) in education involves the utilization of sophisticated technologies, such as machine learning algorithms and other AI techniques, to enhance and optimize various aspects of the learning process. The overarching goal is to create intelligent systems capable of adapting, personalizing, and enriching the educational experience for learners. This integration spans a diverse range of applications and has the potential to revolutionize traditional teaching methodologies.

AI has instigated a significant shift in the educational sector, holding the potential to completely transform the learning landscape. From intelligent educators offering immediate feedback to algorithm-designed personalized educational programs, AI is reshaping the way we learn. Despite these advancements, crucial questions remain unanswered, including the precise impact of AI on education and the advantages and disadvantages it may present for both educators and students.

The incorporation of AI serves as a transformative force in the ever-evolving field of education, offering the potential to redefine learning boundaries and challenge established paradigms. In the 21st century, marked by rapid technological breakthroughs and a shifting global landscape, innovative approaches to education become increasingly essential. AI, with its data analysis capabilities, provision of personalized learning experiences, and adaptive training, appears as a promising solution to address the diverse needs of both educators and students.

As highlighted in existing literature (**Bates et al., 2020; DeMartini and Benussi, 2017**), there is considerable interest from the public, government, and academic community regarding the transformative potential of AI and robots. This transformative potential extends to higher education, necessitating adaptations to adequately prepare students for a new economy and potential changes in lifestyle. The impact of robotics and AI on education is expected to alter the nature of learning, university organizational structures, and the roles of educators and researchers.

The rapid evolution of AI technology aligns with current scientific and technological advances, paving the way for widespread applications in education. Research outcomes indicate beneficial implications for teaching enhancement, offering opportunities for reform and the full integration of teaching and learning. A comprehensive review and analysis of AI applications in education are presented in this article (**Huang et al., 2021**).

This research report aims to explore various aspects of AI in education, investigating its potential to enhance teaching strategies, maximize student learning, and foster inclusive learning environments. The report delves into the advantages offered by AI while also addressing the ethical concerns and challenges associated with its use in education, examining the intricate relationship between AI and education.

AI provides numerous opportunities to transform educational processes, ranging from predictive analytics for early intervention with at-risk students to intelligent tutoring systems tailoring lessons to individual learner profiles. Additionally, AI has the capacity to address gaps in access, equity, and quality as the global education landscape becomes more diverse and interconnected, ensuring that every student has the opportunity to thrive in a rapidly changing world.

Recognizing that there is no one-size-fits-all approach to integration is crucial in this exploration of AI in education. The application and impact of AI in different educational contexts are influenced by contextual factors such as institutional infrastructures, socioeconomic inequality, and cultural norms. Acknowledging these nuances and fostering a collaborative approach to innovation enables the use of AI to create inclusive, flexible, and powerful learning environments for all.

OBJECTIVE OF THE STUDY

This study's goal is to assess how different applications of AI in education have impacted or been impacted by different facets of education. The study will specifically examine the effects of AI on teaching, learning, and education administration and management.

LITERATURE REVIEW

In the sphere of education, the ideas of adaptable instruction and personalised learning have drawn a lot of interest. Artificial intelligence (AI) technology has the capacity to customise instructional materials and methods to meet the needs of specific students, improving learning outcomes. In their **2019** paper, Baker, Inventado, Labrum, and Blikstein explore how AI systems might be used to evaluate student responses and offer tailored feedback. They emphasise how well intelligent tutoring systems adjust their methods of instruction according to each student's growth and proficiency.

Several research have shown AI's advantages for education. The benefits and drawbacks of implementing AI systems in educational contexts are examined by **Blikstein (2018)**. The author highlights how AI-powered resources can improve learning results, motivation, and student engagement. A thorough analysis of artificial intelligence in education is provided by **Luckin et al. (2016)**, who also emphasise how

AI has the potential to revolutionise conventional teaching methods. They talk about how AI improves student performance, retention of information, and critical thinking abilities.

As AI is incorporated into education more and more, ethical issues with algorithmic biases, data privacy, and transparency surface. **Sawyer et al.'s (2019)** analysis of the moral ramifications of artificial intelligence in education argues in favour of increased responsibility and openness in algorithm development and data use. They make the case for the creation of moral standards to guarantee justice and equity in AI-powered learning environments.

The readiness and training of educators are critical to the effective use of AI in the classroom. **Darling-Hammond et al. (2017)** emphasise the usefulness of teacher professional development programs to strengthen technology abilities and pedagogical practices. They stress that in order to guarantee that educators can make the most of AI resources and adjust to changing learning environments, they must receive continuous assistance and training.

Impact of Artificial Intelligence in Education

Potkonjak et al. (2016) explored the integration of AI and robotics to enhance students' educational experiences through the development of simulations and virtual laboratories. The current advancements in AI and robotics are driving the creation of tailored learning programs, automated tutoring systems, and virtual learning environments.

Chassignol et al. (2018) addressed the pertinent issue of AI and robotics potentially replacing teachers in the Indian educational system. They argued that given India's population growth, the demand for instructors will rise, and AI and robotics can play a crucial role in meeting this need. Additionally, the incorporation of AI and robotics holds promise for improving student learning outcomes and delivering personalized learning experiences.

In their research conducted at select universities in Pune, **Ladda and Saraf (2019)** delved into the implications of AI within education. The study scrutinized various potential applications of AI in educational settings, concluding that AI is poised to significantly influence the education system in the near future, impacting both students and educators.

Wong and Li (2019) observed a recent surge in the application of robotics and AI in the education sector. Their investigation explored the feasibility of utilizing robots and AI as substitutes for teachers in specific classroom settings, particularly within the Indian educational system.

Yadav (2020) derived from a comparative study, based on a survey, that students in higher education in India perceive AI learning tools as supplementary to traditional classroom learning, serving as additional aids to learning.

Bhatnagar's (2020) study provided a detailed analysis of the impact of AI in higher education, concentrating on three core themes: enhancing human capabilities, promoting participatory learning, and empowering staff. The study disclosed that the integration of AI in higher education institutions comes with diverse challenges, including high costs, a shortage of skilled personnel, insufficient development of soft skills, ethical concerns, technological complexities, and related issues.

Lameras and Arnab (2021) underscored the significance of artificial intelligence in education in their exploratory review. Their findings contribute to understanding how educators can actively engage in creating, visualizing, and managing AI-enabled instruction. The anticipated outcome is an increase in AI systems providing

computational representations based on data-driven conclusions concerning learner models, domain, and pedagogy.

Table 1. Summary of previous studies on AI in higher education

Objectives	Methods	Research Objects	Key Findings	References
Application of AI and Learning Environment	Surveys, Interviews	Faculty members	Teachers' motivation to apply AI depends upon the problem presented by AI. Application of AI in HE depends upon its opportunities.	(Bucea-Manea -Țoniș et al., 2022; Chan, 2023)
Impact of AI on curriculum design and future direction	Experimental Designs	Higher Education Institutions	Identified AI mode of teaching methods to influence students' learning through learning Management systems and curriculum design.	(Kuleto et al., 2023)
Reforming education in an era of AI	Comparative Analysis	Higher Ed Institutions	Explored how AI adoption resulted in institutional transformations, emphasizing improved accessibility, and learning outcomes.	(Qu et al., 2022; Xue et al., 2022; Zang et al., 2022)
Challenges in the Implementation of AI in Higher Education	Survey and Case Studies	Universities and Colleges	Identified challenges, ethical concerns, and barriers hindering effective AI integration in higher education settings.	(Chatterjee & Bhattacharjee, 2020b; Michel-Villarreal et al., 2023; Slimi & Carballido, 2023)
Faculty Role Transition	Qualitative Analysis	Teaching Professionals	Explored the evolving role of faculty in AI-driven learning environments, emphasizing a shift toward facilitation.	(Hwang et al., 2020; Naylor & Nyanjom, 2021)

Source: Literature Review; Scopus and Science Direct Database.

AI will enable more effective online education. India's online education sector, which is projected to reach **\$1.96 billion by 2025**, might benefit from it. Though they have a special function in educational institutions, artificial intelligence will help and improve the work that teachers do. Artificial Intelligence is expected to bridge the gaps in educational delivery and methodology. Artificial intelligence has made it possible for students to get individualised instruction, examinations, and learning methodologies. In the absence of this, it would have been challenging for educators to plan and carry out instruction that is tailored to the individual needs of every student.

Business Today predicts that by 2024, **47%** of learning management systems will be equipped with AI capabilities. Moreover, there is an **estimated Compound Annual Growth Rate (CAGR) of 40.3%** for AI in the education sector from 2019 to 2025.

Although productivity has increased, we are afraid that too much information will be revealed. According to a recent survey, one-third of college students have used

generative AI chatbots, such as ChatGPT, Bard, and others, to aid in their academic work in the last year. According to the most recent poll, almost **35%** of students have been using AI chatbots to assist them with their tasks.

In order to gather information about the current trends in higher education on the behaviours and mental health of students, Morning Consult of McGraw Hill conducted a poll with **500** undergraduate students and **200** college instructors. According to the survey, the majority of teachers and students think that generative AI would help pupils learn more. Approximately **58%** of educators and **62%** of students concur that artificial intelligence (AI) would enhance students' learning process, as opposed to lowering IQ and causing long-term issues

The majority of professors (**58%**) and students (**62%**) concurred that, in the long run, artificial intelligence (AI) will enhance student learning more than it will have detrimental effects.

RESEARCH METHODOLOGY

This research covers an exploration of AI and robotics in Indian education and their potential for teacher substitutions. The literature was found using a methodical search in an online database, and an integrative analysis was performed on the results. As a result, the study's objectives and research questions have been determined once the research topic has been precisely defined.

The research relies on secondary source data collected from a variety of sources including journals, articles, Google, newspapers, government publications, and others. This data is utilized to gain insights into the influence of AI on higher education, as well as to investigate the integration and utilization of AI within higher education institutions.

FINDINGS

The potential of Artificial Intelligence (AI) technology to transform education in India is substantial, offering personalized learning experiences tailored to the unique learning styles, preferences, and progress of individual students. This has the capacity to introduce more effective teaching methods that cater precisely to each student's specific needs.

Moreover, AI has the capability to streamline administrative tasks in educational institutions, including scheduling, grading, admissions, and student support services. This automation liberates educators to concentrate more on mentoring and instruction, thereby elevating the overall quality of education.

By providing online courses, virtual classrooms, and digital resources, AI can effectively address the access gap in education, especially for students in rural areas or those with disabilities. This democratization of education has the potential to make learning more accessible and equitable throughout India.

Nevertheless, realizing the full potential of AI in education necessitates addressing existing challenges and ensuring responsible implementation. AI-driven analytics systems can sift through extensive educational data, identifying trends, predicting student performance, and furnishing valuable insights to teachers. Armed with this information, educators can gain a deeper understanding of their students' needs and tailor their teaching approaches accordingly.

CONCLUSION

This study conducted an assessment of the impact of Artificial Intelligence (AI) on the field of education, exploring objectives, implementations, and findings. While the use

of AI in education provides opportunities for improving the learning process, it also gives rise to concerns and considerations for future trends. The research aimed to evaluate how AI influences education, adopting a qualitative approach with a literature review as the chosen research design and methodology. Diverse sources, including professional publications, conference reports, and journal articles, were collected and scrutinized to accomplish the study's objective. The widespread adoption and evolution of computers and related technologies have led to the emergence of AI, now applied across various sectors.

The research focused on assessing the impact of AI on education through a qualitative examination using a literature review. To achieve the study's goal, professional publications, conference reports, and journal articles were amassed and thoroughly analyzed. The progression and widespread acceptance of computers and computer-related devices have contributed to the rise of AI, currently integrated into various sectors.

The education industry, particularly the institutions under examination in this study, has widely embraced AI. The analysis aimed to determine how AI has influenced the administrative, instructional, and learning aspects of education, exploring its implications. Originally centered on computers and related technologies, AI in education has evolved into online platforms. Presently, robots can serve as autonomous educators or humanoid assistants for teachers, while chatbots can simulate teaching roles through embedded systems.

The adoption of diverse platforms and technologies has resulted in more substantial, higher-quality instruction, enhancing the effectiveness and efficiency of teachers. AI has elevated students' educational experiences by enabling the customization of course materials based on individual requirements and skills.

Undoubtedly, AI has exerted a significant influence on education, addressing the specific needs of various institutions and facets of learning, including administration, teaching, and student learning. The incorporation of AI technologies in education has revolutionized the learning process, offering personalized experiences, adaptive tutoring, automated assessment, and data analysis. Through the utilization of AI, educational institutions can create more effective, inclusive, and engaging learning environments tailored to diverse student needs.

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LEADERSHIP: BORN OR RISE

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ABSTRACT

In the field of leadership studies, there has been continuous discussion on whether leadership is an innate trait (born) or a talent that can be learned (raised). This research paper provides an overview of the key arguments surrounding this fundamental question. The "born" perspective's proponents contend that some people are just born with innate characteristics or attributes that make them more likely to be successful leaders. It's common to see attributes like charisma, intelligence, and assertiveness mentioned as natural leadership traits. Historical ideas such as the "Great Man Theory" propose that extraordinary leaders are born to address particular difficulties at crucial points in history. On the other hand, proponents of the "rise" perspective assert that leadership is a talent that can be learned and improved with time rather than being exclusively reliant on innate qualities. People can improve their leadership skills through training, mentoring, and leadership development programs. In actuality, it is becoming more widely acknowledged that interactions between innate and learned traits constitute leadership.

Keywords: Successful leaders, innate traits, Skills, learned abilities, charisma, intelligence.

INTRODUCTION

Within the domains of organizational psychology and leadership studies, the age-old topic of whether effective leadership is an innate trait that certain people possess essentially or an acquired ability obtained through experience and education has been a focus point of investigation. The debate and in-depth research that have resulted from the contrast between the "made" and "born" leader paradigms have provided valuable insights into the complex procedure of leadership emergence. As a complex and constantly developing idea, leadership is important in many spheres of society, from politics and business to community development and education. Scholars, practitioners, and organizations are engaged in a continuous quest to understand the essence of effective leadership through the examination of its origins, whether founded in an individual's natural attributes or altered by external circumstances. The investigation into the nature of leadership has its roots in early theories which claimed certain innate characteristics as necessary for effective leadership positions. Over time, viewpoints that emphasize the adaptability of leadership abilities through deliberate development initiatives, mentoring, and practical training have challenged these ideas. An integrated approach that acknowledges the possible interaction between trained competencies and natural attributes is emerging as research continues to advance, offering a more complex view of leadership dynamics. The survey of the literature explores the body of study on the question of whether leadership is innate or acquired, looking at important ideas, empirical investigations, and modern viewpoints. Through the integration of several perspectives, this analysis seeks to advance a thorough comprehension of the emergence of leadership, recognizing the complex interaction between genetics and environment in the development of successful leaders.

In the field of organizational psychology and leadership studies, there has long been an explosive debate about whether leadership is an intrinsic quality or a skill that can be learned. The purpose is to investigate and summarize the body of knowledge regarding the origins of leadership, with a particular focus on the question of whether leadership abilities are innate or

may be developed through time. According to one viewpoint, certain people are born with characteristics that make them more likely to be successful leaders. Extraversion, emotional intelligence, and a propensity for taking risks are among the characteristics that researchers studying the genetic and psychological components of leadership have found to be potential markers of innate leadership ability. (Zaccaro,2007) Research on identical twins raised in various circumstances has additionally hinted at a genetic component to the development of leadership (Arvey et.al,2007). Conversely, the opposite viewpoint argues that intentional practice, education, and experience can all help to develop a person's leadership qualities. The idea that effective leadership is not exclusively reliant on natural qualities is supported by the design of leadership development programs, coaching, and mentorship, which aim to improve individuals' leadership capacities (Avolio & Hannah, 2008). The premise that leadership effectiveness depends on behavior adaptation to particular settings and can be learnt and improved is further supported by the emphasis on situational and transformational leadership theory. In terms of leadership, the nature vs. nurture debate examines the relative contributions of innate traits (nature) and surroundings (nurture) in developing people into effective leaders. New definitions and approaches to leadership are always being developed as the subject of leadership is so dynamic and ever-evolving. (Marques, 2009). Genes may influence an individual's development of traits that influence their propensity to hold leadership roles. For instance, extraversion, a heritable personality feature. The study's twin design approaches yielded an estimated 24% heritability for leadership role occupancy. (De Neve et.al, 2012). The success of a leader is strongly correlated with transformational leadership behaviours. Idealized influence, inspirational motivation, intellectual stimulation, and personalized consideration are some examples of these actions. The findings of the combined analysis of the factors influencing how employees perceive the behaviour of their supervisors indicate that job success is dependent upon the existence of transformational leadership, empowerment, or social support from supervisors. (Lopez-Cabarcos et. al, 2022). The concept of effective leadership is complex, and good leaders frequently display a wide range of characteristics. Effective leaders have a clear and compelling vision for the future. Effective leaders should be able to listen carefully, communicate in a way that suits various audiences, and clearly express their ideas. Honest, open, and consistent leaders gain the respect and trust of their teams by modelling these qualities in their behaviour. some of the important experiences and skills that make awakened leaders outstanding include vision, intention, courage, and mastery, moral intelligence includes personal value, goals, action. (Marques, 2009) It is essential to comprehend and have empathy for the thoughts and emotions of others. A climate of positivity and support is promoted by compassionate leaders. It's critical to have the flexibility to adjust to shifting conditions and uncertainties. Successful leaders are adaptable and receptive to fresh perspectives. Growth and competitiveness are fostered by promoting innovation and creativity. A culture of continuous improvement is inspired by leaders that value and support innovation. Transformational leadership was positively associated with creativity, creative identity, creative self-efficacy, intrinsic motivation for creativity, and innovation climate. some people are charismatic by nature, drawing others to them and inspiring them. Moreover, the "Great Man" theory, which has been widely accepted historically, proposes that outstanding leaders are born in crucial times and have innate characteristics that distinguish them from others. This point of view highlights the notion that some people are born leaders because of their special traits and circumstances.

HERE'S AN EVALUATION OF BOTH PERSPECTIVES:

Innate characteristics: Certain people may naturally be drawn to leadership positions because they have traits like charm, emotional intelligence, and decisiveness. Effective

leadership is thought to be influenced by certain personality traits, such as conscientiousness, openness, and extroversion, which are thought to have a genetic basis.

Genetic factors: Cognitive skills, resilience, and adaptability—all essential for effective leadership in a variety of contexts—may be influenced by inheritance.

Biological Influences: Assertiveness and stress management are examples of the physiological and neurological aspects of leadership that may be influenced by variables like hormone levels and brain shape.

NURTURE PERSPECTIVE:

Acquiring Knowledge and Experience: It is possible to develop leadership abilities by education and experience. One's leadership style and ability can be shaped by exposure to a variety of settings and challenges.

Education and Training: An individual's leadership development can be greatly impacted by formal education, mentoring, and leadership training programs, which provide them with the skills and information required for successful leadership.

Adaptation to the Environment: Leaders frequently have to adjust to the unique requirements of their surroundings. Organizational culture and structure, for example, can have a big impact on how effective a leader is.

LITERATURE REVIEW

(OC et. al, 2023) The Systematic and critical review analysis of the literature on followers in leadership research offers important new perspectives on the function of followers in groups. The importance of followers in influencing leaders and determining the course of leadership is emphasized. Additionally, the assessment emphasizes that anyone at any organizational level is able to demonstrate leadership behaviours; they are not limited to people in positions of authority. The study emphasizing the importance of followership behaviours, individual differences, affective and cognitive states, motivation, and performance.

(Deng et.al ,2023) A number of important conclusions and discoveries have emerged from the research on the effectiveness of transformational leadership. The article's shows a correlation between transformational leadership practices and a range of individual, group, and organizational results. Transformational leadership has been found to have a positive correlation with leader effectiveness. These results imply that leaders who practice more transformational leadership behaviours will probably be more successful in their roles and that their followers will probably benefit as well. The primer on transformational leadership effectiveness that is grounded in empirical research has several pragmatic implications and applications.

(Lopez-Cabarcos et.al ,2022)The work performance of employees is influenced by two crucial factors: transformational leadership and social support. The study found that transformational leadership is essential for improving worker performance because it serves as a "umbrella" component that hides the benefits of social support and empowerment for workers. However, the study discovered that excessive social support does not always result in favourable work-related outcomes, particularly when the tasks are highly structured and automated and the employees have a high level of seniority and experience. On the other hand, social support can also positively affect employee job performance. According to the study, social support and effective leadership have a significant impact on how well employees perform at work.

(Oubrich et.al, 2021) Taking into account the climate-specific features of Organizational Justice (OJ) and Competitive Work Environment (CWE), the study discovered that organizational elements such Leadership Style, Organizational Design, and HRM Practices contribute to minimizing Knowledge Hiding (KH) in firms. The study also emphasizes how

crucial OJ is to creating effective LS, OD, and HRM routines and offsetting the negative effects of intense competition. The results of this study may serve as useful information for practitioners as they direct efforts to create solutions for employees' harmful KH attitudes. The study concluded that there is a direct negative correlation between Leadership Style and Knowledge Hiding. The study could not, however, identify the precise leadership philosophies that were discovered to significantly influence knowledge concealing. The study emphasizes how crucial it is to take organizational justice and competitive work environment climate-specific factors into account when attempting to mitigate know hiding.

(Kjellström et al., 2020) The study's main discovery is the hierarchy-based arrangement of six qualitatively distinct approaches to understanding leadership growth. These approaches are based on increasing complexity. The study offers a paradigm for comprehending leadership development that practitioners, academics, and organizations can find helpful. The study also emphasizes the growing complexity of leadership perspectives and the developmental aspect of leadership development initiatives. 1. W1: A clear emphasis on the leader's personal growth 2. W2: Personal growth within one's job role 3. W3: Personal growth that can take place outside of work 4. W4: The leader's alignment with the organization's values 5. W5: Emphasize group leadership 6. W6: Linking theories of human evolution to the development of leaders. The study offers a conceptual framework for understanding leadership development that scholars, professionals, and organizations can find helpful.

(Day et al., 2014) The paper's primary finding is that, despite immense advances over the previous 25 years in our understanding of leadership development, the topic is still in its infancy. The authors argue that there is still a great deal to learn and that more evidence-based guidelines are required for processes related to feedback and leadership development. The study offers a thorough analysis of academic perspectives on leadership development, related subjects, and leader development, emphasizing the contributions of each perspective. It also draws attention to the difference between growing leadership and developing leaders, emphasizing the development of the individual leader as opposed to the development process, which by its very nature involves a group of people. The writers give readers a thorough grasp of pertinent theory and research on leadership development in a straightforward manner.

(Marques, 2010) The purpose of this essay is to examine the Awakened Leader, the leader of the twenty-first century. This paper aims to examine some of the key experiences and abilities that differentiate truly awakened leaders. According to the author, some of the important experiences and skills that make awakened leaders outstanding include vision, intention, courage, and mastery, moral intelligence includes personal value, goals, action. The author comes to the conclusion that life experiences and upbringing shape transformed leaders. Despite the possibility that they were born with certain abilities that improved their prospects. The author's study indicates that being an awakened leader is possible for everyone, but it takes a lot of time and work. Awakened leader is result of continuous learning and self-reflection.

(Day, 2010) The study's main conclusion is that, despite general agreement that leadership is a learned skill, work experience has historically been challenging to formulate and operationalize from a scientific standpoint. The study also highlights the significance of deliberate practice in the development of expertise, emphasizing that the quantity of deliberate practice done over a significant amount of time directly determines the level of knowledge. It is stated that in order to become an expert in a profession, one must practice intentionally for at least ten years or 10,000 hours.

(Chase, 2010) This paper's main conclusion is that people's perceptions on the causes of leadership ability have an impact on their behavior as a leader and how effective they are in the end. It implies that leadership is not only a natural talent but can also be learnt. This

paper's key conclusion is that good leadership does not stem from any particular set of skills or personality qualities. When a common set of leadership traits was not discovered, the trait approach—which suggests that successful leaders should possess comparable personality traits—was abandoned. Alternatively, the behavioral approach to leadership proposes that, regardless of the circumstance, effective leaders exhibit the same effective behaviors.

(Avolio & Hannah, 2008). Initiatives for coaching, mentorship, and leadership development offer strong proof that leadership is a skill that can be intentionally developed and improved. This article's writers offer a framework for analyzing methods for quickening the growth of leaders. In order to speed up good leader development, they suggest that leader developers first concentrate on evaluating and then enhancing the developmental readiness of both the company and the individual leaders. They list and explain the five distinct constructs—learning goal orientation, developmental efficacy, self-concept clarity, self-complexity, and metacognitive ability—that make up their initial modeling of developmental readiness. They also offer strategies for evaluating and enhancing these five elements.

(Arvey et al., 2007). Studies exploring the genetic underpinnings of leadership suggest that specific genes may influence personality traits associated with effective leadership, contributing to the argument that leadership has a genetic basis, the main conclusion of this study is that, accounting for about 32% of the variance, hereditary factors significantly influence the occupied leadership roles among women. Furthermore, the study discovered that, regardless of hereditary characteristics, experiences linked to one's job had a substantial impact on occupying a leadership post, whereas experiences related to one's family did not.

(Zaccaro, 2007) This paper's main conclusion is that leadership behaviour and leader role occupancy are significantly influenced by situational elements as well as leader qualities. While discussing the evolution of situational and contingency models in leadership research, the report also points out that other experimental studies have not confirmed the findings of low cross-situational stability in leader emergence. Previous statistical estimates of the poor predictability of leader attributes were found to be incorrect as the research notes. While acknowledging the evidence for the situational character of leadership, the research also highlights the persistence and relative stability of both leadership and non-leadership behavioural patterns.

(Judge et al., 2002) This paper's key finding is that there is substantial empirical evidence for the trait viewpoint in leadership research, which uses the five-factor model as an organizational framework. The study discovered that the four traits—neuroticism, agreeableness, conscientiousness, and openness to experience—all showed substantial connections with leadership, with extraversion being the most consistent correlate of leadership across various study settings and leadership criteria. These results imply that personality qualities are crucial for the development and success of leaders.

(Shamir et al., 1994) The following claims are made in this article on what to expect from charismatic leaders' speeches: More references to the collective identity rather than individual self-interest, more affirmations of the value and effectiveness of followers both individually and collectively; More references to values and moral justifications rather than tangible outcomes and instrumental justifications; More references to distal goals and the distant future rather than proximal goals and the near future; and Additional references to faith and hope

OBJECTIVES OF STUDY

- 1) To evaluate the nature vs nurture perspectives of leadership.
- 2) To identify the traits for effective leadership.

RESEARCH METHODOLOGY

The research study is a descriptive one. The researcher's primary goal in conducting this study is to explain the things as it as. This review adopts a systematic literature review approach, chosen for its rigor in providing a detailed overview of existing research which include

- Studies focusing on the innate qualities of leadership.
- Research on the development of leadership skills through training and experience.
- Articles discussing the interplay between genetic and environmental factors in leadership.

The systematic literature review method is well-suited for identifying, evaluating, and synthesizing literature to address the debate on whether leadership qualities are inherent or acquired.

CONCLUSION

In conclusion, there is much discussion surrounding the complex and diverse question of whether leadership is innate or develops through experience. Although certain people may be more suited for leadership jobs due to innate traits and characteristics, leadership is a dynamic role that is not just determined by a person's nature. Rather, a complex interaction between innate qualities and outside influences results in effective leadership. Advocates of "leadership born" contend that some people are born leaders because they have been gifted with an innate set of traits like charm, decisiveness, and vision. These traits can be seen early on, indicating a natural propensity for leadership. This viewpoint, though, may miss the important role that the environment plays in molding and shaping these natural traits. The leadership rise perspective, on the other hand, places more emphasis on the contribution that experiences, learning, and the environment make to the formation of successful leaders. It recognizes that becoming a leader is a journey characterized by ongoing adaptability, resiliency, and personal development. Over time, exposure to a variety of viewpoints, education, mentoring, and life experiences all help to develop one's leadership abilities. In the end, good leadership is neither limited to a fixed set of traits that are innate, nor is it only the product of outside factors. It's a dynamic, continually developing process that requires achieving a balance between one's natural tendencies and one's capacity for adaptation and life lessons. Whether they are innate or developed, leaders continually refine their abilities by accepting the complexity and range of experiences that add to their capacity to mentor and uplift others.

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FORGING A NEW REVOLUTION: GENDER EQUALITY IN ENTREPRENEURSHIP

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ABSTRACT

Entrepreneurship fosters economic development by bringing in new products, techniques and production processes into the market. In a world where gender bias invades every aspect of society, both male and female entrepreneurs more or less face discriminatory policies that brings down their business progress. The main emphasis is to be made on how important it is to create an ecosystem that is inclusive and gives men and women equal opportunities and contribute to the economy of India. The data for research has been collected through analysing primary survey data on gender bias and case studies of successful gender inclusive entrepreneurial ventures. There is a need for gender parity in entrepreneurship with a focus on merit-based hiring because in future “Genders would not only matter but also the leaders and growth of the country matters.” The study concluded that government should aim for formulation of unbiased policies and procedures regardless of gender. It also promotes corporate activities, regulatory changes and educational initiatives to create a culture where skills are valued more than gender.

Keywords: Entrepreneurship, Gender bias, Discriminatory Policies, Inclusive ecosystem, Unbiased Policies.

INTRODUCTION

Since, India has emerged as a Global economic force, it has become obligatory to gape into the landscape of entrepreneurship through the aspects of gender. The significance of gender diversity in spheres of entrepreneurship has gained consideration in recent years not only as an issue of social justice but also as a critical strategic necessity for economic growth.

Entrepreneurship is crucial for national and local economic growth. Through the drivers of innovating and seizing opportunities, entrepreneurs accelerate economic change and competitiveness. However, there are many barriers to entrepreneurship that government should address- hurdles in the regulatory environment, access to financial assistance, exploitation of knowledge through research and skill development for entrepreneur and ensuring that women, youth and people from all social groups have an opportunity to run a successful business.

The aim of the research is to investigate the main causes of gender inequality in Indian entrepreneurship rather than just drawing attention to existing gaps. In addition, the study scrutinizes how supportive legislation, mentorship and education may create an atmosphere that allows both male and female entrepreneurs to succeed.

Data on Gender-wise contribution

According to Ministry of MSME, there are total 633.9 lakh MSMEs in India where the rural areas majorly consist of 324.9 lakh businesses, while the urban areas have 309 lakh businesses. Men dominate in proprietary MSME ownership which results in males holding 79.56% of micro businesses, 94.74% for small businesses and 97.63% for medium

businesses. On the other hand, female ownership is 20.44% for micro businesses, 5.26% for small businesses and 2.77% for medium businesses.

Table 1: Percentage distribution of MSMEs gender-wise

Category	Male	Female	All
Micro	79.56	20.44	100
Small	94.74	5.26	100
Medium	97.33	2.67	100
All	79.63	20.37	100

Source: MoMSME Annual Report 2022-2023

REVIEW OF LITERATURE

Numerous studies have highlighted the significant role of entrepreneurship in economic development. Existing study underscores how gender biases permeate entrepreneurial landscape hindering both male and female entrepreneurs.

Indian study (Mathew 2012) examines the disparities between the motivating factors of male and female business owners, discovering intriguing viewpoints. Male business owners characterise their ventures as “means of livelihood”, “progress in life”, and “favourable environment”. Whereas entrepreneurship defined by female entrepreneurs refers to “doing innovative and useful things in life”, “progress in life”.

As a result, for women the purposefulness of entrepreneurship becomes greatly significant. It has been noted that feelings of job loss anxiety or dissatisfaction from previous employment may also encourage self-employment (Hughes, 2003) the worry of spouses losing their jobs will lead to an entrepreneurial tendency in others during the events of market uncertainty and changing roles of women.

Similarly seeing opportunities that are potential to be monetarily profitable is another crucial aspect of starting a new business according to (Gupta, Turban & Pareek 2013; Gupta, Goktan & Gunay, 2014), as a result, different assessment of a particular possibility will be made under the same circumstances where men represent higher opportunity evaluation than women.

OBJECTIVES:

The research aims to fulfil the following objectives:

1. To identify and analyse the barriers and challenges faced by women entrepreneurs.
2. To find strategies and policies to address the gender disparity.
3. To foster an environment where male and female entrepreneurs have equitable access to resources and mentorship and opportunities for success.

RESEARCH METHODOLOGY

Through the integration of both qualitative and quantitative data such as analysing secondary data such as survey data on gender biases, interviews of entrepreneurs and case studies of successful gender inclusive entrepreneurial ventures we aim to find the influence of gender equality in entrepreneurship.

Data Collection:

A relevant study of the research publications made during the year 2010 to 2023 was carried out in respectable academic databases. The Variations of "Startup India Scheme," "Uttar Pradesh," "entrepreneurship," and "innovation" were among the search terms used.

The criterion for selection comprised of publications that addressed various facets of the Startup India Scheme in Uttar Pradesh, including policy analysis, effect assessment, case studies, problems, and opportunities.

Data Analysis Techniques:

- Descriptive analysis: The evolution research of publications over time, their distribution according to source connections and pattern of collaboration were examined using basis descriptive statistics.
- Content analysis: In order to pinpoint important study themes, research articles were studied through qualitative analysis.
- Impact assessment: The effect of Startup India Schemes on Uttar Pradesh Startups were evaluated through analysis of the case studies and success stories.

DATA ANALYSIS & FINDINGS

India's development is largely dependent on the progress of Uttar Pradesh, which is a pioneer in the MSME sector. More MSMEs and a larger labour force in Uttar Pradesh support the growth of employment. Uttar Pradesh makes up 14% of India's total GDP. India's development is proceeding at a fast pace. MSMEs have the potential to grow India as a whole. A sign of the development of MSMEs is the ongoing expansion of each MSMEs unit and the ongoing scaling up of those units according to their performance.

**Table 2: Percentage distribution of MSMEs gender-wise
Gender-wise Registration in Micro Scale Enterprises in Uttar Pradesh
During Year 2015-16 to 2019-20**

Year	Male	Female	Total	Male (%)	Female (%)	Total (%)
2015-16	621	86	707	87.84	12.16	100
2016-17	12865	3710	16575	77.62	22.38	100
2017-18	87277	21373	108650	80.33	19.67	100
2018-19	91116	19262	110378	82.55	17.45	100
2019-20	85459	18882	104341	81.90	19.10	100

Source: Registration of Micro, Small and Medium Enterprise (MSMEs) in India (Udyog Aadhaar Memorandum)

The percentage of male registrations in micro-scale enterprises is higher than that of female registrations on an annual basis, as indicated by table, male and female registrations (in number & %). While the number of male workers registered is higher, the number of female workers registered has increased during the course of the year.

FINDINGS

The growing importance of MSMEs is creating a significant amount of employment opportunities making addition to adding 30.27% to India's GDP overall. When it comes to the state-by-state distribution of estimated MSMEs, Uttar Pradesh ranks highly good; according to the ministry's MSMEs annual report for 2021–22, the state had about 89.99 lakh MSMEs, or 14% of the MSMEs in the country. The number of males registering in micro, small, and medium-sized businesses has increased, but the number of females registering in medium-sized businesses has decreased thus far between 2015–16 and 2019–20 in Uttar Pradesh. Micro, small, and medium-sized businesses in Uttar Pradesh have the greatest percentage of female employees—about 19.10%—among them.

DISCUSSION AND IMPLICATIONS

Discussion:

The government, business community, academic institutions, and civil society must work together to tackle the difficult problem of gender inequality in entrepreneurship. Persistent efforts to remove obstacles and establish a climate conducive to women becoming successful business owners are necessary for sustainable transformation.

Implications:

In India, reducing the gender gap in entrepreneurship calls for a multipronged strategy that incorporates many stakeholders, laws, and cultural shifts. The following are some essential elements and tactics that can help with this problem:

1. **Educational opportunities** - Ensuring that boys and girls have equal access to education. Encouraging girls to pursue STEM (science, technology, engineering, and math) education. Promote training and education in entrepreneurship at all levels.
2. **Financial inclusion**- Making it simple for male and female entrepreneurs to obtain funding sources. Making specific financial plans and rewards available to companies requiring assistance. Encouraging microlending initiatives designed with women's needs in mind.
3. **Mentorship and networking** – Creating of mentorship programmes that links seasoned business owners with aspiring male and female owners. Promoting female entrepreneurs' access to networking opportunities. Providing forums for the exchange of success stories and knowledge gained.
4. **Legal reforms**- Promoting and upholding women's equal rights in the workplace and in business. Addressing workplace harassment and discrimination based on gender. Simplifying and streamlining the legal processes involved in establishing and operating enterprises.
5. **Awareness and changing societal norms**- Putting in place measures to assist female entrepreneurs, such as subsidies and tax breaks. Establish goals for inclusion and diversity in government contracts. Regularly tracking and reporting on the diversity of genders in entrepreneurship.
6. **Skill development** - Offering programmes for skill development that will help women entrepreneurs become more capable. Providing instruction in topics including technology, marketing, and financial management .Encouraging a culture of lifelong learning and skill improvement.
7. **Supportive Infrastructure** - Providing infrastructure—like co-working spaces and incubators—that assists female entrepreneurs. Making sure they have access to technology and dependable internet service. The government should put in place policies that deal with issues pertaining to work-life balance.

LIMITATIONS

The study on the gender disparity has been conducted in the state of Uttar Pradesh due to which it has a limited scope since it might not cover all the aspects of entrepreneurship in throughout the country. Since the research has been conducted through collection of secondary data it is limited to specific time period wich is from 2010 to 2022. As the data is not collected specifically with the objectives of the research, there might be chances of validity concerns.

CONCLUSION

The impact assessment studies the positive influence of the schemes on startup growth, job creation and innovation. However these schemes had a short term impact on the growth of the startups. Despite the progress,there still lies a gender gap that is required to be addressed

inorder to foster economicdevelopment. Through careful analysis of various factors affecting the working criterias of male and female entrepreneurs, the study concluded that there is a need for gender parity in entrepreneurship with a focus on merit based hiring practices because in coming times “There will be no male or female leaders there will be just the leaders working for the growth of the country.”

There is a great need for the policymakers to formulate unbiased policies regardless of the gender so that the people who deserve to get an opportunity are not left behind and the average runners are also uplifted regardless of the fact whether they are males, females or people belonging to any other sections of the society because “Nation is not just the land ,it’s the people who reside in it. Therefore, in transforming the people we have a great nation”

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GAMIFICATION IN EDUCATION

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ABSTRACT

Gamification alludes to the utilization of game components and standards in non-gaming settings to allure and impact individuals. It includes putting blueprint parts like targets, prizes, difficulties, and rivalries to use to upgrade cooperation, learning, or conduct in different settings, including business, personal growth, and preparing.

To develop inspiration, commitment, and learning results, gamification involves bringing game ideas and parts into non-gaming conditions, like scholarly learning. Some well-known gamification methodologies used in scholarly world; lists of competitors, missions and difficulties, criticism and progress following, joint effort and social connection, contest and competitions, tending to game mechanics, and so on. Gamification in training utilizing game ideas across schools/universities is important to gamify India's economy and transform it into a \$5 trillion industry. It helps the people in making imaginative, gamified arrangements that support seriousness and financial development.

India's desire to turn into a \$5 trillion economy calls for creative methodologies, and gamification arises as one such methodology that shows guarantee, especially in the field of schooling. This study investigates the mix of gamification to upgrade learning results and subsequently, add to financial development. Gamification is turning out to be increasingly more well known as an imaginative instructing device. This hypothesis investigates how gamification could modify conventional showing strategies, increment responsibility, and cultivate better learning results.

The effect of gamification on scholarly learning has been examined in this examination article utilizing a careful strategy that for the most part depends on optional information sources. Tracking down significant topics, examples, and holes in our ongoing information regarding the matter is a lot simpler with the assistance of this stage. Then, a purposeful technique for get-together information is begun, and optional information from dependable data sets, insightful distributions, and gathering procedures is thoroughly inspected and investigated.

The review expects to coordinate information from various exploration projects, assess the advancement of gamification in instructive settings, and decide how well it further develops learning results. It utilizes an expansive outline of existing creation, slowing down legitimate assessments, and joining observational proof related with gamification in getting ready. The goal is to introduce a total viewpoint on the advantages, inconveniences, and models related with arranging gamification into different illuminating settings.

Results show a gigantic positive relationship between gamification in planning and managed learning results.

Keywords: gamification, education, metaverse, serious games, learning, engagement, motivation

INTRODUCTION

India, with its endless populace and assorted workforce, is endeavoring to ended up a worldwide financial powerhouse. Instruction plays an essential part in this travel, and the conventional strategies of educating are advancing to meet the requests of the 21st century. Gamification, the application of diversion components in non-game settings, has picked up ubiquity in different divisions, counting instruction. Gamification in education is a transformative approach that integrates game elements into the learning process, enhancing student engagement and motivation. By applying game mechanics, such as points, badges, and

leaderboards, educators create an immersive and interactive learning environment that fosters collaboration and critical thinking.

One key benefit of gamification is its ability to make learning enjoyable, turning educational activities into exciting challenges. Students are more likely to participate actively when they perceive learning as a game, leading to increased retention of information. Additionally, gamification provides instant feedback, allowing learners to track their progress and identify areas for improvement.



Moreover, the competitive aspect of gamification stimulates healthy competition among students, promoting a sense of achievement and pride. This can positively impact self-esteem and confidence, contributing to a more positive attitude towards education. Collaborative games also encourage teamwork, helping students develop essential social skills and enhancing their ability to work in groups.

Incorporating gamification into various subjects allows educators to cater to diverse learning styles, making lessons more inclusive and adaptable. Customizable game elements enable teachers to tailor the experience to individual student needs, fostering personalized learning journeys. This flexibility ensures that students remain engaged and challenged at their unique pace.

Furthermore, gamification can be applied to both traditional and online learning environments, making it a versatile tool for modern education. In virtual classrooms, digital games and interactive platforms offer opportunities for real-time collaboration and communication, transcending geographical barriers and creating a globalized learning community.

As technology continues to advance, augmented reality (AR) and virtual reality (VR) can further elevate the gamification experience. Immersive simulations and interactive 3D environments provide students with hands-on learning experiences, enhancing their understanding of complex concepts and improving problem-solving skills.

While gamification in education has numerous advantages, it is crucial to strike a balance and ensure that the educational goals remain the focus. Designing well-thought-out gamified experiences requires collaboration between educators, instructional designers, and game developers to align game elements with curriculum objectives.

This paper investigates the potential of gamification in contributing to the financial development of India.

OBJECTIVES

The goal of gamification in schooling is to use components of game plan and mechanics to upgrade the growth opportunity and propel understudies to partake in their schooling effectively. By changing customary scholastic ideas into intuitive and drawing in exercises, gamification means to make learning more pleasant, vivid, and successful. One goal of gamification is to advance understudy commitment. By consolidating game components like focuses, identifications, levels, and lists of competitors, understudies are urged to take an interest and take a stab at dominance effectively. These components give moment input and a feeling of achievement, encouraging a persuasive climate that keeps

understudies propelled and focused on their instructive excursion. Another goal is to increment understudy inspiration and inborn learning. Gamification takes advantage of the normal human tendency to contend and accomplish objectives. By setting clear goals, giving testing undertakings, and remunerating progress, gamified opportunities for growth animate understudies' interest and want to learn. This natural inspiration assists understudies with fostering a drawn-out affection for learning, as they draw in with the topic in a more charming and self-propelled way.

Gamification additionally expects to upgrade maintenance and comprehension of scholarly substance. By utilizing intelligent recreations, situations, and critical thinking exercises, understudies can apply their insight in pragmatic settings. Through these involved encounters, they gain a more profound comprehension of ideas, further develop decisive reasoning abilities, and foster critical abilities to think, prompting further developed maintenance and use of information.

Moreover, gamification empowers cooperation and social connection among understudies. By consolidating helpful or serious components in games, understudies can cooperate, share information, and gain from one another. This encourages a feeling of local area and cooperation, improving interactive abilities and advancing a steady and cooperative learning climate.

In outline, the goal of gamification in training is to make a drawing in, spurring, and vivid growth opportunity that advances dynamic support, characteristic inspiration, more profound comprehension, and cooperative learning for understudies.

CURRENT STATE OF INSTRUCTION IN INDIA

Outline of the Indian Instruction Framework:

India's instruction framework is tremendous and differing, catering to desires of millions of understudies. Be that as it may, it faces challenges such as tall dropout rates, repetition learning, and a crevice between hypothetical information and viable application. Conventional educating strategies regularly battle to lock in understudies and plan them for the quickly advancing work advertise.

Challenges in Conventional Instruction:

Framework and get to: Not all schools and understudies have got to the vital innovation for gamified instruction. Techniques such as public-private associations and government activities can address these issues.

Resistance to Alter: Teachers and policymakers may resist adopting gamification due to a need of mindfulness or fear of disturbing set up frameworks. Proficient advancement programs can offer assistance teachers grasp and coordinated gamified approaches.

CHALLENGES AND ARRANGEMENTS

Repetition Memorization: Accentuation on memorization instead of understanding:

In some educational systems, there is a traditional emphasis on rote memorization rather than fostering a deep understanding of the subject matter. This approach may lead students to memorize facts and information without necessarily comprehending the underlying concepts. The downside of this is that students might struggle to apply their knowledge in real-world situations, problem-solving, or critical thinking scenarios. A more effective approach is to encourage a deeper understanding of the material through active learning, discussions, and application exercises, which can enhance retention and comprehension.

Need of Commonsense Abilities: Constrained Focus on Hands-on Learning and Real-World Applications:

Some educational systems may fall short in providing students with practical, hands-on experiences that connect theoretical knowledge to real-world applications. Developing

practical skills and common-sense abilities is crucial for success in various professions. Integrating more practical components into the curriculum, such as internships, projects, and hands-on exercises, can help bridge the gap between theoretical learning and practical application. This approach enables students to develop not only a theoretical understanding but also the skills needed to navigate real-world challenges.

Engagement Issues: Students Often Find Traditional Lectures Dull and Uninteresting:

Traditional lecture-based teaching methods can lead to disengagement among students. Passively listening to a lecturer for an extended period may not be the most effective way to capture and retain students' attention. To address this, educators can incorporate interactive and participatory teaching methods. Activities such as group discussions, case studies, multimedia presentations, and interactive simulations can make learning more engaging and foster active participation. This not only enhances understanding but also makes the learning experience more enjoyable for students.

Mismatch with Industry Needs

Graduates May Lack the Skills Demanded by the Job Market. The pace of change in industries is rapid, and there is often a gap between the skills taught in traditional education and those demanded by the evolving job market. To address this issue, educational institutions should collaborate with industries to identify current and future skill requirements. Integrating industry-relevant content, practical experiences, and up-to-date technology into the curriculum can better prepare graduates for the workforce. Additionally, emphasizing lifelong learning skills and adaptability can help graduates stay competitive in a dynamic job market.

In summary, addressing these challenges in education involves a shift towards more student-centered, practical, and engaging learning approaches. This can better equip students with the skills and knowledge needed not only for academic success but also for success in the professional world

GAMIFICATION IN INSTRUCTION

Definition and Components of Gamification:

Gamification includes consolidating diversion components such as competition, rewards, and interactivity into non-game settings. Instructive gamification incorporates highlights like focuses, identifications, leaderboards, and intuitively recreations to improve the learning encounter.

Benefits of Gamified Instruction:

Expanded engagement: Gamification captures students' consideration and keeps up intrigued.

Inspiration and rewards: Natural and extrinsic sparks energize dynamic cooperation.

Personalized learning: Versatile gamified frameworks cater to person learning styles.

Prompt criticism: Diversions give moment input, supporting in persistent change.

AFFECT ON APTITUDE IMPROVEMENT

Delicate Aptitudes Upgrade: Gamification advances the advancement of fundamental delicate aptitudes, counting communication, teamwork, problem-solving, and basic considering. Through collaborative diversions and reenactments, understudies learn to explore real-world challenges.

Specialized and Professional Aptitudes: Recreations and gamified scenarios can be planned to instruct specialized abilities important to different businesses. This approach bridges the hole between hypothetical information and viable application, planning understudies for the workforce.

CULTIVATING ADVANCEMENT AND BUSINESS

Inventiveness and Development:

Gamification empowers imaginative considering by displaying challenges and permitting understudies to investigate imaginative arrangements. Inventive problem-solving could be a pivotal expertise for cultivating development in different businesses.

Entrepreneurial Attitude: Entrepreneurial diversions and reenactments give a virtual stage for understudies to encounter the challenges and rewards of business. This can motivate a proactive and risk-taking mentality, fundamental for financial development.

METHODOLOGY



The methodology of gamification in education involves several key steps and considerations to ensure it is effectively implemented and aligns with educational goals. Here are the main components of the methodology:

Identify Learning Objectives: Start by identifying the specific learning objectives or skills that need to be addressed. These objectives will guide the design of the gamified experience and ensure it aligns with the curriculum.

Select the Game Elements: Choose game elements that will enhance the learning experience and motivate students. Common elements include points, badges, levels, leaderboards, challenges, rewards, and feedback. Consider which elements will best support the desired learning outcomes and engage the students effectively.

Design Meaningful Game Mechanics: Define the rules and mechanics of the game. Determine what actions or behaviour will earn points, how students can earn badges or move up levels, and what rewards or feedback they will receive. Ensure that the mechanics are meaningful and directly connected to the learning objectives, providing opportunities for students to develop and demonstrate their knowledge and skills.

Create a Story or Narrative: Design a compelling story or narrative that provides context and purpose for the gamified experience. This narrative can help create an immersive and engaging environment for the students. The story should be relevant to the subject matter and provide a clear context for the challenges and activities presented in the game.

Develop Interactive Activities: Create interactive activities that enable students to apply their knowledge, solve problems, and engage with the content. These activities can take the form of quizzes, simulations, puzzles, quests, or quests in a virtual world. Make sure the activities are challenging but attainable, allowing students to experience a sense of mastery as they progress.

through the game.

Integrate Collaborative Elements: Incorporate collaborative elements to promote interaction and teamwork among students. This can be done through cooperative challenges, group projects, or multiplayer components. Collaboration enhances social skills, encourages peer learning, and fosters a sense of community within the gamified learning environment.

Provide Timely Feedback: Feedback is crucial in gamified learning experiences. Ensure that students receive timely and constructive feedback on their progress, achievements, and areas for improvement. Feedback should be responsive to students' actions and provide guidance to help them reach their learning goals.

Monitor and Analyse Data: Collect and analyze data on student participation, performance, and engagement within the gamified experience. This data can provide insights into students' learning progress, identify areas for improvement, and inform instructional decisions. Use the data to make adjustments to the gamification design and tailor it to the specific needs of the students.

Continuously Improve: Gamification in education is an ongoing process. Continuously gather feedback from students and educators, reflect on the effectiveness of the gamified experience, and make necessary adjustments. Evaluate the impact of gamification on student learning outcomes and engagement and refine the design accordingly.

By following this methodology, educators can effectively implement gamification in education, creating an engaging and motivating learning experience that enhances student participation, intrinsic motivation, and academic achievement

PART IN FINANCIAL DEVELOPMENT

Workforce Readiness: Gamification adjusts instruction with industry needs, creating a workforce way better prepared to handle the complexities of the present-day economy. Readiness for the work showcase contributes specifically to financial growth.

Worldwide Competitiveness: A workforce prepared through gamified instruction is likely to be more versatile, inventive, and all-inclusive competitive. These qualities are fundamental for drawing in ventures and cultivating financial organizations.

FUTURE HEADINGS



Developing Advances: Progressions in innovations such as expanded reality (AR) and virtual reality (VR) offer modern conceivable outcomes for immersive gamified learning encounters. Coordination these advances can advance improve the effect of gamification in instruction.

Ceaseless Investigate and Improvement: Progressing inquire about is pivotal for refining gamification procedures, understanding their long-term impacts, and adjusting them to advancing instructive and financial scenes.

ANALYSIS

Data analysis plays a crucial role in understanding the effectiveness of gamification in education, as it provides insights into student engagement, performance, and learning outcomes. Here are the main aspects of data analysis when evaluating gamification in education:



Engagement Levels: One of the key indicators to assess the impact of gamification is student engagement. By analyzing data such as the frequency and duration of student logins, completion rates of gamified activities, and participation in collaborative elements, educators can gain a better understanding of how well students are engaging with the gamified learning experience. Monitoring engagement levels helps identify any patterns or trends that may indicate areas of improvement or potential disengagement.

Academic Performance: Analyzing student performance data, such as quiz or test scores, assignments, or assessments, can provide insights into the impact of gamification on academic achievement. By comparing student performance before and after the implementation of gamified elements, educators can determine if there is a positive correlation between gamification and academic outcomes.

Learning Analytics: Learning analytics involves leveraging data from gamified platforms and activities to track and measure student progress. This data might include completion rates of quests or missions, mastery of specific skills or knowledge areas, or the number of attempts taken to complete a task. Analyzing learning analytics helps identify areas where students may be struggling or excelling and allows educators to adapt their instructional approaches accordingly.

Motivation and Intrinsic Interest: Gamification aims to enhance motivation and the intrinsic interest of students in the learning process. Analyzing data related to students' perceptions of gamified elements, their motivation levels, and their attitudes towards the subject matter can provide insights into the impact of gamification on these factors. Surveys, questionnaires, or interviews can be used to collect this data.

Collaboration and Social Interaction: Another crucial aspect of gamification in education is fostering collaboration and social interaction among students. Analyzing data on students' participation in collaborative elements, communication patterns within the gamified environment, and feedback provided to peers can offer insights into the effectiveness of these aspects. This analysis can highlight the strengths and weaknesses of the collaborative components and inform future improvements.

Behaviour and Progress Tracking: Gamified platforms often collect detailed data on students' behaviour, including the actions they take, the choices they make, and how they progress through the game. Analyzing this data can reveal patterns of engagement, problem-solving strategies, and areas where students may require additional support. This information can be used to personalize learning experiences and provide targeted intervention when needed.

Feedback and Reflection: Feedback is a vital component of gamification. Analyzing data related to the feedback given to students, such as the quantity, quality, and timeliness of feedback, can provide insights into its impact on student learning and motivation. Tracking student reflection, self-assessment, or feedback on the gamified experience can also offer valuable insights into the effectiveness of gamification and areas for improvement.

By conducting comprehensive data analysis, educators can gain valuable insights into the effectiveness of gamification in education. These insights can inform instructional decisions, support personalized learning, and guide the continuous improvement of the gamified experience to enhance student engagement, motivation, and academic achievements.

CONCLUSION

Gamification in instruction presents a promising road for upgrading the abilities and capabilities of the Indian workforce, subsequently contributing to the country's financial development. By tending to the challenges and grasping the potential of gamified learning, India can position itself as a worldwide pioneer in instruction and advancement. Policymakers, teachers and partners must collaborate to make an environment conducive to the effective integration of gamification into the Indian education framework.

In conclusion, gamification in education holds tremendous potential to revolutionize the learning experience. By harnessing the power of games, educators can create dynamic, student-centered environments that not only impart knowledge but also in still a lifelong love for learning. As we continue to explore and refine the integration of gamification, the future of education is poised to be more engaging, interactive, and effective than ever before.

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CONTRIBUTION OF RURAL WOMENS IN SMEs SECTOR TO ACHIEVE 5 TRILLION ECONOMIES: A STUDY IN ODISHA, INDIA

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ABSTRACT

Rural women are increasingly becoming entrepreneurs, creating and operating their own modest companies in fields ranging from agriculture to handicrafts to small-scale manufacturing. Women are frequently involved in a wide range of SMEs, supporting economic diversity in rural areas. Rural women contribute to the creation of job possibilities in their areas by participating in SMEs. This contributes to lower unemployment and poverty rates. Women gain essential skills and experience by working in SMEs, increasing their economic independence. Rural women's income earned through SMEs contributes to the local economy. This money is frequently utilised for education, healthcare, and other necessities. Rural women-led SMEs can contribute to overall community development by supporting economic growth and infrastructure improvement. Many rural women work in agribusiness, which includes crop cultivation, livestock farming, and food processing. Women in SMEs frequently implement environmentally friendly and sustainable practices, adding to the overall sustainability of rural economies. Many rural women work in SMEs that use traditional skills and crafts, which helps to conserve cultural heritage. Rural women can boost their productivity and competitiveness in SMEs with better access to information and technology. Some rural women are looking into e-commerce channels to market and sell their products in order to broaden their reach beyond local markets. Rural women can assert themselves economically and socially by participating in SMEs, which challenges traditional gender roles and stereotypes. Small and medium-sized enterprises (SMEs) play a critical part in a country's achievement of a \$5 trillion economy. This applies to India and other countries with comparable economic goals. SMEs play a significant role in job generation. SMEs help to lower unemployment rates and increased economic activity by creating job possibilities, particularly in diversified areas. SMEs generate a sizable share of the Gross Domestic Product (GDP). Their expansion and growth improve economic output, allowing the country to achieve better GDP levels. SMEs are frequently used as innovation hubs. They are more adaptable and can swiftly implement new technologies. Encouraging technical breakthroughs within SMEs has the potential to boost overall economic growth and competitiveness. Small and medium-sized enterprises (SMEs) that engage in international trade contribute to foreign exchange earnings. Facilitating export-oriented SMEs aids in balancing trade deficits and improving the nation's overall economic health. SMEs, particularly those in the agriculture and rural industries, help to improve rural communities. They generate economic possibilities, improve infrastructure, and raise living conditions in these communities. SMEs are frequently incubators for entrepreneurs. Fostering entrepreneurship and innovation inside SMEs can result in the development of new goods, services, and business models. According to the study's findings, socio-cultural elements have a significant impact on female entrepreneurs and their contribution to the state economy. Several socio-cultural factors have been identified as having a substantial impact on entrepreneurship. However, it has been demonstrated that entrepreneurship is distributed unevenly among areas as well as within groups within the same region. Socio-cultural elements are important drivers of the expansion of women's entrepreneurship in a certain place. A person's socio-cultural environment can

have a range of consequences on that individual. The goal of this study was to delve into the concept of socio-cultural components and their influence on the development of female entrepreneurs in India. To determine the outcome of the study investigation, both qualitative and quantitative methodologies are used. The use of both primary and secondary data techniques in the research aided in understanding more about the following study. The study on the constraints and possibilities of women business start-up in Odisha employs a quantitative and descriptive survey design. Women entrepreneurs can be found in the districts of Angul and Khordha. Because this figure cannot be obtained, the population is considered to be infinite due to the nature of the population. . According to the study's findings, socio-cultural elements have a significant impact on female entrepreneurs and their contribution to the state economy. Several socio-cultural factors have been identified as having a substantial impact on entrepreneurship. However, it has been demonstrated that entrepreneurship is distributed unevenly among areas as well as within groups within the same region. Socio-cultural elements are important drivers of the expansion of women's entrepreneurship in a certain place. A person's socio-cultural environment can have a range of consequences on that individual. The goal of this study was to delve into the concept of socio-cultural components and their influence on the development of female entrepreneurs in India.

Keywords: Indian Economy, Rural Development, Rural Economy, SMEs, Women Entrepreneur.

INTRODUCTION

Rural women frequently become entrepreneurs by launching their own small enterprises, which helps SMEs expand. This covers things like small-scale industry, handicrafts, and agriculture. Women from rural areas play a significant role in SMEs' ability to create jobs. They work in a variety of fields, including agriculture, small businesses, and local services, providing jobs for both themselves and other members of the community. SMEs benefit from the inventiveness and creativity of rural women (Nadu, 2023). They frequently present distinctive goods and services that can be sold both domestically and abroad, like organic farming, handicrafts, and regional food processing. Rural women frequently encourage SMEs to adopt sustainable practices. They are more likely to use sustainable and environmentally friendly production, farming, and other commercial practices, which helps to preserve the environment. Women in rural SMEs frequently work in value-adding, turning raw materials into completed goods. By adding value, the products become more appealing to consumers and profitable. One factor promoting financial inclusion in SMEs is the participation of rural women. They get access to financial services as they engage in the economy, which can strengthen their sense of empowerment and financial independence (N, 2011).

Role of Rural Women's in SMEs Sector

Rural women are frequently important entrepreneurs in SMEs. They support the growth of the local economy by starting and running companies in a variety of industries, including food processing, textiles, handicrafts, and agriculture. Through active participation in a range of economic activities, rural women support the creation of jobs inside SMEs. Their participation addresses the problem of unemployment in rural regions by generating work opportunities for both themselves and other community members. Rural women frequently work in value-adding industries like handcrafting or agricultural product processing and packaging. By doing this, the products gain value and become more marketable (Abdin & Kumar, 2020).

SMEs Sector Contribution 5 Trillion Economies

The Small and Medium-sized Enterprises (SMEs) sector must make significant contributions if the economy is to reach \$5 trillion. Because they promote innovation, generate jobs, and

support economic growth, SMEs are sometimes seen as the foundation of economies. It is crucial to support and encourage entrepreneurship. Governments can put policies into place that help SMEs start and flourish, such as offering financial incentives, lowering red tape, and mentorship programmes. SMEs frequently struggle to obtain financing. SMEs can be enabled to invest, grow, and make a substantial contribution to economic output by improving financial inclusion and establishing systems for simple, inexpensive credit access. Adopting technology is essential to SMEs' expansion. Productivity, efficiency, and global competitiveness can all be improved by integrating digital tools, e-commerce platforms, and sophisticated manufacturing technologies (Abdin & Kumar, 2020).

JUSTIFICATION OF THE RESEARCH

Fair and Equitable Economic Development

To promote more equitable economic growth, it is important to recognise the role that rural women play in SMEs. Strategies and policies to guarantee that the advantages of economic progress are dispersed fairly among genders and geographical areas can be devised by emphasising their contributions. Specific difficulties and obstacles encountered by rural women in SMEs are identified with the use of research. In order to overcome these barriers and empower women to contribute more effectively to economic growth, it is imperative that specific interventions and support systems are created.

Reducing Poverty and Promoting Sustainable Development

In order to reduce poverty, it is essential to comprehend the financial contributions made by rural women to SMEs. Research can pinpoint methods for sustainable development, approaches for creating money, and sources of income that directly help communities escape poverty. Evidence-based policy formation is based on research findings. By designing and implementing focused policies that directly address the needs, obstacles, and possibilities of rural women in the SME sector, policymakers can promote economic growth by using the insights gathered. Small and medium-sized enterprises (SMEs), frequently led by rural business owners, support economic diversity. Policymakers are better equipped to support and encourage economic diversification for steady and balanced growth when research identifies the areas and industries in which rural women are essential.

OBJECTIVES OF THE STUDY

- To identify the challenges and contribution in rural women in SMEs sector.
- To give suggestions to develop rural SMEs Sector in Odisha, India.

LITERATURE REVIEW

The fact that a significant fraction of India's population is employed in agriculture makes the rural economy exceptionally significant (Economic Survey 2021-22). Nearly two thirds of all jobs in India are created in rural areas, where the rural sector accounts for nearly half of the country's GDP (Chand et al., 2017). The findings indicate rural areas in India generate over half of the value added in the manufacturing sector are further highlighted by the Aayog. The agricultural industry grew rapidly over the last two years, contributing a sizable 18.8% (2021–22) of the nation's Gross Value Added (GVA)—growing by 3.6% in 2020–21 and 3.9% in 2021–22 (Economic Survey 2021-22). Furthermore, the dairy, fishing, and animal husbandry industries are gradually becoming recognised as high-growth sectors that contribute significantly to the expansion of the agriculture industry as a whole (Lewis, 2013). The challenge to grow to a \$5 trillion economy is not limited to the domestic sector because of the global economic downturn. Since the growth of both advanced and emerging economies is predicted to slow, the global production growth rate fell from 3.8 percent in

2017–18 to 3.6 percent in 2018–19 and is predicted to further dip to 3.3 percent by the end of 2019. Global economic contraction was accompanied by tighter credit policies in China, trade tensions between the US and China, and financial tightening in larger advanced economies (Reserve Bank, 2019). After quantitative and credit easing, major advanced economies like Japan and the Euro Zone still have negative policy rates. In order to avert a global depression and the start of deflationary tendencies, policymakers are facing immense political pressure. In the next recession, there is a wide range of ideologies that point towards the idea that monetizing greater budget deficits in a semi-permanent manner will be necessary and even desirable. Because hyperinflation is not a problem during economic downturns, higher permanent fiscal deficits are manageable, according to modern monetary theory(Sharma et al., 2018). The year 2019 saw the beginning of a severe economic crisis that affected not only the world economy but also the Indian economy. The notable decline in GDP growth rates from 7.16 percent in 2017–18 to 4.5 percent in Q2 of 2019–20 is indicative of this. During the last three years, from 2017 to 2020, private consumption spending performed the poorest among macroeconomic indices. Specifically, between the first two quarters, the growth rate fell from 11% to 3%. 2019–20 saw a total stagnation in the manufacturing sector, driven by the poor performance of the real estate, automotive, and construction industries(Nandi, 2024). India has implemented a few significant policy measures to address the obstacles in the way of the goal of a \$5 trillion GDP. The government has implemented several key steps to achieve double-digit growth, including a competitive manufacturing sector, an easy-to-use tax system, double farmer income, and improved general business conditions surroundings. The focus has been on streamlining and rationalising the current regulations, as well as using technology and information to enhance governance and increase its effectiveness and efficiency. India moved up the World Bank Doing Business Report's ranking from 77th place in 2018 to 63rd place in 2019 out of 192 nations. This is because, on six out of ten measures, the ease of doing business has improved and is now more in line with global best practices(Blues, 2025).

CHALLENGES FACED BY RURAL WOMEN IN ODISHA, INDIA

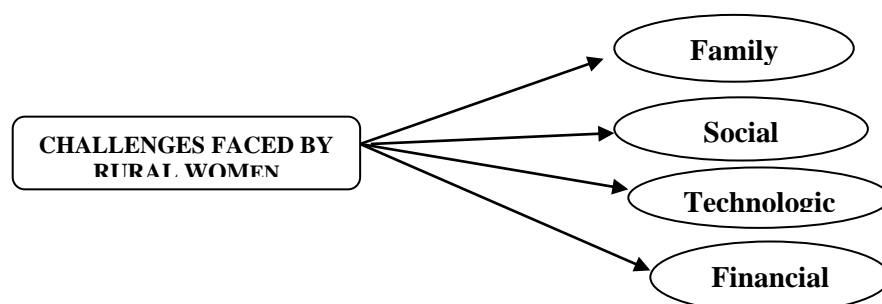
The socioeconomic condition, general empowerment, and well-being of rural women in Odisha, India are all negatively impacted by a number of issues.

Family Challenges- Convincing the family to choose enterprise over employment is the main obstacle facing rural women.

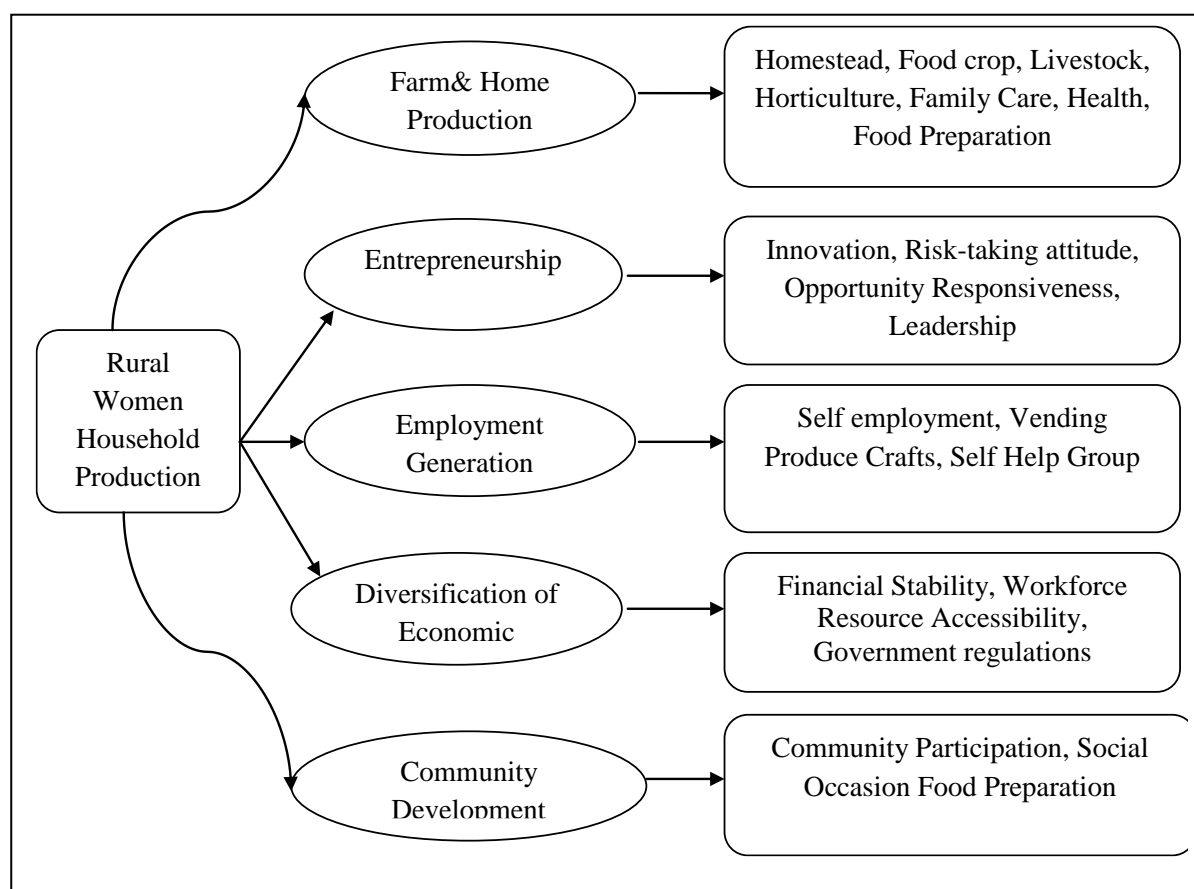
Social Challenges- Rural women will be impacted by socioeconomic issues like poverty, social marginalisation, and a lack of basic necessities.

Technological Challenges - Rural women is impacted by technological difficulties like the internet, poor social infrastructure, and a shortage of managerial abilities.

Financial challenges- The lack of concrete security and market credit prevents the majority of rural business owners from obtaining outside funding. The lengthy application process for the credit facility frequently depresses rural business owners. Their primary sources of financial support are their parents, relatives, and well-known locals.



CONCEPTUAL FRAMEWORK CONTRIBUTION OF RURAL WOMEN IN SMES



Source –Different Literature Review

SUGGESTIONS TO DEVELOP RURAL SMES SECTOR

A comprehensive and focused strategy is needed to develop the Small and Medium-sized Enterprises (SMEs) sector in rural areas. Create financial organisations or initiatives that offer rural SMEs loan options that are both accessible and reasonably priced. To help address the financial needs of rural entrepreneurs, this could involve partnering with banks, government-backed lending programmes, and microfinance organisations. Put in place training initiatives to improve the abilities of rural business owners. This covers financial literacy, marketing tactics, business management, and implementing contemporary technology. SMEs can become more competitive in the market by investing in skill development.

Enhance the networks for communication, electricity, and transportation in rural areas. Improved infrastructure boosts market accessibility, lowers operating costs, and promotes the expansion of SMEs in outlying locations. Establish market connections to help rural SMEs reach out to bigger markets. The creation of cooperative networks, alliances with city firms, and the use of internet platforms for sales and marketing can all help achieve this. Promote the use of contemporary technology by rural SMEs. This covers the use of digital tools for e-commerce, marketing, and productive production methods. Rural business owners can adopt technology with the aid of training programmes.

Encourage research and development initiatives in small and rural businesses. This can boost rural products' competitiveness in the market, encourage innovation, and increase the quality of their output. Create policies that are tailored to the requirements and difficulties faced by SMEs in rural areas. Offer inducements like tax exemptions, grants, and subsidies to promote investment and entrepreneurship in rural regions. Create and enhance market infrastructure in

rural areas to make it easier for commodities to move around. In order to link rural producers with customers, this involves the creation of regional marketplaces, cold storage facilities, and logistical support. Enable rural items to be certified as meeting quality requirements. This creates access to bigger market prospects and strengthens rural SMEs' reputation in the marketplace.

CONCLUSION

Rural development is critical to India's economic prosperity, particularly in the rural sector. By reducing poverty, migration, hidden unemployment, underemployment, and economic inequality, it helps the agricultural sector expand. It also contributes to the creation of jobs in rural areas with low capital needs. To achieve the ambitious target of a \$5 trillion economy, rural women's participation to the Small and Medium-sized Enterprises (SMEs) sector is vital. In addition to enhancing the vibrancy of the SME scene, their active engagement and empowerment promote equitable and sustainable economic growth. The many contributions made by rural women to SMEs are essential in determining a country's economic course (Bhakri, 2021).

Through their involvement in a variety of industries, including services, handicrafts, and agriculture, rural women in SMEs contribute to economic diversity. Because of its diversification, the economy is more resilient and less vulnerable to shocks from the outside world. Through their economic endeavours, rural women improve their own and their communities' standard of living by creating jobs directly and indirectly. Thus, in line with more general objectives of socioeconomic growth, poverty is reduced for SMEs, rural women frequently provide sustainability and creativity. Their engagement positions the SME sector as an innovation driver by encouraging eco-friendly practices, value addition, and the development of novel goods and services (Bhople et al., 2022).

Acknowledging, empowering, and supporting rural women in SMEs is essential to building a \$5 trillion economy. They contribute to economic targets, community empowerment, and general well-being in addition to economic targets. Their resilience, inventiveness, and economic contributions lay the groundwork for sustainable development. To ensure a more equitable and prosperous future, policymakers, corporate executives, and the general public should keep funding programmes that support and elevate rural women's contributions to the SME sector (Bhakri, 2021).

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INDIA AS A \$5 TRILLION ECONOMY: CHALLENGES AND SUGGESTIONS

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ABSTRACT

India, currently the seventh-largest global economy with a GDP of \$2.72 trillion, and the third-largest by Purchasing Power Parity (PPP) at \$10.51 trillion, aspires to become a \$5 trillion economy by 2024-25. "The Survey departs from traditional Anglo-Saxon thinking by advocating a growth model for India that views the economy as being either in virtuous or a vicious cycle, and thus never in equilibrium. This model, in turn, stems from two key departures from traditional view. First, the Survey departs from concept of equilibrium as a key tenet, which is being challenged increasingly following the Global Financial Crisis. Second, the traditional view often attempts to solve job creation, demand, exports, and economic growth as separate problem" (Economic Survey 2018-19). India's economy has been growing quickly since 2014. In that year, it was worth \$1.7 trillion, and by 2019, it had grown to \$2.7 trillion, adding \$1 trillion in five years. This success has motivated India to aim for a \$5 trillion economy by 2024-25. The International Monetary Fund (IMF) predicts India's GDP will reach about \$4.7 trillion by 2024. To achieve this goal, India needs to grow by 8% each year and increase exports by \$1 trillion. This paper discusses the critical drivers required for this transition, emphasizing investment, productivity, job creation, and exports. Addressing the current economic slowdown, it proposes strategies for achieving this goal in a volatile global context.

Index Terms: Equilibrium, Global Financial Crisis, Gross Domestic Product (GDP), Purchasing Power Parity (PPP), International Monetary Fund

INTRODUCTION

India is growing fast and is among top seven growing economies of the world, worth \$2.72 trillion, or the third largest based on Purchasing Power Parity at \$10.51 trillion. This growth challenges the traditional economic model's idea of balance, especially after the global financial crisis. Unlike the old model, which sees job creation, anticipated demand, exports figures, and growth as separate issues, India's growth model needs to focus on cycles of growth rather than achieving a perfect balance. The goal is to reach a \$5 trillion economy by 2025, a vision outlined by the Commerce & Industry Ministry. Achieving this requires short and long-term strategies like improving infrastructure, making life easier for people, embracing digital advancements, improving business ease, and addressing pollution. To hit the \$5 trillion mark, India needs an annual GDP growth rate of 8%. This growth can come from a cycle of saving, investing, exporting, and overall economic growth, with investment playing a central role.

Soni and Subrahmanya (2020) highlight the need for balanced growth across sectors to achieve the \$5 trillion target, a goal hampered by the COVID-19 pandemic. A government-driven policy mix focusing on agriculture, industry, and services is essential. Sengupta (2020) underscores the challenges posed by social inequalities and structural economic issues, suggesting a growth rate of 12% is necessary, though unlikely. Paruchuru, Mavuri and Jyothsna (2020) stress the need for labor and investment reforms, particularly in manufacturing, to counteract pre-pandemic declines exacerbated by COVID-19.

INDIA AFTER LIBERALISATION BEFORE PANDEMIC

Post-independence, India has seen periods of significant economic progress, though growth has been uneven. After achieving an average GDP growth rate of 6.3% from 1981 to 2011, the growth rate faltered from 8.49% in 2010 to 5.24% in 2011 and further to 5.45% in 2012. Recent GDP figures, including \$2.871 trillion in 2019 and \$2.66 trillion in 2020, suggest a need for sustained growth exceeding 9% annually to meet the \$5 trillion target. The analysis highlights the impact of various factors on growth, including structural, cyclical, and policy-driven elements. This is analyzed on the basis of given GDP growth rate.

Table 1: GDP Growth of India (Annual %)

Year	GDP %	Year	GDP%
1995	7.57	2008	3.08
1996	7.55	2009	7.86
1997	4.05	2010	8.49
1998	6.18	2011	5.24
1999	8.84	2012	5.45
2000	3.84	2013	6.38
2001	4.82	2014	7.41
2002	3.80	2015	7.99
2003	7.86	2016	8.25
2004	7.92	2017	6.79
2005	7.92	2018	6.53
2006	8.06	2019	4.04
2007	7.66	2020	-7.25

Source: World Bank Report

Before the covid 19 there were tendencies to slow down as indicated in the rate of growth. The following major factors attributed to the slow growth.

- Structural (Land, labour, inequalities)
- Cyclical (Slump in Agg. Demand)
- Govt policy Demonetization and GST

The other subsidiary factors equally identified are

- Growth of Gross Domestic Product
- Growth in Employment Creation
- A rise in the rate of Unemployment
- Unfavorable Foreign Exchange rate
- A rise in Food Inflation

DRIVERS OF GROWTH: CONSUMPTION AND INVESTMENT

Economic crises can present opportunities for reform. Following Keynesian principles, fiscal policy measures are essential for stimulating demand and investment, crucial for overcoming economic slowdowns. Strengthening physical and digital infrastructure through substantial public investment can catalyze private sector growth, creating a positive feedback loop of increased consumption, investment, and job creation. The Indian market will play a crucial role in driving India's growth in the coming years by increasing local production to replace imported goods and services. The Productivity Linked Incentive Scheme aims to promote "Make in India" and boost local manufacturing. As India's manufacturing improves with the help of new technologies, productivity will increase, making our products competitive enough to sell globally.

CHALLENGES

India is facing a challenge to reach a \$5 trillion economy due to both domestic and global economic slowdowns. The world's overall economic growth rate has been decreasing, partly because of trade tensions between the US and China, stricter credit policies implemented in China, and financial challenges in major economies. This global go-slow is also influenced by technology conflicts, military tensions, and political events like Brexit.

Central banks worldwide are trying to reduce the risks of recession by easing monetary policies. However, the global economy is facing high levels of public and private debt, and monetary policies may not be enough. Major economies are considering strategies like larger fiscal deficits and even permanent monetization of deficits to prevent depression and deflation.

Despite these challenges, India has maintained its position as the fastest-growing major economy, with stable inflation and manageable deficits until recently. However, India's GDP growth has slowed down significantly, especially in private consumption, manufacturing, and employment sectors. This slowdown is mainly due to weakened demand.

India needs to focus on boosting its economy through high growth rates and leveraging its democratic strengths. Experts have predictions that India could become the world's third-largest economy by 2050, but achieving this goal will require overcoming current economic challenges and maintaining strong ties with other Asian economies like China.

KEY INITIATIVES

India is working hard to achieve its goal of a \$5 trillion economy by implementing several key policies. These include boosting the manufacturing sector, simplifying taxes, doubling farmers' income, and improving the overall business environment. The government is focusing on making rules simpler, using technology for better governance, and improving efficiency.

It is a matter of pride that India has improved its ranking in the World Bank reports, which shows progress in making business easier. Digitization is a big part of this effort, aiming to create a knowledgeable and empowered society. Start-ups are being encouraged to drive economic growth, creating jobs and fostering innovation. Initiatives like Start-Up India and Stand-Up India are promoting an ecosystem favorable for start-ups.

We have seen that E-commerce has emerged very rapidly in India and is expected to touch the benchmark \$200 billion by 2026. This growth will also boost the retail market significantly. Foreign Direct Investment (FDI) has a great role in economic growth by bringing in capital, skills, and technology. The government has liberalized FDI policies in various sectors to attract more investment.

Investments in infrastructure and the automobile sector are increasing, leading to higher demand for steel. India aims to become a global manufacturing hub through initiatives like Make in India, which promotes investment, innovation, skill development, and manufacturing capabilities.

To encourage investment, the government has removed surcharges for foreign investors, reduced corporate taxes, and proposed funds to revive the real estate sector. The Reserve Bank of India (RBI) has also taken steps to encourage investment and demand by adjusting its repo rate multiple times this year.

SUGGESTIONS

India is facing economic challenges with growth slowing down to 4.5% in Q2 of 2019 and inflation rising to 7.5% in December 2019. To achieve our goal of a \$5 trillion economy, we need different policies focusing on long-term finance, attractive returns for investments, and managing household expectations.

We've made progress in social sectors like housing and services for the poor, but we need to create more jobs for economic growth. Along with reforms like revised GST, increased FDI, and banking sector recapitalization, we should use funds from RBI efficiently for infrastructure and research.

Economic slowdowns can be controlled by taking the bliss of technology in the form of modernization, automation and digital transformation. If India wishes to march on the long term growth then reforms are needed in education and health industry. It is estimated that the economy should have a growth rate 8-9% to chase the 5\$trillion target.

Investments in infrastructure, steel output, farm productivity, and renewable energy are essential. We must boost private investment through lower corporate taxes and focus on savings, investment, exports, and growth cycles. Tourism and knowledge economy should also be promoted.

Rural India must be part of our growth story with improved infrastructure and opportunities for youth. Micro, Small, and Medium Enterprises (MSME) sector growth is vital, with emphasis on research, innovation, and global collaboration.

Quick payments to the private sector can improve liquidity. Attention should shift to rural projects to boost demand. Ultimately, we must decide whether it's more important to be big or to be prosperous and well-off

If a comparison is made then with the superpowers of the world then we would find that we are far away from them in terms of capita income. This comparison would be with countries like USA Japan etc.

If the country wishes to come back to the growth track of 7.5% then it is imperative that the Government should take steps towards the simplification of New Direct Tax Code which would like a catalyst in the anticipated growth rate. Experts are of the opinion that there should be high level of investments backed by savings at the national and domestic level. Savings leads to investment and this leads to the capital formation which eventually leads to the growth of the economy. Investments made by the budding entrepreneurs are exposed to high level of risk of failure hence these investments should be backed by the sufficient savings. Another important point to note here is the importance of having a robust and up to date infrastructure. There are many infrastructural gaps which are noticed hence to address or fill these gaps it is of paramount importance that PPP (Public Private Partnership) are encouraged. Country like India needs to reap the benefits of the demographic dividend, enhance education and upskilling, provide good employment opportunities and healthcare to all to proceed towards the long acclaim goal.

In the UVCA world there are disequilibrium which are noticed in spite of the best plans rolled out. There can be few reasons for the same. But the most highlighting ones are related with the problem of Clear Vision, proper strategy to attain the vision and to take corrective actions for the various risks surrounding the economy.

Now the time has come that India moves out from its traditional thinking by simply following a model which is growth oriented. For the economy to get on the growth path it is important that there has to be perfect combination amongst the growth parameters like investment, full employment, demand creation etc. If these parameters are not taken care of then in that case the economy would get trapped in the vicious cycle thereby denting the country's progress. Hence it is of paramount importance that India should take strong strides to overcome the bottlenecks of disequilibrium and succeed in becoming a 5\$ trillion economy by 2025 as envisaged by the great policy makers of the country.

CONCLUSION

Reaching a \$5 trillion economy requires a multifaceted approach, addressing immediate economic challenges while laying the groundwork for sustained, inclusive growth. Policy

interventions must be dynamic and adaptive, ensuring economic stability and fostering a competitive, resilient economy capable of thriving in a complex global landscape.

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DECARBONIZING THE INTERNAL COMBUSTION ENGINE

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ABSTRACT-

Decarbonization entails reducing carbon dioxide emissions through the adoption of cleaner energy sources and technologies, away from fossil fuels. In the case of internal combustion engines (ICEs), decarbonization strategies revolve around efficiency enhancement, alternative fuel adoption, and hybridization. While transitioning to alternative powertrains is vital long-term, improving ICE efficiency and emissions reduction are immediate imperatives. For India, decarbonizing ICEs complements its aim of achieving a \$5 trillion economy by 2027. This endeavour promises economic advantages such as cost savings, job creation, innovation, and heightened global competitiveness. Furthermore, it aligns with environmental sustainability goals and enhances public health. The shift to cleaner transportation technologies also spurs infrastructure development, fostering additional economic activity. In essence, decarbonizing ICEs not only fuels economic growth but also positions India as a frontrunner in the global transition toward a low-carbon economy. Through a multifaceted approach encompassing technology, policy, and investment, India can harness the potential of decarbonization to propel its economy forward while mitigating environmental impact. This abstract encapsulates the urgency, opportunities, and transformative potential associated with decarbonizing internal combustion engine (ICEs) in India's pursuit of sustainable economic development and environmental stewardship.

Keywords- Decarbonisation, technologies, \$5 trillion economy, transportation, internal combustion engine (ICE)

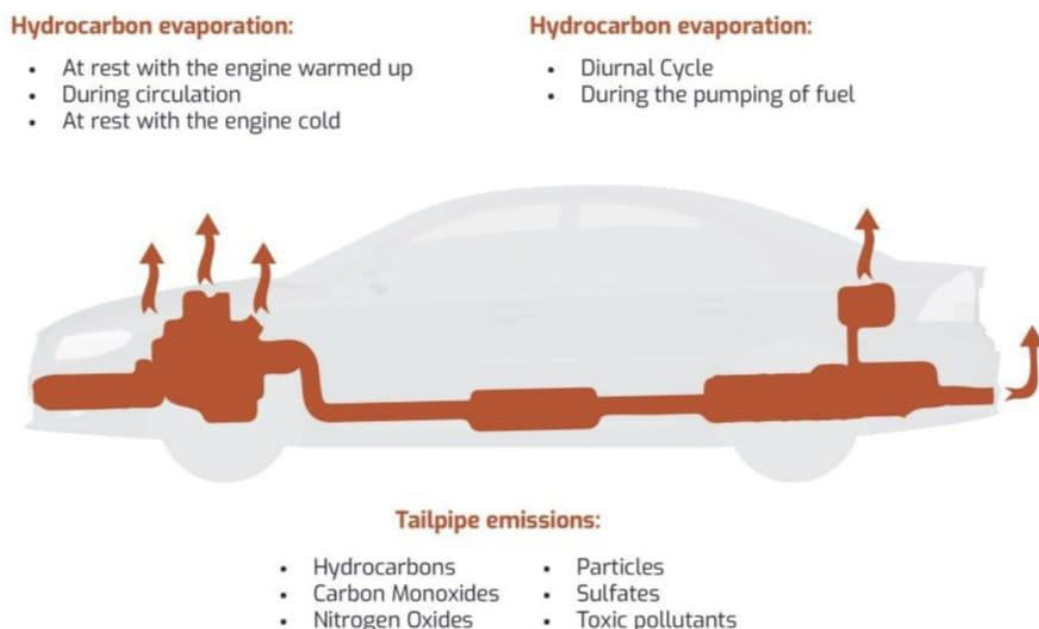
INTRODUCTION

Decarbonization refers to the process of reducing or eliminating carbon dioxide emissions from various sources, such as industries, transportation, and energy production. It involves transitioning away from fossil fuels and adopting cleaner energy sources like renewable energy (solar, wind, hydro, etc.) and implementing energy-efficient technologies to mitigate climate change and reduce greenhouse gas emissions.

An internal combustion engine is a type of heat engine that generates mechanical power by burning fuel within its cylinders. The most common types of internal combustion engines are found in vehicles such as cars, motorcycles, trucks, and airplanes. Decarbonisation of internal combustion engines involves the implementation of various strategies aimed at reducing the carbon emissions associated with their operation. These strategies include enhancing engine efficiency through advanced design techniques like optimizing combustion processes and reducing friction. Another approach is the adoption of alternative fuels such as biofuels or synthetic fuels, which have lower carbon content compared to traditional petroleum-based fuels. Additionally, hybridization, which combines internal combustion engines with electric motors, allows for improved fuel efficiency and lower emissions during certain driving conditions. Optimizing the air-to-fuel ratio in engines, implementing selective catalytic reduction systems, and utilizing advanced exhaust gas treatment technologies are also vital

for reducing emissions. While these measures contribute to decarbonization efforts, transitioning to alternative powertrain technologies like electric vehicles and hydrogen fuel cells may ultimately be necessary for achieving full decarbonization in the long term. Nonetheless, improving the efficiency and reducing the emissions of internal combustion engines are crucial steps in mitigating the environmental impact of transportation system.

POLLUTANT EMISSION PROCESS IN MOTOR VEHICLES



Source: INE, SEMARNAT, 2005

Decarbonization of internal combustion engines presents a strategic pathway for India to advance towards its ambitious goal of achieving a \$5 trillion economy by 2027. By prioritizing the enhancement of engine efficiency and the adoption of cleaner fuels, India can unlock several economic opportunities. Firstly, by optimizing energy consumption and reducing reliance on imported fossil fuels, decarbonization efforts can lead to significant cost savings for industries and consumers, thereby freeing up capital for investment in other sectors vital for economic growth. Moreover, investment in decarbonization technologies fosters innovation and nurtures the growth of domestic industries, particularly in manufacturing and research, creating employment opportunities and stimulating economic development. As India embraces cleaner technologies, it enhances its global competitiveness, attracting foreign investment and expanding export potential in the rapidly evolving market for sustainable solutions. Furthermore, decarbonization aligns with India's commitment to environmental sustainability, improving public health and environmental quality, which in turn bolsters productivity and economic resilience. Finally, the transition to cleaner transportation technologies necessitates substantial infrastructure development, catalysing job creation and economic activity while laying the groundwork for future growth in the clean energy sector. In essence, decarbonization of internal combustion engines not only drives economic prosperity but also promotes innovation, sustainability, and competitiveness, positioning India as a leader in the global transition towards a low-carbon economy.

REVIEW OF LITERATURE

The paper discusses the decarbonization of internal combustion engines, outlining various strategies to reduce carbon emissions and highlighting its significance for India's economic growth. It emphasizes optimizing engine efficiency, adopting cleaner fuels, and integrating

hybrid technologies to mitigate environmental impact while enhancing operational performance. Furthermore, the passage underscores the economic benefits of decarbonization, such as cost savings, domestic industry growth, and job creation, aligning with India's ambitions for a \$5 trillion economy by 2027. Additionally, it stresses the environmental and public health advantages of reducing emissions, emphasizing the importance of infrastructure development to support the transition towards cleaner transportation technologies. By embracing decarbonization, India aims to position itself as a global leader in sustainability while fostering innovation and competitiveness in the burgeoning market for low-carbon solutions.

In essence, decarbonization of internal combustion engines not only drives economic prosperity but also promotes innovation, sustainability, and competitiveness, positioning India as a leader in the global transition towards a low-carbon economy. By leveraging technological advancements, policy incentives, and strategic partnerships, India can accelerate its transition towards cleaner transportation solutions while fostering inclusive and sustainable development. From improving air quality and reducing greenhouse gas emissions to driving economic growth and enhancing global competitiveness, the decarbonization of internal combustion engines represents a transformative opportunity to build a more sustainable and prosperous future for generations to come.

Internal combustion engines have long served as the workhorses of transportation, powering automobiles, motorcycles, trucks, and airplanes with remarkable efficiency and reliability. However, their widespread use has also contributed significantly to carbon emissions and air pollution, posing grave threats to public health and environmental stability. Recognizing the urgent need to address these challenges, stakeholders across industries and governments have increasingly turned their attention towards decarbonization strategies.

One of the primary strategies for decarbonizing internal combustion engines involves enhancing engine efficiency through advanced design techniques and optimization processes. By improving combustion efficiency and minimizing energy losses due to friction and heat, engineers can significantly reduce the carbon footprint of internal combustion engines while maximizing their performance and longevity. Furthermore, the adoption of lightweight materials and innovative manufacturing processes can further enhance efficiency and sustainability, paving the way for cleaner and more efficient transportation solutions.

OBJECTIVES

Environmental Objectives: Breathing Clean Air, Securing a Sustainable Future

Combating Climate Change: India, a major emitter faces the brunt of climate change's wrath. Decarbonizing transportation significantly reduces greenhouse gas emissions, mitigating rising sea levels, extreme weather events, and safeguarding India's future. Imagine fertile agricultural lands protected from droughts, coastal communities shielded from rising tides, and healthier ecosystems teeming with life – these are the environmental dividends of cleaner engines.

Improved Air Quality: Air pollution from conventional vehicles chokes Indian cities, causing respiratory illnesses, heart disease, and premature deaths. Decarbonization translates to cleaner air, not just for bustling metropolises but also for rural communities. Reduced healthcare costs, increased productivity, and vibrant public spaces become tangible benefits, painting a picture of healthier lives and a thriving society.

Sustainable Resource Management: India's burgeoning economy heavily relies on imported fossil fuels, exposing it to price fluctuations and geopolitical uncertainties. Decarbonization fosters energy independence by reducing dependence on oil, promoting renewable energy sources like solar and wind power. Imagine a future where India harnesses

its abundant sunshine and wind resources to power its clean transportation revolution, securing energy security and paving the way for a sustainable future.

Economic Objectives: Fuelling Growth, Creating Jobs, and Leading the Innovation Race

Job Creation and Skilling Revolution: The transition to cleaner technologies like electric vehicles, biofuels, and hydrogen fuel cells sparks a green jobs revolution. Imagine millions of skilled professionals designing, manufacturing, servicing, and operating these new technologies. Reskilling and upskilling programs ensure a smooth workforce transition, empowering individuals to become architects of this economic transformation. This isn't just about jobs; it's about harnessing human potential to fuel India's economic engine with innovation and sustainability.

Enhanced Competitiveness in the Global Marketplace: As the world embraces stricter environmental regulations, businesses that champion decarbonization gain a competitive edge. Imagine Indian manufacturers exporting cutting-edge electric vehicles and clean technologies, capturing global markets and establishing India as a leader in sustainable mobility. This not only attracts foreign investment but also creates new export opportunities, propelling India's economic engine towards global leadership.

Reduced Healthcare Costs and Increased Productivity: Air pollution-related illnesses impose a significant burden on the Indian healthcare system. Decarbonization translates to cleaner air, leading to reduced healthcare costs and increased worker productivity. Imagine a healthier workforce contributing to economic growth, creating a virtuous cycle where environmental well-being fuels economic prosperity.

Social Objectives: Building an Equitable and Resilient Society

Improved Public Health and Well-being: Cleaner air and reduced noise pollution from electric vehicles directly improve public health, especially in urban areas. Imagine children playing in parks without worrying about harmful emissions, and families enjoying cleaner streets and quieter neighbourhoods. Decarbonization fosters a healthier society, where improved quality of life becomes a reality for all.

Equity and Inclusive Growth: The green jobs revolution created by decarbonization offers new opportunities for marginalized communities. Imagine skilling programs empowering individuals from diverse backgrounds to participate in the clean transportation sector, bridging the economic gap and fostering inclusive growth. Decarbonization becomes a catalyst for social justice, ensuring that everyone benefits from India's \$5 trillion dream.

Community Resilience to Climate Change: By mitigating climate change impacts like extreme weather events and floods, decarbonization strengthens community resilience. Imagine coastal communities better prepared for rising sea levels, and farmers equipped to handle droughts. Decarbonization safeguards livelihoods, protects vulnerable populations, and builds a more resilient society for future generations.

Unveiling the Roadmap: Charting the Course to Success

Achieving these objectives demands a multi-pronged approach:

Technological Advancements: Investing in research and development of advanced clean technologies like electric vehicles, biofuels, hydrogen fuel cells, and carbon capture and storage is crucial. Imagine collaborative efforts between academia, industry, and government fostering innovation ecosystems that propel India to the forefront of clean transportation technologies.

Supportive Policy Framework: Robust policy frameworks that incentivize clean technologies, mandate stricter emission standards, and provide infrastructure development

support are essential to accelerate the transition. Imagine a policy landscape that encourages investment, removes regulatory hurdles, and guides the market towards a cleaner future.

Financial Mechanisms: Innovative financing mechanisms like public-private partnerships, green bonds, and carbon pricing can mobilize the necessary capital to fund this transformation. Imagine a collaborative effort between financial institutions, investors, and government agencies unlocking resources.

RESEARCH METHODOLOGY

A Renault Passenger Car was used for the testing procedure. All vehicles are subject to routine technical inspections, and the exhaust emission test was first conducted on a device that is a part of the installation of the technical inspection station. The acquired data show how much CO₂ and other gases are emitted. The car was then positioned on the facility inside the Technical-Laboratory Centre, where a test was run to determine how much power and fuel the vehicle used. The Technical-Laboratory Centre has three laboratories, one of which is the one where the testing was conducted. It is a vehicle testing laboratory that also houses an engine testing laboratory, a combustion laboratory, and an environmental protection laboratory.

The "AVL Road Sim Chassis Dyno 48" chassis dynamometer, made by AVL Austria, is a feature of the automotive testing lab. An executive laboratory test is required because some of the parameters that determine the obtained available energy for operating a motor vehicle on its wheels can be computed, or predicted. However, some of the parameters are not always foreseeable in a straightforward manner. Vehicle traction characteristics, or performance tests, can be conducted in two ways: either in stationary conditions or on a road (polygon). Dynamometers are devices that allow traction characteristic tests to be conducted while stationary. The primary goal of automotive testing on a chassis dynamometer is to precisely map the vehicle's load conditions, just as they would be under actual road driving circumstances.

The procedure of decarbonizing the engine was carried out following testing of the vehicle's power, fuel economy, and exhaust pollutants. The idea behind engine decarbonization is filter cleaning. A particle filter installed in the exhaust manifold effectively removes particles produced during the combustion process of diesel engines. A coating of particles builds up on the surface of the walls across from the entrance as the filter gets more and more saturated with particles. This increases the efficiency of the subsequent filtering stage. A number of factors might cause the DPF filter to clog, including frequent city driving, short trips when the filter cannot reach the required temperature for internal particle combustion, injector failure resulting in incomplete combustion, and an excessively rich fuel and air mixture. Another example would be a dirty or damaged air flow meter, which would cause the nozzles to injure themselves and inject too much fuel, overheating the engine and its oil. The engine's decarbonization process can assist if the filter is only partially dirty.

The breakdown of carbon deposits released from the engine through the exhaust system when HHO gas (oxy-hydrogen gas) is introduced has an impact. Every moving vehicle has carbon dioxide deposits, which are found on internal combustion engine parts. Oil, excessively rich or low-quality fuel mixtures, and the "start stop" driving style of the city all contribute to the city's rapid carbon buildup. Although a small layer of carbon shouldn't cause any significant issues, an accumulation of it can. Vehicle performance can be greatly impacted by carbon deposits. Some of these effects include decreased power and torque, engine vibrations, frequent freezing over, higher exhaust gas concentrations, and greater fuel consumption.

A non-Carbon device was used to carry out the decarbonization procedure. The process of electrolyzing water to produce hydrogen and oxygen gases, which are subsequently mixed to

make new fuel, is how non-carbon devices function. Because HHO gas is produced on demand, on location, the hazards associated with storage and transportation are minimized. Utilizing oxygen-hydrogen gas can help remove carbon buildup in the engine and enhance the vehicle's engine's performance. Water vapor is the only byproduct of oxy-hydrogen combustion. In the process, no carbon or other harmful material is created. In addition to conventional fuels like gasoline, petroleum, oil, heating oil, acetylene, propane, or liquefied petroleum gas, one can use oxygen hydrogen energy. On the passenger vehicles, the decarbonization process took sixty minutes. At the technical inspection station, a fresh exhaust gas measurement was made following the decarbonization process. Next, the Technical-Laboratory Centre was used to measure the vehicle's power and exhaust pollution performance.

RESULT

The biggest single cause of air pollution is motor vehicles. There are many different gases that come from combustion in the exhaust gas of a gasoline engine, however they can be broadly classified as dangerous or non-harmful gases.

There are two categories of hazardous gases that motor vehicles can release into the atmosphere: motor exhaust gases, which are combustion products, and fuel-related readily volatile component emissions.

The decarbonization of engines is one of the things that helps to reduce environmental pollution from the motor vehicle sector. Consequently, this paper's exhaust emissions test was conducted in a lab.

The results obtained in terms of exhaust emissions show that the decarbonization procedure has helped to lower the vehicle's exhaust content. The data about the level of blackening prior to the decarbonization procedure is displayed in Table 1.

Table 1. Results of degree of blackening before decarbonization

Acceleration N°	Blackening (m^{-1})	Rpm min.	Rpm max.
1	0.17	1110	2020
2	0.19	1200	2400
3	0.13	1150	2830

According to the first measurement's results, there is an average degree of blackness of 0.16 [m-1].

The results of the degree of blackening following the decarbonization procedure are displayed in Table 2.

Table 2. Results of degree of blackening after decarbonization

Acceleration N°	Blackening (m^{-1})	Rpm min.	Rpm max.
1	0.05	1010	1710
2	0.01	940	1670
3	0.00	850	1650

After decarbonization, the average degree of blackness with repeated measurement is 0.02 [m-1].

When the acquired data are compared to the degree of blackening before and after the decarbonization procedure, they show a 0.14 [m-1] reduction in blackening. amount of fuel used determines whether the decarbonization process is economically viable. Road load simulation was used to test fuel consumption under actual operating circumstances at a speed

of 80 [km/h] and 1500 [rpm]. Figure 1 displays the fuel usage results prior to the decarbonisation procedure.

Fig. 1 Fuel consumption before decarbonization

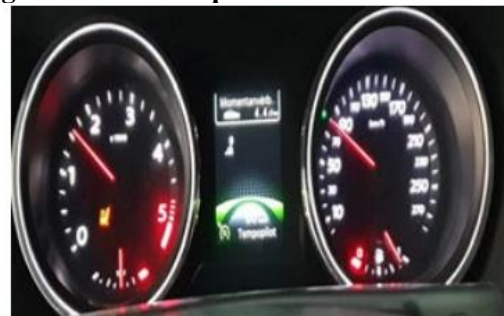


Source: www.atct.ba

Under the specified operating circumstances, the fuel consumption is 5.00 [l/100km] (Figure 1).

The fuel usage figures following the decarbonization procedure are displayed in Figure 2.

Fig.2. Fuel consumption after decarbonisation



Source: www.atct.ba

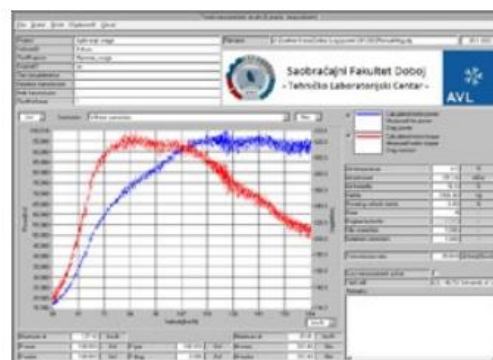
Under the same operating conditions, several measurements show a fuel consumption of 4.40 [l/100km] (Figure 2).

Tests that compared fuel use before and after the decarbonization procedure show that it lowered fuel consumption by 9%. Apart from evaluating the release of exhaust gases and the decrease in fuel usage, an assessment was conducted on the power output at the drive wheels both prior to and following the decarbonization procedure.

In the Technical-Laboratory Centre, power testing at the drive wheels were conducted to simulate actual working circumstances. The air temperature was 4.10 [°C], the atmospheric pressure was 1013.60 [mBar], and the humidity was 50% during the test.

Figure 3 displays the test results prior to the decarbonization procedure. The power obtained is 100.018 [kw].

Fig.3. Engine speed characteristics before decarbonisation process.

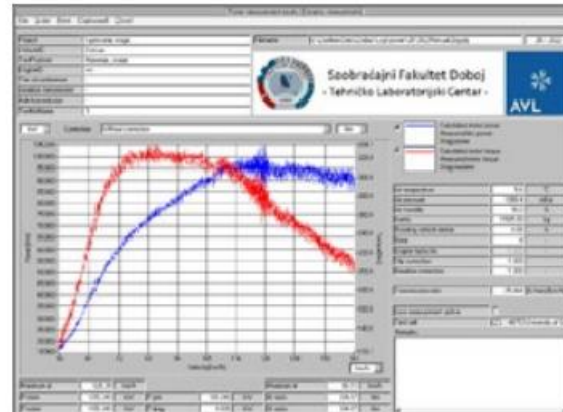


Source: www.atct.ba

Following the decarbonisation procedure, a fresh measurement was made under the exact same operating circumstances as in the first instance.

Figure 4 displays the results that were achieved. The power results following the decarbonisation process show a rise in power from 100.018 [kw] to 105.240 [kw].

Fig.4. Engine speed characteristics after decarbonisation process



Source: www.atct.ba

The acquired results also support the third hypothesis, which states that decarbonization based on distilled water boosts the propulsion engine's power while also lowering fuel consumption and contributing to a decrease in environmental pollution.

CONCLUSION

In conclusion, this paper underscores the imperative need for the decarbonization of internal combustion engines to address pressing environmental and public health concerns while driving economic growth and innovation in India. By emphasizing strategies such as optimizing engine efficiency, adopting cleaner fuels, and integrating hybrid technologies, India aims to mitigate carbon emissions and reduce air pollution while enhancing operational performance. The economic benefits of decarbonization, including cost savings, domestic industry growth, and job creation, align with India's ambitious goal of achieving a \$5 trillion economy by 2027. Moreover, the paper highlights the importance of infrastructure development to support the transition towards cleaner transportation technologies and position India as a global leader in sustainability. By leveraging technological advancements, policy incentives, and strategic partnerships, India can accelerate its transition towards cleaner transportation solutions while fostering inclusive and sustainable development. Ultimately, the decarbonization of internal combustion engines represents a transformative opportunity to build a more sustainable and prosperous future for generations to come, driving economic prosperity, promoting innovation, sustainability, and competitiveness on a global scale.

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DIGITAL TRANSFORMATION IN ENTERTAINMENT INDUSTRY

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ABSTRACT

The landscape of the media and entertainment industry has undergone a profound transformation over the last few decades, catalysed by the digital revolution and technological innovations. By using a mixed method and primary data study delves into the changes in business models within the entertainment sector, using case studies to illustrate the impact of digital transformation. Examining the dynamic nature of the contemporary entertainment industry, where the roles of producers and distributors often overlap, the study highlights the flexibility in managing distribution windows and the resultant alterations in rights management. In the context of India's ambitious \$5 trillion economic goal, the research emphasizes the significance of adapting to these shifts in the supply chain and understanding the regulatory frameworks governing copyright operations. The study also explores the rise of digital media and its influence on entertainment marketing activities, revealing the success of digitalisation in enhancing consumer engagement. It underscores the role of personalised content and the impact of convergence on marketing strategies for sustained business profitability. Moreover, the study investigates the transformative role of Artificial Intelligence (AI) in the media and entertainment industry, pointing to the widespread integration of AI in business processes. The research emphasises the projected growth of the entertainment and media sector due to the efficiency and innovation brought about by AI. In the pursuit of India's economic aspirations, understanding and adapting to these technological shifts are imperative for the continued competitiveness of the entertainment industry, creating new standards and opportunities for growth.

Keywords: India's \$5 Trillion Economy, Artificial Intelligence (AI), Entertainment Marketing, Technological Shifts

INTRODUCTION

India's entertainment landscape is in a transformative phase, driven by the convergence of technology and economic aspirations towards a \$5 trillion economy. The media and entertainment (M&E) industry is at the forefront of this evolution, reshaping traditional paradigms and embracing digital platforms and content delivery mechanisms. The proliferation of Over-The-Top (OTT) services and Video on Demand (VoD) platforms has revolutionized content consumption, reflecting a seismic shift towards online streaming. Digital media's ascent has redefined content creation, distribution, and monetization, with subscriptions soaring and revenues reaching unprecedented heights. Despite digital advancements, traditional mediums like television and print remain resilient amidst technological disruptions. India's M&E sector, valued at 1.82 trillion, plays a pivotal role in economic growth and cultural enrichment. The industry encompasses television, radio, cinema, print, and digital sectors, each experiencing significant transformations catalysed by internet technologies. And OTT platforms, offering unrestricted storytelling and diverse

content access, have gained widespread acceptance among Indian audiences. The industry's transformative potential is evident with nearly 40 VoD companies emerging in three years and four out of five smartphone owners engaging with at least one OTT app. Understanding the dynamics of India's M&E sector is crucial in achieving the nation's ambitious economic goals. This research paper delves into its multifaceted dimensions, exploring growth drivers, challenges, and prospects. Through a comprehensive analysis, it seeks to offer valuable insights for stakeholders to innovate business models and capitalize on emerging opportunities. By unravelling the intricate interplay between digital transformation, consumer behaviour, and industry dynamics, this research aims to harness the full potential of India's media and entertainment sector in realizing the vision of a \$5 trillion economy.

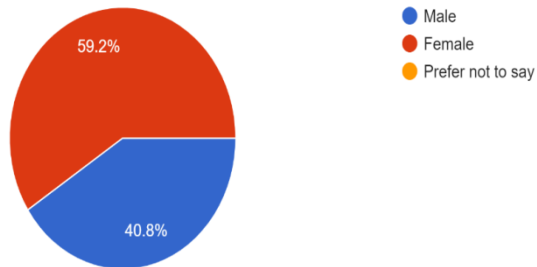
REVIEW OF LITERATURE

The media and entertainment (M&E) industry is undergoing profound changes with the advent of digitalization. Understanding people's awareness and thoughts regarding this transformation is crucial. The literature review explores existing studies, highlighting gaps and setting the stage for our research. As our research M&E is shifting to a different domain, the Indian television industry has undergone significant changes since 2000. Factors like the entry of multinational companies, outsourcing opportunities, and digitization have transformed the industry (Mehta, 2008; Gopalan, 2007; Thomas J.J. and Rayadurgam I., 2005). There is some emergence of OTT Services where the entertainment industry, globally, has experienced dynamic changes. Over-the-top (OTT) services have become a major player, bringing about radical transformations. However, scholarly attention to the impact of OTT services has been relatively recent (Gillian Doyle; Savvas et al., 2015). Some factors Influencing OTT Adoption studies have explored factors influencing the adoption of OTT services, such as convenience and content availability (Sujata et al., 2015). Factors like price, video quality, ease of use, and personalized channel offerings contribute to the success of OTT TV (Baccarne et al., 2013). Entertainment, defined as activities providing pleasure, has evolved with the rise of the internet. The internet has not only affected how entertainment is consumed but has also turned it into a marketable product through digital platforms, games, and mobile media content (Kumar, 2021) Entertainment Marketing Evolution treating entertainment as a marketable good, aims to influence people's spending choices on entertainment. It has evolved (Kaser & Oelkers, 2021). This resultant attitude towards technology is evolving, and there is a need for updated measurement tools. The television and entertainment industries are dynamic, with technology playing a crucial role. Understanding the impact of these changes requires continuous study and adaptation of marketing strategies. While several studies delve into the impact of digitalization on the M&E industry, there's a noticeable gap in understanding people's awareness and sentiments. Existing literature tends to focus on industry perspectives, neglecting the crucial aspect of consumer perceptions and expectations. To Explore Thoughts and Opinions: Investigate the thoughts, opinions, and concerns individuals hold regarding the digital transformation in media and entertainment the hypothesis **shows that there is no significant relationship between people's awareness and their thoughts on digitalisation in the M&E industry and People's awareness significantly influences their thoughts on digitalisation in the M&E industry.** We guess that if people are more aware of the changes happening in the media and entertainment industry, their thoughts about these changes will be different. This study aims to bridge the existing gap by focusing on the human perspective in the era of digitalization, providing insights that can benefit industry stakeholders and contribute to a holistic understanding of the evolving M&E landscape.

SURVEY REPORT: DATA COLLECTION

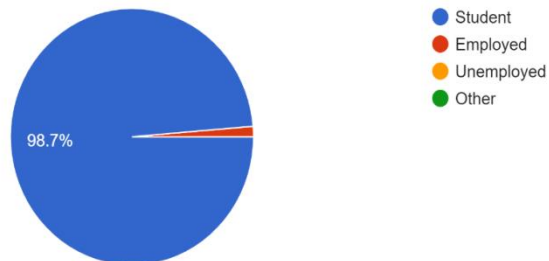
Gender

76 responses



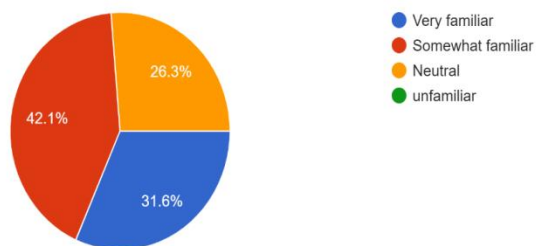
Occupation

76 responses



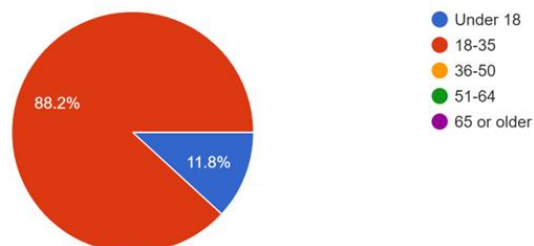
How familiar are you with Artificial Intelligence (AI)?

76 responses



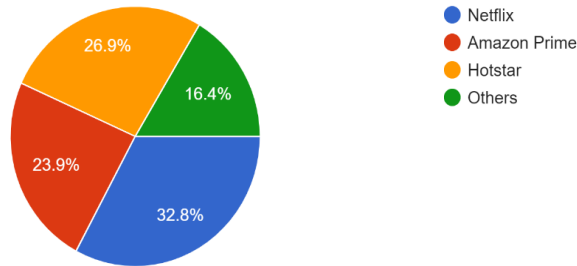
Age

76 responses



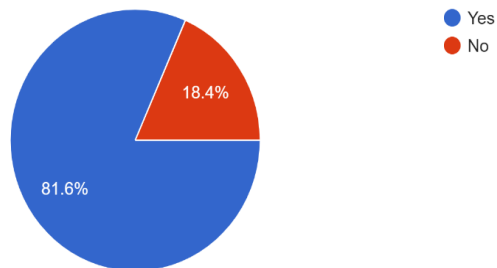
If yes, which OTT platforms do you subscribe to? (Select all that apply)

67 responses



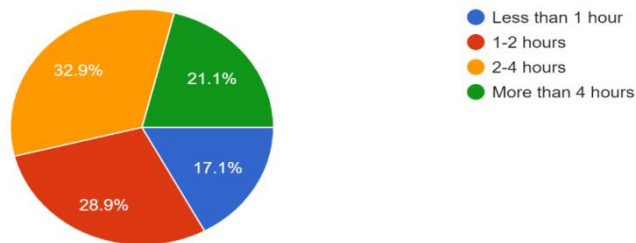
Are you currently using any Over-the-Top (OTT) services for entertainment?

76 responses



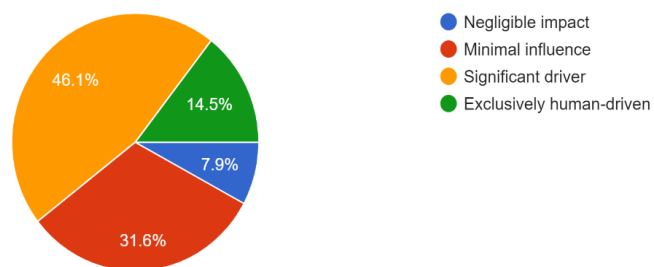
On average, how many hours per day do you spend your time on social media

76 responses



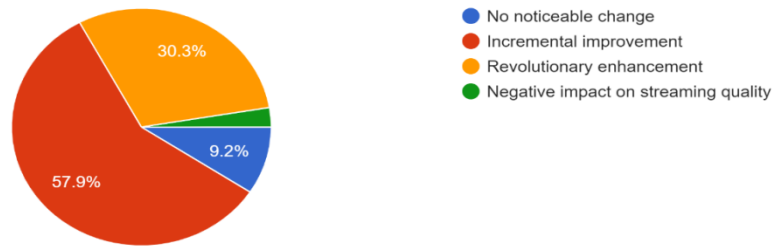
What role does Artificial Intelligence play in shaping content recommendations on OTT platforms in India's media landscape?

76 responses



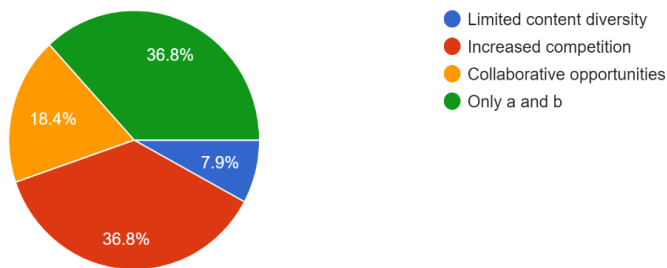
How has the advent of 5G technology affected the streaming quality and user experience on OTT platforms in India?

76 responses



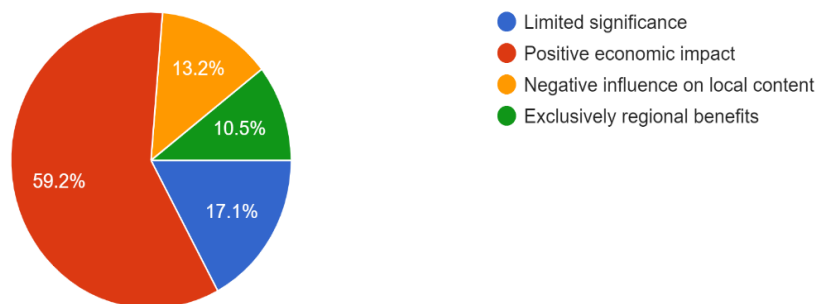
In the context of content creation, what challenges and opportunities arise from the coexistence of traditional television and emerging OTT platforms in India?

76 responses



Analyze the impact of international collaborations and co-productions on the Indian cinema industry in the context of the 5 trillion economy goal.

76 responses



DATA ANALYSIS AND FINDINGS

Among the surveyed OTT platforms, Netflix boasts the highest subscription rate at 32%, followed by Hotstar at 29% and Amazon Prime at 23%. A significant proportion of respondents, 32%, dedicate 2-3 hours to TV watching, indicating a moderate level of engagement with television content. Respondents largely believe that AI plays a substantial role in shaping content recommendations on OTT platforms, with 46% acknowledging its significant role. Regarding the impact of 5G on streaming, 58% of respondents anticipate incremental improvements, while 30% foresee revolutionary enhancements in streaming quality and user experience. A considerable 60% of respondents hold a neutral perception of

the Indian media and entertainment industry, while 31% view it positively. In terms of challenges and opportunities in content creation, 46% of respondents identify increased competition, while 38% point to limited content diversity as a significant challenges. Regarding the impact of international collaborations on Indian cinema, 59% of respondents believe they have a positive economic impact, while only 17% see limited significance in such collaborations. In terms of revenue generation models, 50% of respondents indicate dependence on ads for revenue, whereas 32% highlight subscription-based models as drivers of revenue in the media and entertainment industry. As findings show half of the respondents see a dependence on ads for revenue in the context of the rise of subscription-based models on OTT platforms. In summary, the findings suggest a varied landscape in the media and entertainment industry in India, with preferences for specific OTT platforms, a mix of TV-watching durations, a recognition of AI's role, positive views on 5G impact, and perceived challenges and opportunities in content creation. International collaborations are seen as economically beneficial, and there is a notable shift towards subscription-based revenue models.

DISCUSSION AND IMPLICATION

The dominance of Netflix in subscription rates implies a strong market presence, possibly due to its diverse content library and original productions. Platforms competing in the OTT space need to invest in a diverse content portfolio to attract and retain subscribers. The substantial portion of watching TV for 2-3 hours signifies sustained engagement, indicating potential opportunities for advertisers. Advertisers may find value in targeting prime time slots during this duration to reach a more engaged audience. Acknowledging AI's significant role suggests a preference for personalized content, guiding platforms to invest in enhancing recommendation algorithms. Platforms should prioritize refining AI systems to improve user experience and content discovery, potentially increasing user retention. The anticipation of incremental improvements with 5G indicates optimism about enhanced streaming experiences. Telecom companies and streaming platforms can collaborate to capitalize on 5G capabilities, ensuring seamless and high-quality content delivery. The majority holding a neutral perception highlights the need for industry players to address concerns or misconceptions. Industry stakeholders should engage in transparent communication to enhance the overall perception, possibly through awareness campaigns and implication of content creators and platforms should prioritize diversifying their content offerings to attract a broader audience and compete effectively in the market. Advertisers can benefit from strategically placing advertisements during the 2-3 hour prime time, optimizing their reach to a more engaged audience. Platforms need to invest in AI technology to enhance content recommendation algorithms, providing users with a more personalized and satisfying viewing experience. Telecom companies and streaming platforms should collaborate to optimize content delivery over 5G, ensuring a seamless and high-quality streaming experience for users. Industry stakeholders need to address concerns and work towards improving transparency to influence public perception, possibly through strategic communication initiatives positively. This shows the Overall Implications of the Research Paper and provides valuable insights into user preferences and expectations within India's media and entertainment landscape. For a comprehensive research paper, a deeper exploration into user motivations, regional variations, and the evolving role of technology is recommended. Additionally, longitudinal studies tracking shifting trends can ensure the research remains relevant in the dynamic M&E industry. Understanding these nuances is crucial for informed decision-making by industry stakeholders and contributing to the sector's growth in India's ambitious journey towards a \$5 trillion economy.

CONCLUSION

In conclusion, this research unravels the transformative journey of India's media and entertainment (M&E) industry, propelled by the dynamic fusion of technology and entertainment. As India aspires to achieve a \$5 trillion economy, the M&E sector emerges as a powerhouse, steering growth, innovation, and societal evolution. The surge of digital technologies, particularly through Over-The-Top (OTT) services and Video on Demand (VoD) platforms, signifies a seismic shift in how content is created, distributed, and monetized. The rise of nearly 40 VoD companies in the past three years mirrors India's growing appetite for online streaming, marking a departure from traditional entertainment consumption. Digital media takes centre stage, witnessing exponential growth in subscriptions and revenue. Despite these shifts, traditional mediums like television and print exhibit resilience, showcasing the industry's ability to adapt amidst technological disruptions. As a catalyst for economic growth and social change, the M&E industry stands as a vanguard of innovation, creativity, and entrepreneurship. Fueled by a burgeoning internet user base and government initiatives, it plays a pivotal role in steering India towards its \$5 trillion milestone. This research, through empirical analysis and strategic insights, charts a roadmap to harness the transformative potential of India's vibrant entertainment landscape. By delving into television, radio, cinema, print, and digital media, it deciphers the levers of growth and innovation, offering valuable insights for stakeholders to navigate India's quest for economic expansion. In essence, the M&E sector emerges as a linchpin of transformation, not only shaping the contours of entertainment but also weaving into the fabric of India's economic destiny. Understanding consumer behaviour, technological dynamics, and industry nuances becomes paramount as India embarks on this journey. This study contributes to the collective understanding, paving the way for the M&E industry to flourish in the ever-evolving landscape of India's economic aspirations.

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A STUDY ON LEVERAGING A.I & INFORMATION TECHNOLOGY FOR INDIA'S JOURNEY TO A \$5 TRILLION ECONOMY

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ABSTRACT

The Indian economy has authenticated a great year of closing 2023 with a GDP of US\$ 3.73 trillion, a expected GDP growth rate of 6.3 percent compared to the world average of 2.9 percent. Currently India is on a path of becoming a \$5 trillion economy where it is, standing at the intersection of transformative technologies in particular Artificial Intelligence (AI) and Information Technology (IT). Presently in India for year 2023 shares the addition of 7.5% in Indian GDP with produced revenue of \$194 billion dollars. In India IT sector straightly employed 5.4 million people & 16 million people periphrastrically. IT sector can become a huge bolster to Indian economy with the help of new evolving technologies like Cloud computing, Artificial Intelligence (A.I), Blockchain, IOT and 5G with the help of new crop up technologies employment can also be generated as the new technologies require new minds and new skills. In contemporary technology advancement the most common and frequently used and fastest growing technology is Artificial Intelligence (A.I) which is giving a new architecture to IT sector by enabling automation and efficiency, enhanced data analysis and insights, cybersecurity improving chat bots and assistants, enhancing project management, better decision making. In recent times Indian government has also taken several steps to facilitate the AI technology and it's knowledge to general public like formation of Artificial Intelligence Task Force (A.I TF) by ministry of commerce and industry, formulation of NITI Ayog National strategy for A.I #A.I_for_all, setting up comities for A.I under ministry of electronics & I.T, applied A.I research centre in Telangana etc. Indian government also launched Digital India (Digital Bharat) programme in year 2015 with view to alter India into digitally entitled society and knowledge economy. The IT & BPM sector is one of the most important growth symbols for the Indian economy, contributing majorly to the country's GDP and public benefit. The IT industry registered for 7.5% of India's GDP in 2023, and it is predicted to augmentation of 10% to India's GDP by 2025. In 2023 the revenue generated by IT sector was \$24 billion and it is expected that \$350 billion will be generated.

INTRODUCTION

What is A.I?

Artificial Intelligence is a science of developing machines that can ponder like humans. It can perform tasks that are acknowledged as "smart". AI technology can handle large amount of data in different ways contrasted to humans. The aim for AI is to be capable to do things like recognize patterns, make decisions & judge like humans.

As per John Mearthy, who named the term Artificial Intelligence in the year 1955, Artificial Intelligence (A.I) is define as " the science and engineering of making intelligent machines, especially intelligent computer programs".

What is IT?

"IT" commonly refers to Information Technology. IT encompasses the operation of computers, software, networks and electronic systems to store, process, transmit & retrieve information. It includes a wide range of technologies & practices that are used to mange and process information in different forms.

The IT industry is one of the fastest growing sectors in India. In the current century India has arisen as the largest IT capitals in the world. One of the major trends in the Indian IT services is the move towards digitalization. With the Indian government's thrust to the digital economy, businesses are continuously looking to contemporary technologies to remain competitive. This has led to a increase in demand for services such as mobile app development, e-commerce solutions & digital marketing. While big IT services companies continue to influence the market. India's IT services market is distinct in that it is majorly influenced by the country's huge and developing startup ecosystem. With more than 50,000 startups, India is one of the world's rapid growing startup hubs. Many of them focus on developing advanced technologies and breaking traditional industries, which has created an emerging demand for IT services that can bolster their growth. New technologies like AI can help to grow them more with it's automation and quick solving work abilities, AI not only can contribute to IT sector but also can develop various opportunities in different sectors.

METHODOLOGY

For this study we have adopted mixed approach combining qualitative and quantitative research. We have utilized case studies, articles, journals and statistical analysis to comprehensively assess the impact. Various government schemes are observed keenly and there limitations as well as success rate are noticed, also we have conducted a survey based on social media and talks to understand the future and success of modern technologies and how they will contribute to Indian economy to achieve the \$5 trillion economy target by 2027.

CURRENT ECONOMIC LANDSCAPE OF INDIA

Indian economy, which is the world's fifth largest nominal GDP and third largest by purchasing power parity, presents a complex picture. While recent years have seen impressive growth, structural challenges and external headwinds remain. Here's an overview

Positive—

Robust Growth: India's GDP grew at 7.2% in FY2022-23 and is projected to reach 7% in FY2023-24. This is driven by strong domestic demand, particularly in the services sector and infrastructure investments.

Manufacturing Push: The government's "Make in India" initiative is attracting foreign investment and boosting domestic manufacturing particularly in sectors like automobiles and electronics.

Growing Foreign Exchange Reserve: India's foreign exchange reserves have nearly doubled since the pandemic, reaching over US \$568 billion. This provides a buffer against external shocks and improves investor confidence.

Improving Fiscal Situation: The fiscal deficit has been falling from its pandemic peak and is targeted at 5.9% of GDP in FY2024. This reflects the government's efforts to control spending and boost revenue.

Strong Consumer Demand: Driven by a propagate middle class and emerging disposable incomes, consumer expend is a major engine of Indian economic growth. This bode well for sectors like retail, tourism and entertainment.

CHALLENGES—

Unemployment and underemployment: Job creation and addressing unemployment remain critical, especially with technological advancements and changing labor market dynamics.

Income Inequality: The gap between rich and poor continues to widen, posing social and economic challenges.

Inflation: Inflation remains a concern, hovering around 5%. Rising food and energy prices are impacting household budgets and eroding purchasing power.

Skill Gap: While India has a large workforce, skill mismatch remains a concern. Many lack the skills needed for high paying jobs, leading to underemployment and hindering productivity.

Quality Concerns: Some service sectors face issues with quality standards and professionalism, impacting brand reputation and attracting foreign investments.

THE ROLE OF AI

With AI we can increase the efficiency and productivity by automation. In contemporary times AI powered robots and software automate looping tasks, freeing up human workers for more standard work activities, this leads to increased production output and faster service delivery in sectors manufacturing, logistics and customer service. AI can lead to addition in labor potency due to innovative technologies enabling more accurate workforce-related time management also AI can create a new virtual workforce able of solving problems and self-learning with modern advance AI technology economy with modern advance AI technology economy will also get advantage from the scattering of innovations which will affect various sectors also AI is fostering the emergence of new industries like autonomous vehicles and drone delivery services. Some frequently used AI applications in different sectors like medical diagnosis in healthcare, trading in finance, supply chain optimization in manufacturing and even AI can help in agriculture by analysing soil conditions and weather patterns.

IT AND ECONOMIC DEVELOPMENT

IT helps in economic development in different ways by increasing productivity by automation, data driven decision making. IT also boost innovation and expands market by using E-commerce to wider audiences. IT also attracts foreign investments and boosts economic activity IT infrastructure and skilled workforce. IT sector creates numerous jobs however some jobs are removed by automation but it also creates new ones in areas like software development, data analysis, cybersecurity and digital marketing. In recent past years IT also has impacted the traditional education by creating a new terminology Edtech, is also improves access to essential services in form of E-governance, Digital payment and banking services also get improved.

AI AND IT IN INDIAN CONTEXT

Today India is expressing a surge in AI and IT adoption because of various factors like a huge crowd of internet users India is at second position with the most number of internet users, this provides a foundation for growth for AI and IT sectors. Indian government ha also launched various action propagate AI and It adoption like digital India program, National strategy for AI, AITF (Artificial Intelligence Task Force) etc. The private sector investment is also playing vital role by investing heavily in AI and IT focused and tackling diverse challenges across healthcare, fintech, agriculture and other sectors.

BARRIERS AND CHALLENGES

Using modern technologies, computers and machines can be useful to India in many ways but it can also face various barriers and challenges like.

- India possess a relatively small body of researchers especially in the field of AI and subfields as compared to other countries.
- Due to extreme lack of digital awareness of Indian youth the new realm of AI people have little local expertise in this field and are also lacking expert institutes that could

train a new cohort of AI engineers that could further develop and commercialization AI technology.

- India's diversity and complexity also present a new set of challenging problems for adopting AI at large scale.
- Since cost of adopting AI is much higher in India than in the west, this presents a lack of room for innovating experimentation and serve as another set of challenges of AI in India.
- The automation of tasks by AI could lead to job displacements in certain industries, however it will also generate new streams but if the person is not aware of that stream he can be remain unemployed.
- Complex AI models often lack of transparency, making it challenges to understand their decision making processes lack of transparency can be a barrier to trust and accountability in many organizations.

GOVERNMENT INITIATIVES AND POLICIES

Indian government has taken various steps or majors and formulated policies to support the growth of AI and IT as they play crucial role in economic growth. Some major initiatives include:

National Strategy for Artificial Intelligence (NSAI)- Launched in 2018 focuses on 3 approaches: research and development, adoption, responsible AI. It has led to the establishment of research centers, pilot projects and ethical frameworks, NSAI spurred research & development and promotes information sharing.

National E-governance plan (NeGP)- It was lofted to provide government services to native citizens electronic and improve the efficiency and transparency of government functions. The important objective was to leverage IT for effective governance, service delivery & promote a digital economy.

Digital India- It targets to change India into a digitally empowered community and economy. Launched in 2015 this initiative includes various programs like digital infrastructure development, e-governance and promote digital literacy. Digital India has improved digital infrastructure and government services laying down the groundwork for AI adoption.

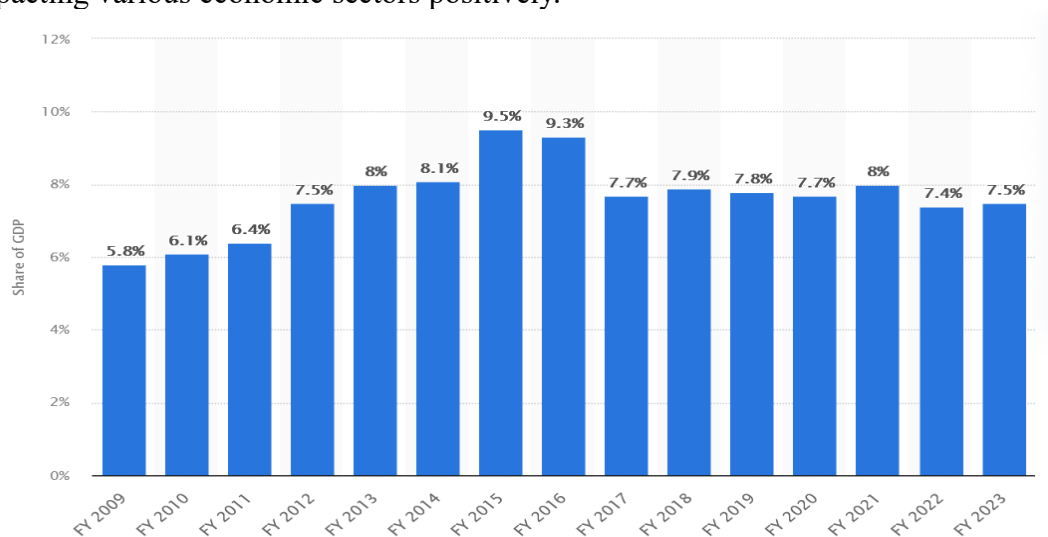
Startup India- A government initiative launched to foster entrepreneurship & promote innovation. This initiative offers supports to startups through funding, tax breaks, simplification of regulatory processes etc. Startups in the AI and IT sectors have benefited from these initiatives.

Electronics & IT policy- The Ministry of Electronics and Information Technology (MeitY) was formulated policies to electronics and IT sectors. These policies focus on creating an enabling environment for the growth of the electronics industry, promoting research and development, and fostering innovation. Indian government policies & initiatives have created a positive environment for AI & IT development. The effectiveness of these initiatives will depend on sustained commitment, addressing specific sectoral challenges, and adapting strategies to the dynamic nature of the technology landscape. Regular evaluations and adjustments to policies will be essential to ensure that the initiatives contribute effectively to India's goals in AI and IT.

ECONOMIC IMPACT ASSESSMENT

The IT industry is one of the fastest growing sectors in India. In the current century, India has raised to a stage of one of the biggest IT capitals in the world. One of the major trends in the Indian IT services market is the drag towards digitalization. With the Indian government's thrust to a digital economy, businesses are eagerly looking to grab the new technologies to remain competitive. This has led to a rise in demand for various skilled services such as

mobile app development, e-commerce solutions and marketing. Another drift that has emerged in contemporary years is the rise of niche players in the market. Being one in every of the largest offshoring locations for specific IT business internationally, the business procedure control market in India is of sizable significance. The Information Technology/Business process management (IT/BPM) sector had contributed a proportion of about 7.5% to the GDP of the country in fiscal year 2023. IT and AI-powered industries are contributing significantly to India's services exports, which are key driver of economic growth. Digitalization also has enhanced India's export capabilities and attracts foreign investment. IT systems, when integrated with AI, help businesses optimize their processes, minimizing errors and resource wastage. This results in improved overall productivity. While AI may automate some tasks, it also creates new job opportunities. AI developers, data scientists, and AI trainers are in demand The integration of AI and IT requires a skilled workforce, driving investments in education and training. This, in turn, contributes to the growth of the education sector. AI (Artificial Intelligence) and IT (Information Technology) play crucial roles in driving economic growth by enhancing productivity, innovation, and efficiency across various industries. AI will impact various other sectors also, the integration of AI and IT significantly contributes to economic growth by improving productivity, fostering innovation, creating new job opportunities, enhancing decision-making processes, and impacting various economic sectors positively.



Contribution of Information Technology / business process management sector in the GDP of India from fiscal year 2009 to 2023 (source: statistica.com)

By embracing these technologies, addressing challenges and skilling the workforce, India can unlock its full potential. AI is contributing to the other sectors in different ways.

Agriculture: One of the most important sector in India is agriculture. AI is useful for betterment of agricultural productivity in a number of ways. For example AI powered drones are being used to survey crops and identify pests and diseases. This information is then used to recommend the best course of action for farmers. As a result, farmers are able to produce more food with fewer resources. AI is helping to protect farmers from crop losses and improve food security. Additionally, Ai is being used to develop new irrigation systems that are more efficient and water saving. This is helping to address the problem of water scarcity in India.

Retail: The retail industry is an early adopter of AI solutions, with applications such as personalized feedback quality, interest- based research. Other use cases including meeting

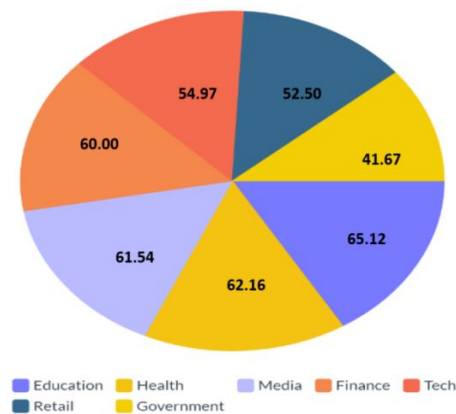
customer needs, improving inventory management and quality control of deliveries. This will help to produce products and services to the customer of their choice.

Healthcare: Artificial intelligence is being used in many ways to improve health in India. AI-Powered medical imaging can identify diseases more accurately than human doctors and AI can analyse large amounts of data to identify emerging patterns and relationships in disease. This will help accelerate the drug discovery process and bring new treatments to market faster

Education- AI is being used to teach and learn students in many ways like automate tasks , asking questions and instant replies and taking feedback.

A.I ADOPTION RATE

We have conducted a survey on 1000 people of different sectors, and asked them about the current situation of AI adoption rate in their sectors. The major sectors include were Education, healthcare, media, finance, tech, retail, government. The outcome is showed in



AI adoption rate based on our survey (source-survey)

FUTURE OUTLOOK

Indian customers are increasingly looking for IT services that are more affordable, innovative, and tailored to their specific needs. Therefore, the demand for services such as cloud computing, cyber security and artificial intelligence continue to increase. New technologies such as cyber security and internet of things (IOT) are expected to create 1.4 million new IT jobs in India by 2027. A 1.4 million jobs addition means a growth in employment is about 46%. Indian consumer tech market is likely to expect a reach of \$300 billion by 2027 with a growing rate of CAGR of 25%. The adoption of AI is expected to increase across different industries, including healthcare, finance, manufacturing, and agriculture. AI-powered chatbots and virtual assistants will improve customer service, while IT infrastructure will facilitate seamless digital transactions and communication. This will lead to improved efficiency, cost savings, and innovation in products and services. With a booming growth the market expansion of Indian AI market is predicted to witness a tremendous CAGR of **20.2%**, reaching **\$7.8 billion by 2025**. Similarly, the IT sector is anticipated to grow at **7.3%**, contributing significantly to the economy. India is likely to see a surge in AI and IT startups, driven by a supportive ecosystem, government initiatives, and increased venture capital funding. Innovation hubs, incubators, and accelerators will play a vital role in nurturing new ideas & technologies. Collaborating with global partners in research, technology transfer, and trade can improve India's standing in the global AI and IT landscape. International cooperation can facilitate knowledge exchange and diversify technological capabilities. In future AI is going to create a positive impact as well as some

challenging impacts like data privacy and security threats, As the volume of data increases, concerns about data privacy and security will grow. Striking a poised between leveraging data for innovation and protecting individuals' privacy will be a complex challenge. A concern about digital inclusion government has to fill the gap of digital divide between urban and rural areas remains a challenge. Ensuring that the benefits of AI and IT reach all sections of society requires comprehensive infrastructure development and digital literacy programs, also we have to focus on environmental impact that the large- scale data centers will create. The IT sector has revolutionized commerce through e-commerce platforms and will transform it other services with AI and its various subdomains like machine learning, NLP(Natural Language Processing), IOT etc. Online transactions, digital payments, and electronic storefronts have expanded the reach of businesses and simplified the buying process for consumers. Indian IT sector will contribute to the economy with the efficient services providing to the global clients.

CONCLUSION

The future of AI in India is very bright. India has a large and young population that is eager to adopt new technologies. The government of India is also supportive of the development of AI. As a result, India is well-positioned to become a global leader in AI and can achieve it's target to became a \$5 trillion economy by 2027. However there will be various challenges that are becoming the curb for the AI & IT sector. AI and IT contribute significantly to economic growth by enhancing productivity, fostering innovation, creating job opportunities, and improving decision-making processes. The integration of these technologies across various sectors positively influences global competitiveness and drives economic expansion. The future of AI and IT in India presents various opportunities for innovation, entrepreneurship, and economic growth. Challenges include addressing the urban-rural digital divide, ethical concerns, and workforce adaptation to emerging technologies. Continued government support, global collaboration, and a focus on sustainability will shape the trajectory of AI and IT in India. IT sector offers numerous benefits, including increased efficiency, global connectivity, business innovation, improved customer service, data management, and job creation, It plays a pivotal role in architecting modern business practices, education, healthcare, and societal connectivity. Government initiatives, such as the National AI Mission and Startup India, have shown positive results in promoting AI and IT. Ongoing evaluation, adaptability, and collaboration between government, industry, and academia are crucial for sustained effectiveness.

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MULTI-DIMENSIONAL POVERTY IN UTTAR PRADESH

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INTRODUCTION

Poverty is the largest problem facing developing nations. India is a developing nation with the world's second-largest population, after China. But having a big population does not automatically translate into having many human resources. A huge population might constitute a burden if it is underqualified and lacking in capabilities. Despite India's tremendous progress and development, the majority of us still believe that poverty is a serious issue and a big problem in the nation. Most of us associate poverty primarily with our daily, weekly, monthly, or annual income and the standard of living it allows us. According to Ace to Would Bank, someone is deemed impoverished if their income is less than what is required to cover their essential expenses. At \$1.9 per day, the World Bank defines extreme poverty. The total eradication of poverty is the first main target of the Sustainable Development Goals (SDGs), which seek to abolish extreme poverty in all of its forms by 2030. India has developed a number of initiatives aimed at reducing poverty. It has also worked hard to build measures to reduce poverty via education and has promptly implemented new policies in response to needs. The Planning Commission's approach to estimating poverty is based on suggestions from time to time provided by subject-matter specialists. The most recent figures are based on Prof. Suresh D. Tendulkar's proposals, which were submitted in a report in December 2009. As per this methodology, poverty estimates are as given below:

Total poverty declined from 37.8 to 21.9%, Rural poverty declined from 41.8 to 25.7%
Urban poverty declined from 25.7 to 13.7%

Millions of people worldwide are impacted by the complicated and multifaceted problem of poverty. Multi-dimensional assessments of poverty highlight the wider deprivations that people and households confront in numerous parts of their lives, whereas standard measurements of poverty only consider consumption or income. This method offers a more thorough understanding of poverty and enables focused solutions to deal with its underlying causes.

Many of the poor people in India reside in Uttar Pradesh, one of the most populous states in the nation. Effective measures for reducing poverty in Uttar Pradesh require an understanding of the multifaceted nature of the state's poverty. This thorough investigation investigates the states multifaceted poverty's scope, trends and causes.

Most of us assume that there isn't just one cause or condition that leads to poverty. Instead, the concept of MP includes all of the daily hardships that impoverished people face, including inadequate food, child and adolescent mortality, prenatal care, education, school attendance, sanitation, clean water to drink, fuel for cooking, housing, possessions, and power. Based on a widely recognized methodology created by the UNDP and Oxford Poverty and Development Initiative (OPHI), the MPI was released by NITI Aayog. It documents the struggles and privations that the families go through.

OPHI and UNDP issued the Global MPI 2022, which compares acute multidimensional poverty for 111 developing nations. Three-quarters of the world's population, or 6.1 billion people, reside in these countries. 1.2 billion (19.1%) of these individuals are classified as multidimensionality poor by the 2022 global MPI. 59.3 million people, or half of them, are under the age of 18.

Sub-Saharan Africa is the developing region with the highest population (about 579 million). According to estimates, 415 million people in India are predicted to be impoverished in 2019–2020, compared to 385 million in 2005–2006 and 2019–2021, with 5.5 percent living in

metropolitan areas. Almost 90% of the impoverished live in rural areas. Of the approximately 220 million impoverished people, 205 million reside in rural areas.

The percentage of the population living in poverty decreased from 55.1% in 2005–06 to 16.4% in 2012–21. According to the research, among all states and union territories, Goa saw the fastest relative decrease in poverty, followed by I&K, Andhra Pradesh, and Chhattisgarh. In terms of absolute MPI value loss, Bihar experienced the fastest decline and is the poorest state for 2015–16. The decrease in poverty in South Asia can be largely attributed to India's improved MPI.

NITI Aayog has issued the MPI, which places Uttar Pradesh third among states with the highest rates of poverty, behind Bihar and Jharkhand. UP comes in third place on the poverty index, with 37/79% of its population living in poverty. In the category of child and adolescent mortality rates, UP comes in third place with regard to the rate of malnutrition. Sikkim is the least malnourished state in the nation, with 44.47% of the population living in Uttar Pradesh. With 74.38% of the population living in poverty, Shravasti is the poorest district in Uttar Pradesh. Lucknow is the least poor state, with only 12.16% of its population living in poverty, while Bahraich (71.881) and Balrampur (69.45%) are the poorest districts of the stars impoverished district. Kanpur (14 only 1216/pwed on 30 gautan Budh Nagar (17.08%) are the least poor districts. With an urban MPI LMPI score of 0.085%, UP's MPI score is 0.18, almost twice as high as the national average of 0.211.8.

METHODOLOGY

The Oxford Poverty and Human Development Initiative (OPHI) created the Multi-Dimensional Poverty Index (MPI), which is used in this study to quantify multi-dimensional poverty in Uttar Pradesh. The MPI is a composite index that incorporates data from three dimensions—health, education and living standard on ten indicators.

The National Family Health Survey (NFHS-5), which was conducted in 2019–20, provided data for the analysis. Comprehensive data on household characteristics, health, education, and access to necessary services were gathered through the survey.

The MPI was constructed based on the following indicators:

Health

- Child mortality (under-5)
- Nutrition (stunting and underweight)
- Access to healthcare
- Education
- Years of schooling
- School attendance rate
- Literacy
- Living Standards
- Access to clean water
- Access to sanitation
- Electricity
- Cooking fuel Housing quality

EXTENT AND PATTERNS OF MULTI-DIMENSIONAL POVERTY

The analysis's findings show that multifaceted poverty is pervasive in Uttar Pradesh. Over 112 million people, or roughly 53% of the population, live in multidimensional poverty. The national average of 27.9% is much lower than this poverty percentage.

There are notable differences throughout the state; poverty is more prevalent in rural areas than in metropolitan ones. Compared to just 32% of people in metropolitan regions, over 60% of

people living in rural areas are multidimensional poor. Low educational attainment, poor sanitation, and lack of access to clean water are the most prevalent deprivations among the impoverished. More than 70% of multidimensional impoverished households do not have access to clean water, and over 90% do not have access to appropriate sanitation facilities. Furthermore, more than 40% of underprivileged kids have not finished their elementary schooling.

DRIVERS OF MULTI-DIMENSIONAL POVERTY

The analysis identified several key drivers of multi-dimensional poverty in Uttar Pradesh, including:

Low income: Income levels in Uttar Pradesh are generally lower than in other parts of the country. Poverty is concentrated among agricultural laborers, informal sector workers, and small-scale farmers.

Inequality: Uttar Pradesh exhibits high levels of inequality, with a significant income gap between the rich and the poor. This inequality limits opportunities for the poor to escape poverty.

Lack of education: Educational attainment is low in the state, particularly among girls and women. Poor education perpetuates poverty by limiting employment opportunities and access to information about health and other essential services.

Poor infrastructure: Basic infrastructure, such as access to clean water, sanitation, and electricity, is lacking in many areas of Uttar Pradesh. Inadequate infrastructure poses health risks and hinders economic development.

IMPACT OF MULTI-DIMENSIONAL POVERTY

Multi-dimensional poverty has severe consequences for individuals and households. Poor health, lack of education, and inadequate living conditions contribute to a cycle of poverty that is difficult to break.

Health: Multi-dimensionally poor individuals have poorer health outcomes, including higher rates of malnutrition, stunting, and infectious diseases.

Education: Children growing up in poverty have limited access to quality education, leading to lower educational attainment and fewer opportunities in life.

Economic: Poverty limits economic growth by reducing productivity and job opportunities. Poor households often rely on informal and insecure employment, which perpetuates poverty. The most populous state in India, Uttar Pradesh (UP), has a complicated connection with poverty. UP has had notable economic improvement recently, yet it still faces a large problem with multifaceted poverty. This kind of poverty takes into account a variety of deprivations that impair an individual's well-being in addition to income. The varied nature of multidimensional poverty in Uttar Pradesh is explored in depth in this research. We'll talk about how it's measured the state of affairs, geographical differences, advancements made, and lingering difficulties.

MEASURING MULTI-DIMENSIONAL POVERTY

Unlike traditional income-based poverty measures, the Multidimensional Poverty Index (MPI) provides a more holistic perspective. Developed by the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP), the MPI considers deprivations across three key dimensions:

Education: Years of schooling, child school attendance

Health: Child mortality, nutrition, and standard of living (accommodation, water, sanitation, cooking fuel, and assets). To ascertain whether a household is deprived, particular indicators are employed within each dimension. If an individual is deficient in at least 33% of the

weighted indicators in each of the three dimensions, they are deemed multidimensionally poor. The average intensity of these deprivations is further shown by the MPI score.

THE CURRENT SITUATION IN UTTAR PRADESH

Uttar Pradesh has an MPI score of 0.18, which indicates a modest level of multi-dimensional poverty, according to the most recent statistics (NFHS-5, 2019–21). This, however, conceals notable differences within the state. Exclamation Headcount Ratio (HCR): This shows the proportion of the population that falls into the category of multidimensional poverty. With an HCR of 22.95% in Uttar Pradesh, more than one-fifth of the population experiences multidimensional poverty and regional inequality. Not everyone in UP experiences poverty equally. The HCR (32.75%) in rural areas is significantly higher than that in urban areas (8.81%). Even Lucknow (12.16%) does better than districts like Bahraich (71.88%) and Balrampur (69.45%), where a much larger percentage of the population lives in multi-dimensional poverty.

REASONS BEHIND MULTI-DIMENSIONAL POVERTY

Several factors contribute to multi-dimensional poverty in UP:

Limited access to quality education: High dropout rates, especially among girls, and inadequate infrastructure in rural schools restrict educational opportunities.

Health challenges: Malnutrition, particularly among children, and inadequate access to sanitation and healthcare contribute to poor health outcomes.

Limited livelihood opportunities: Lack of skill development and limited access to formal employment lead to low and unstable incomes.

Social inequalities: Caste and gender disparities further marginalize certain groups, limiting their access to resources and opportunities.

POSITIVE DEVELOPMENTS

There have been positive developments in reducing multi-dimensional poverty in UP:

Decline in MPI score: From 2015-16 (37.68% HCR) to 2019-21 (22.95% HCR), a significant decline in the number of multi-dimensionally poor has occurred. This translates to over 5.94 crore people escaping poverty in the last nine years.

Government initiatives: Schemes like Beti Padhao Beti Bachao (Save the Girl Child, Educate the Girl Child) and focus on rural development have contributed to progress.

CHALLENGES AND THE ROAD AHEAD

Addressing income inequality: While the MPI captures a broader picture, income inequality within the "non-poor" category needs attention.

Reaching the most vulnerable: Pockets with high poverty concentration, particularly in rural areas, require targeted interventions.

Gender disparity: Addressing the specific needs of women and girls, who often face greater deprivations, is crucial.

Focus on quality: Investments in education and healthcare must go beyond access and ensure quality services reach the most marginalized.

RECOMMENDATIONS

Addressing multi-dimensional poverty in Uttar Pradesh requires a comprehensive approach that tackles both its causes and consequences. Policy recommendations include:

Targeted income support: Providing financial assistance to the most vulnerable households can help alleviate poverty and improve access to essential services. Education and skill development: Investing in education and skills training for both children and adults is crucial

for breaking the cycle of poverty.

Infrastructure development: Expanding access to clean water, sanitation, and electricity improves health outcomes and promotes economic development.

Social protection: Implementing social protection programs, such as health insurance and food subsidies, protects the poor from unforeseen events and reduces their vulnerability to poverty. **Women's empowerment:** Promoting women's education, health, and economic participation is essential for reducing poverty and improving overall well-being.

CONCLUSION

Uttar Pradesh is confronted with a major challenge: multidimensional poverty. Developing measures for poverty reduction requires an understanding of its prevalence, trends, and drivers. A multifaceted strategy incorporating community-based and governmental interventions is needed to address the core causes of poverty, which include inequality, poor income, and lack of education. Uttar Pradesh can make its people live in a more just and equitable society by addressing multifaceted poverty.

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THEORETICAL PERSPECTIVES ON EMPLOYEE GRIEVANCE MANAGEMENT: EXPLORING LAWS AND PROCEDURES

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ABSTRACT:

In today's competitive knowledge-based economy, organizations must prioritize the well-being of their knowledgeable employees, which includes addressing their concerns and grievances. Employee grievances refer to instances when employee feel dissatisfied or unhappy about something they perceive as unjust or wrong, particularly in the workplace. As competition has intensified, and companies have expanded globally, the nature of employee complaints has become more diverse.

This study looks into the various issue of employee grievances, drawing insights from a comprehensive review of the existing body of knowledge. It explores the profound impact of well-structured grievance procedures on employee relations and organizational productivity, highlighting their pivotal roles in creating a harmonious and efficient workplace environment.

The study also emphasizes the importance of labour laws in India in dealing with employee grievances. It provides an overview of various labour laws applicable to different sectors and establishments, detailing their key features and the authorities responsible for grievance redressal.

Furthermore, this research sheds light on emerging employee grievances in the Indian context, reflecting the evolving landscape of workplace concerns. These emerging grievances encompass a wide range of issues, from challenges within trade unions to gender-based concerns, and from issues in the unorganized employment sector to linguistic and communal tensions.

This comprehensive analysis offers a holistic understanding of the critical issue of employee grievances in contemporary workplaces. It underscores the significance of effective grievance handling procedures, the relevance of labour laws, and the need for organizations to adapt to new and diverse employee concerns to promote organisational health.

Keywords: Employee Grievances, Workplace Concerns, Workplace Satisfaction, Labour Legislation, Emerging Workplace Issues

INTRODUCTION

In today's competitive knowledge-based economy, organizations need to take good care of their knowledgeable employees. This means paying attention to the concerns of their workers. Employee grievances are when employees feel upset or unhappy about something they think is wrong or unfair, especially at work. In the past, employee complaints were often about typical issues, but as competition has grown, and companies operate globally, these complaints have become more varied.

Research has shown a strong link between employee grievances and how well employees do their jobs, how satisfied they are with their work, and whether they want to stay in their jobs. If these concerns aren't handled properly, they can directly or indirectly harm how well the

organization works. So, it's crucial for organizations to deal with these issues effectively to succeed in the market.

The goal of this study is to look at how organizations manage employee grievances, understand the labour laws in India that relate to these concerns, and find out what new types of employee's grievances are that are emerging.

PURPOSE OF THE STUDY

This study explores how organizations handle employee grievances, looks at the relevant labour laws in India that address these issues, and identifies new areas where workplace grievances are emerging.

REVIEW OF LITERATURE

In-depth exploration of employee grievances has prompted a review of relevant literature, offering valuable insights into this multifaceted issue (Anju Thomas, 2015). Geetika et al. (2014) uncovered a substantial link between grievance procedures and employee satisfaction, emphasizing the importance of addressing grievances for enhancing overall workforce contentment. Stephen Wood et al. (2014) discovered that workplaces with written procedures and mediation mechanisms tended to experience more grievances, disciplinary issues, and employment litigation.

In 2013, Nilash Thakre found that workers who are dissatisfied cannot perform at their best, which leads to lower production levels. Zulkiflee Daud et al. (2013) found that even after receiving training in grievance handling, managers often refrained from using the integrating style due to the extended time it demands for execution. M.R. Vidhya (2012) examined grievance procedures in IT companies and identified major causes of grievances, including issues related to overtime, Sunday work, pay, incentives, work procedures, shift allocation, and leave policies. Bernard Walker and Robert T. Hamilton (2011) emphasized that employees faced with perceived wrongdoing by their employer have several options, ranging from formal to informal actions or taking no action at all. Joshua C. Polster (2011) mentioned the increasing adoption of formal grievance procedures by non-union employers over the last fifty years, allowing employees to challenge company decisions and appeal managerial adjudications.

In 2008, Himanshu Rai highlighted that even though there are various industrial acts in place, grievance procedures often don't get enough focus because they're seen as complicated to handle and there's a lack of understanding about them. Richard et al. (2008) highlighted that the handling of grievances and disciplinary matters depends on the size and context of organizations, legal obligations, and a growing emphasis on informal processes. Benson's study in 2000 supported findings from Kaufman and Taras (1999), highlighting the challenges faced by non-unionized workers in articulating grievances. Kaufman and Taras's study (1999) demonstrated that non-unionized workers have limited capacity to bring up grievances and articulate their issues, resulting in fewer benefits.

Sean C. Doyle (1999) advocated the benefits of grievance procedures for both employees and management, emphasizing their importance in collective bargaining. Bean (1994) linked the causes of grievances to employee dissatisfaction, often related to working procedures and facilities. Bemmels and Reshef's work in 1991 highlighted the impact of supervisors' behaviour and personal attitudes on their handling of grievances. Brian S. Klass's research in 1989 found various impacts of grievances, including absenteeism, reduced productivity, turnover, and distributive behaviour. Freeman and Medoff's study in 1984 revealed that intention to quit rates

were lower in unionized organizations compared to non-union workplaces, indicating the positive impact of organized labour on grievance resolution and job satisfaction. Lewin's work in 1983 emphasized the facilitating role of grievance procedures in empowering individual workers and unions to challenge management decisions on a range of employment issues, promoting information exchange and enhancing worker productivity and commitment. Thomson's research in 1974 noted the indirect improvement in relationships between parties engaged in collective agreements through grievance procedures, which acted as platforms for resolving employment issues and improving communication within organizations.

ANALYSIS OF THE CAUSES OF GRIEVANCES

Despite variations in culture, industrial climate, and per capita income levels between the U.S. and India, the findings were largely applicable to both nations, as discovered by Nair and Nair (1999), who referenced a U.S. study and two Indian studies identifying typical grievances and their common causes. They presented a table from a study conducted by the U.S. Department of Labor that broadly categorized grievances and their underlying reasons. Similarly, Heneman et al. (2000, p. 632) observed comparable factors contributing to workplace grievances

Classification	Causes
1. Wage grievances	<ul style="list-style-type: none"> - Demands for individual wage adjustments - Complaints about job classification - Complaints about incentive systems - Miscellaneous
2. Supervision	<ul style="list-style-type: none"> - Complaints against discipline and/or administration - Complaints against behaviour of supervisors - Objections to the methods of supervision
3. Working conditions	<ul style="list-style-type: none"> - Safety and health - Violations of rules and regulations - Miscellaneous
4. Seniority, promotions, and transfers	<ul style="list-style-type: none"> - Loss of seniority - Calculations/Interpretations of seniority - Denials or delays of promotion - Transfers or changes of shifts
5. Discipline	<ul style="list-style-type: none"> - Discharges/dismissals/lay-offs - Alcoholism, absenteeism, and accidents - Harshness of punishment and penalties
6. Collective bargaining	<ul style="list-style-type: none"> - Violations of contracts/awards/agreements - Interpretation of contracts/awards/agreements - Settlements of grievances
7. Union management relations	<ul style="list-style-type: none"> - Recognition of unions - Harassment of union bearers - Soldiering/Go-slow tactics

Source: Nair and Nair (1999, p. 257)

Emphasizing the importance of identifying the root causes of grievances, Nair and Nair (1999, p. 258) proposed categorizing these causes into three dimensions: 1. Organizational aspects (such

as organizational structure, policy plans, and procedures), 2. Informational aspects (including ignorance about company rules, regulations, promotion policies, career prospects, transferability, etc.), and 3. Human aspects (which encompass various reasons, with poor mental health and alienation being major contributors).

SIGNIFICANCE OF EMPLOYEE GRIEVANCE HANDLING

The systematic employee grievance handling procedure offers a wide array of benefits for both the organization and its employees. Past research into employee grievances has demonstrated the profound impact of a well-structured grievance procedure on various aspects of employee relations and the overall growth of the organization. The employee grievance procedure assumes several key roles, each of which contributes to a harmonious and efficient workplace environment:

- 1. Bringing Grievances to the Forefront:** A systematic grievance handling procedure brings employee grievances into the open. This visibility enables the management to become aware of these grievances, understand their nature, and take corrective measures. By doing so, it allows the organization to address issues before they escalate into major disputes (Thomson, 1974).
- 2. Preventing Escalation of Grievances:** By promptly identifying and addressing grievances, the procedure serves as a preventive mechanism. It helps prevent minor grievances from assuming larger proportions that can disrupt workplace harmony (Thomson, 1974).
- 3. Formalized Emotional Release:** The grievance procedure offers employees a formalized means of emotional release for their dissatisfactions (Lewin, 1983). Even if employees do not immediately utilize the procedure for emotional release, the knowledge that it is available provides a sense of emotional security, which is conducive to their overall well-being and job satisfaction.
- 4. Establishing Work Culture:** The interpretation of problems within the grievance procedure contributes to the establishment and maintenance of a specific work culture or way of life within the organization (Lewin, 1983). Through this process, the organization and its employees learn how to respond to established policies and norms, creating a shared understanding of how workplace issues are expected to be managed.
- 5. Management Accountability:** According to Thomson (1974), a properly structured grievance procedure serves as a safeguard against arbitrary managerial decisions. When managers understand that their actions can be questioned and reviewed through the grievance process, they are inclined to exercise greater caution in decision-making, thereby fostering accountability and fairness.
- 6. Demonstrating Commitment:** The existence of a formal grievance procedure showcases the employer's commitment to resolving internal matters in an open, transparent, and thorough manner. This commitment enhances trust and confidence among employees in the organization's dedication to addressing their concerns (Freeman and Medoff, 1984).
- 7. Promoting Harmonious Relationships:** The procedure plays a pivotal role in promoting harmonious relationships among all stakeholders involved in employment (Thomson, 1974). By providing a structured and fair process for addressing concerns, it fosters trust and collaboration among employees, management, and other parties.
- 8. Maintaining Discipline:** Formal and strict grievance procedures contribute to maintaining discipline within the organization (Brian S. Klass, 1989). When employees know that there

are established procedures for addressing grievances, it reinforces adherence to workplace rules and norms.

- 9. Fostering Openness and Trust in the Organizational Climate:** The presence of a grievance procedure fosters an organizational climate characterized by openness and trust. By addressing concerns through formal channels, the organization builds a foundation of trust among its employees and stakeholders, enhancing overall workplace morale and collaboration.
- 10. Informing Decision-Making:** The grievance procedure serves as a valuable source of information that provides various levels within the organization with insights into the issues and concerns faced by workers and managers (Thomson, 1974). This knowledge is invaluable for informed decision-making and a better understanding of the internal dynamics of the organization.

LAWS ADDRESSING GRIEVANCES IN THE INDIAN LABOUR CONTEXT

The Indian government's ratification of Article 1 of the International Labour Organization's Convention 122 in 1998 holds significant implications for the protection and welfare of the country's workforce. Article 1 of this convention is pivotal as it essentially endorses the right of workers to have access to mechanisms for addressing their grievances within the workplace. In essence, it bestows upon employees the fundamental right to seek redressal and resolution when they encounter issues, concerns, or disputes related to their employment. This ratification represents India's commitment to upholding the principles of fairness, justice, and employee rights within the labour market.

By adopting Convention 122, India is not only endorsing international labour standards but also making a commitment to act upon workers' interests and concerns. The government obligates itself to take measures to ensure that these grievance redressal mechanisms are not just in place but also effective in practice. In practical terms, this means that employees in India have a legal and internationally recognized right to seek resolution for workplace grievances through established procedures.

To fulfil this commitment, the Government of India has enacted a series of labour laws that address various aspects of employee grievances. These laws cover a range of workplace issues, including industrial disputes, safety, health, social security, provident funds, and more. Each law is designed to provide specific mechanisms for addressing grievances related to the areas it covers.

Labour Law	Applicability	Key Features	Grievance Redressal	Authority for Grievance Redressal
Industrial Disputes Act, 1947	All industries and establishments	Regulates industrial disputes, including mechanisms for grievance redressal, layoffs, and strikes.	Section 2A and 10	Labour Court or Industrial Tribunal
Factories Act, 1948	Manufacturing units with 10 or more workers	Ensures safety, health, and welfare of factory workers, including the redressal of grievances.	Section 40B	Factory Manager or Inspector of Factories

Employees' State Insurance Act, 1948	Establishments with 10 or more employees	Provides social security benefits, including medical care, and mechanisms to address employee grievances.	Section 91 and 92	Regional Director
Employees' Provident Funds and Miscellaneous Provisions Act, 1952	Establishments with 20 or more employees	Establishes provident funds and pension schemes, addressing grievances related to provident fund and pensions.	Section 7B and 7Q	Employees' Provident Fund Appellate Tribunal
Payment of Gratuity Act, 1972	Organizations with 10 or more employees	Ensures the payment of gratuity to employees and provides procedures for addressing gratuity-related issues.	Section 4	Controlling Authority
Minimum Wages Act, 1948	Various sectors and categories of employment	Sets minimum wage rates and provides mechanisms for addressing grievances related to wages.	Section 20(4)	Inspector-cum-Facilitator
Payment of Bonus Act, 1965	Establishments with 20 or more employees	Regulates the payment of bonus to employees and provides procedures for addressing bonus-related disputes.	Section 22 and 23	Labour Inspector
Maternity Benefit Act, 1961	Establishments with 10 or more employees	Ensures maternity benefits for women employees and provides mechanisms for addressing related issues.	Section 12	Appropriate Government
Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013	All workplaces	Mandates prevention and redressal of sexual harassment at the workplace, ensuring a safe working environment for women.	Section 9 and 13	Internal Complaints Committee
Industrial Employment (Standing Orders) Act, 1946	Industrial establishments with 100 or more workers	Regulates employment conditions, including grievance redressal procedures in standing orders.	Section 9A	Works Manager or other specified authority

Source – Author compilation (<https://labour.gov.in/>)

THE MODEL GRIEVANCE PROCEDURE

The Model Grievance Procedure in India was developed as a result of the 15th Session of the Indian Labor Conference in 1957, where the importance of a grievance procedure acceptable to both unions and management was emphasized. The procedure was formally established in the 16th Session of the Indian Labor Conference in 1958, in line with the 'Code of Discipline' - a set of voluntary principles governing relations between management and industrial workers. The Model Grievance Procedure outlines time-bound steps for resolving grievances, allowing for escalation to the next stage if the previous stage does not provide a satisfactory resolution.

The process starts when a worker voices a complaint to their supervisor or a designated manager. The supervisor has 48 hours to respond. If the worker is happy with the response, the issue is resolved. However, if the worker is still dissatisfied, they can take the complaint to the departmental head or another designated officer within 72 hours of the initial response. If the departmental head's decision satisfies the worker, the matter is settled. If not, the worker can escalate the complaint to a Grievance Committee within another 72 hours. This committee, which includes representatives from both workers and management, has seven days to review the issue and come up with a solution. If everyone on the committee agrees, the solution must be implemented right away.

If the worker is still not satisfied, they have three options. They can submit a revision petition to management, asking for a complete review of the case. Alternatively, they can choose conciliation by involving the government's labor process for resolving disputes. The third option is to request voluntary arbitration. Choosing any of these options is the final step in the grievance process, as no further escalation is possible.

The Model Grievance Procedure was established with the aim of ensuring speedy and fair resolution of grievances between workers and management in India. It provides a structured framework for addressing complaints and encourages mutual agreement between the parties involved.

EMERGING EMPLOYEE GRIEVANCES IN INDIA

In both the public and private sectors of India, the concerns of employees are changing over time. Traditionally, things like wages, working hours, and conditions at work have been the primary areas where workers have raised complaints. However, in the modern workplace, new and pressing grievances have emerged, reshaping the dynamics of employee dissatisfaction.

1. Language Barriers:

India is a linguistically diverse nation with numerous languages and dialects spoken across the country. In workplaces with a mix of linguistic backgrounds, employees may face communication challenges. Language-based grievances can arise when employees feel excluded or disadvantaged due to language barriers, affecting their integration and overall job performance.

2. Sexual Harassment in the Workplace:

Despite legislative measures like the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act of 2013, incidents of workplace harassment continue to rise. Challenges in implementing these laws raise doubts about their effectiveness. This trend poses a threat to the participation of women in the workforce, impacting industrial stability.

3. Communal and Religious Tensions:

India's rich tapestry of religious and communal diversity can sometimes lead to tensions in the workplace. Conflicts related to religious beliefs, festivals, and practices can create grievances

among employees. Maintaining a secular and inclusive workplace that respects and embraces religious diversity is crucial for fostering a harmonious work environment.

4. Contract Labour Challenges:

The globalization of the economy has led to an increased reliance on contract labour. However, regulations like the Contract Labour (Regulation and Abolition) Act of 1970 have not kept pace with the changing dynamics of contract labour. Instances of worker exploitation and disputes have risen, underscoring the need for comprehensive regulatory updates to ensure fair treatment and protection of contract labourers' rights.

5. Caste-Based Discrimination:

Caste-based discrimination is deeply ingrained in the Indian social fabric and can permeate into workplaces. Employees from marginalized castes often experience discrimination in various aspects of their employment, including hiring, promotions, and even day-to-day interactions. As India's society becomes increasingly aware of the need for social justice and equality, issues related to caste-based discrimination are gaining prominence as emerging grievances within the Indian workplace.

6. Unorganized Employment Sector:

Workers in the unorganized sector contend with precarious working conditions, job insecurity, and limited opportunities for career advancement. Although legislation, such as the Unorganized Workers' Social Security Act of 2008, which objective is to provide social security, exploitation persists. Failure to address these grievances could result in industrial unrest in the future.

7. Weak Trade Unions:

The ease of forming multiple unions within the same industry has led to internal divisions and disputes. This has rendered trade unions less effective in addressing employee concerns. The infusion of politics into these unions further weakens their ability to represent employees' interests, leaving workers without strong advocates.

8. Informal Sector Challenges:

A substantial percentage of India's workforce runs within the informal sector. Many of these workers often find themselves without formal employment contracts, job security, or access to social benefits. Grievances within the informal sector workforce revolve around the absence of labour protections and social security. Addressing these concerns is essential to ensure a fair and inclusive workforce, as the informal sector plays a crucial role in the Indian economy.

CONCLUSION

In conclusion, this comprehensive exploration of employee grievances has illuminated the critical role that well-structured grievance handling procedures play in shaping harmonious workplace environments. By addressing employee concerns promptly and effectively, organizations can prevent minor grievances from escalating into major disputes, fostering a positive atmosphere that promotes job satisfaction and productivity. The analysis of labour laws in India has provided valuable insights into the legal framework governing employee grievances, emphasizing the importance of adherence to these regulations to ensure fairness and justice in the workplace.

Furthermore, the examination of emerging employee grievances in India has shed light on the evolving challenges faced by organizations. From issues within trade unions to concerns related to gender, caste-based discrimination, and language barriers, the modern workplace presents a diverse array of challenges. Organizations must proactively adapt their policies and procedures to address these emerging concerns, fostering inclusivity and diversity while ensuring a secure

and respectful environment for all workforce. Based on the findings of this study, several suggestions can be made to help organizations effectively manage employee grievances:

1. **Enhance Awareness:** Organizations should invest in awareness programs to educate both employees and management about grievance handling procedures, labour laws, and the rights and responsibilities of each party involved.
2. **Proactive Approach:** Employers should adopt a proactive approach by identifying potential sources of grievances within the workplace and addressing them before they escalate, thereby preventing conflicts and promoting a positive work environment.
3. **Training and Sensitization:** Training programs focused on conflict resolution, diversity, and inclusion can empower employees and management to handle grievances sensitively, fostering a culture of mutual respect and understanding.
4. **Strengthen Union-Management Relations:** Organizations should work towards fostering healthy relationships between trade unions and management, encouraging open dialogue and collaborative problem-solving to address collective concerns effectively.
5. **Regular Policy Review:** Companies should regularly review their grievance handling policies in light of changing workplace dynamics and legal requirements, ensuring they remain relevant and effective in addressing contemporary issues.

FUTURE SCOPE

The exploration of employee grievances and their management in this study offers a platform for an array of potential research directions. First, comparative analyses can be conducted to assess the success of grievance handling procedures and labour laws across different countries, allowing for cross-cultural insights into the subject. Longitudinal studies can be undertaken to understand the lasting impact of well-managed employee grievances on organizational productivity, employee retention, and workplace satisfaction, shedding light on the long-term benefits of effective conflict resolution mechanisms.

The integration of technology into grievance handling processes is another promising avenue for research. Utilizing artificial intelligence, data analytics, and digital platforms can significantly enhance the efficiency and transparency of grievance resolution, providing insights into the potential of technology-driven solutions. Additionally, research into the promotion of inclusivity and diversity within organizations is essential in today's globalized world. Investigating how factors like caste, religion, sexual orientation, and disabilities impact workplace dynamics can inform strategies for creating truly equitable and inclusive workplaces.

Furthermore, there is room for research into legal reforms. Evaluating the effectiveness of existing labour laws and proposing recommendations for legal revisions can guide policymakers in crafting more robust legislation that addresses contemporary workplace challenges as to match up with evolving marketplace. In conclusion, the future scope of research in employee grievances and their management is wide-ranging, offering opportunities to enhance our understanding of the subject and develop strategies that contribute to healthier workplace environments, ensuring both employee well-being and organizational success.

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TOURISM IN UTTAR PRADESH-MORE THAN JUST TAJ

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ABSTRACT

The tourism and hospitality industry in Uttar Pradesh, India, presents a diverse range of opportunities and challenges. This research report aims to provide a comprehensive understanding of the sector, focusing on the theme "More than just Taj- Our UP."

The study's methodology involves exploring the dimensions of thematic tourism and highlighting the problems faced by the industry. This research is based on Thematic and content analysis of media coverage to identify challenges and their gateways in the Tourism sector.

The implications of this research are significant for the future of tourism and hospitality in Uttar Pradesh. The findings underscore the need for concerted efforts to enhance safety measures, improve marketing strategies, and invest in the training of personnel to ensure a high standard of hospitality, particularly during festive seasons. Moreover, the study emphasizes the potential for collaboration and the development of infrastructure like Ram mandir in Ayodhya, International airports in Noida, etc. contribute in the growth of the Tourism sector.

In conclusion, this research report provides valuable insights into the prospects and challenges of the tourism and hospitality sector in Uttar Pradesh, with a specific focus on the "More than just Taj- Our UP" theme. It also highlights the underrated places U.P. for tourism which can generate a good economy for the nation.

Keywords: Tourism, Hospitality, Uttar Pradesh, Economic growth, Safety measures, Marketing strategies, Personnel training.

INTRODUCTION

Tourism is understood as the art, science and business of attracting visitors, providing them transportation and accommodation and catering to their needs and wants as per their travel motives. Tourism is the process, activities and outcome of the relationships and interaction between tourists, tourism services suppliers, host communities, host governments and surrounding environments of the destination (C.R. Goeldner, 2002)

In the global economy, the tourist and hospitality sector plays a significant role in creating jobs and revenue. It is a significant economic force that generates income, employment, foreign exchange, and taxes. Both developed and developing nations benefit greatly from the expansion and development of international tourism.

In the heart of India, Uttar Pradesh unfolds as a destination that portrays the image of the Taj Mahal. Under the theme "More Than Just Taj - Our UP" the state emerges not merely as a historical treasure but as a multifaceted gem contributing significantly to India's economic growth. Beyond the iconic Taj Mahal, Uttar Pradesh's tourism sector has become a powerful catalyst for economic development, inviting both foreign as well as domestic explorers to delve into its rich cultural tapestry. Rooted in the philosophy of "Atithi Devo Bhava" (The

guest is God), Uttar Pradesh not only showcases its architectural wonders but also extends a warm and embracing hospitality that leaves an indelible mark on every traveler's heart.

Uttar Pradesh plays a pivotal role in contributing to India's economy, and when we consider its tourism sector, it serves as a robust engine of growth. The incoming of tourists to the state have not only fueled economic development but has also created employment opportunities, contributing significantly to the nation's GDP. As per the statistical data of "The Times of India", Uttar Pradesh contributes 9.2% share in the country's GDP. The revenue generated from tourism acts as a lifeline, helps in infrastructure development and supports various sectors, making Uttar Pradesh a key contributor to India's economy.

While the Taj Mahal stands as an eternal symbol of love and architectural brilliance, Uttar Pradesh invites travelers to explore a wider scope of historical, religious, and cultural wonders. Varanasi, the spiritual nucleus of the country, entices with its ancient ghats along the sacred Ganges River and an ambiance steeped in spirituality that captivates both the devotee and the curious traveler. Whereas Lucknow, the capital city, is like a grand treasure chest filled with stories from the past and an exciting glimpse of today. It has majestic buildings like the Bara Imambara and the impressive Rumi Darwaza that tell tales of a time long ago. Apart from the old buildings, the city is also famous for its delicious food, especially the Awadhi cuisine.

The recent completion of the Ram Mandir in Ayodhya is seen on 22nd January, 2024. This iconic temple, dedicated to Lord Ram, not only fulfills a longstanding spiritual aspiration but also expected to have various impacts on the economy (not too immediate but shortly). The Ram Mandir could contribute to boosting the economy of India by promoting religious tourism, Infrastructure and real state and property development, it also promotes cultural handicrafts and small businesses.

"In Uttar Pradesh, there is a beautiful saying: "Atithi Devo Bhava", which means "The guest is God". This saying is like a guide that tells people in the state to treat visitors not just as guests but as special and divine beings. People in Uttar Pradesh are warm and welcoming, it's like imagining going to a friend's house where you feel completely at home and cared for. So, in Uttar Pradesh, being a guest is not just about staying somewhere, it is about becoming a part of the place, creating memories, and feeling the warmth of the people and that is a special and enriching experience that stays with you. Hence, this state gives commitment to hospitality ensures that every visitor feels not just welcomed but embraced as part of the rich tapestry of the state's cultural heritage.

Uttar Pradesh stands as a living museum of India's cultural diversity, exemplified through its festivals, arts, and traditions. Celebrations like Diwali, Holi, Ganga Mela and Eid with enthusiasm, uniting people from different backgrounds in a joyous tapestry of colors and rituals. The state's cultural wealth is further showcased through its classical dance forms, notably Kathak, and the intricate crafts like Banarasi silk and chikankari embroidery.

Under the theme "More Than Just Taj - Our UP", emerges as a destination that goes beyond the confines of traditional tourism. It is a state that contributes significantly to India's economic growth, offering a tapestry of cultural richness and a warm embrace that signifies the philosophy of "Atithi Devo Bhava". As travelers explore the hidden treasures beyond the Taj Mahal, they explore the layers of history, spirituality, and hospitality.

LITERATURE REVIEW

With its rich heritage, diverse landscapes, and vibrant culture, Uttar Pradesh, the "Land of Nawabs and Mughals," boasts immense potential to be a significant engine for India's economic journey towards a \$5 trillion vision. It is situated in the northern part of India with a population of over 200 million people. The tourism & hospitality sector of UP is also one of the biggest contributors to the Indian economy.

The majestic Taj Mahal in Agra is unquestionably not only the state's but as well as the country's most famous landmark. This white marble mausoleum, constructed by Mughal emperor Shah Jahan, is a UNESCO World Heritage Site and is regarded as one of the world's most beautiful structures. The Taj Mahal is a popular destination for both domestic and foreign tourists, attracting 7-8 million visitors annually, with more than 0.8 million from overseas.

Though the Taj Mahal is unquestionably the jewel in Uttar Pradesh's crown, the state's tourist tapestry has many more colorful threads than just one. Hence, this study focuses on those underrated tourist places which have the potential of boosting the economy such as:

1. **Varanasi - The Spiritual Capital:**

Based on the banks of the holy Ganges River, Varanasi is a spiritual city rich in historical customs. Its mystic and peaceful environment is cultivated by the Ghats, small, meandering lanes, and numerous temples. The Ganga Aarti at the ghats is a captivating event that draws both pilgrims and visitors.

2. **Ayodhya - The Birthplace of Lord Rama:**

Ayodhya is a city that combines religious significance with historical appeal. It is believed to be the birthplace of Lord Rama. And now Ram Mandir has also been inaugurated in devotion to Lord Rama. Pilgrims travel to the Ram Janmabhoomi, Hanuman Garhi, and other holy locations.

3. **Allahabad - Confluence of Three Rivers:**

Allahabad, also known as Prayagraj, is spiritually significant as the site of the Triveni Sangam, where the Ganges, Yamuna, and mythical Saraswati rivers meet. Millions of people travel to the city for the Kumbh Mela, an enormous religious occasion.

4. **Lucknow - Nawabi Elegance and Culinary Delights:**

The capital city of Uttar Pradesh, Lucknow is a veritable gold mine of Nawabi architecture and cultural diversity. Visitors can visit the Bara Imambara and Chota Imambara, as well as the magnificent British Residency. Lucknow is renowned for its delicious sweets, biryanis, and kebabs, which appeal to foodies.

5. **Mathura and Vrindavan - Land of Lord Krishna:**

A popular destination for both pilgrims and tourists, Mathura and Vrindavan are connected to the life and teachings of Lord Krishna. The Banke Bihari Temple, Dwarkadheesh Temple, and the lively Holi celebrations make these cities culturally notable.

6. **Heritage Walks in Kanpur and Meerut:**

Colonial architecture, thriving markets, and a strong industrial past can be found in Kanpur and Meerut. The history of British colonial impact is revealed by heritage walks around these cities, which also highlight the blending of traditional and modern aspects.

SIGNIFICANCE OF THE STUDY

1. **Job Creation:** An important source of jobs is the tourism and hospitality industries. The research report can assist government agencies and business partners in expanding employment prospects and lowering unemployment rates by outlining obstacles and offering solutions.
2. **Policy Formulation:** Effective policies can be formulated at both the national and state levels with the help of the research findings. The findings can be used by policymakers to support economic development by establishing favorable conditions for the travel and hospitality sector.

3. **Addressing A Gap In Knowledge:** Although research on India's tourism industry is growing, it is surprising that Uttar Pradesh—which ranks second in domestic and third in foreign visitor arrivals—has not received more attention. Our research closes this gap by providing insightful information about an important but little-studied state.
4. **Unlocking Untapped Potential:** Because of its rich cultural heritage, varied landscapes, and historical significance, Uttar Pradesh has enormous tourism potential. But obstacles prevent it from being fully realized. By highlighting these obstacles and offering viable answers, your research has the potential to significantly boost the state's economy and provide job opportunities.
5. **Global Competitiveness:** The research enhances India's global competitiveness in the tourism and hospitality industry by utilizing gateways and addressing problems. This is necessary to draw in a greater proportion of foreign visitors and to effectively compete with other countries in the global tourism market.

RESEARCH GAP

Based on a review of the literature, it has been observed that most research papers in the tourism field have chosen India as their subject, but none have ever specifically focused on Uttar Pradesh, which ranks second in the nation for domestic tourist arrivals and third among foreign visitors. This research study has focused on identifying the challenges and gateways that influences the tourism and hospitality sector of Uttar Pradesh.

RESEARCH METHODOLOGY

This research aims to comprehensively understand the dynamics of tourism and hospitality in Uttar Pradesh, with a specific focus on:

- **Thematic Tourism:** Exploring the diverse aspects of tourism beyond the iconic Taj Mahal, with an emphasis on historical, religious, and cultural treasures.
- **Economic Impact:** Assessing the contribution of tourism to the state's GDP and identifying regional variations in its economic influence.
- **Community Perspectives:** Understanding the views of local communities regarding the impact of tourism on their livelihoods and cultural identity.
- **Sustainable Practices:** Evaluating the current state of sustainable tourism initiatives and their potential for future development.
- **Challenges and Opportunities:** Identifying key challenges faced by the hospitality industry and exploring potential solutions for sustainable growth.

Methodology:

A multi-pronged approach is employed to achieve the research objectives:

- **Thematic and Content Analysis:** This primary methodology involves systematically examining various media sources, including news articles, reports, research publications, and online content, to extract and analyze information pertaining to the aforementioned themes.
- **Literature Review:** Reviewing existing academic literature, government reports, and industry publications to gain insights into the current state of tourism and hospitality in Uttar Pradesh and identify relevant knowledge gaps.
- **Case Studies:** Examining specific examples of successful tourism destinations and sustainable practices within the state to draw valuable lessons and best practices.
- **Expert Interviews:** Conducting interviews with key stakeholders in the tourism and hospitality industry, government officials, and community representatives to gather diverse perspectives and insights.

Data Collection:

Data is collected through various methods, including:

- **Secondary Data:** Utilizing data from government agencies, tourism boards, and industry reports to understand tourism trends, visitor demographics, and economic impact.
- **Content Analysis:** Extracting qualitative data from media sources and online reviews to understand public perceptions and sentiments.

ANALYSIS AND FINDING

This research paper explored the potential of Uttar Pradesh's tourism and hospitality sector in contributing to India's \$5 trillion economy related to the following aspects.

1. Infrastructure Deficiencies

The development of Uttar Pradesh's tourist and hospitality industries is hampered by inadequate infrastructure, which includes accommodation, transportation, and amenities. To improve the overall tourism experience, strategic investments in infrastructure development are made. These include building out contemporary transit networks, upgrading accommodation options, and improving basic amenities.

2. Historical Significance and Cultural Heritage

The analysis reveals that while the Taj Mahal remains a prominent attraction, there is a growing interest in exploring the rich historical and cultural tapestry beyond this iconic monument. Tourists are increasingly drawn to lesser-known heritage sites such as Varanasi, Fatehpur Sikri, and Ayodhya, reflecting a shift in preferences towards a more immersive cultural experience.

3. Economic Impact

Our findings indicate a substantial economic impact of tourism on Uttar Pradesh. The Hospitality Sector Has Witnessed Steady Growth, Contributing Significantly To The State's GDP. However, it is crucial to note regional variations, with Agra and Varanasi emerging as major economic hubs compared to other areas.

4. Community Perspectives

Examining the views of local communities, our research highlights a mix of positive and negative sentiments. While tourism has generated employment opportunities and improved infrastructure in certain regions, concerns about cultural commodification and environmental sustainability persist. This underscores the need for responsible tourism practices and community engagement initiatives.

5. Sustainable Tourism Practices

In the context of sustainability, the analysis showcases a growing awareness among stakeholders. Efforts to promote eco-friendly tourism, heritage conservation, and community-driven initiatives are gaining traction. Integrating sustainable practices not only aligns with global trends but also ensures the long-term viability of Uttar Pradesh's tourism industry.

6. Stereotypes

Preconceived notions about India, such as false information about its culture, safety risks, or media distortions, can have a detrimental effect on the tourism and hospitality sectors. Such rumors could discourage prospective travelers, which would impede the industry's expansion.

Collaborating with media organizations to present a more factual and positive picture of Uttar Pradesh. Negative preconceptions can be challenged by urging travel writers, bloggers, and filmmakers to highlight the state's distinctive cultural history, historical landmarks, and hospitality.

7. Challenges Faced By The Hospitality Industry

Identified challenges include infrastructural limitations in remote areas, seasonal fluctuations in tourist influx, and the need for enhanced training programs to meet evolving service standards. Addressing these challenges is crucial for fostering a resilient and dynamic hospitality sector.

8. Skill Gap And Service Standards

Insufficient training of people in the hospitality industry results in uneven service quality and dissatisfaction among guests. Lack of uniform service standards in hotel and restaurant operations has a direct effect on visitor expectations and brand perception. Improved language skills are necessary, especially when interacting with foreign visitors.

Educate and train staff in the hospitality industry with a focus on language proficiency, cultural sensitivity, and high-quality customer service. Establish uniform service standards that all hotels, eateries, and tour guides must adhere to. Encourage hotel and restaurant sanitation certifications to improve brand image and boost customer trust.

9. Revenue

Approximately 13 billion rupees are earned from the tourism sector in India, in which Uttar Pradesh is the second largest contributor with over 16% share in the national pie.

The most visited Taj. The Taj Mahal collected over ₹25 crore, the highest among 144 monuments protected under the ASI. According to official data, the Taj Mahal attracts about 7-8 million visitors annually, with more than 0.8 million from overseas.

"Over 10 crore devotees may visit Ayodhya annually. If each devotee spends approximately ₹2500 during their visit, the local economy of Ayodhya alone would add up to ₹25,000 crore," as the press statement said.

Varanasi had more than 5.38 crore tourists in the year 2023. The revenue in the tourist sector from Varanasi is 11,500 crores.

To sum up, the analysis and findings underscore the evolving landscape of tourism and hospitality in Uttar Pradesh, emphasizing the importance of diversifying attractions, promoting sustainability, and addressing challenges to ensure the holistic and inclusive growth of the industry.

CONCLUSION

In conclusion, "More than just Taj- Our UP" delves into the multifaceted dimensions of the state's tourism landscape. The research has illuminated the shifting preferences of tourists, emphasizing a broader exploration of historical and cultural treasures beyond the iconic Taj Mahal.

The economic impact of tourism in Uttar Pradesh is substantial, with the state playing a pivotal role in India's GDP. The completion of the Ram Mandir in Ayodhya adds a new dimension to religious tourism, infrastructure development, and cultural enterprises, further bolstering the state's contribution to the nation's economy.

Uttar Pradesh's commitment to hospitality, epitomized by the philosophy of "Atithi Devo Bhava," ensures that visitors not only witness architectural wonders but also experience a warm and embracing culture. The state, with its diverse attractions like Varanasi, Lucknow, and Ayodhya, invites travelers to explore a tapestry of history, spirituality, and hospitality.

However, challenges such as infrastructure deficiencies, skill gaps, safety concerns, and stereotypes pose hurdles that require strategic interventions. Addressing these challenges through initiatives like infrastructure development, training programs, and collaborative efforts with influencers can pave the way for sustainable growth.

Uttar Pradesh's journey towards becoming "More Than Just Taj" is marked by the need for responsible and sustainable tourism practices. Embracing eco-friendly initiatives, heritage

conservation, and community engagement will ensure the preservation of cultural heritage and the long-term viability of the tourism industry.

In summary, Uttar Pradesh stands at the forefront of India's economic landscape, poised to contribute significantly to the nation's \$5 trillion vision. By capitalizing on its cultural richness, historical significance, and warm hospitality while addressing challenges through strategic measures, Uttar Pradesh can truly embody the theme "More Than Just Taj" and emerge as a leading destination for both domestic and international explorers.

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SOCIAL MEDIA'S INFLUENCE: SHAPING CONSUMER CHOICES AND FUELING INDIA'S JOURNEY TO A 5 TRILLION DOLLAR ECONOMY

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ABSTRACT

This study examines that how consumers get influenced by the social media platforms to purchase any item, they prefer to buy online because their perception and interest are influenced by watching celebrity endorsements, influencers marketing of the product and user-generated content shape consumers perception and preferences and ultimately impact the consumer buying choices. The objective of this research is to analyse the consumer buying behaviour influenced by social media and explore how social media platforms influence individual, Examining factors such as advertising effectiveness and User generated content on the social media. By assessing the influence of social media on consumer behaviour, this study aims to provide valuable insight for businesses and marketers seeking to optimize their online strategies and its pivotal role in propelling the nation towards 5 trillion-dollar economy. This study also delves into the symbiotic relationship between E-commerce growth and Social media influence, Emphasizing their collective contribution to economic expansion. This research investigates the influence of social media on consumer purchasing decisions, Employing a survey methodology, Data is gathered from diverse sample to analyse the consumers preference of choosing items and their correlation between social media exposure and buying choices. This study identifies Patterns, preferences and factors shaping Consumer behaviour in the digital era.

Key Words: Social media, buying decision, Decision making, Consumer behaviour, Consumer preference, Influencer Marketing, Online Strategies, Advertising effectiveness.

INTRODUCTION

In the contemporary computerized time, online entertainment has arisen as a strong power impacting different parts of society, including purchaser conduct. The significant effect of web-based entertainment on purchasing decisions has become progressively obvious, assuming a crucial part in forming the monetary scene of nations around the world. With regards to India, where the economy is endeavoring towards the aggressive objective of arriving at 5 trillion Dollar by 2024, the impact of web-based entertainment on customer inclinations and buying choices is a huge variable adding to this financial development. The outstanding development of online entertainment stages, like Facebook, Instagram, Twitter, and others, has furnished people with exceptional availability and admittance to data. This network has changed the customary shopper dynamic cycle, taking into consideration continuous connection, input, and item revelation. Subsequently, shoppers are presently more educated, engaged, and associated than any time in recent memory, essentially changing the elements of the commercial centre. The job of online entertainment in driving shopper spending isn't simply restricted to individual decisions however has more extensive ramifications for the economy. As organizations influence these stages to interface with their main interest group, the advanced commercial centre extends, cultivating business venture and development. The simplicity of contacting a tremendous crowd through virtual entertainment has enabled little and medium-sized undertakings (SMEs), adding to work creation and monetary development. Besides, the information driven nature of online entertainment promoting empowers organizations to target

explicit socioeconomic, prompting more effective showcasing methodologies. This designated approach upgrades the general efficiency of publicizing spends, invigorating financial action and adding to the 5 trillion-dollar objective set by the Indian government for 2024.

REVIEW OF LITERATURE

Social media has revolutionized the way we connect with each other.(Ertugan, 2017). Social media bridges the gap between brands and consumers, allowing for personalized interactions and fostering a community-driven space for connection.(Chi, 2011). The influence of social media on consumer purchasing decisions has garnered considerable attention in recent research. Smith et al. (2019) investigated the correlation between celebrity endorsements on social media and consumer product preferences. Celebrity endorsers, individuals with public recognition, play a crucial role in advertising (McCracken, 1989).Schmitt and Tavassoli (1993) identified three components—brand name, copy, and picture—that jointly contribute to an ad's memorability and consumer attitude towards it. Anosh and Hamad (2015)Celebrity endorsements allow companies to develop unconventional advertising approaches for their brands. Sabunwala (2013)support this idea, stating that celebrity endorsements are not just popular but also a highly effective way to promote branding and marketing as a whole. However, there remains a research gap in understanding the specific mechanisms of social media's impact on buying choices. This study aims to investigate the impact of celebrity endorsements on social media on consumer purchasing preferences. The hypothesis suggests a positive correlation between celebrity endorsements and consumer inclination towards purchasing endorsed products. Factors such as reach, engagement, credibility of celebrities, and perceived product value will be analyzed. Through empirical evidence, this report seeks to provide insights into the nuanced relationship between celebrity endorsements on social media and consumer behaviour. The findings will inform businesses and marketers on leveraging celebrity endorsements effectively to enhance brand visibility and drive consumer purchasing preferences.

RESEARCH METHODOLOGY

This examination paper embraces an informative exploration plan to dig into the impact of web-based entertainment on shopper buying conduct, explicitly zeroing in on the connection between superstar supports and purchasers' item inclinations. The review utilizes a study based approach, using a survey dispersed through Google Structures to assemble information from members. The study instrument is fastidiously created to inspire bits of knowledge into different features of customer conduct and mentalities towards buying items impacted by online entertainment and superstar supports. It involves numerous inquiries intended to test into respondents' inclinations, discernment's, and ways of behaving connected with buying choices formed by online entertainment and big name supports. As far as information sources, both essential and auxiliary information are used. Essential information is gathered through an overview led by means of a poll circulated to clients through WhatsApp joins. This strategy guarantees direct commitment with shoppers to accumulate firsthand bits of knowledge into their buying ways of behaving and mentalities. Optional information, then again, is obtained from different trustworthy sites and exploration papers to give a hypothetical structure and relevant foundation for the review. The example size for this examination involves 96 respondents from the Shyam Nagar area of Kanpur Nagar. An irregular inspecting method is utilized to guarantee the representativeness and variety of the example. In particular, just reactions from people who are dynamic via virtual entertainment stages are thought of, as the review centres around figuring out the effect of web-based entertainment on purchaser conduct.

DATA ANALYSIS AND FINDINGS

In light of the information examination of reactions from the poll, a few key discoveries arise with respect to the effect of virtual entertainment on purchaser purchasing decisions.

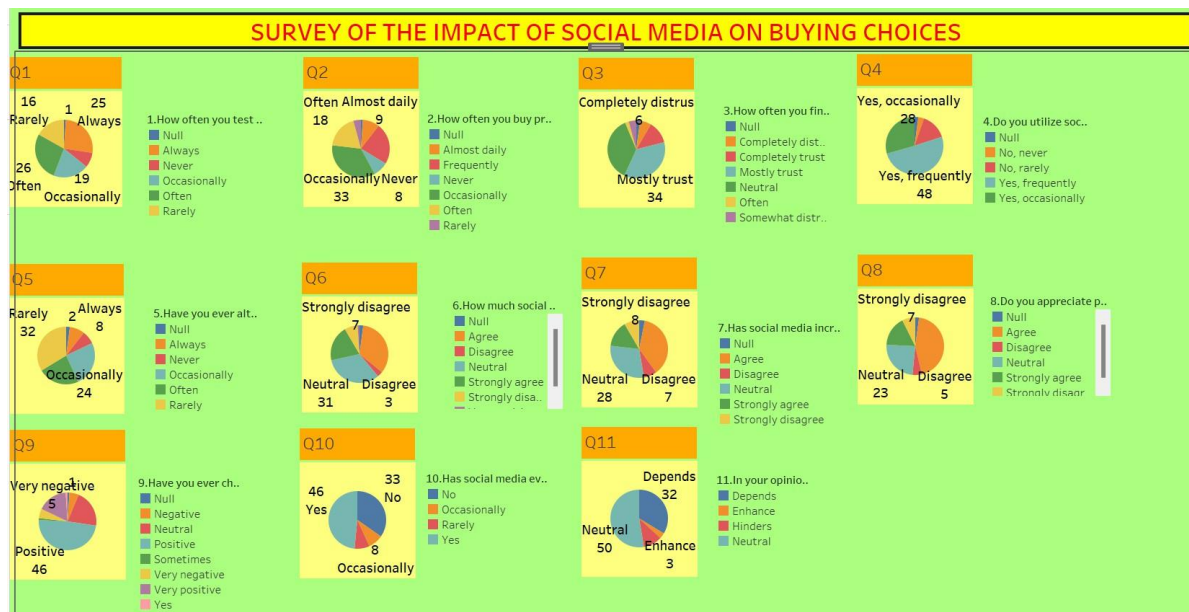


Fig. 1

It, first and foremost, is clear that a huge extent of respondents regularly or frequently test surveys suggested by famous people, showing a significant impact of superstar supports on customer buying conduct. Essentially, a significant level of respondents uses virtual entertainment stages to look at costs and elements of items prior to settling on conclusive choices, featuring the job of web-based entertainment in illuminating buying decisions. Moreover, the discoveries propose that a larger part of respondent's value customized item proposals via virtual entertainment, demonstrating the likely adequacy of designated showcasing methodologies in impacting customer inclinations. Moreover, a huge extent of respondent's report having changed their buying choices because of data obtained through virtual entertainment, highlighting the significant effect of web-based entertainment on customer conduct. Strangely, while an extensive number of respondents report that virtual entertainment has expanded the recurrence of their buys, an outstanding extent express lack of bias or conflict with this assertion, recommending fluctuated impacts of web-based entertainment on buying conduct among various people. Besides, web-based entertainment stages play had a urgent impact in presenting customers to new brands or items, with a significant greater part demonstrating that they have found beforehand obscure brands or items through online entertainment. At long last, respondents' perspectives on whether web-based entertainment improves or frustrates the general shopping experience are blended, with a critical rate communicating lack of bias or reliance on unambiguous elements. This demonstrates the complicated and complex nature of the effect of virtual entertainment on the shopping experience, which might differ relying upon individual inclinations and conditions. All in all, the discoveries feature the critical impact of web-based entertainment on buyer purchasing decisions, especially through big name supports, customized suggestions, and openness to new items or brands. Be that as it may, the effect of web-based entertainment on buying conduct is nuanced, with changing impacts saw among respondents. Consequently, organizations and advertisers ought to take on designated and customized approaches in utilizing web-based entertainment to actually draw in with buyers and drive buying choices.

DISCUSSIONS AND IMPLICATIONS

The conversation segment of this examination paper digs into the nuanced discoveries with respect to the effect of web-based entertainment on buyer buying ways of behaving, especially with regards to big name supports, customized proposals, and openness to new items or brands. The ramifications of these discoveries are complex and deal important experiences for organizations, advertisers, policymakers, and analysts. The Superstar Supports via Virtual Entertainment finds a critical impact of big name supports on customer buying conduct. This suggests that organizations and advertisers can profit from teaming up with big names to underwrite their items via virtual entertainment stages. Be that as it may, the adequacy of such supports might fluctuate relying upon variables like the validity and reach of the superstar. In this way, organizations need to painstakingly choose reasonable big names whose picture lines up with their image values and ideal interest group and Customized Showcasing Techniques demonstrates that customized item suggestions via virtual entertainment possibly affect impacting shopper inclinations. This recommends that organizations ought to put resources into customized advertising procedures custom-made to individual shopper interests and inclinations. By utilizing information examination and man-made intelligence innovations, organizations can fragment their ideal interest group and convey customized content that reverberates with shoppers, subsequently improving the probability of change and the Ramifications for Monetary Development This exploration paper likewise talks about the more extensive ramifications of web-based entertainment effect on financial development, especially with regards to India's excursion towards a 5 trillion-dollar economy. By outfitting the force of online entertainment, organizations can drive purchaser spending, cultivate business, and add to generally monetary development. The exploration features the nuanced idea of web-based entertainment's effect on shopper buying conduct. While virtual entertainment impacts purchasing choices for some buyers, there are varieties in the degree and way of this impact among various people. This recommends that organizations ought to embrace an adaptable and versatile way to deal with online entertainment showcasing, taking into account the different inclinations and ways of behaving of their interest group. Moreover, continuous observing and examination of online entertainment measurements can give significant experiences into buyer patterns and inclinations, empowering organizations to actually refine their showcasing systems.

CONCLUSION

This exploration report reveals insight into the significant impact of web-based entertainment on buyer buying ways of behaving in the contemporary computerized time, with a specific spotlight on its suggestions for India's financial development direction towards a 5 trillion-dollar economy. Through a thorough examination of buyer inclinations, ways of behaving and mentalities, the review highlights the critical job of online entertainment stages in forming purchasing decisions and driving financial development. The discoveries of the examination uncover a few critical experiences into the effect of virtual entertainment on shopper conduct. First and foremost, the critical impact of big name supports on shopper buying choices is clear, with an extensive extent of respondents showing dependence on surveys suggested by superstars. This features the significance of utilizing big name supports actually to upgrade brand perceivability and drive buyer inclinations. In addition, the review features the job of virtual entertainment in working with informed decision-production among shoppers, as confirmed by the broad utilization of stages to look at costs, highlights, and audits prior to pursuing last buying decisions. Also, the discoveries highlight the expected adequacy of customized item proposals via virtual entertainment in impacting shopper inclinations, subsequently underscoring the significance of designated promoting procedures. Besides, the exploration uncovers that virtual entertainment impacts individual purchasing decisions as well

as assumes a significant part in presenting buyers to new brands and items. This highlights the more extensive effect of web-based entertainment on the advanced commercial centre and its commitment to encouraging business venture, development, and monetary development. In any case, it is fundamental to perceive the nuanced idea of web-based entertainment's effect on buying conduct, with differed impacts saw among respondents. While a people report expanded buying recurrence because of web-based entertainment, others express lack of bias or conflict with this assertion, featuring the requirement for custom-made ways to deal with really draw in with different shopper portions.

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THE GROWTH OF INDIAN AGRICULTURE AND ALLIED SECTORS

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INTRODUCTION

Indian agriculture and its allied sectors have been crucial to the nation's economic and social progress, significantly contributing to employment, food security, and the sustenance of rural communities. Over the years, these sectors have undergone significant transformation, driven by technological advancements, policy reforms, and changing consumer preferences. This introduction provides an overview of the growth trajectory of Indian agriculture and its allied sectors, highlights key drivers, challenges, and opportunities.

India has a rich agricultural heritage, with farming practices dating back thousands of years. The Green Revolution of the 1960s and 1970s was a pivotal moment for Indian agriculture, enhancing productivity by introducing high-yield crop varieties, advanced irrigation methods, and the use of chemical fertilizers. This period saw a significant increase in food grain production, making India self-sufficient in food grains.

In recent years, Indian agriculture has witnessed several notable trends and developments. Farmers have gradually moved towards commercialization by diversifying into high-value crops like fruits, vegetables, and spices. The adoption of technology, such as precision, has also been on the rise, enhancing productivity and efficiency.

Despite these improvements, Indian agriculture still grapples with issues like fragmented landholdings, water shortages, and the impacts of climate change. The sector also grapples with issues related to market access, price volatility, and income security for farmers. Nevertheless, these challenges also offer opportunities for innovation and development, especially in Agri-tech, food processing, and agricultural exports.

In summary, the expansion of Indian agriculture and its allied sectors is vital for maintaining food security, promoting rural development, and achieving sustainable economic growth. By addressing key challenges and leveraging emerging opportunities, India can further strengthen its position as a global agricultural powerhouse.

REVIEW OF LITERATURE

Agriculture and its allied sectors in India have played a pivotal role in the economy, offering livelihoods to a large segment of the population. Over the years, these sectors have witnessed various challenges and transformations. This review seeks to examine the main factors driving the growth of Indian agriculture and its allied sectors, emphasizing the impact of research and policy interventions.

In his research paper, Dholakia (1993) analyzed the agricultural growth rate by categorizing it into three distinct periods based on secondary data: (1) the Pre-Green Revolution phase (1950-51 to 1966-67), (2) the initial phase of the Green Revolution (1966-67 to 1980-81), and (3) the Modernization phase (1980-81 to 1988-89). The researcher concluded that Total Factor Productivity Growth (TFPG) has been instrumental in driving agricultural growth, thereby facilitating the reallocation of scarce resources from agriculture to other sectors of the economy. Hence, the increase in total factor productivity growth (TFPG) within agriculture has been a significant driver of overall economic growth in India during the 1980s.

Historically, Indian agriculture has experienced fluctuations influenced by factors such as monsoon variability, land reforms, and technological advancements. Studies like Gulati and Saini (2020) have highlighted the role of policy reforms in the post-liberalization era, leading to increased agricultural productivity and market orientation.

Advancements in technology have been essential in boosting agricultural productivity. The green revolution of the 1960s and 1970s, driven by high-yielding variety seeds, fertilizers, and irrigation, significantly boosted crop yields. Subsequent initiatives like the National Food Security Mission and the Rashtriya Krishi Vikas Yojana have continued to focus on technological interventions (Singh et al., 2018).

The allied sectors, including livestock, fisheries and forestry, have emerged as significant contributions to rural livelihoods and economic growth. Diversification into these sectors has been driven by factors such as changing consumer preferences, increasing demand for protein-rich diets and rising incomes in rural areas (Mittal and Tripathi, 2017). Despite advancements, Indian agriculture contends with issues like land degradation, water shortages, and climate change. Tackling these challenges necessitates sustainable farming practices, effective resource management, and supportive policies. Future growth will also depend on leveraging digital technologies, enhancing market linkages, and promoting agribusiness entrepreneurship (Gupta and Pathak, 2019).

In Conclusion, the growth of Indian agriculture and its allied sectors is a complex interplay of historical, technological, and policy factors. While significant progress has been made, sustainable growth will require continued innovation, investment and policy support.

OBJECTIVES

Enhancing agricultural productivity, promoting sustainable practices, ensuring food security, fostering rural development, and boosting the economy through allied sectors' growth.

RESEARCH METHODOLOGY

This research paper relies on secondary data, which was gathered from various annual reports published by the RBI over the years. To calculate the growth rate, subtract the previous value from the current value. Then, divide this difference by the previous value and multiply by 100.

DATA ANALYSIS

The development of Indian agriculture and its allied sectors is vital to the nation's economy, influencing livelihoods and ensuring food security. Analyzing this growth involves examining various factor such as productions trend, technological advancements, government policies and market dynamics.

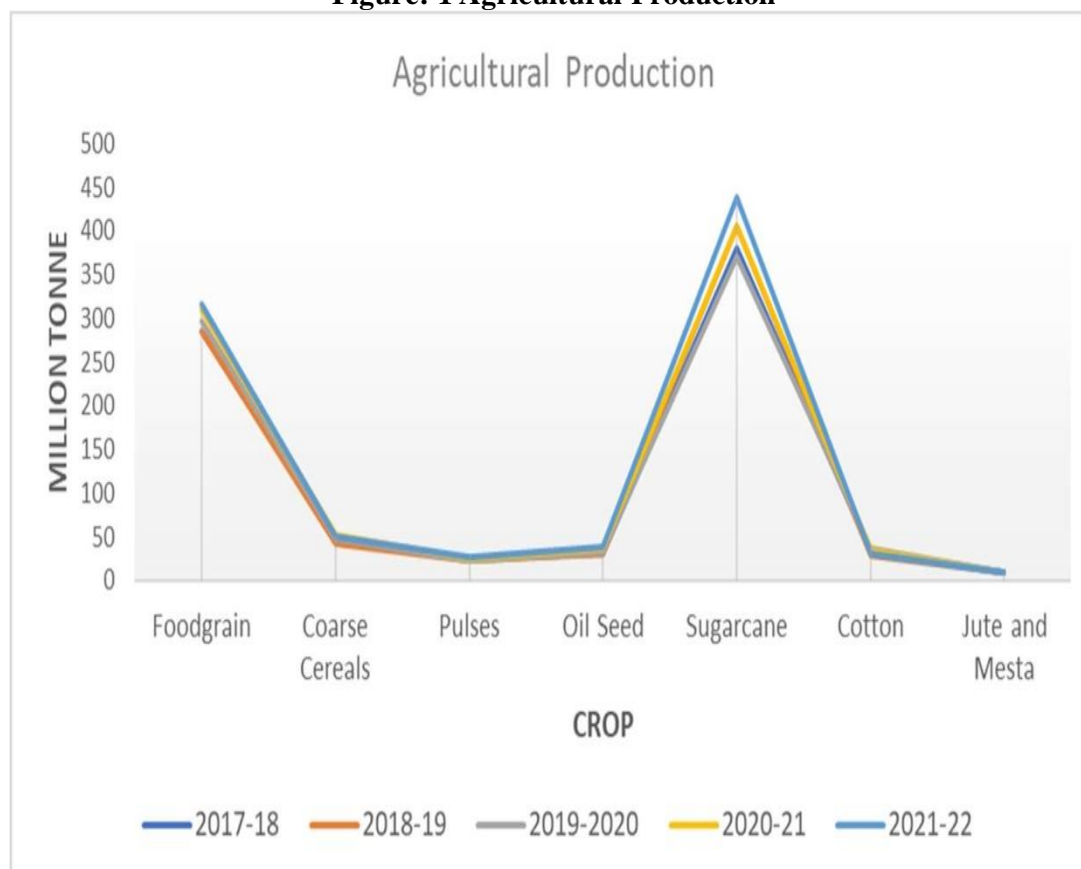
Over the years India has shown significant growth in agriculture production. As reported in the Reserve Bank of India Annual Reports, the country's food-grain production rose from 285 million tonnes in 2017-18 to 315.62 million tonnes in 2021-22 (Table 1).

Table: 1 Annual Agricultural Production (Million tonne)

Crop	2017-18	2018-19	2019-2020	2020-21	2021-22
Foodgrain	285.0	285.21	297.50	310.74	315.62
Coarse Cereals	47.0	43.06	47.75	51.32	50.70
Pulses	25.4	22.08	23.03	25.46	27.30
Oil Seed	31.5	31.52	33.22	35.95	37.96
Sugarcane	379.9	405.52	370.5	405.50	439.30
Cotton#	32.8	28.04	36.07	35.25	31.12
Jute and Mesta##	10.0	9.82	9.88	9.35	10.15

Source: Various RBI Annual Reports. #: Lakh bales of 170 kg each. ##: Lakh bales of 180 kg each.

Figure: 1 Agricultural Production



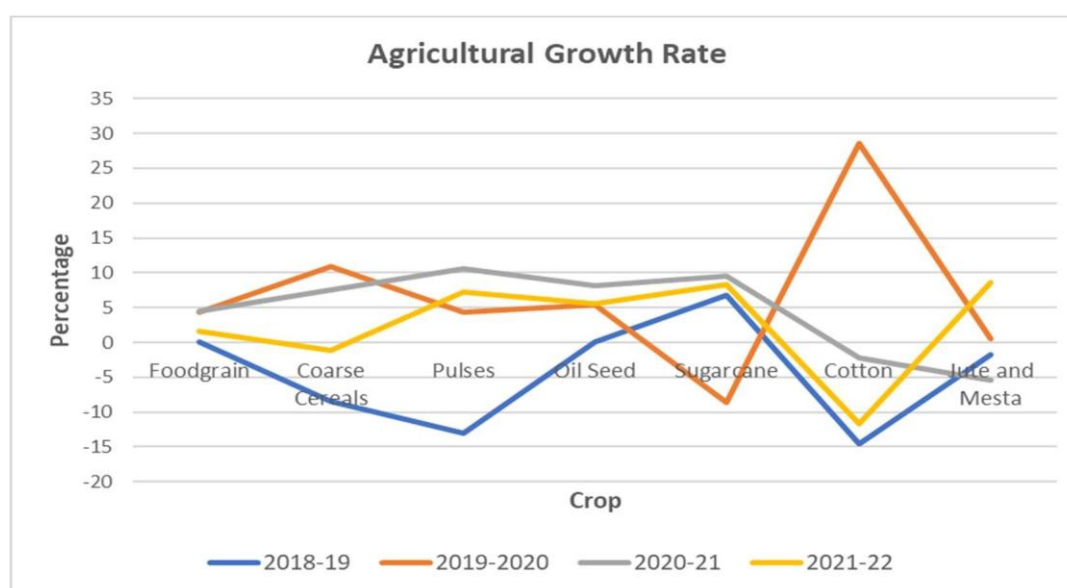
In 2017-18, the production of coarse cereals was 47 million tonnes, which rose to 50.70 million tonnes in 2021-22. However, examining the table reveals that the increase in pulse production has been modest, rising from 25.4 million tonnes in 2017-18 to 27.30 million tonnes in 2021-22. The production of oilseeds rose from 31.5 million tonnes in 2017-18 to 37.96 million tonnes in 2021-22. Sugarcane production increased from 379.9 million tonnes in 2017-18 to 439.30 million tonnes in 2021-22. From the persual of the table it is clear that there has been a decline in cotton production. It has come down from 32.8 lakh balse in 2017-18 to 31.12 lakh bales in 2021-22. At same time, a slight increase is visible in the production of Jute and Mesta.

Table: 2 Annual Agricultural Growth Rate (Percentage)

Crop	2018-19	2019-2020	2020-21	2021-22
Foodgrain	0.07	4.30	4.45	1.57
Coarse Cereals	-8.38	10.89	7.48	-1.21
Pulses	-13.07	4.30	10.55	7.23
Oil Seed	0.06	5.39	8.22	5.59
Sugarcane	6.74	-8.64	9.45	8.34
Cotton	-14.51	28.64	-2.27	-11.71
Jute and Mesta	-1.8	0.61	-5.36	8.56

Source: Growth rate calculated for various RBI reports.

Figure: 2 Agricultural Growth Rate



POLICY OF AGRICULTURE

India's agriculture and allied sectors policy landscapes is diverse, reflecting the country's vast agricultural practices and challenges. Policies range from promoting sustainable farming practices to ensuring food security and enhancing farmer's income. The government has introduced several schemes such as the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) to offer direct income support to farmers, and schemes like the Pradhan Mantri Fasal Bima Yojana (PMFBY) to address agricultural risks. Moreover, efforts such as the National Mission for Sustainable Agriculture (NMSA) and the National Mission on Oilseeds and Oil Palm (NMOOP) strive to enhance productivity and lessen dependence on imports. These policies collectively aim to transform Indian agriculture, making it more resilient, sustainable, and profitable.

The agricultural and allied sectors play a crucial role in the Indian economy, making substantial contributions to GDP, employment, and rural livelihoods. With the majority of the population still dependent on agriculture, its growth is crucial for overall economic development and food security. Here's why it's important and some suggestions for its growth.

IMPORTANCE

1. **Economic Contribution:** Agriculture contributes around 15 percentage of India's GDP and provides employment to nearly half of the population, directly or indirectly.
2. **Food Security:** Promoting growth in agriculture is vital for securing food supplies as the need for food increases alongside population growth.
3. **Rural Development:** Agriculture is the backbone of rural India, and its growth is crucial for uplifting rural livelihoods and reducing poverty.
4. **Export Potential:** India has significant potential to export agricultural products, contributing to foreign exchange earnings.
5. **Environmental Sustainability:** Sustainable agriculture practices can mitigate environmental degradation and contribute to climate change mitigation efforts.

SUGGESTION FOR GROWTH:

1. **Technology Adoption:** Encourage farmers to adopt modern agricultural practices, machinery, and technologies for higher productivity and efficiency.

2. **Infrastructure Development:** Upgrading facilities such as roads, storage, and market connections is essential to diminish post-harvest losses and to facilitate better market reach for agricultural producers.
3. **Crop Diversification:** Promote crop diversification to reduce the risk of crop failure, enhance soil fertility and meet changing consumer demands.
4. **Credit Availability:** Ensure quick and accessible credit provision for all farmers, especially those with small and marginal land holdings, empowering them to invest in agricultural inputs and technologies.
5. **Skill Development:** Provide training and capacity building to farmers on modern agricultural practices, technology usage and market trends.
6. **Water Resource Management:** Encourage the adoption of efficient water management techniques such as drip irrigation and rainwater harvesting to tackle water scarcity challenges.
7. **Marketing Assistance:** Develop market connections to enable farmers to obtain equitable prices for their produce and diminish reliance on intermediaries.
8. **Research and Development:** Invest in agriculture research to develop high-yielding varieties, pest-resistant crops, and sustainable farming practices tailored to Indian conditions.

By focusing on these aspects, India can achieve sustainable growth in its agriculture and allied sectors, ensuring food security, rural development and economic prosperity.

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STRATEGIC SYNERGY: EVALUATING GOVERNMENT INVOLVEMENT IN THE TOURISM AND HOSPITALITY INDUSTRY FOR ECONOMIC TRIUMPH

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ABSTRACT

This research looks at the cooperation between the Indian government and the travel and hospitality sector, assessing how it has helped India grow its economy to be worth \$5 trillion. The significant sums of money allotted each year clearly demonstrate the government's dedication to promoting varied travel locations and cultural experiences. A key component of the government's strategy, strategic alliances have increased foreign visitor arrivals and promoted global economic integration. Government initiatives like "Incredible India," "Swadesh Darshan," and "Prasad" have demonstrated the efficacy of focused marketing campaigns, produced observable outcomes, and sparked infrastructure developments related to tourism. The impact of these activities is objectively evaluated in the research, which highlights the industry's contribution to job creation, revenue production, and global economic integration. The yearly budget's allotment of 2400 crore for tourism-related activities emphasizes how the government sees the potential for economic growth in this industry. This study explores the cooperative efforts between industry and government stakeholders and offers a numerical evaluation of their influence. The tourist and hospitality sector is a powerful engine of economic growth, producing income, opening up job possibilities, and promoting global economic integration, according to an examination of official statistics.

Keywords: Tourism, Hospitality, Annual Budget, Strategic Alliances, Government Initiatives, Economic Impact, Schemes, Revenue Generation, Job Creation.

INTRODUCTION

In today's globalized world, the tourism and hospitality sectors are crucial drivers of economic growth, job creation, and infrastructure development. Government-run administrations perceive the business' capability to invigorate economies, driving numerous to embrace proactive measures to upgrade manageability and intensity. This research paper highlights the area's importance in driving gross domestic product development and making work while recognizing the assorted partners included. It digs into different reasons provoking government inclusion, spreading over socio-social and monetary objectives. Evaluating types of government interest, including limit building and administrative structures, is pivotal for accomplishing set targets. The review assesses coordination mechanisms among government entities and public-private partnerships, recognizing challenges such as resource allocation and policy coherence. Case studies across nations explore best practices, highlighting factors affecting competitiveness and sustainability, such as political stability and destination branding. This study explores the strategic convergence of government engagement with the tourist and hospitality sectors. It seeks to assess how well different government initiatives support economic growth in this important area. Through critical lens analysis, we aim to address these important questions:

- What favorable conditions may be created by the government to support the growth of the

tourism and hospitality sectors?

- What are the many types of government intervention, and what are the possible advantages and disadvantages of each?
- Does a one-size-fits-all strategy work, or do various locations and industry segments require customized strategies?
- How can the effectiveness and accountability of government actions be evaluated?

LITREATURE REVIEW

Challenges and solutions to the development of the tourism and hospitality industry in India African Journal of Hospitality Tourism and Leisure:

The literature analysis emphasizes how the tourism and hospitality sectors in India are expected to grow at a promising rate due to factors including rising domestic travel and expanding aviation. It does, however, highlight important obstacles that stand in the way of its potential, such as budgetary limitations, international unpredictability, and operational problems. The research highlights the significance of effective policies, people management, and stakeholder collaboration as potential solutions by employing an inductive method. In order to realize the industry's full potential and promote sustainable growth and development, it is imperative that these issues receive immediate attention.

Challenges Faced by Hospitality Industry in India:

The purpose of this study is to report on the major issues and future developments that the Indian hospitality sector is likely to face. The study explains the key features and evolution of the Indian hotel industry. It also discusses the key challenges facing the industry in the emerging global context, what lies ahead, and how these changes will affect the management and development of human resources. The main concerns regarding strategy and finance, licensing and policies, room inventory, technical limitations, cost and revenue management, growth issues, safety and security concerns, and talent management are summed up in this article within the framework of the Indian hospitality business. Future researchers will be able to benefit from the discussion of the trends that will rule the industry. to choose appropriate research subjects. The article ends with recommendations for resolving these issues, which help industry practitioners make wiser choices.

Public Private Partnership: A New Paradigm for promoting Tourism Sector :

For the majority of nations on earth, tourism has grown to be a significant source of revenue. All facets of a nation are impacted by tourism, including commerce, public services, the environment, historical sites, locals' religious and cultural values, and the natural environment. The interaction of several industries, including travel, communication, lodging, destination, and events, is what tourism is all about. Government cannot manage a sector on its own. The growth and promotion of the tourism industry necessitate the involvement of the private sector. This article investigates the public-private partnership (PPP) concept in the Indian tourist sector. The current study is based on secondary data that was gathered from a variety of publications, studies, websites, and journals published by the Department of Tourism and Ministry of Tourism, Government of India, the PPP model is restricted to specific tourism sectors, and only a small number of states receive a significant amount of tourism projects through it.

OBJECTIVES OF THE RESEARCH

Investigating the Latest Developments in the Tourism and Hospitality Industries:

This research intends to dive into the most recent patterns and progressions inside the tourism industry and hospitality areas. By breaking down industry reports, market information, and

emerging technologies, we try to uncover innovative practices and consumer preferences that shape the business landscapes and sustainability, for example, political stability and objective marking.

Identifying Difficulties Faced by the Tourism and Hospitality Industries:

Through surveys, interviews, and case studies, we plan to pinpoint the key difficulties going up against the travel industry and hospitality sectors. These troubles might incorporate issues like changing customer behavior, administrative obstacles, labor force deficiencies, and the effect of worldwide occasions like pandemics or international pressures.

Critically Evaluating the Prospects of the Hotel and Tourism Industry:

This goal includes a careful evaluation representing the things to come standpoint for the hotel and tourism industry. By breaking down market forecasts, investment trends, and emerging business models and arising plans of action.

Analyzing the Impact of Government Policies on Industry's Ability to Create Jobs, Generate Income, and Earn Foreign Exchange:

This part of the examination centers around looking at the impact of government strategies on key economic indicators inside the tourism industry and hospitality sectors. Through policy analysis and economic modeling, we mean to survey what government mediations impact job creation, income generation, and foreign exchange earnings.

Assessing Effectiveness of Various Government Efforts Aimed at Promoting Tourism:

This objective includes assessing the viability of government initiatives like tax incentives, subsidies, and training programs in advancing the travel industry. By examining important information and leading impact assessments, we expect to decide the adequacy of these mediations in accomplishing their planned objectives.

Examining How Regulatory Frameworks Affect Tourism Growth:

This part of the research investigates the role of regulatory frameworks in forming the development direction of the travel industry. By analyzing security guidelines, environmental laws, visa necessities, and different guidelines, we intend to survey their effect on industry advancement and seriousness.

Identifying Main Areas for Collaboration to Increase Financial Gains and Establish Sustainable Tourism:

Through stakeholder consultations and partnership analyses, we plan to recognize key regions where coordinated efforts can improve monetary profits and advance sustainable travel industry practices. This includes analyzing associations between legislatures, organizations, NGOs, and nearby networks to foster drives that offset financial development with natural and social maintainability.

RESEARCH METHODOLOGY

The research methodology employed in this study involves a comprehensive analysis of the collaborative efforts between the Indian government and the tourism and hospitality industry to drive economic growth. It combines both quantitative and qualitative approaches to assess the impact of various government initiatives on revenue generation, job creation, and global economic integration within the sector.

Quantitative analysis involves the examination of government data, industry reports, market trends, and economic indicators to measure the tangible outcomes of government policies and programs. This includes assessing the direct contribution of the tourism and hospitality industry to GDP, employment figures, revenue generation, and forecasts for future growth. Statistical techniques are employed to analyze trends, patterns, and correlations within the data.

The qualitative analysis encompasses case studies, stakeholder interviews, and literature

reviews to gain insights into the challenges, opportunities, and best practices within the industry. This includes examining factors such as regulatory frameworks, public-private partnerships, infrastructure development, and marketing strategies. Critical analysis is applied to evaluate the effectiveness of government interventions and identify areas for improvement. Overall, this research methodology provides a holistic understanding of the collaborative efforts between the government and industry stakeholders in driving economic growth within the tourism and hospitality sector. It offers valuable insights and recommendations for policymakers, industry practitioners, and other stakeholders to enhance the sector's contribution to India's economy.

FINDINGS

The Gap in Soft Skills in Hospitality:

- The hospitality sector lacks critical thinking, leadership, and communication skills, which affects the caliber of services provided and the satisfaction of customers.
- Lack of these abilities can cause inefficiencies in decision-making, problem-solving, and team management, which can have an impact on performance as a whole

COVID-19 Crisis Preparedness:

- Not being prepared for crises like COVID-19 causes sudden travel restrictions and cancellations, which negatively impacts demand and income from tourism.
- To lessen the damaging effects of crises, effective crisis management techniques are essential. These include risk assessment and real-time monitoring systems.

Bias based on gender:

- Inequalities in work-life balance and career advancement possibilities for women are caused by the persistence of gender discrimination in various industries.
- Increasing workplace diversity and productivity can be achieved by addressing gender prejudices through inclusive policies and support networks.

Limitations on Supply:

- Operational efficiency is impacted by workforce and inventory control issues brought on by seasonal variations in demand and the management of perishable items.
- Problems with supplier reliability can cause operations to be disrupted, which highlights the significance of keeping up relationships with a variety of suppliers and keeping an eye on performance.

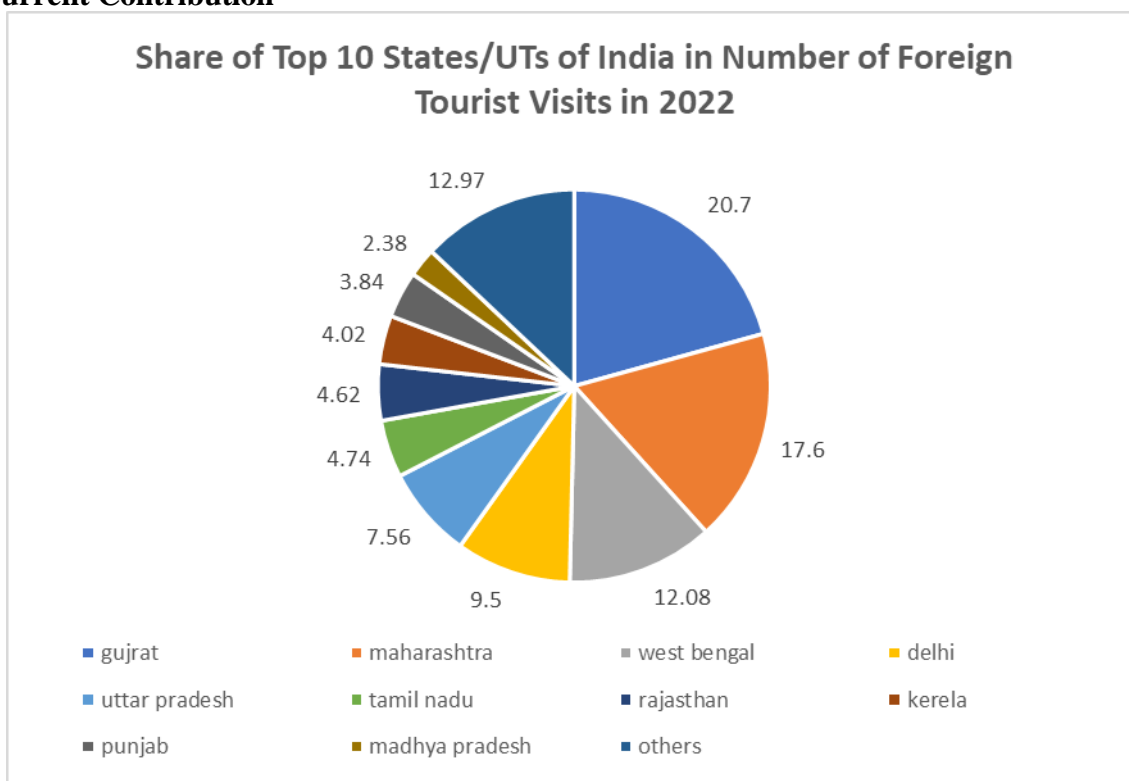
Tourism Safety Concerns:

- Foreign tourists are discouraged by safety concerns, such as harassment and robbery, which harms the industry's reputation and growth.
- Enhancing security protocols and providing proactive training to employees can boost visitor confidence and bolster the expansion of the tourism industry.

Analytical Understanding:

- In the hotel sector, closing the soft skills gap through training initiatives can improve visitor satisfaction and service quality.
- The tourism industry can be made more resilient by reducing the negative effects of emergencies and safety issues through the development of strong crisis management plans and enhanced security measures.
- Gender biases can be addressed by promoting gender diversity and inclusive policies, which will improve employee happiness and create a more equal work environment.
- The hospitality industry can achieve improved company performance by optimizing operations and minimizing disruptions via the implementation of effective supply chain management methods.

Current Contribution



Source: State/ UT Tourism Departments *: Data for 2022 is estimated by applying all India growth rate for 2022/19 on 2019 data

India's first Wax Museum in Kolkata

The first Indian wax museum, dedicated to Mother Teresa, is located in Kolkata, India, and has statues of well-known Indian personalities. Furthermore, there are plans to build a Ferris Wheel on the Ganges that is modeled after London's Eye, which will improve the city's recreational and cultural offerings.

Indian Railways on a ride for the better

Train transport has advanced significantly in India as a result of the development of locomotive engineering. At 160 km/h, the Gatimaan Express is the fastest train from Delhi to Agra, beating the Shatabdi Express by five minutes. New Delhi and Lucknow are also connected by an AC double-decker train, and work is in progress on India's first high-speed bullet train, which will run between Mumbai and Ahmedabad.

India offers e-tourist visa to 75 countries

Inbound tourism has increased dramatically since the US, Canadian, UK, and Chinese nationals can now apply for e-tourist visas to India. Citizens of 75 countries can currently apply for e-tourist visas. To make travel easier, seven tier-II Indian airports have been added to the program.

Railway Stations getting upgrades

Indian train stations are being upgraded with luxury lounges that mimic airport amenities and Wi-Fi access. The stations in Bangalore City and New Delhi provide free Wi-Fi for 30 minutes, and 16 stations, including those in Jaipur and Ahmedabad, will have executive lounges that will reasonably improve the tourist experience.

Incredible India Helplines for women travelers

The "Incredible India Helplines" (1800111363 for domestic and 1363 for international female tourists) offer assistance in English and Hindi, soon expanding to 12 international languages. This initiative aims to enhance safety and support for women travelers in India's tourism sector.

New tourist attractions across India

India has seen advancements in tourism in several cities. Gwalior intends to build a museum in Rani Laxmibai's honor, who is renowned for her valour during the 1857 Revolt. The largest telescope in India is unveiled in Udaipur, and eco-friendly ropeways are being considered at Rohtang Pass and Shimla. Mumbai is proposing a floating hotel, while Goa wants to turn its 85-meter-tall lighthouse into a tourist destination that would resemble False Point and Dolphin Nose.

India travel on wings of global popularity

Ongoing tourism initiatives are propelled by the rising acknowledgment of Indian heritage and the rise in foreign visitor numbers. Hyderabad was praised by National Geographic as the second-best destination to visit in 2015, while Goa was placed sixth for nightlife. The Victoria Memorial in Kolkata was inducted into TripAdvisor's Hall of Fame. In 2015, the most searched-for Indian monuments were the Salar Jung Museum, Golconda Fort, and Charminar.

Statue of Equality

At 216 feet tall, the Statue of Equality in Hyderabad, Telangana, pays homage to the philosopher Ramanucharjya, who lived in the eleventh century. Constructed from bronze, it represents equality and non-violence and shows Ramanucharjya sitting and reading a book. It is one of the highest statues in India and acts as a reminder of his values.

Kashi Vishwanath Corridor

By building a pedestrian walkway, repairing ghats and narrow lanes, and improving visitor amenities, the Kashi Vishwanath Corridor in Varanasi, Uttar Pradesh, seeks to revitalize the area surrounding the sacred Kashi Vishwanath Temple. It's a big development project for Varanasi, with hopes of boosting tourism and the local economy.

Central Vista Project

The \$2.7 billion Central Vista Project in India was unveiled in 2019 to update government buildings, create additional green spaces, and modernize Delhi's central region. Its 2024 completion date is scheduled notwithstanding complaints regarding cost and environmental impact.

Atal Setu, India's longest sea bridge, inaugurated

As he lays the foundation stone for projects worth ₹12,700 crores, the prime minister says that the six-lane trans-harbor bridge, which is 21.8 km long with a 16.5 km sea link, demonstrates India's infrastructure prowess. The government's goal is to increase citizens' ease of mobility by bolstering transportation infrastructure.

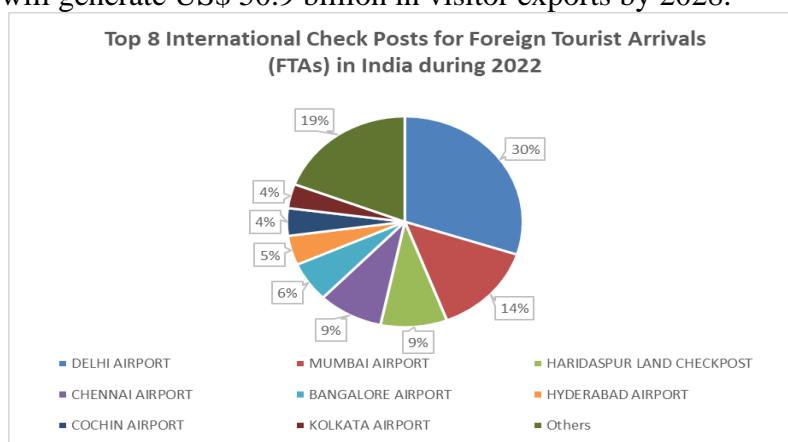
Recent mega development projects in Maharashtra include the Bala Saheb Thackeray Samruddhi Mahamarg, Navi Mumbai Airport, Coastal Road Project, underground road tunnel in Mumbai, and upcoming initiatives like the first bullet train and Delhi-Mumbai Economic Corridor, enhancing connectivity and boosting the economy.

Stats and figures (use of Govt. data)

1. India is a sizable travel and tourist market. It provides a wide range of specialty travel goods, including cruises, outdoor activities, wellness, medical, sports, MICE, eco-tourism, movies, rural, and religious travel. Both domestic and foreign travelers have acknowledged India as a spiritual tourism destination. Prime Minister Mr. Narendra Modi encouraged people to visit 15 domestic tourist attractions in India by 2022 in order to promote tourism during his speech on Independence Day from Red Fort. In the World Economic Forum's 2019 Travel & Tourism Competitiveness Report, India came in at number 34. When it comes to using digital technologies for travel planning, booking, and experience, India is the country with the most sophisticated travel infrastructure. India's expanding middle class and rising standard of living have aided in the development of domestic and outbound tourism.
2. India contributed over US\$ 178 billion to the GDP of the nation in 2021 and was rated

54th in the World Economic Forum's Travel and Tourism Development Index (TTDI). The travel and tourism sector contributed US\$ 121.9 billion to the GDP in 2020. It increased the GDP by US\$ 212.8 billion in 2019. The travel and tourism sector contributed US\$15.7 trillion to India's economy in 2022.

3. India's GDP contribution from travel and tourism increased by 5.8%, ranking sixth after the US, China, Germany, Japan, and Italy in the WTTC's Economic Impact 2022 report.
4. Foreign Tourist Arrivals (FTAs) in March 2023 were 7,95,827, up from 3,42,308 in March 2022, according to the Ministry of Tourism 132.5% positive growth rate.
5. India's tourism industry will have an unmatched chance to showcase its travel services and share its tourism success stories on a global scale thanks to the G-20 Presidency.
6. Compared to US\$ 28.9 billion in 2018, it is anticipated that Indian tourism and hospitality will generate US\$ 50.9 billion in visitor exports by 2028.



Hotel & restaurant industry's contribution

It is projected that by 2047, the direct contribution of the Indian hotel industry to GDP will reach \$1 trillion, mostly due to a notable increase in both local and foreign visitor arrivals. By 2027, the hotel sector is predicted to have directly contributed \$68 billion to the GDP, up from \$40 billion in 2022. It will be close to \$1 trillion by 2047.



Public-private partnership

With the PPP model, Andhra Pradesh ranks first in terms of both the quantity and value of projects. Regarding PPP projects, it is the top state. The top five states with the greatest number of PPP projects are Karnataka, Gujarat, Maharashtra, and Uttar Pradesh. Together, these five states account for 58.3% of the total value of PPP in India. On average, Maharashtra, Karnataka, and Gujarat account for 11% of the nation's PPP (FICCI-Ernst & Young, 2012). The trade show known as "Kerala Travel Mart" is extremely successful, with a few exceptions. This is a great illustration of the PPP (public-private partnership) concept in action in the tourism industry (Menon & Edward, 2014). The PPP model performs well.

CHALLENGES

Multi-skilling and professional development of employees:

- Soft skills are vital in the hospitality industry but are frequently absent, such as critical thinking, leadership, and communication.
- Success in the field requires innovation, adaptability, customer service, and multitasking.
- Having good organizational abilities is essential for effectively handling work over extended shifts.
- The reputation, client loyalty, and income of the hotel sector are all at risk due to the worldwide skills gap.
- Emotional intelligence and interpersonal skills are critical for job hopefuls since employers value soft talents more than hard ones.
- Candidates who exhibit soft skills both in the interview and on their resumes will have an advantage over others.
- Students pursuing a degree in hospitality management have the chance to close the skills gap and go on to lead the industry in the future.

Need for better crisis preparedness (COVID-19).

- A major obstacle facing the tourism sector is its lack of readiness for emergencies such as COVID-19. Such incidents may cause abrupt travel restrictions, cancellations, and anxiety in passengers, which would lower travel demand and reduce earnings. Inadequate crisis management strategies can also damage the reputation of a place and reduce consumer trust in the security of their travels.
- To combat this, the travel and tourism sector needs to place a high priority on crisis preparedness. To do this, they need to create extensive backup plans that incorporate risk assessment, reaction procedures, and communication tactics. Purchasing real-time monitoring and communication systems can help you respond quickly to developing emergencies. To create standardized crisis protocols, industry players, healthcare providers, and government authorities must work together.
- Additionally, increasing domestic travel, establishing flexible booking standards, and varying revenue sources can all aid in lessening the negative effects of crises on the tourist industry. Rebuilding consumer trust through open communication and stressing health and safety precautions are essential for recovery and crisis resilience.

Gender bias

Although women have entered the paid workforce at a rate similar to that of males, obstacles still exist. Even while work hours are more evenly distributed worldwide, there are still inequalities, particularly in European nations.

- **Gender Discrimination (Gender Inequality):** Gender discrimination affects work, education, and interests differently across cultures, leading to disparities in industries due to differences in choices, experiences, and responsibilities.
- **Glass Ceiling:** Because of social stigma and disadvantages based on gender, the glass ceiling limits women's possibilities for job advancement and represents unseen hurdles in

businesses.

- **Work/Life Balance:** Lack of assistance makes it difficult for women in the business to maintain a work-life balance, which is essential for general well-being and lowers job satisfaction and productivity.
- **Sexual Harassment:** Frequent sexual harassment can result in a hostile work atmosphere and unfavorable job decisions, including a promotion or termination.

Supply Constraints

- **Seasonal Demand and Variability:** Ski resorts are busy in the winter and calm in the summer, causing seasonal demand swings in the hospitality sector. Managing underutilization in off-peak periods and recruiting and training temporary employees during peak periods make staff management difficult.
- **Perishable Goods:** To reduce waste and preserve quality, restaurants and hotels handle perishable commodities with short shelf life, such as fresh produce and seafood, by placing a strong emphasis on inventory control, appropriate storage, FIFO techniques, and supplier communication.
- **Supplier Reliability:** If a small number of suppliers falters, operations could be negatively impacted by the loss of food or linens. Reduce by keeping up connections with several suppliers, keeping backups, and using SLAs to keep an eye on performance.
- **Cost Management:** It's difficult to control expenses while maintaining competitive pricing and quality. According to a poll conducted by the American Hotel & Lodging Association in November 2021, hotels reported major cost increases of 79% for cleaning materials, 77% for linens, and 77% for food and beverage supplies.

SAFETY ISSUES IN INDIA ARE A HUGE HINDRANCE TO TOURISM

In India, where there is a higher incidence of harassment, fraud, and robbery, foreign visitors frequently worry about inconveniences, cheating, and mugging. Travelers' decisions and the expansion of the tourism sector are greatly influenced by their confidence in the security of their destination (Lin, 2011). Poverty, political unrest, worries about women's safety, and illnesses—including the dread of epidemics and natural disasters like tsunamis—tarnishing India's reputation (Ninemeier, 2009). Hotels now give specific training for guards and security staff—with an emphasis on access control and monitoring systems—a higher priority after the 26/11 attacks (Kashyap, 2014). By addressing security issues and providing reassurance to travelers, this proactive approach seeks to improve safety and support India's tourism sector.

GATEWAYS

Work for the local economy

Three ways travelers Can Support Local Businesses

1. Taste the flavors of the neighborhood: Visit a quaint, family-owned restaurant and indulge in a sampling of the regional food. Savor delectable, handcrafted cuisine and discover the community's heart and spirit while lending a hand to local businesses.
2. Enter the local atmosphere: by going on a stroll through the streets accompanied by an informed guide. As you stroll, take in the diverse culture, intriguing tales, and hidden gems that each distinctive location has to offer.
3. Accept the spirit of your journeys by looking for unique items made by local artisans: each of which has a unique tale to tell. These mementos, which range from gourmet treats to handcrafted items, not only preserve memories but also help skilled locals make a living.

Future Government Developmental Plans

India, during its G20 presidency, plans to open 50 new tourism destinations, promote green

tourism, and launch a publicity campaign in overseas markets. In 2022, despite pandemic challenges, India saw 6.19 million foreign tourist arrivals, a 305% increase from 2021. Tata Group's IHCL will develop two hotels in Ayodhya, Uttar Pradesh, while IndiGo offers 20 weekly flights to Bulgaria via Istanbul. Aviation consultancy CAPA India forecasts a need for a commercial fleet of nearly 4,000 aircraft within two decades. India's civil aviation ministry launched UDAN 5.0 to enhance connectivity, and Delhi airport will have a new terminal and fourth runway operational by September. India and Guyana signed an air services agreement, and India aims for 25 airports to use 100% green energy with 121 airports carbon neutral by 2025. Chennai is set to become a cruise tourism hub, with 87,000 passengers visiting the port in recent years.

Infra Boom for Lakshadweep: New Proposals of Development

Does Lakshadweep's infrastructure need an upgrade?

With more resorts being built, Lakshadweep's infrastructure—which will serve 22,800 tourists and 60,000 people in 2022—needs to be upgraded in light of the predicted increase in tourism. Lakshadweep, with infrastructure for 60,000 residents, saw 13,500 tourists in 2021 and 22,800 in 2022. Anticipating more tourists, upgrades are planned, including additional resorts.

1. Unprecedented search growth: With more resorts being built, Lakshadweep's infrastructure—which will serve 22,800 tourists and 60,000 people in 2022—needs to be upgraded in light of the predicted increase in tourism.
2. Lakshadweep's air connectivity: The Indian government is proposing to build a new airfield on Minicoy Island, Utah, with plans to serve both military and commercial aircraft, including transport and fighter jets.
3. Lakshadweep's water connectivity: Since 2021, Cordelia Cruises has been the only Indian liner to visit Lakshadweep. With over 200,000 passengers, it draws 80,000 visitors from Mumbai, Goa, and Kochi each year.
4. New resorts coming soon in Lakshadweep: Taj Group to introduce luxury resorts on Suheli (110 rooms) and Kadmat (110 rooms) islands by 2026, promoting sustainable hospitality in Lakshadweep

Strategy Development for the Cruise Industry

1. The Ministry of Tourism drafts a National Strategy for Cruise Tourism to position India globally.
2. Efforts to promote cruise tourism were emphasized during the Monsoon Parliament Session by the Union Tourism Minister.
3. PM Modi flagged off World's Longest River Cruise from Varanasi to Dibrugarh covering 3200 km on 13th January 2023.
4. India's significant capabilities in cruise tourism are highlighted due to 12 Major and 200 Minor Ports, and 20,000 km of navigable waterways.
5. Strategic pillars identified for infrastructure, market, ease of doing business, integrated tourism, investment promotion, and skill development.
6. Financial assistance is provided under 'Assistance to Central Agencies for Tourism Infrastructure Development'.
7. The Ministry of Tourism partners with the Ministry of Ports, Shipping, and Waterways for the Incredible India International Cruise Conference.
8. Cruise passenger traffic increased from 1.26 lakh in 2015-16 to 4.68 lakh in 2019-20.
9. The objective is to make India an attractive cruise tourism destination and popularize cruise shipping with Indian tourists.
10. India actively participates in international cruise events like Sea-Trade Miami and Dubai.
11. Infrastructure developed by the Inland Waterways Authority of India utilized for river tourism operations.

How does Tourism Marketing help? Harnessing the Power of Strategic Transportation & Supply Chain Solutions

- Well-connected transportation network crucial for attracting domestic and international tourists.
 - Implementation of modern infrastructure, including technology like cold chain logistics, to improve supply chain efficiency.
 - Improving the supply chain for tourism goods promotes local culture and businesses.
 - Government initiatives to upgrade transportation infrastructure and simplify the supply chain system.
- Statistics:
- 7.4% increase in international tourist arrivals from 2017 to 2018.
 - Expected CAGR of 6.7% in India's tourism industry from 2018 to 2028.
 - The tourism sector contributed 9.2% to India's GDP in 2018, expected to grow to 6.7% CAGR by 2029.
 - Government projects like Bharatmala, Golden Quadrilateral, and Sagarmala enhance national highways, railways, and waterways.
 - UDAN scheme launched in 2017 to connect unserved and underserved airports, expanding regional air connectivity.

CONCLUSION

In summary, this research paper's thorough examination clarifies the critical role that the tourism and hospitality industries play in promoting job creation, accelerating economic growth, and improving infrastructural development. Several important lessons have been extracted from a detailed analysis of numerous government programs, industry issues, and recent mega-development projects.

First of all, the study emphasizes how important it is for the government to get involved in fostering an environment that would encourage the expansion of the tourism and hospitality industries. To address issues including talent gaps, supply shortages, safety concerns, and gender prejudices, it emphasizes the significance of strategic planning, crisis preparedness, and gender inclusion.

In addition, the report highlights how government agencies, private businesses, and local communities must work together to create sustainable tourist practices and increase financial gains. It cites key areas for accomplishing these goals as infrastructural development, legal frameworks, and tourism promotion.

The study also emphasizes how much the travel and hospitality industries can contribute to support India's lofty objective of building a five trillion dollar economy. India can attract both domestic and foreign tourists by utilizing its diversified landscapes, expanding infrastructure, and rich cultural legacy to leverage public-private partnerships and innovative techniques.

All things considered, this study offers insightful analysis and practical suggestions for how academics, industry participants, and legislators might collaborate to fully realize the promise of the travel and hospitality sectors. India can achieve its goal of becoming a five trillion dollar economy through the dynamic expansion of its tourist and hospitality sectors by tackling important issues, utilizing government initiatives, and encouraging sustainable practices.

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LOGISTICS AS A CATALYST FOR INDIA'S ASCENT TO A \$5 TRILLION ECONOMY: CHALLENGES AND OPPORTUNITIES

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ABSTRACT

This research paper delves into the pivotal role of logistics in propelling India towards its ambitious goal of becoming a \$5 trillion economy. It begins by contextualizing the current state of India's logistics sector, highlighting its unique position as a critical enabler of economic growth and its potential as a significant contributor to GDP. The paper then systematically identifies and analyses the key challenges facing this sector, including infrastructural inadequacies, regulatory hurdles, fragmented supply chains, and technological gaps.

Furthermore, the paper explores the transformative impact of recent government initiatives and policy reforms aimed at streamlining logistics and reducing associated costs. It emphasizes the importance of digital innovation, improved transportation networks, and integrated logistics solutions in enhancing efficiency and scalability. The research also delves into case studies and comparative analyses with global logistics models, offering insights into how India can leverage best practices and innovative approaches to overcome existing challenges. The opportunities presented by emerging technologies in reshaping India's logistics landscape are explored in detail.

Ultimately, the paper argues that by addressing these challenges and harnessing these opportunities, India's logistics sector can not only support but also accelerate the nation's journey towards achieving its \$5 trillion economy ambition. The study concludes by providing policy recommendations and strategic frameworks for stakeholders to foster a more efficient, resilient, and globally competitive logistics ecosystem.

Keywords: GDP, global logistics models, infrastructure, logistics, supply chains, transportation network

INTRODUCTION

India aims to achieve a \$5 trillion economy, bolstered by an impressive 8.7% GDP growth in 2022-2023. However, a critical obstacle hindering this aspiration is the inefficiency in the country's logistics sector. This research explores the intricate link between logistics efficiency and economic growth, addressing challenges and identifying opportunities for transformative change. Logistics efficiency, encompassing factors like transport infrastructure, warehousing, supply chain integration, and technology adoption, plays a pivotal role in influencing the cost, speed, and reliability of moving goods, impacting trade, manufacturing, and overall GDP growth. Despite India's economic growth, its logistics sector faces inefficiencies, with goods experiencing delays and increased costs due to traffic, inadequate warehouses, and bureaucratic hurdles. These inefficiencies create real-world problems, affecting manufacturers' competitiveness, hindering international trade for exporters, and impacting consumers with inflated prices and limited product availability. Addressing these challenges is imperative for job creation, foreign investment, and overall economic progress. This research aims to analyze the current landscape, highlighting challenges like inadequate infrastructure, fragmented supply chains, and regulatory hurdles. It also explores opportunities presented by recent policy reforms, technological advancements, and global best practices. By providing evidence-based insights and actionable recommendations, this research seeks to bridge the gap between India's economic aspirations and the reality of its logistics ecosystem. The goal is to empower stakeholders, including the government, private

sector, and international organizations, to collaborate and unlock the hidden potential of India's logistics sector. This, in turn, will contribute to India's journey towards a \$5 trillion economy, fostering a vibrant economic landscape that benefits all citizens.

LITERATURE REVIEW

Efficient logistics are vital for India's economic growth, but challenges persist. Despite improvements, India's World Bank Logistics Performance Index (LPI) ranking is lower than developed economies like Singapore and Germany, emphasizing the need for enhancement. A modest 1% improvement in logistics efficiency could boost India's GDP by 2%, with (McKinsey Global, 2016) Institute estimating potential gains of \$170-210 billion by 2030 through improved logistics. Challenges include low trade volume and high logistics costs, hindering export competitiveness. A 10% reduction in logistics costs could increase exports by 5-8%. In the manufacturing sector, high logistics costs and infrastructure gaps impede efficient delivery, but improving efficiency could lead to a 20-30% reduction in manufacturing lead times, enhancing competitiveness. The logistics sector has substantial job creation potential, estimated at 22 million new jobs by 2030. Skilling programs are crucial for meeting the demands of a technology-driven logistics landscape. Comparisons with developed economies highlight significant room for improvement, urging India to focus on enhancing logistics efficiency to unlock its full economic potential and compete globally. India's logistics sector, poised to reach a substantial \$563 billion by 2030, grapples with impediments that hamper economic growth. Firstly, infrastructure bottlenecks persist despite expansion initiatives, leading to congested road networks, overloaded trucks, and limited port connectivity. These factors contribute to delays, heightened costs, and operational inefficiencies, compounded by a fragmented railway network lacking seamless integration with other modes, hindering the smooth movement of goods. Secondly, regulatory hurdles add complexity to logistics operations. The cumbersome process of obtaining multiple permits and licenses increases costs, discouraging formalization within the sector. Inconsistent policy implementation and frequent regulatory changes create uncertainty, impacting long-term investments and strategic planning. The high compliance burden from multiple taxes further strains operational efficiency. Thirdly, inefficiencies stemming from supply chain fragmentation result in delayed deliveries, increased inventory costs, and limited visibility into goods movement. Lagging in technology adoption, the underutilization of advanced logistics technologies like automation and data analytics hampers optimization and transparency. Additionally, a shortage of skilled professionals poses challenges in adopting efficient practices. Addressing these challenges is imperative for transformative change in India's logistics landscape. Doing so not only presents an opportunity to enhance efficiency and reduce costs but also creates the foundation for a globally competitive logistics ecosystem in the country.

The Indian government has acknowledged the crucial role of logistics in economic growth, launching initiatives to tackle sector challenges. The Sagarmala Project aims to enhance port infrastructure and coastal logistics efficiency, reducing congestion and improving shipping. Challenges like project delays and limited private sector participation persist. The Bharatmala Pariyojana focuses on high-speed highways for improved road connectivity, reducing travel time, and transportation costs, but faces obstacles in land acquisition and environmental concerns. The UDAN Scheme enhances regional air connectivity but encounters limitations in airport infrastructure and cargo handling procedures. The GST implementation simplifies taxation and inter-state goods movement, reducing compliance burden and transit time, but faces challenges like glitches and complex documentation. Dedicated Freight Corridors reduce rail network congestion but contend with completion delays and limited industrial zone coverage. While showcasing government commitment, these initiatives demonstrate

mixed effectiveness. To enhance impact, faster project execution, private sector incentives, technology adoption, skill development, and multimodal integration are crucial. Leveraging existing initiatives and addressing gaps can significantly improve India's logistics landscape for a more competitive and globally connected economy.

India's logistics sector stands at a crossroads, poised for transformation. Drawing insights from global leaders like China, the USA, and Germany offers valuable lessons for India's journey towards unlocking its economic potential. China serves as a compelling model with its expansive infrastructure network, embracing multimodal connectivity through highways, railways, and waterways. This, coupled with advanced technology adoption and a supportive policy framework, underscores the importance of investing in infrastructure development and fostering innovation. In the USA, a market-driven approach fueled by private sector participation and standardized practices underscores the significance of encouraging private sector involvement and establishing industry-wide standards in India's logistics landscape. Additionally, prioritizing skilled workforce development mirrors India's need to bridge the talent gap in the sector. Germany's emphasis on sustainability, multimodal integration, and supply chain collaboration presents a roadmap for India to follow suit. By adopting sustainable practices, enhancing multimodality, and fostering collaboration among stakeholders, India can address environmental concerns, improve efficiency, and reduce costs within its logistics ecosystem. By incorporating these insights and implementing targeted strategies, India can chart a course towards a more efficient, competitive, and sustainable logistics sector, aligning with its ambitious economic growth targets.

A comprehensive research agenda is essential to address India's logistics challenges and unlock its economic potential. Firstly, Analyzing infrastructure deficiencies like road congestion and inadequate warehousing capacity provides a foundational understanding of critical areas needing attention. Secondly, Examining technological adoption in areas like automation and data analytics helps identify existing gaps and opportunities for improvement. Drawing insights from global best practices allows for the identification of transferable lessons to inform domestic policy. Finally, Synthesizing research findings into targeted policy recommendations is crucial for stakeholders to navigate logistics reform effectively, fostering economic growth.

This research paper outlined hypotheses propose significant insights into the relationship between logistics efficiency and India's economic growth trajectory. By identifying inefficiencies and proposing targeted interventions, this research aims to contribute valuable insights and recommendations to propel India towards its \$5 trillion economy goal.

RESEARCH METHODOLOGY

The research methodology will employ a comprehensive approach to thoroughly investigate the logistics challenges and opportunities in India. The data will be gathered through in-depth case studies with 5-10 diverse stakeholders. These case studies will utilize document analysis to delve into specific challenges, policy experiences, and technological advancements within the logistics sector.

In parallel, secondary data from various sources will be meticulously examined. Government reports will be scrutinized to assess existing policies, initiatives, and performance metrics in the logistics domain. Industry publications, consulting firm reports, and academic journals will be reviewed to discern prevailing trends, obstacles, and best practices in logistics, both in India and similar developing economies.

To analyse the collected data, a variety of tools and techniques will be employed. Quantitative data, including the World Bank's Logistics Performance Index (LPI) and other statistical information, will be analysed using software such as SPSS to identify trends, correlations, and potential impacts. Qualitative data from case studies will undergo thematic

analysis to identify recurring themes, challenges, and stakeholder perspectives. Textual data from various sources will undergo content analysis to elucidate policy content, implementation strategies, and stakeholder sentiments.

A comprehensive research timeline from 2013 to 2023 will be developed to guide the progression of activities, including data collection, analysis, and report writing. This structured approach ensures systematic and timely completion of the research agenda.

The expected outcomes of this research initiative are to pinpoint critical challenges and opportunities in India's logistics landscape, evaluate the effectiveness of recent policy reforms, and propose enhancements where necessary. Additionally, the research aims to assess the potential of technological advancements in improving logistics performance and provide targeted policy recommendations to stakeholders, fostering logistics reform and stimulating economic growth in India.

DATA ANALYSIS AND FINDINGS

The analysis reveals a dynamic landscape in India's logistics performance, as evidenced by fluctuations in the Logistics Performance Index (LPI) score over the years. Starting at 35th in 2014, improving to 44th in 2018, and further progressing to 38th in 2023, these changes underline the influence of various factors on the country's logistics dynamics. In 2016 India rank is 35 and now it dropped in rank to 39

India has dropped in rank and score since 2016

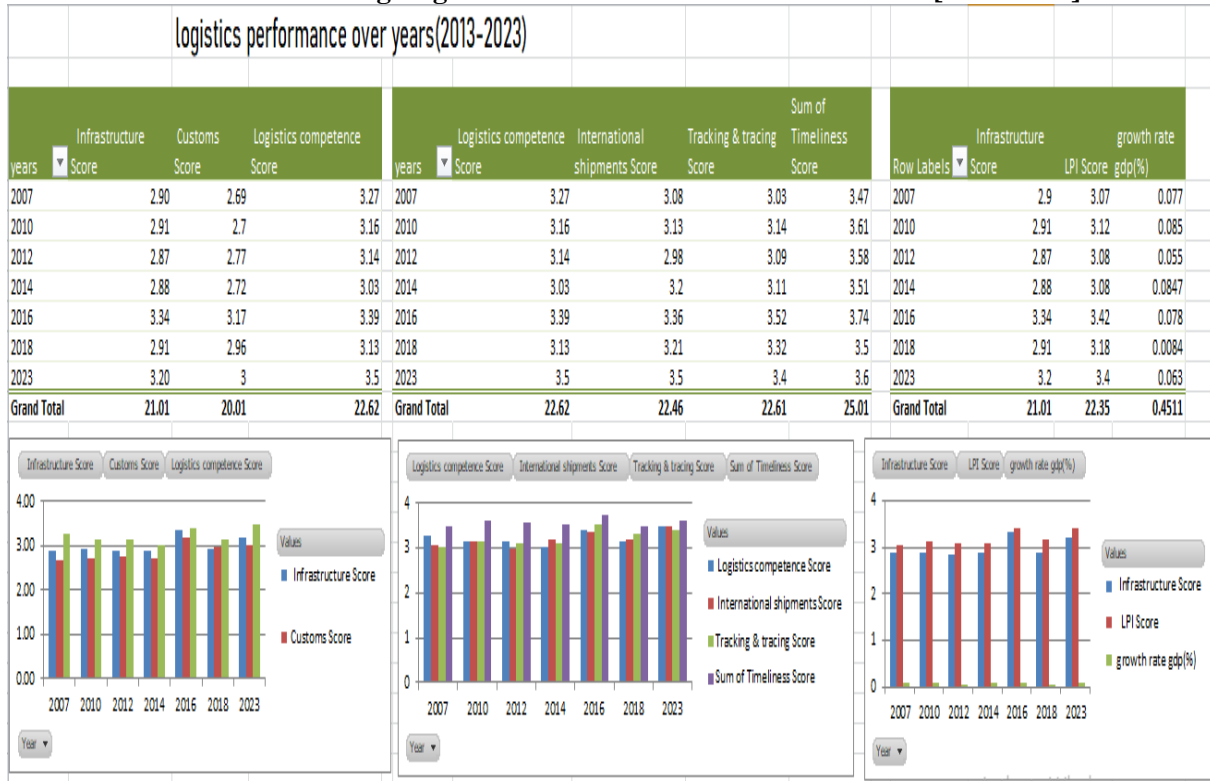
India's logistic performance score and rank over the years

Year	Rank	LPI score
2007	39	3.07
2010	47	3.12
2012	46	3.08
2014	54	3.08
2016	35	3.42
2018	44	3.18
2023	38	3.40

Source: World Bank reports on Logistics Performance Index • [Get the data](#)

mint

Dashboards Showing Logistic Performance Of India Over Years[2013-2023]



The critical role of infrastructure and multimodal connectivity is evident in the correlation between robust investments in diverse transportation modes and positive outcomes for logistics efficiency. Such investments not only reduce costs but also stimulate economic growth, emphasizing the pivotal role of infrastructure in shaping logistics outcomes.

Technology adoption and automation, encompassing artificial intelligence (AI) and Internet of Things (IoT) solutions, emerge as transformative factors. These innovations streamline logistics processes, providing real-time insights that contribute to enhanced operational efficiency and improved customer experiences.

Collaboration and network building prove to be strategic imperatives for successful logistics players. The establishment of strategic partnerships with local delivery firms and kirana stores enhances efficiency, optimizes resources, and expands logistical reach.

The significance of real-time tracking and data-driven decision-making processes is emphasized, illustrating the importance of informed decision-making in logistics management. Harnessing actionable data allows organizations to proactively address challenges, optimize routes, and enhance overall operational efficiency.

Innovation, particularly through tailored fulfillment center models and localized delivery strategies, plays a pivotal role in driving success. These innovative approaches enable organizations to meet unique market demands, stay ahead of the competition, and maintain a competitive edge.

Sustainability emerges as a consistent imperative in logistics operations. Organizations integrating eco-friendly practices not only contribute to environmental responsibility but also potentially reduce costs and build resilience against future challenges, aligning with broader sustainability goals.

In summary, the analysis underscores the dynamic and multifaceted nature of logistics excellence in India. The interplay of infrastructure, technology, collaboration, innovation, and sustainability forms a strategic framework for achieving and sustaining high-performance logistics operations. Policymakers and stakeholders are encouraged to leverage these insights to craft targeted strategies that effectively address the unique challenges of the logistics landscape in India.

DISCUSSION AND IMPLICATION

The study delves into the dynamic trajectory of India's logistics landscape, as evidenced by shifts in the Logistics Performance Index (LPI) over the years. The identified core drivers – infrastructure, technology adoption, collaboration, innovation, and sustainability – collectively present a comprehensive view of the intricate interplay shaping the logistics sector. The outcomes of efficient logistics on India's economy span a spectrum of advantages, from reduced costs and heightened international trade to employment generation, enhanced manufacturing competitiveness, and rural development. Simultaneously, the study sheds light on challenges such as high logistics costs, infrastructure bottlenecks, regulatory complexities, and a shortage of skilled professionals. The impacts of technology and policy on the future of logistics in India, including digitalization, multimodal integration, sustainable practices, and public-private partnerships, are thoroughly explored.

The study underscores the multifaceted nature of logistics excellence, positioning it as a potential catalyst for India's ambitious economic goals. The interconnectedness of infrastructure, technology, collaboration, innovation, and sustainability emphasizes the indispensability of a holistic and integrated approach for long-term success. The identified areas for improvement serve as strategic touchpoints, providing valuable insights for policymakers, stakeholders, and businesses seeking to leverage the logistics sector's transformative potential. The significance lies in the envisioned prospect of a more competitive, connected, and sustainable Indian economy.

In alignment with existing research, the study reaffirms the foundational importance of infrastructure, technology, and collaboration in shaping logistics. By integrating sustainability and innovation into this narrative, the study contributes to a more nuanced understanding of how these elements interact and drive economic development. The findings resonate with established theories on economic growth, casting logistics as a linchpin for cost reduction, trade facilitation, and job creation. This study enriches the current literature by providing context-specific insights into the intricacies of the Indian logistics landscape.

While offering valuable insights, the study acknowledges certain limitations. The reliance on retrospective data up to 2023 suggests a potential lag in reflecting the most recent developments in the dynamic logistics sector. Recognizing the need for real-time assessments to comprehend the sector comprehensively, the study emphasizes the necessity of staying abreast of ongoing developments. Moreover, the broad strokes of the study may not fully capture regional intricacies within India, a nation characterized by diverse logistics challenges. The accuracy and reliability of the underlying data sources also play a crucial role in influencing the robustness of the findings.

Future research endeavors could benefit from focusing on establishing a real-time monitoring system for logistics performance, enabling more dynamic and responsive analyses. Delving into regional variations in greater detail could unveil specific challenges and opportunities unique to different parts of India, providing a more granular understanding. A longitudinal study tracking the implementation and impact of various policies, technologies, and collaborations would offer a deeper insight into their effectiveness over time. Sector-specific investigations, such as exploring the logistics challenges faced by e-commerce or agriculture, could yield more targeted and actionable insights.

The global relevance of the study positions it as a valuable resource for policymakers worldwide grappling with logistics challenges in developing economies. The insights gleaned from the study can serve as a roadmap for refining logistics ecosystems globally. The practical applications are manifold, as stakeholders can utilize the findings to streamline regulations, strategically invest in technology, and foster collaborations that enhance efficiency and sustainability. The envisioned future, characterized by seamless integration and tech-driven efficiency, can guide other nations aspiring to fortify their economic foundations through advancements in the logistics sector. Ultimately, the study provides actionable intelligence for crafting policies, making strategic investments, and fostering collaborations that align with the transformative vision outlined in the "Logistics-Powered Journey to the \$5 Trillion Dream."

CONCLUSION

In conclusion, this research endeavors to illuminate the intricate relationship between logistics efficiency and India's pursuit of a \$5 trillion economy. The findings underscore the dynamic and multifaceted nature of the logistics landscape in India, highlighting the pivotal role of infrastructure, technology, collaboration, innovation, and sustainability. While acknowledging the improvements reflected in the Logistics Performance Index (LPI) over the years, the study identifies persistent challenges such as high logistics costs, infrastructure bottlenecks, and regulatory complexities.

The significance of the research lies in its potential to inform and guide stakeholders, including policymakers, businesses, and international organizations, toward targeted strategies that address the unique challenges of the Indian logistics sector. By identifying areas for improvement, the study offers actionable insights to enhance efficiency, reduce costs, and foster a globally competitive logistics ecosystem.

The implications for existing research and theories emphasize the alignment with established principles in logistics and economic growth, while also enriching the literature by incorporating context-specific insights into India's logistics intricacies.

Acknowledging its limitations, particularly the reliance on retrospective data, the study suggests future research avenues. Recommendations include real-time monitoring, regional variations exploration, longitudinal studies, and sector-specific investigations, aiming to provide a more comprehensive and up-to-date understanding of the evolving logistics landscape.

On a global scale, the research carries implications for policymakers worldwide, offering valuable lessons for developing economies grappling with similar logistics challenges. The practical applications of the findings extend to streamlining regulations, strategic technology investments, and fostering collaborations for enhanced efficiency and sustainability.

Ultimately, this research paper aspires to be a catalyst for transformative change in India's logistics sector. By providing evidence-based insights and actionable recommendations, it aims to contribute to the realization of India's economic aspirations, unlocking the hidden potential of its logistics ecosystem. The envisioned future, characterized by seamless integration, technology-driven efficiency, and sustainability, can pave the way for India's Logistics-Powered Journey to the \$5 Trillion Dream.

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