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Editorial

Miles to go...

We are extremely pleased to announce the launch of this new journal, Centurion Journal of Business, Economics and Social Sciences (CJBES). While adding one more journal from this part of India, we understand very well the mushrooming of many online journals, the issue of dearth of quality research articles and the related issues of plagiarism. A Pen State University study reported that over 200 million research papers (in English language) have already been published and only 24% of those articles are accessible online. We also understand the issues of irregular publications and quick disappearance (or infant mortality rate) in journal publication industry. Maintaining a quality journal is always a huge challenge for the publishers. Simultaneously, we also feel the need of providing trusted platform where budding scholars, particularly from the tier-II and tier-III B-Schools and other social science institutes can showcase their research ideas through quality production. Cutting edge research should be the passport to academic success. Research is a passion, which is unfortunately not seen very much among the lower-rung b-schools. But I can cite from my own experience, how some bright scholars, from this part of our country, have already leveraged their good research work and have got placements and appreciation in top management institutes. It is high time faculty members, of all type of institutes, should give high priority for meaningful and impactful research.

We, at Centurion, through our continuous endeavours like this journal CJBES, sincerely wish to provide global access and strong academic networking opportunity to all scholars

and teachers, who would be opting for this journal as the most preferred platform. We shall follow all ethical best practices, strictly following the benchmarks as set by COPE (Committee on Publication Ethics). We shall maintain transparency in article selection process, all the time.

We have plans for providing unique DoI numbers for each selected article in each issue of the journal, in association with international agency Cross-ref. We shall sincerely try to index it in all reputed academic research aggregator-databases, in quickest possible time, within two years. Through our devoted and passionate editorial team, we sincerely wish to take this journal to the top 50 management journal in India, within next two to three years, and hopefully to the league of top 25 in about 5 years.



Prof. Supriya Pattanayak

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Empowering SMEs: Business Model Innovation for Sustainable Growth

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Abstract:

Small and medium-sized companies (SMEs) are essential for economic development and employment creation. The majority of countries throughout the world have recognized the importance of Small and Medium Enterprises (SMEs) in national economic growth by creating jobs, producing income, and promoting economic development. However, fast technological improvements, often changing legislation, and market competitiveness all pose problems to SMEs. This article investigates the role of business models and innovation in enabling small and medium-sized firms to achieve sustainable growth. Firms adapt their processes in response to market circumstances. This technique might assist them in maintaining their business in a competitive industry. This study examines the techniques and practices that aid in effective business model innovation in SMEs by analyzing business and model frameworks. The study's results can improve SMEs' competitiveness while contributing to sustainable social and economic growth. This research study offers significant insights for entrepreneurs, business executives, and policymakers looking to drive long-term growth in the SME sector.

Keywords: Business Model Innovation, SMEs, Economic Development, Sustainable Growth

1. Introduction:

A progressive entrepreneurial performance leads to the nation's economic performance in monetary improvement. Entrepreneurial motivation is the first step in starting a business. In a developing country like India, entrepreneurs must be highly motivated to achieve the nation's goals Santhi, N., & Kumar, S. R. (2011). Entrepreneurship plays a preeminent role in the economic development of a country, which can Promote regional employment generation, reduce economic disparities, and establish industries; it depends on entrepreneurial activities. However, Small and Medium-sized Enterprises (SMEs) play a crucial role in the global economy, driving innovation, creating jobs, and contributing significantly to GDP. Entrepreneurs face many challenges in establishing, running, and maintaining their enterprises. The significant issues are limited resources, stiff competition in the market and dynamic market conditions.

Modifying business models is recognized as a fundamental strategy for achieving innovations in sustainability. Business model innovation can serve as a crucial strategy for Small - Medium sized enterprises to navigate these challenges and attain sustained growth.

1.1 Small and Medium Size Enterprises:

MSME stands for Micro, Small, and Medium Enterprises. According to the Micro, Small, and Medium Enterprises Development (MSMED) Act of 2006, these enterprises are classified into two categories. i.e. Manufacturing enterprises and Service enterprises. Micro Small and medium-sized Enterprises (MSME) are major contributors in India's economic growth. It contributes about 33% of India's GDP. The MSME sector employs 1.28 crore units and over 9.3 crore jobs across industries in India. (Udyam portal 2023). Small and medium-sized micro-enterprises are categorised based on the investment.

Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment < Rs. 25 lac	Investment < Rs. 5 cr.	Investment < Rs. 10 cr.
Services Enterprise	Investment < Rs. 10 lac	Investment < Rs. 2 cr.	Investment < Rs. 5 cr.
Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment < Rs. 1 cr. and Turnover < Rs. 5 cr.	Investment < Rs. 10 cr. and Turnover < Rs. 50 cr.	Investment < Rs. 20 cr. and Turnover < Rs. 100 cr.

1.2 Business Model:

A business model defines how a company creates, delivers, and captures value. It serves as a blueprint for the organization's operations, detailing its value proposition, target customer segments, revenue streams, and key activities. Business models have been a buzz among researchers and practitioners during the last two decades. However, practitioners and researchers use the business model terminology to describe the structure and activities. Most businesses follow a particular business model, which outlines the design of value creation, capture, and delivery Teece, D. J. (2010). A business model describes how an enterprise creates and delivers customer value through converting payments into profit. According to Zott, C., Amit, R., & Massa, L. (2011). The business model and strategy show the difference among competitors and promotion of value creation. Different business models adopted by different businesses, like the subscription model, where companies charge a fee monthly or annually to access their product or service from the customers. On-demand models is another type of model in which companies provide service to their customers on- demand through mobile apps. Franchise model is a type of business model in which a company grants their rights to operate and sell products or services using its brand to other company; in return, it charges fees and royalties. Like many business models

are existing in the market. In today's complex and dynamic environment, firms need to improve their performance, for instance, by innovating their business model.

1.3 Business Model Innovation:

Business model innovation (BMI) allows existing organizations to renew their business models by altering or rethinking how they produce, offer, and acquire value through the different inter-related firm's core components Soluk, J., Miroshnychenko, I., Kammerlander, N., & De Massis, A. (2021). The number of publications addressing theoretical and quantitative research approaches to BMI is increasing Foss, N. J., & Saebi, T. (2017). Researchers have recently emphasized the relevance of Business Model Innovation (BMI). Thus, BMI allows firms to respond quickly to market opportunities, commercialize innovations through new business models, redefine existing markets or create new ones Amit, R., & Zott, C. (2012). The concept of BMI has been developed and applied in many different management research fields, including marketing, entrepreneurship, strategy, technology, operations management, and organisational studies Foss, N. J., & Saebi, T. (2017). Business model innovation can itself show uniqueness and get an advantage, and the model is sufficiently differentiated and challenging to replicate for incumbents and new entrants alike Teece, D. J. (2010). Innovation is as

follows: "an invention is an idea, a sketch, or a model for a new or improved device, product, process, or system (Fremmen)". BMI also creates new ways of generating revenue by adopting innovative revenue models such as subscriptions, pay-per-use, easy monthly instalment payment systems, etc.

1.4 Sustainable Growth of SMEs:

Sustainability aims for people to live harmoniously on Earth for generations to come. Sustainability usually has three dimensions: environmental, economic, and social. Sustainability is gaining greater significance in society, particularly in business ventures that plays a crucial role Tur-Porcar, A., Mas-Tur, A., Merigó, J. M., Roig-Tierno, N., & Watt, J. (2018). Sustainable growth means a business can expand its operations and increase revenue without significantly harming the environment or depleting natural resources. Sustainable growth enables small and medium-sized enterprises (SMEs) to operate and thrive over the long term. By implementing sustainable practices, SMEs can avoid the pitfalls associated with rapid, unsustainable expansion, such as resource depletion, regulatory challenges, and financial instability. Sustainable growth not only benefits the business itself but also contributes to the well-being of society and the preservation of the planet for future generations. The dynamic capability perspective views business model

innovation as starting with an initial experiment, followed by ongoing revisions, adaptations, and fine-tuning through trial and error Sosna, M., Trevinyo-Rodríguez, R. N., & Velamuri, S. R. (2010)

2. Business Model Innovation (BMI) in Small Medium size Enterprises (SMEs):

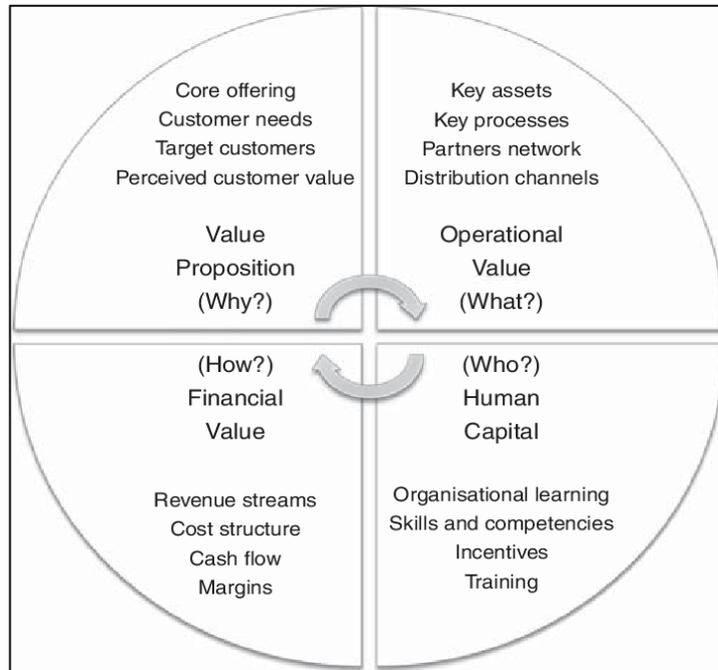
Due to dynamic environmental conditions, small-medium enterprises need help to sustain their business from the competition. The business model has become essential in innovation management Massa, et. al. (2017). BMI can help SMEs stay in a fast-changing environment of competition, regulations, and changing behaviours among customers in the market. Moreover, if a company avoids imitation by competitors, BMI significantly improves its competitive advantage Schneider, S., & Spieth, P. (2013). BMI is the search for new logic of the firm and new ways to create and capture value for its stakeholders Casadesus-Masanell, R., & Zhu, F. (2013).

2.1 Business Model Innovation Framework:

Unlike traditional frameworks that primarily examine the components of business models, this framework emphasizes areas where innovation can explore alternative business models. Arrows in the framework indicate the continuous interaction of business model

elements. This framework consists of 4 areas of innovation and 16 elements.

Fig: Business model Innovation Framework



Source: Boumediene Ramdani work, 2019

Value proposition

The first area of innovation focuses on addressing the "Why" questions. It involves reevaluating a company's offerings, exploring emerging customer needs, acquiring specific target customers, and evaluating the perceived benefits offered to customers. Contemporary organizations prioritize innovating their value propositions to attract and maintain a substantial share of their customer base Al-Debei, M. M., & Avison, D. (2010).

Operational value

The second area of innovation focuses on elements associated with answering the "What" questions. These elements encompass configuring essential assets and sequencing activities to deliver the value proposition, elucidating the diverse channels through which a company engages customers, and forging connections with crucial partners and suppliers.

Human capital

The third area of innovation refers to elements associated with answering the “Who” questions. This involves experimenting with novel business approaches and leveraging the skills and competencies required for the new business model by motivating and engaging individuals in innovation.

Financial value.

The final area of innovation focuses on elements associated with answering the “How” questions. These elements encompass activities related to capturing value through revenue streams, altering pricing mechanisms, and evaluating a

business's financial viability and profitability.

2.2 Business Model Canvas:

The nine "building blocks" of the business model design template, later known as the Business Model Canvas, were first introduced by Alexander Osterwalder in 2005. The business model canvas is a tool designers use to outline a business or product's key actors, activities, and resources. It also addresses the value proposition for target customers, customer relationships, channels utilized, and financial aspects. This tool provides a comprehensive overview to identify the requirements for delivering the service and beyond.

Fig: Business Model Canvas

Business Model Canvas (BMC)				
<p>Key Partners:-</p> <ul style="list-style-type: none"> - Who are the key partners/ Suppliers or vendors? - Do we have any consulting firms? - Which key resources or capabilities do they provide? 	<p>Key Activities:-</p> <ul style="list-style-type: none"> - What are the key processes & tasks we need to create to deliver the value proposition? - What do we develop, sell or manage? 	<p>Value Propositions:-</p> <ul style="list-style-type: none"> - What is the core problem we are trying to solve? - Are there multiple problems we are trying to solve? - How the new value will be different than the current value? 	<p>Customer Relationships:-</p> <ul style="list-style-type: none"> - How we should keep relationship with our customer? - Which idea will fits best with each segments? 	<p>Market Segments:-</p> <ul style="list-style-type: none"> - Who are the primary customer for this product? - For whom we are creating the values? - Do we have any secondary customer? - What are the customer segments or user groups we have identified?
<p>Key Resources:-</p> <ul style="list-style-type: none"> - Who are the key resources to deliver the key activities? - Do we have any key partners to deliver the same? 		<p>Channels:-</p> <ul style="list-style-type: none"> - How we should connect with your customers? - What are the most cost-efficient and reliable channels? 		
<p>Cost Structures:-</p> <ul style="list-style-type: none"> - What are the fixed & variable costs? - What are the main elements of operational expenses? - Do we have costs involved for CAPEX? 			<p>Revenue Structures:-</p> <ul style="list-style-type: none"> - What is our primary revenue model? - What are the secondary source of revenue? - Do we have subscription, service, licensing fee model? 	

Source: Harvard Business Review, May 2013.

1. **Customer Segments:** Identifies different groups of people or organizations that a business aims to serve.
2. **Value Propositions:** Describes the products or services that address the needs or solve the problems of the target customer segments.
3. **Channels:** Specifies how a company reaches and delivers its value proposition to its customer segments.
4. **Customer Relationships:** Describes the relationships a company establishes with its customer segments to acquire and retain them.
5. **Revenue Streams:** Details how a company generates revenue from each customer segment.
6. **Key Resources:** Lists the most important assets required to deliver the value proposition, reach customers, and operate effectively.
7. **Key Activities:** Describes the crucial activities a company must perform to create and deliver its value proposition.
8. **Key Partnerships:** Identifies the external entities (suppliers, partners, etc.) needed to leverage resources and activities.
9. **Cost Structure:** Outlines all the costs incurred to operate the business model.

Business model canvas is a helpful tool for mapping out a business model. The Business Model Canvas enables organizations to systematically visualize

and analyze these elements, promoting structured decision-making, fostering innovation, and enhancing communication across the company. It is widely embraced by startups, established enterprises, and organizations aiming to refine or transform their business strategies.

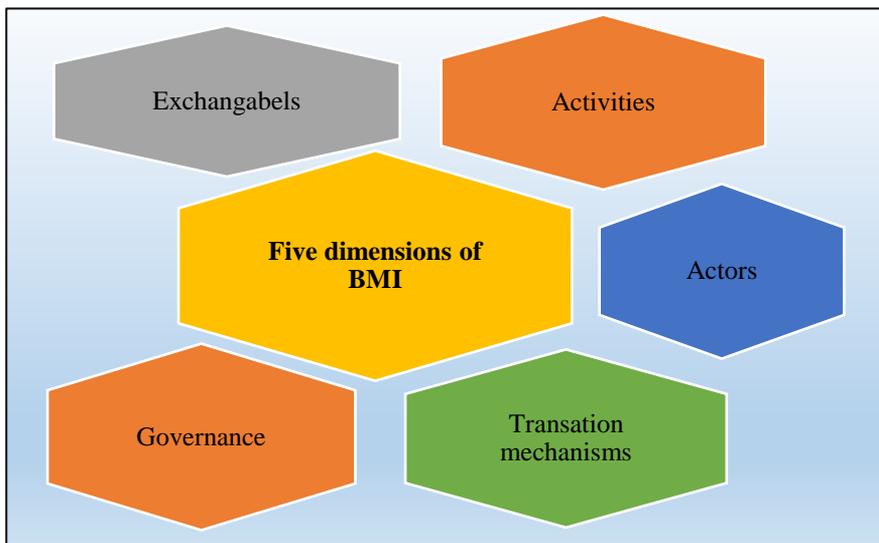
2.3 Dimensions of BMI:

In today's fast-paced business world, pursuing innovation has become crucial for companies seeking to excel in a competitive environment. As the concept of a business model gains prominence, it is clear that a more profound understanding is necessary to fully grasp its complexities and potential for innovation. An innovative framework that breaks down a business model into five dynamic dimensions.

The first dimension of a business model pertains to its *exchangeable*. An exchangeable is any tangible or intangible asset produced by an activity to serve as an input for another activity. The second dimension involves the *activities* within a business model. These activities consist of a series of interconnected actions that collectively form a distinct and coherent process within the business model. The third dimension focuses on the *actors* within a business model. These actors include individuals, organizations, and machines, all of which possess the capabilities to perform specific actions that contribute to one or more business model

activities. The fourth dimension pertains to the *transaction mechanisms* employed within a business model. These mechanisms describe how transactions occur when a good or service is transferred across a technologically distinct interface.

The fifth dimension is the setup, which pertains to the *governance* of a business model. It involves the control and regulation of business model activities by actors Amit, R., & Zott, C. (2001).



2.4 Significance of Business Model

Innovation:

Competitive Advantage: Innovating the existing business model can provide a significant competitive advantage. It enables companies to stand out in the market, attract new customers, and more effectively meet the needs of current ones.

1. **Adaptation to Market Changes:** The business landscape is continually evolves due to technological advancements, regulatory shifts, and changing consumer preferences. Business model innovation enables

companies to adapt to these changes and stay relevant.

2. **Revenue Expansion:** Through exploring new revenue streams and optimizing existing ones, business model innovation can catalyze substantial revenue expansion. It is essential in mature markets where traditional growth opportunities may be exhausted.
3. **Cost Efficiency:** Innovating the business model can result in cost savings and enhanced efficiencies. For instance, embracing a digital-first

strategy can reduce overhead expenses and streamline operations.

4. **Risk Management:** By diversifying revenue sources and adjusting to market dynamics, businesses can mitigate risks. A flexible and innovative business model can assist companies in navigating economic downturns and other external disruptions
5. **Improved Customer Experience:** Business model innovation frequently aims to enhance the value delivered to customers, resulting in higher satisfaction, loyalty, and retention rates.
6. **Market Expansion:** Innovative business models can facilitate entry into new markets and customer segments. For example, implementing a subscription model can appeal to cost-conscious customers who prioritize lower initial expenses.
7. **Sustainability:** Business model innovation can promote sustainability by prioritising environmental stewardship and social responsibility. It aligns with regulatory and societal expectations and resonates with an expanding group of environmentally conscious consumers.
8. **Attracting Investment:** Innovative business models often draw interest from investors due to their potential for higher growth and adaptability. This can result in increased funding

and resources to support further expansion.

3. Challenges Faced by SMEs for Growth:

Small and medium-sized enterprises (SMEs) play a crucial role in economies worldwide, including in India. Small and medium-sized enterprises contribute the major portion of the GDP from the manufacturing sector. However, these Small and medium-sized enterprises (SMEs) in India face several challenges that can hinder their growth and sustainability. Small and medium-sized enterprises face difficulties in accessing financing assistance especially start-up companies because of a lack of knowledge of technology, skills and government support of entrepreneurship Maheshkar, C., & Soni, N. (2021

3.1 Some of the key challenges faced by SMEs include:

- i. **Access to Finance:** SMEs often need help accessing adequate financing from banks and financial institutions due to stringent lending criteria, lack of collateral, and high interest rates. This limits their ability to invest in technology, expand operations, and innovate.
- ii. **Limited Market Access:** Many SMEs need more access to domestic and international markets, restricting their growth potential. Barriers such as

- complex regulations, bureaucratic hurdles, and lack of market information can make it difficult for SMEs to compete effectively.
- iii. **Infrastructure Deficiencies:** Issues related to inadequate infrastructure, including unreliable power supply, poor transportation networks, and limited access to technology and digital infrastructure, pose significant challenges for SME operations and logistics.
 - iv. **Skills Shortages:** SMEs often need help finding skilled and qualified employees. There needs to be a match between the skills SMEs require and those the available workforce possess. This gap hampers productivity and growth.
 - v. **Regulatory and Compliance Burdens:** SMEs in India must navigate a complex regulatory environment that includes multiple regulations, licenses, and compliance requirements at various levels of government. This can be time-consuming and costly for small businesses.
 - vi. **Technological Adoption:** Many SMEs struggle with adopting new technologies and digital tools due to lack of awareness, cost considerations, and uncertainty about the benefits. This limits their ability to improve efficiency,

reach new markets, and compete with larger firms.

- vii. **Access to Support Services:** SMEs often need more access to business development services, including mentoring, consulting, and networking opportunities. This hinders their ability to scale up, innovate, and stay competitive in the market.
- viii. **Sustainability and Environment:** Increasing pressure for sustainable practices and environmental compliance adds another challenge for SMEs, especially in sectors where stringent regulations and enforcement is strict.

Business Model Innovation (BMI) is crucial for Small Medium Enterprises, as it provides the agility and resilience required to navigate the complexities of today's dynamic market environment. SMEs frequently encounter unique challenges, including limited resources, intense competition, and rapidly changing customer preferences.

4. **Conclusion:**

The business model concept has emerged as a valuable way of understanding a firm's ability to create an appropriate value as opposed to the traditional thoughts of competition through products and operations (Zott & Amit, 2010). Research on business models should also review results in terms of BMI *Drivers* to acquire

proper knowledge. By continually reevaluating and adapting their business models, organizations can enhance their competitive edge, respond effectively to market changes, and capitalize on emerging opportunities. Achieving sustainable growth for SMEs involves navigating a complex landscape of challenges and opportunities. By focusing on innovation, efficiency, and responsible practices, SMEs can enhance their competitiveness and contribute positively to economic, social, and environmental sustainability. The research gap on business model innovation (BMI) in SMEs for sustainable growth holds significant promise across several critical dimensions. Investigating the impact of digital transformation, ecosystem partnerships, and inclusive business models can illuminate pathways for enhancing SME resilience and innovation capabilities.

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Social and Infrastructural development of Tribal population in Koraput District of Odisha: A Case Study

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ABSTRACT

This paper presents a comprehensive case study examining the social and infrastructural development of tribal populations in the Koraput district of Odisha, India. The study on a development intervention orchestrated through a collaborative framework involving government agencies, civil society organizations, and tribal communities themselves. The primary focus is on elucidating the multifaceted challenges faced by tribal communities in this region, including pervasive poverty, systemic marginalization, and limited access to essential services. However, the research also underscores the immense potential for fostering sustainable development and empowering tribal communities through concerted efforts. Central to this investigation is the recognition of the critical role played by mass media in shaping the lives of tribal communities. By harnessing the power of mass media, specifically through the establishment of community radio stations, CSC, and mobile towers, previously unreached and tribal backward areas have witnessed transformational changes. These media platforms have not only facilitated communication within and beyond tribal communities but have also acted as

conduits for disseminating critical information about development initiatives, government policies, and available resources. This paper also highlights the challenges faced by tribal communities, including poverty, marginalization, and lack of access to basic services.

This paper also emphasizes the importance of cultural sensitivity in the process of development. It underscores the necessity of tailoring interventions to align with the unique cultural norms, traditions, and beliefs of the tribal populations. Moreover, it highlights the imperative of promoting women's empowerment within these communities, recognizing the pivotal role that women play in the social and economic fabric of tribal life. While the journey towards social and infrastructural development for tribal communities in the Koraput district has been marked by significant challenges, this study illuminates the progress made through the collaborative efforts of both governmental and non-governmental organizations. Though there remains a substantial distance to traverse, these initiatives have engendered positive changes and hold the promise of ushering in lasting, sustainable development within these communities. However, various government and non-governmental organizations have undertaken initiatives to address these issues and promote the development of these communities. While there is still a long way to go, these initiatives have brought about positive changes and have the potential to bring about long-term development in these communities.

Keywords: Sustainable Development, Marginalization, Women's empowerment, Tribal Communities, Government interventions.

Introduction:

The Koraput district of Odisha, India, showcases the resilience of tribal communities striving for development amid significant challenges. This study explores the developmental interventions designed for these communities, highlighting the efforts of government agencies, civil society organizations, and the tribes themselves. Tribal populations in Koraput have faced deep-rooted issues like

poverty, marginalization, and limited access to basic services. Yet, their rich cultural heritage and traditions remain integral to understanding their journey toward social and infrastructural growth. This research underscores the importance of cultural sensitivity in development, emphasizing interventions that respect tribal norms and traditions. Women's empowerment, seen as crucial to the social and economic fabric of these communities,

plays a central role in this narrative. Through collaboration between governmental and non-governmental bodies, the path to sustainable development in Koraput, though challenging, shows promise. This paper delves into the intricate balance between obstacles and progress, shedding light on the resilience and spirit of the tribal populations.

Literature Review:

The tribal population of Koraput district in Odisha faces significant social and infrastructural challenges. These include issues like poverty, education gaps, inadequate healthcare, and gender inequality, deeply rooted in their cultural traditions. Roy's (2017) ethnographic study highlights how these traditions sometimes conflict with modern development initiatives, emphasizing the need for culturally sensitive approaches to effectively address these challenges.

Infrastructural development, when integrated with cultural preservation, can open up economic opportunities for the tribal population. Mishra (2018) explores how investments in preserving traditional art and cultural practices, such as promoting cultural tourism, can bridge the gap between economic development and heritage preservation. This approach not only protects cultural identity but also creates avenues for socioeconomic growth. Mass media, particularly community radio, plays a transformative role in

empowering tribal communities. Patnaik's (2019) case study illustrates how community-driven radio programs inform tribal populations about healthcare, government schemes, and traditional agricultural practices. This fosters a sense of community self-reliance and improves access to critical resources and information.

Digital platforms offer immense potential for promoting tribal art on a global scale. Sinha (2020) emphasizes the importance of leveraging social media to market tribal art, creating economic opportunities for the community. At the same time, media literacy programs are crucial for equipping tribal youth with the skills to navigate the digital landscape, ensuring their active participation in the broader economy.

The reviewed literature underscores the complex challenges faced by tribal communities in Koraput district. It calls for an integrative approach that combines traditional knowledge, cultural preservation, mass media, and community-driven solutions to foster both social and infrastructural development.

Objective of the Study

- a) To emphasize the “socio-economic” plight of Odisha’s tribal population, particularly in the Koraput area.
- b) To examine the significant infrastructures constructed by the state and federal governments for

the enhancement of the tribal population in the Koraput district.

- c) To examine the impact of the social and economic infrastructure on the economic growth of the Koraput district of Odisha.
- d) To establish if the social infrastructure is a crucial economic development factor.
- e) To recommend steps to enhance the working and living circumstances of the tribal population.

The Hypothesis of the Study

- H1.** There is a substantial relationship between social and infrastructure development in Odisha's Koraput district tribal settlements.
- H2.** Due to a lack of basic infrastructural amenities, the indigenous people face a great deal of difficulty.
- H3.** There is a significant impact on measures taken by the government on the social and infrastructural development in the tribal district Koraput of Odisha.

Scope of the Study:

This study examines various social development indicators, including education, healthcare, gender equality, poverty levels, access to basic services, social inclusion, and the empowerment of

the tribal population in the Koraput district of Odisha. Infrastructural development initiatives such as transportation networks, communication infrastructure, water supply, sanitation facilities, housing, electricity, and connectivity will also be analyzed to assess the condition of the tribal communities. Additionally, the study evaluates government policies, programs, and initiatives aimed at promoting social and infrastructural development for the tribal population in Koraput. It will critically assess the effectiveness and implementation of these policies, identify any gaps or shortcomings, and provide recommendations for improvement.

Limitations of the Study:

While conducting this research on the social and infrastructural development of the tribal population in Koraput district, several limitations are anticipated:

1. The study is limited to 320 respondents, with 40 respondents selected from each of the 8 villages chosen for the study.
2. The research is restricted to the Koraput district to maintain focus on the study's objectives.
3. Only two key variables—social and infrastructural development—will be analyzed in this study.
4. Collecting data from the field may take considerable time due to the remote nature of the selected villages and the limited availability of transportation to these areas.

Area of the Study:

The study is conducted in the Koraput district of Odisha, an area selected due to its significant tribal population. This region provides a valuable context for understanding the social dynamics and development gaps faced by Indigenous communities. Koraput is home to various tribal groups, each with unique cultural identities, making it an ideal location for studying social and infrastructural development challenges.

Universe of the Study:

The universe of the study comprises the tribal population of the Koraput district. Tribal communities were chosen as the focus of the research because they play a crucial role in the region's identity and development landscape. As a marginalized group with distinct social, cultural, and economic characteristics, the tribal population represents a critical area for understanding developmental issues.

Sample of the Study:

The sample size for this research refers to the number of respondents drawn from the target population. In this case, the total population of tribal people in Koraput district is 1,379,647. For this study, a total of 320 respondents have been selected. Koraput has 14 blocks, but the research will focus on four specific blocks for a more in-depth analysis.

Historical Background:

Koraput district in Odisha, rich in tribal history, has seen human settlements since prehistoric times and was once ruled by various tribal kingdoms before British annexation in the 19th century. The British era led to large-scale displacement of tribal communities due to expanding agriculture and mining, causing long-term social and economic marginalization. Home to Particularly Vulnerable Tribal Groups (PVTGs) like the Bondas, Didayis, Gadabas, Koyas, and Parajas, the district has historically faced neglect and underdevelopment, with challenges like poverty, lack of education, and inadequate health and infrastructure. Koraput is also designated as an Aspirational and backward district, though recent efforts are focused on addressing these issues and promoting both the preservation of tribal culture and their social and economic development.

1. Education: The literacy rate among the tribal population in Koraput district is significantly lower than the state average. To address this issue, various initiatives have been taken by the government and non-governmental organizations to promote education among tribal children. The District Education Office has set up residential schools in remote areas to provide education to children from marginalized communities. Non-governmental organizations such as the Koraput Tribal Development Society have

also set up schools and hostels for tribal children.

2. Healthcare: The tribal population in Koraput district has historically suffered from poor health conditions due to inadequate healthcare facilities. To address this issue, the government has set up primary health centers and community health centers in remote areas. Mobile health units have also been deployed to reach out to communities in remote areas. Non-governmental organizations such as the National Rural Health Mission have also set up health camps to provide healthcare services to tribal communities.

3. Infrastructure: Lack of basic infrastructure such as roads, electricity, and water supply has been a major hindrance to the development of tribal communities in Koraput district. The government has undertaken various infrastructure development initiatives to address these issues. Roads have been constructed to connect remote areas with the main town. The government has also undertaken the electrification of remote villages through the Deen Dayal Upadhyaya Gram Jyoti Yojana. The government has also undertaken the construction of drinking water supply systems in remote areas.

4. Livelihood: Most of the tribal population in Koraput district is engaged in agriculture and forest-based livelihoods. However, due to the lack of infrastructure and market linkages, these livelihoods

have been un-remunerative. To address this issue, the government and non-governmental organizations have undertaken various initiatives to promote livelihoods among tribal communities. For instance, the National Rural Livelihood Mission has provided training and support to women's self-help groups to promote livelihoods such as handicrafts, poultry, and goat rearing.

Current Status of Tribal Development in Koraput District:

The Koraput district continues to face significant challenges in terms of social and infrastructural development, particularly for the tribal population. Some of the significant challenges faced by tribal communities in the district are:

1. Poverty: Tribal communities in Koraput district face severe poverty, with limited access to livelihood opportunities, basic amenities, and services. Most of the tribal population relies on agriculture and forest produce for their livelihood, which is often not sufficient to meet their basic needs.

2. Education: Access to education remains a significant challenge for tribal communities in Koraput district. The literacy rate among the tribal population is much lower than the state average, with girls being particularly disadvantaged. The lack of quality education opportunities and infrastructure, as well as the absence of trained teachers, has resulted in poor learning outcomes and high dropout rates.

3. Healthcare: Healthcare services in the Koraput district are inadequate, with a lack of trained medical professionals, infrastructure, and medicines. Tribal communities face significant health challenges due to poor sanitation, lack of safe drinking water, and the prevalence of diseases such as malaria and tuberculosis.

4. Infrastructure: The district's infrastructure, including roads, electricity, and communication networks, is underdeveloped, making it difficult for tribal communities to access basic services and connect with the outside world. The lack of infrastructure also limits the growth of economic opportunities and businesses in the district.

5. Land and Forest Rights: Tribal communities in Koraput district face significant challenges in securing their land and forest rights. The traditional forest-based livelihoods of tribal communities have been threatened by industrialization and commercialization, leading to the loss of their ancestral lands and displacement.

Efforts towards Tribal Development:

The Government of Odisha has undertaken several initiatives to address the challenges faced by tribal communities in Koraput district. These initiatives include:

1. Tribal Welfare Schemes: The government has implemented several schemes for the welfare of tribal communities, such as providing education

and healthcare facilities, subsidizing housing, and providing livelihood support through various initiatives.

2. Infrastructure Development: The government has prioritized infrastructure development in the district, with a focus on improving road connectivity, electrification, and telecommunication services.

3. Land and Forest Rights: The government has initiated programs to secure land and forest rights for tribal communities, such as the Forest Rights Act and the Land Rights Act.

4. Employment Generation: The government has initiated several programs for employment generation, such as skill development training, entrepreneurship development, and micro-credit support.

5. Community-Based Development: The government has encouraged community-based development initiatives, such as self-help groups and community-led micro-projects, to ensure the participation of tribal communities in their development.

Participation, these approaches pave the way for holistic development in these marginalized communities.

Results and Analysis:

The study's results and analysis provide an in-depth exploration of the impact of social and infrastructural development initiatives on the tribal populations of the Koraput

district. The analysis not only highlights the achievements of these initiatives but also identifies ongoing challenges that need to be addressed for sustained progress. This section offers valuable insights into various key areas that affect tribal communities and serves as a foundation for future developmental strategies.

Education and Literacy Rates: The data reflects a notable improvement in school enrollment rates among tribal children, largely due to awareness campaigns and enhanced accessibility to educational facilities. However, the analysis reveals that despite these gains, the challenge of high dropout rates and inconsistencies in the quality of education persists. To ensure long-term success in educational development, there is a need for targeted interventions that focus on student retention, teacher training, and making the curriculum more relevant to the student's social and cultural contexts. Without addressing these concerns, the initial progress could stagnate or even reverse.

Healthcare Access and Public Health: Awareness initiatives have had a positive impact on healthcare utilization, particularly in maternal and child health services, leading to a reduction in mortality rates. Despite these advances, the analysis shows that significant disparities in healthcare access between remote tribal areas and urban centers remain. This calls for innovative solutions, such as mobile

healthcare units and telemedicine services, to ensure that the entire district has equitable access to health services. Bridging this gap is essential for improving overall public health outcomes in the region.

Economic Empowerment and Livelihoods: Vocational training programs have played a crucial role in enhancing the economic stability of tribal communities by promoting skills in traditional crafts and agriculture, leading to income generation. However, for more sustainable economic empowerment, the analysis suggests that the focus needs to expand beyond agriculture and handicrafts. Diversifying livelihood opportunities, encouraging entrepreneurship, and improving market linkages can help reduce dependency on agriculture, which is vulnerable to environmental and market fluctuations. These efforts will provide tribal populations with more stable income sources.

Women's Empowerment: The proliferation of self-help groups among tribal women has fostered economic independence and enhanced social empowerment. However, the analysis indicates that while progress has been made, deep-rooted gender biases and limited participation of women in decision-making processes still hinder full empowerment. Addressing these barriers requires sustained capacity-building programs and awareness campaigns that

focus on breaking down gender norms and promoting women's leadership in both the household and community.

Impact of Mass Media: Mass media, especially community radio and mobile-based initiatives, have greatly enhanced awareness about government schemes, healthcare, and sustainable agricultural practices among tribal communities. The analysis emphasizes the effectiveness of these interventions but also suggests that greater content diversification, particularly in local tribal languages, is necessary. Incorporating interactive platforms for community engagement can further enhance the relevance and reach of these programs. Continuous evaluation of media interventions is crucial to ensure they remain aligned with the evolving needs of the community.

Cultural Preservation and Identity: Cultural preservation programs have successfully rejuvenated tribal art, folklore, and traditional practices, reinforcing cultural identity among the tribal population. Despite this progress, the analysis points out that the long-term sustainability of these initiatives requires integrated strategies. Collaboration with cultural experts, the creation of cultural centers, and fostering intergenerational knowledge sharing are vital to ensure the preservation of tribal heritage over time.

The results and analysis of this study demonstrate the transformative potential of targeted interventions,

highlighting both successes and areas that require further attention. A nuanced understanding of these outcomes will help inform future policy decisions and refine developmental strategies. By addressing the challenges identified in this study and building on its achievements, the Koraput district can continue to foster a more equitable and empowered tribal society.

Suggestions and Recommendations:

1. Improve access to education through more schools, trained teachers, and cultural inclusion initiatives for tribal children.
2. Enhance healthcare access with mobile health units, camps, and better health facilities in remote areas.
3. Prioritize infrastructure development like roads, electricity, and clean water for sustainable growth.
4. Promote sustainable livelihoods like handicrafts and poultry with stronger market linkages.
5. Encourage community participation in planning and monitoring development initiatives.
6. Preserve tribal culture by documenting art and hosting cultural festivals.
7. Focus on gender equality by ensuring equal access to education, healthcare, and livelihood opportunities for women.

Overall, a comprehensive and sustainable approach to development that

considers the unique cultural, social, and economic context of tribal communities in the Koraput district is essential for their social and infrastructural development. The participation of tribal communities in development initiatives is essential to ensure that their needs and aspirations are met.

Conclusion:

The social and infrastructural development of the tribal population in the Koraput district of Odisha is a complex interplay of historical, socio-economic, and cultural factors. This study has highlighted the significant challenges faced by the tribal communities, including inadequate access to basic amenities, education, healthcare, and employment opportunities. Despite government initiatives and schemes aimed at uplifting these communities, disparities remain evident, particularly in remote and underserved areas.

The findings indicate that sustainable development strategies must be tailored to the unique needs and cultural contexts of tribal populations. Community participation is crucial in the planning and implementation of development projects to ensure they are culturally sensitive and effectively address the specific needs of the tribal communities. Furthermore, enhancing infrastructure, such as roads, electricity, and water supply, is imperative to facilitate better access to essential services and opportunities for economic advancement.

To achieve meaningful and sustainable progress, it is essential to foster collaboration between government agencies, non-governmental organizations, and local communities. By prioritizing education, skill development, and health services, stakeholders can empower tribal populations to become active participants in their development journey. Additionally, integrating traditional knowledge and practices into modern development frameworks can enhance community resilience and self-reliance.

The path towards the social and infrastructural development of the tribal population in Koraput district requires a holistic and inclusive approach. By addressing systemic inequalities and fostering an environment of empowerment, we can pave the way for sustainable development that honors the rich cultural heritage of the tribal communities while promoting their socio-economic well-being.

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A Study on Replacement Rate of Internal Combustion Technology Vehicles (ICT) by Electric Vehicles (EVs) in India

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Abstract

The research paper explores the slow transition of India's automotive market from Internal Combustion Technology (ICT) vehicles to Electric Vehicles (EVs), with a replacement rate of just 5%, far below the global average. Key factors such as inadequate infrastructure, government policies, and customer perception are identified as barriers. The study suggests marketing EV technology through a Private-Public partnership. By combining government support with private sector expertise, large-scale awareness campaigns can be launched to highlight long-term cost savings, environmental benefits, and infrastructure development, helping accelerate EV adoption across India.

Introduction

The global automotive industry is transitioning from traditional ICT vehicles to EVs, driven by the need to reduce

carbon emissions and dependency on fossil fuels. As one of the world's largest automobile markets, India's participation in this shift is crucial. However, despite

various government initiatives to promote EV adoption, the replacement rate of ICT vehicles remains significantly low. This paper explores the reasons behind this slow transition, focusing on the hypothesis that India's replacement rate is only 5%, a figure far below global averages. The research investigates how government policies, infrastructure, and customer perception are shaping this transition, and the steps needed to accelerate the shift.

Literature Review

The transition to electric vehicles (EVs) is well underway in countries like Norway, China, and the Netherlands, where strong government incentives, extensive charging infrastructure, and widespread Customer awareness have led to high adoption rates (Ajanovic & Haas, 2020). In contrast, India's progress has been hindered by various factors such as the high upfront cost of EVs, limited charging infrastructure, and low Customer awareness (Sahoo, 2021).

Government initiatives like the FAME (Faster Adoption and Manufacturing of Electric Vehicles) scheme have been launched to bridge these gaps. However, the impact has been limited due to challenges in implementation, insufficient budget allocations, and a focus primarily on urban centers (Sahoo, 2021). The replacement rate of internal combustion technology (ICT) vehicles with EVs remains low at approximately 5%, which is far below the global average.

Fayez (2023) discusses the integration of EVs into smart cities and highlights the associated benefits, including lower operating costs, reduced greenhouse gas emissions, and improved air quality. The study identifies challenges such as range anxiety, inadequate infrastructure, and battery costs as key barriers to adoption. However, these can be mitigated by developing robust charging infrastructure, implementing smart grid technologies, and utilizing data analytics. Promoting the use of EVs within smart cities aligns with to creation of more sustainable urban environments that prioritize residents' well-being while minimizing carbon footprints.

Economic factors are a significant barrier in India. Although the overall cost of ownership for EVs is lower due to fuel savings and reduced maintenance, the high initial investment remains a deterrent for many Customers (Lutsey & Nicholas, 2019). As battery technology advances and production scales up, costs are expected to decline, potentially improving the replacement rate (Raj & Muralidharan, 2021).

Milad et al. (2023) provide a comprehensive analysis of the historical trends in EV research, noting that while the concept of electrification in transportation is old, significant advancements and research momentum have only occurred in the last two decades. Their study emphasizes the need for further

development in EV research, industry practices, and policy frameworks to fully realize the potential of electrification in achieving climate goals.

Charging infrastructure is another critical challenge, with most facilities concentrated in urban areas. Rural regions remain underserved, leading to stark regional disparities in EV adoption rates. Das et al. (2020) highlight that expanding the charging network, especially in tier-2 and tier-3 cities, is crucial for boosting the replacement rate.

Customer perception also plays a crucial role. Indian Customers' preferences are heavily influenced by factors such as affordability, brand reputation, and service convenience (McKinsey & Company, 2022). The hesitation to switch to EVs is often driven by concerns about range, charging availability, and long-term maintenance, all of which are key barriers that need to be addressed through public awareness campaigns and financial incentives.

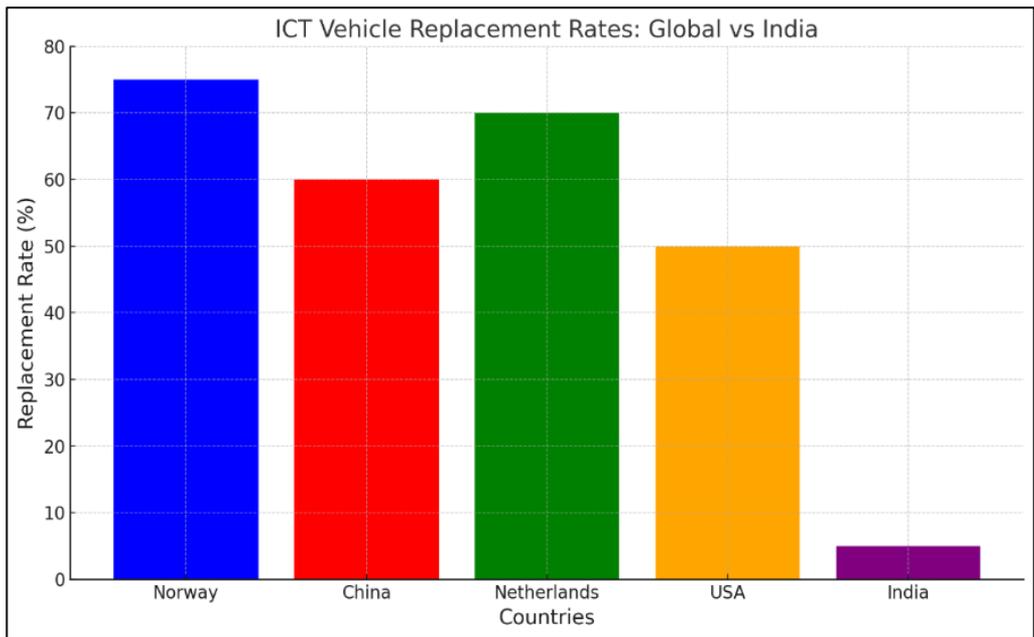
Research Methodology

A mixed-methods approach was used, combining surveys, interviews, and

secondary data from industry reports and government publications. The study analyzed the replacement rate of ICT vehicles with EVs across urban and rural areas, focusing on the impact of policies, infrastructure, and marketing efforts. Statistical analysis helped identify key factors influencing EV adoption.

Findings and Analysis

India's replacement rate for ICT vehicles with EVs stands at 5%, which is only one-tenth of the global average. Globally, the transition from ICT vehicles to EVs has been much faster due to better government support, stronger infrastructure, and higher Customer readiness. In countries like Norway, the USA, China, and the Netherlands, replacement rates reach 50% to 80%, driven by financial incentives, extensive charging networks, and public awareness campaigns. In contrast, India's slower rate reflects high upfront costs, inadequate infrastructure, and limited Customer trust. Achieving even a fraction of the global average requires significant improvements in these areas, highlighting the unique challenges of adopting global benchmarks in a diverse market like India.



Regional Disparities in Replacement Rates

The study reveals significant regional disparities, with urban areas achieving a replacement rate of up to 20%, compared to less than 1% in rural regions. This gap is driven by better infrastructure, higher income levels, and greater awareness in cities. Rural areas, however, suffer from inadequate charging infrastructure, limited EV availability, and lower levels of Customer trust.

Government Policies and Incentives

While the Indian government has introduced schemes like FAME I and II to encourage EV adoption, their impact remains limited due to issues in implementation, inadequate budget

allocations, and a lack of focus on rural areas. Strengthening these policy frameworks and expanding them to cover more regions is essential to boosting EV adoption.

Customer Perception and Market Trends

Customer perception remains a significant barrier to EV adoption in India. Concerns about range anxiety, battery performance, and high upfront costs deter customers. The limited availability of charging infrastructure, lack of information on EV benefits, and fewer model choices further hinder acceptance. Cultural attachment to conventional vehicles, coupled with inadequate marketing that focuses more on products than ecosystem development, adds to customer skepticism. Additionally,

regional disparities in infrastructure and policy implementation, as well as skepticism toward government initiatives, contribute to hesitancy, particularly in rural areas. Overall, these factors combine to slow EV market growth in India.

Lack of Marketing Efforts in India

The slow adoption of EVs in India is largely due to a lack of technology-centric marketing. Manufacturers focus more on promoting individual products rather than educating consumers on the broader benefits of EV technology, such as long-term cost savings and environmental advantages. This results in low awareness, especially in rural and tier-2/3 cities.

Private-Public Collaboration for Awareness

To address these gaps, a joint effort between the government and private sector is needed. Public-private partnerships should focus on large-scale campaigns that educate consumers about the overall benefits of EVs, including their integration with renewable energy and long-term savings. This shift in marketing could significantly boost India's EV adoption rate.

Here is the pie chart showing the conceptual breakdown of regional

disparities in ICT vehicle replacement rates in India:

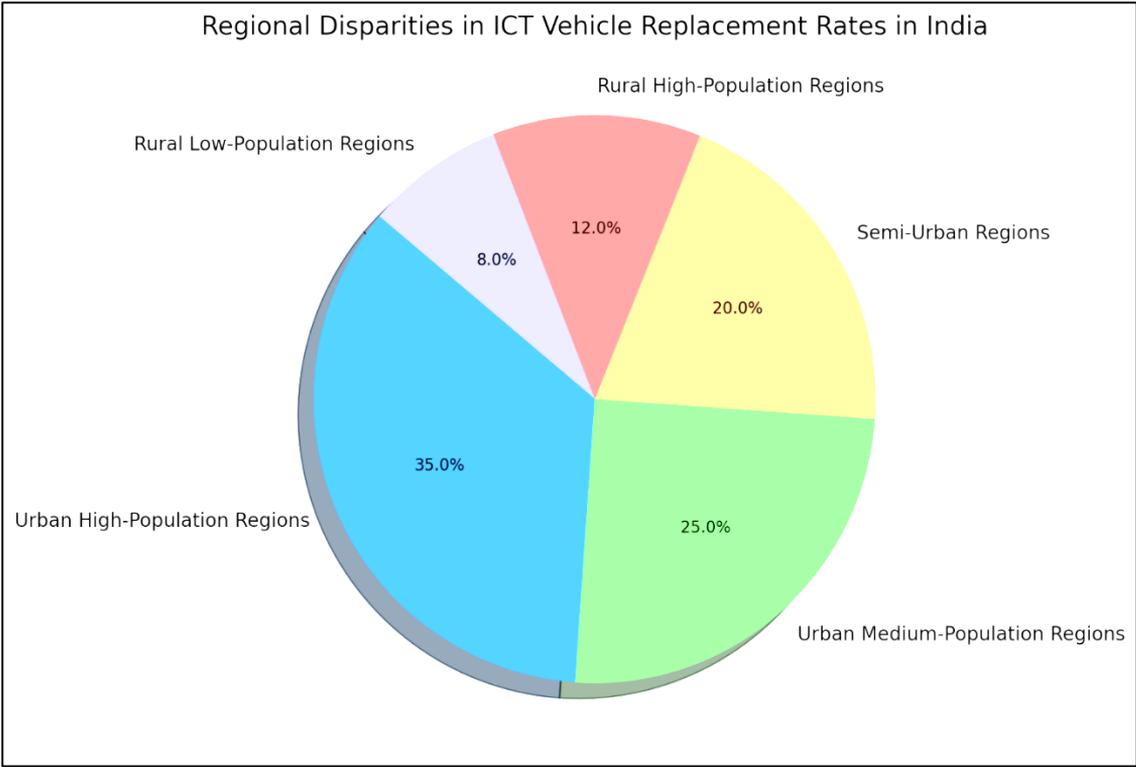
- Urban High-Population Regions (e.g., Tier 1 Cities): 35%
- Urban Medium-Population Regions (e.g., Tier 2 Cities): 25%
- Semi-Urban Regions: 20%
- Rural High-Population Regions: 12%
- Rural Low-Population Regions: 8%

Tier 1 Cities: The highest adoption and replacement rates due to better infrastructure, Customer awareness, and purchasing power.

Tier 2 Cities: Moderate replacement rates, reflecting growing urbanization but facing challenges in infrastructure and Customer awareness.

Tier 3 Cities: Low replacement rates, limited by poor infrastructure and limited awareness.

Tier 4 Cities and Rural Areas (optional): Minimal replacement due to lack of infrastructure and resources.



Analysis of Replacement Rate

- As of 2023, India had approximately 300 million registered vehicles, with 90% being ICT vehicles.
- This translates to around 270 million ICT vehicles, with a replacement rate of only 5%, equating to about 13.5 million vehicles replaced annually.
- Urban areas account for a significant portion of this replacement, while rural regions contribute minimally, highlighting the disparity.

Challenges and Opportunities

Barriers to Adoption

Key challenges include the high cost of EVs, insufficient charging infrastructure, limited financing options, and low Customer awareness. These barriers are particularly pronounced in rural areas, where infrastructure and awareness are minimal.

Opportunities for Growth

India’s growing need for sustainable transportation and the rising cost of fossil fuels present significant opportunities for EV adoption. Government incentives for local manufacturing, coupled with

advancements in battery technology and recycling, can drive growth. Expanding the charging network and providing financial support can further encourage adoption.

Recommendations

Strengthening Policy Frameworks

The government should enhance existing policies by offering more substantial incentives, reducing GST on EVs, and providing tax benefits to both manufacturers and Customers. Stricter emission regulations for ICT vehicles could also push Customers toward EVs.

Expanding Charging Infrastructure

Developing a comprehensive charging infrastructure plan is crucial, especially in tier-2 and tier-3 cities. Public-private partnerships and integrating renewable energy sources into the charging network could accelerate progress.

Promoting Customer Awareness

Targeted awareness campaigns that address Customer concerns about range anxiety, battery safety, and long-term maintenance are essential. Offering low-interest loans and flexible financing options can also facilitate the transition.

Fostering Technological Investments

Investments in R&D for better battery technology, fast charging, and energy management systems are vital. Collaboration between industry

stakeholders and academic institutions can drive innovation and reduce costs.

Conclusion

India's transition from ICT vehicles to EVs remains slow, with a replacement rate of only 5%, a fraction of the global average. Key obstacles such as insufficient infrastructure, high costs, and customer skepticism are compounded by a lack of marketing focusing on the advantages of EV technology. By addressing these issues through public-private collaboration, India can significantly improve its EV adoption rates, contributing to a more sustainable and environmentally friendly transportation system.

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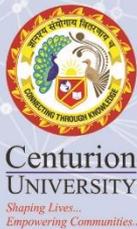
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Unlocking Business Opportunities for Moringa Leaf Products

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Abstract:

Over the past few years, growing knowledge of moringa leaf products' nutritional value and medicinal properties has driven tremendous expansion in the national and worldwide industry. Known locally as the "Miracle tree," Moringa is a highly prized resource because of its varied nutrient profile and tolerance to diverse environments. This study looks at entrepreneurial prospects in moringa leaf products to create sustainable businesses. It examines the production techniques required to keep Moringa products' natural quality, nutritional worth, and medicinal properties. Furthermore, this study investigates consumer market potential, preferences influencing demand, marketing approaches for market entrance, and product differentiation. Finally, this study emphasizes the entrepreneurial opportunities, market demand, nutritional value, and environment-friendly agriculture practices connected with Moringa. By highlighting these elements, businesses can help to promote health and wellness and stimulate economic development in a competitive market environment.

Keywords: Moringa leaf products, Sustainable business, nutrition, Sustainable Agriculture

Introduction:

The global health and wellness industry has witnessed significant growth over the

past few years, driven by increasing awareness of the benefits of natural and organic products. Among the numerous

natural resources gaining attention, *Moringa oleifera*, commonly referred to as the "Miracle tree," has emerged as an exceptional quality due to its wide range of nutritional value and medicinal properties. In old age, 'Moringa' has long been recognized in traditional medicine for its wide range of health benefits. However, recent scientific research has further updated these claims, leading Moringa into the spotlight on a global scale.

Moringa is an adaptable plant that thrives in diverse environmental conditions, making it able to withstand crops in regions prone to harsh climates. Its adaptability, adjusted with its rich nutrient profile—comprising essential vitamins, minerals, and antioxidants—has made Moringa a highly sought-after commodity in both developed and developing nations. The leaves, in particular, are packed with nutrients, including significant Vitamin A, Vitamin C, calcium, potassium, and protein levels, making them a powerful dietary supplement. Besides, the bioactive compounds found in Moringa leaves have been linked to a variety of health benefits, such as anti-inflammatory, anti-diabetic, and anti-cancer properties, which further enhance their appeal in the nutraceutical and pharmaceutical industries. (T. Arumugam, E. Allirani, & V. Premalakshmi, 19 May 2023)

The Moringa leaves products demand is rising day by day and a unique opportunity for entrepreneurs to avail of this trend.

However, entering the Moringa market requires more than just recognizing its potential. It demands a comprehensive understanding of the production processes that preserve the natural quality, nutritional value, and medicinal properties of Moringa products. Proper cultivation techniques, including organic farming practices, are essential to maintain the integrity of the leaves and ensure that the final product meets consumer expectations. Additionally, post-harvest processing methods, such as drying and packaging, play a crucial role in retaining the potency of Moringa's nutrients. (T. Arumugam, E. Allirani, & V. Premalakshmi, 19 May 2023)

In a contemporary era, one of the key challenges in the Moringa industry is ensuring that the products meet high standards of quality while also being sustainable. Entrepreneurs must adopt environmentally friendly agricultural practices to cultivate Moringa in a way that is not only profitable but also beneficial for the ecosystem which can check and balance between business and environment. Sustainable farming practices, such as crop rotation, organic fertilization, and water conservation, can help maintain soil health and reduce the environmental impact of Moringa cultivation. (Ifeanyichukwu, Okoye, Ameh, & Okoro, 25-01-2023)

As per the production, understanding the consumer market is critical for the success

of the Moringa-based venture. As consumer preferences continue for health consciousness, there is a growing demand for products that not only offer health benefits but are also convenient and easy to integrate into daily routines. This has led to the development of a wide range of Moringa products, including powders, capsules, teas, tablets, and oil. Entrepreneurs must adapt to these market trends and preferences to effectively position their products and meet the needs of their target audience.

Marketing strategies play a pivotal role in the successful commercialization of Moringa products. Entrepreneurs must craft compelling narratives that highlight the unique selling points of Moringa, such as its high nutritional content, health benefits, and sustainability. Leveraging digital marketing tools, social media platforms, and influencer partnerships can amplify the reach of Moringa products and attract a broader consumer base. Additionally, product differentiation is crucial in a competitive market environment. Businesses must explore innovative ways to set their Moringa products apart, whether through unique formulations, packaging, or branding strategies. (Putri, Rosidah, Amelia, & Feriska, 2024)

The potential for economic development through the cultivation and commercialization of Moringa is immense. By tapping into the growing demand for

natural health products, entrepreneurs can create sustainable businesses that not only generate profits but also contribute to the well-being of consumers and the preservation of the environment. Furthermore, the expansion of the Moringa industry can stimulate local economies, particularly in rural areas where Moringa cultivation can provide livelihoods for small-scale farmers and contribute to poverty alleviation. (Putri, Rosidah, Amelia, & Feriska, 2024)

It is sensible to conclude that the Moringa industry presents a promising opportunity for entrepreneurs willing to invest in sustainable practices, understand market dynamics, and innovate in product development and marketing. By focusing on Moringa's nutritional value, medicinal properties, and environmental benefits, businesses can not only succeed in a competitive market but also play a crucial role in promoting health, wellness, and economic development on a domestic and global scale

General Objective

The general objective of this article is to explore the entrepreneurial opportunities associated with Moringa leaf products by analyzing their nutritional value, medicinal properties, and sustainable production techniques. The study aims to identify the market potential, consumer preferences driving demand, and effective marketing strategies for successful market entry and product differentiation. By focusing on the

economic and health benefits of Moringa, this article seeks to guide businesses in promoting wellness and developing economic growth through environmentally friendly agricultural practices in a competitive global market.

Specific Objectives

1. To analyze the nutritional value and medicinal properties of Moringa leaf products.
2. To identify and assess the production techniques that preserve the natural quality of Moringa products.
3. To evaluate the market potential and consumer preferences driving the demand for Moringa leaf products, in both national and global markets.
4. To develop the recommended effective marketing strategies for successful market entry and product differentiation in the competitive Moringa industry.
5. To explore the role of environment-friendly agriculture practices in creating sustainable business

Literature Review

The Moringa plant has a place with the Moringaceae family and is the most popular of the local Moringa oleifera class. For quite a long time, it has been utilized as an arrangement of Ayurvedic and Unani

medication and has a large number of wholesome and bioactive mixtures, including proteins, fundamental amino acids, starches, lipids, fiber, nutrients, minerals, phenolic compounds, phytosterols, and others. These qualities permit it to have pharmacological properties, including against diabetic, mitigating, anti-carcinogenic, cell reinforcement, cardio-protective, antimicrobial, and hepatoprotective properties. Moringa oleifera is perceived as a brilliant wellspring of phytochemicals, with expected applications in practical and restorative food arrangements because of its nourishing and therapeutic properties (Milla, Peñalver, & Nieto, 6 February 2021). Similarly, it is also true that a large number of rural people take Moringa leaf when they are in any physical disorder like muscle pain, inflammation, vitamin deficiency, anti-bacterial and gaining energy busting, and many other valuable footprint for a human being.

In this review, Moringa leaves were handled in two stages (1) drying and (2) crushing. In the first step, the leaves were dried using a variety of drying methods, including conventional, laboratory, and advanced ones, to ensure the best possible colour quality and maximum preservation of nutrients. In the second step, leaves were grounded using three different grinding mills—hammer, dry, and cutter—to investigate the impact of the grinding mechanism on the powder's flowability in conjunction with particle size and moisture

content. The flowability was estimated utilizing ordinary and high-level techniques including Carr Record and Union File. The best conditions for Moringa leaves to get the most nutrients and keep their colour was found to be oven drying at 50 °C. (Ali, Yusof, Chin, & Ibrahim, 2017). In my close observation, commercially advanced techniques are more viable than conventional functions. Maintaining 100 % organic and natural colour and proper moisturizing solar dryer and grinding for incomparable which can fulfil customers benefits along with the profitable business.

Moringa oleifera at the same time addresses well-being, health, and financial goals in Malawi. In towns and cities, including Lilongwe, Moringa products like oil, seeds, and powder are readily available. Buyers can buy these Moringa items from a scope of sources, including nearby business sectors, stores, and drug stores. Notwithstanding, there remains a deficiency of examination that digs into the degree of Moringa item use inside Malawi. This study utilized the quantitative exploration way to deal with and extensively evaluate the mindfulness, utilization decision and buy aims (readiness to pay), and impression of Moringa items among the nearby populace of Lilongwe. According to the study, customers' purchasing decisions are influenced by health, accessibility, and broader societal contexts, such as family influence and pricing. (Agyei & Kwaku ,

2023). The authors described it in the context of the Cambodian environment, but the Indian customer's preferences are quite different from Cambodia's; Indian customers trend for online marketing rather than physical shops with convenient pricing.

Suppliers who can comply with EU regulations and who are willing to do so do have access to opportunities in the European market. Notwithstanding, entering the EU market for a few non-industrial nations like Bangladesh is by all accounts implausible at the hour of composing. Right off the bat, mindfulness around the dietary benefits and market capability of Moringa items should be raised so ranchers and families start to boost the profits of Moringa trees. Second, a thorough cost-benefit analysis of a Moringa production company ought to be carried out. Thirdly, forthcoming providers need to get to know the guidelines and norms required while focusing on the product market. This additionally implies that providers ought to lay out and support exchanging associations with EU shippers or even mediators since the volume provided is probably going to be restricted by European terms. (Gonzalez & Maden, 2015). Respected authors would like to implement their marketing strategy in the context of the EU market due to a developed but Indian context the present would like to Implement 4A's strategic

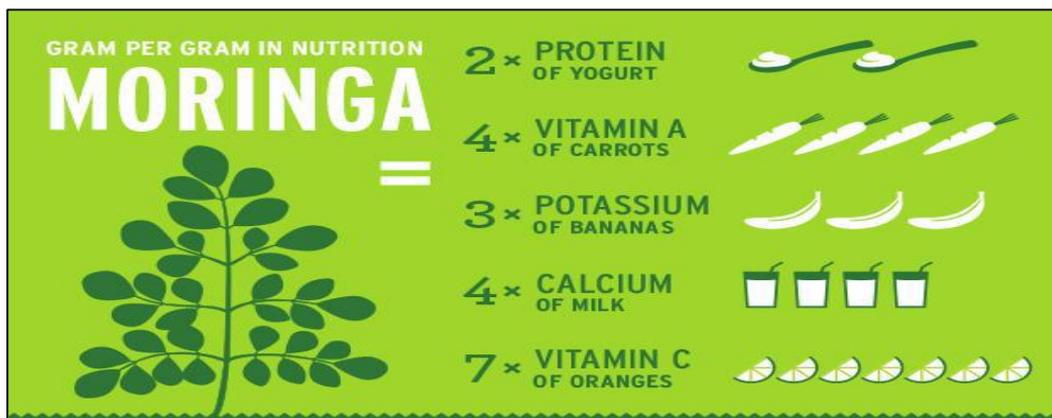
model, which our customers can prefer for their convenient products.

Methodology

Data Collection: Primary Data was collected from Bhubaneswar City Damana Square and KIIT Square to consumers of different offices and markets in Odisha and

secondary data was collected from different websites. Convenient sampling method was adopted and a total of 95 respondents contacted as the final sample size. Questionnaires and a face-to-face interview were the method of data collection.

Nutritional value and Medicinal properties of Moringa leaf products



Moringa as the wide variety of 'wonder trees,' is honoured for its remarkable diversified benefits and remedial herbs. The leafage of this factory is consumed in multiple formats, including fresh leaves, powder form, capsules, tablets, and oil. Below is an in-depth evaluation of the nutritive worth of Moringa products, expressing various dimensional herbal properties.

Macronutrients: Moringa leaves are an exceptionally varied source of protein, comprising around (25- 30%) of their dry weight. This characteristic positions them as an outstanding factory-grounded protein option, particularly beneficial for

individualities following submissive and vegan diets. Roughly (38-40%) of the dry weight of Moringa leaves is attributed to carbohydrates. The bulk of these carbohydrates come from fibre, which is pivotal for maintaining good digestive health. Moringa leaves are low in fat, contributing about (5- 6%) of their dry weight. (Ni Luh Putu Putri, Semariyani, & Sudiarta, 2023-01-28)

Micronutrients: Moringa leaves are extremely rich in Vitamin A, with about (15- 20%) of the daily recommended input per gram of dry powder. This vitamin is essential for eye side, vulnerable function, and skin health. Moringa leaves contain

around (17- 20%) Vitamin C by weight, which plays a pivotal part in boosting immunity, skin health, and crack mending. Vitamin E is present in lower quantities, Vitamin E constitutes about (2- 3%) of the leaves' content, contributing to the antioxidant defence and skin health. Moringa is a good source of several B vitamins, including B6(about (5- 7%), B2(Riboflavin(3- 5%), and Folate(2- 4%). These vitamins are vital for energy metabolism and brain health. (-Willard1, Espinoza2, Yang, Engelskirchen, & Feenstra5, Fall 2020)

Minerals and calcium: Moringa leaves are a rich source of calcium, contributing about 15- 18 of their dry weight. This is significant for bone health and muscle function. Iron is present in sufficient amounts, about (12- 15%), making Moringa an excellent natural remedy for anaemia. Moringa leaves contain around (5- 6%) magnesium, essential for pivotal function and muscle relaxation. Potassium constitutes about 8- 10 of the leaves' content, which is vital for heart health and electrolyte balance. Zinc is present at about (1- 2%), supporting vulnerable function and crack mending.

Medicinal Properties of Moringa Leaf Products:

Moringa leaves have been traditionally used in colourful societies for their medicinal values, which are now supported by scientific exploration. Below is a detailed analysis of the medicinal

parcels of Moringa splint products, presented in percentage-wise terms.

Anti-inflammatory: Isothiocyanates, flavonoids, and phenolic acids are present in Moringa powder which is about (10- 15%) primarily constitute along with anti-inflammatory properties. These composites inhibit the exertion of seditious enzymes and cytokines, making Moringa useful in managing habitual seditious conditions like arthritis and asthma.

Moringa leaves have strong anti-inflammatory parcels, primarily due to the presence of, which constitute about (10- 15%) of the splint content.

Antioxidant: The antioxidant of Moringa leaves is attributed to its high situations of Vitamin C, Vitamin E, flavonoids, and phenolic acids, inclusively making up around (15- 20%) of the splint content. These antioxidants neutralize free revolutionaries, reducing the threat of habitual conditions similar to heart complaints, cancer, and neurodegenerative diseases.

Antidiabetic: Blood Sugar Regulation Moringa leaves are known to have antidiabetic goods, with composites similar to chlorogenic acid and isothiocyanates making up about (5-7%) of the leaves. These composites help reduce blood sugar situations by enhancing insulin perceptivity and decelerating the immersion of glucose in the bowel.

Cardiovascular Health:

Cholesterol-Bringing down: Moringa leaves can bring down cholesterol circumstances, because of the presence of beta-sitosterol, a phytosterol that makes up around (2-3%) of the brace content. This decreases the danger of atherosclerosis and other cardiovascular circumstances.

Pulse Guideline: The potassium content in Moringa leaves, which comprises around (8-10%), alongside isothiocyanates, manages circulatory strain by loosening up veins and decreasing the danger of hypertension.

Antifungal: Moringa leaves' antifungal packages are credited to their saponin and flavonoid content, which comprise around (2-3%) of the leaves. These composites repress the development of pathogenic growths, like Candida species.

Immune-Boosting: Immune Modulation Moringa leaves are known to boost the vulnerable system, primarily due to their high Vitamin C content (17- 20%), zinc (1-2%), and other phytochemicals. These nutrients enhance the body's capability to fight infections and support overall vulnerable health.

Liver Security: Hepatoprotective Merchandise Moringa leaves have hepatoprotective bundles, ascribed to their high cell reinforcement content (15-20%), which helps cover the liver from harm brought about by toxins, drugs, and oxidative pressure.

Neuroprotective packages: The neuroprotective merchandise of Moringa is connected to its high happiness of cell reinforcements (15-20%) and B nutrients(5-7%), which support mental capability and safeguard against neurodegenerative circumstances like Alzheimer's.

Anticancer packages: Disease Counteraction Moringa leaves are accepted to have anticancer properties because of the presence of bioactive composites like quercetin and kaempferol (5-7%). These composites help the expansion of disease cells and may decrease the danger of bright sorts of malignant growth, including bone and colon malignant growth.

It is logical to conclude that Moringa products are nutritionally rich and offer colourful medicinal benefits. Their rich content of proteins, vitamins, minerals, and antioxidants makes them a precious supplement. also, their medicinal value, including anti-inflammatory, anti-diabetic, cardiovascular, antimicrobial, and vulnerable-boosting goods, make Moringa leaves a potent natural remedy for colourful health conditions. Regular consumption of Moringa splint products can significantly contribute to overall health and heartiness, making them a largely recommended addition to the diet.

The production techniques that preserve the natural quality, nutritional content, and medicinal benefits of Moringa products:

At the very beginning of processing Moringa leaf products, preserving their natural quality, nutritional content, and medicinal benefits is critical. Various production techniques can influence these factors, and choosing the right methods can help maintain the potency of Moringa products. Below is an analysis of the production techniques that are most effective in preserving these qualities:

Harvesting Techniques

Timing of Harvest: The nutritional content of Moringa leaves can vary depending on when they are harvested. Harvesting the leaves in the early morning or late afternoon is generally recommended when nutrient levels, particularly vitamins and phytochemicals are at their peak. Harvesting during the early stages of plant growth also tends to yield leaves with higher concentrations of beneficial compounds.

Method of Harvesting: Gentle harvesting methods, such as hand-picking or using sharp tools, minimize damage to the leaves and reduce the risk of nutrient loss. Avoiding excessive handling and bruising of the leaves is essential to preserving their natural quality.

Drying Techniques

Shade Drying: Shade drying is one of the most effective techniques for preserving the nutritional content and medicinal properties of Moringa leaves. By drying the leaves in a shaded area with good airflow, the risk of nutrient degradation, particularly of heat-sensitive vitamins like Vitamin C and B- vitamins, is minimised. This method helps retain the green colour, flavour, and bioactive compounds.

Solar Drying: Solar drying, which uses solar energy in a controlled environment, can be an efficient and eco-friendly alternative to traditional drying methods. It helps maintain the nutritional value by controlling the temperature and humidity, preventing excessive heat exposure that could degrade the vitamins and antioxidants.

Processing Techniques

Powdering: Moringa leaves are often processed into powder form for easier consumption and longer shelf life. To preserve the nutritional and medicinal qualities, the leaves should be ground at low temperatures using techniques such as cryogenic grinding. This method reduces heat generation during grinding, which can otherwise lead to the loss of essential oils, vitamins, and other bioactive compounds.

Freeze-Drying: Freeze-drying is an advanced technique that involves freezing the Moringa leaves and then removing the moisture through sublimation. This

method effectively preserves the nutritional content, including vitamins, minerals, and phytochemicals, as it prevents the heat-related degradation of sensitive compounds. Freeze-dried Moringa products typically retain more of their original flavour, colour, and medicinal properties.

Spray Drying: Spray drying is another technique used for Moringa leaf processing, especially when producing extracts. It involves spraying a liquid extract into a hot air chamber, where it dries instantly into a powder. While this method is efficient, it may lead to some loss of heat-sensitive nutrients. Therefore, it is crucial to control the temperature and drying time to minimize nutrient degradation.

Storage Techniques

Vacuum Packaging: Once processed, Moringa products should be stored in vacuum-sealed containers to reduce exposure to oxygen, which can lead to oxidation and nutrient loss. Vacuum packaging also helps prevent moisture absorption, which can degrade the quality of the product over time.

Refrigeration and Freezing: To extend shelf life and preserve the nutritional and medicinal qualities, storing Moringa products in a cool, dark place is recommended. Refrigeration or freezing can be particularly effective for powdered or fresh Moringa leaves, as it slows down

the degradation of vitamins and antioxidants.

It is logical to conclude that the preservation of the natural quality, nutritional content, and medicinal benefits of Moringa products depends heavily on the choice of production techniques. From harvesting to processing and storage, each step plays a pivotal footprint in maintaining the potency of Moringa. Techniques such as shade drying, freeze-drying, and cold-press extraction are particularly effective in preserving the valuable nutrients and bioactive compounds found in Moringa leaves. By utilizing these methods, producers can ensure that Moringa products retain their full range of health benefits, making them a powerful tool for nutrition and wellness.

Market potential and consumer preferences driving the demand for Moringa Leaf products, both nationally and globally

Moringa, particularly its leaves, has gained increasing global attention due to its exceptional nutritional value and health benefits. Rich in vitamins, minerals, antioxidants, and essential amino acids, Moringa leaves are used in various forms powder, capsules, teas, and oil making them popular in health supplements, food products, and skincare. Understanding the market potential and consumer preferences that drive demand for Moringa leaf products nationally and globally. There are some issues involved with it;

First of all, the global market for Moringa products, including Moringa leaves, has seen steady growth, largely driven by the rising health and wellness trends. As consumers become more health-conscious, they are seeking natural and plant-based alternatives to improve their diets and overall well-being. Moringa leaf products fit perfectly into this trend due to their nutritional richness and medicinal properties.

Secondly, regionally such as North America, Europe, and Asia-Pacific are

showing significant growth in demand for Moringa leaf products. North America, particularly the United States, is one of the largest markets, where Moringa is marketed as a superfood. Europe, focusing on organic and sustainably sourced products, has also welcomed Moringa, particularly in the organic and vegetarian profile. In Asia-Pacific, countries like India and the Philippines are not only producers but also consumers of Moringa, with a long history of its use in traditional medicine.

Figure: 1



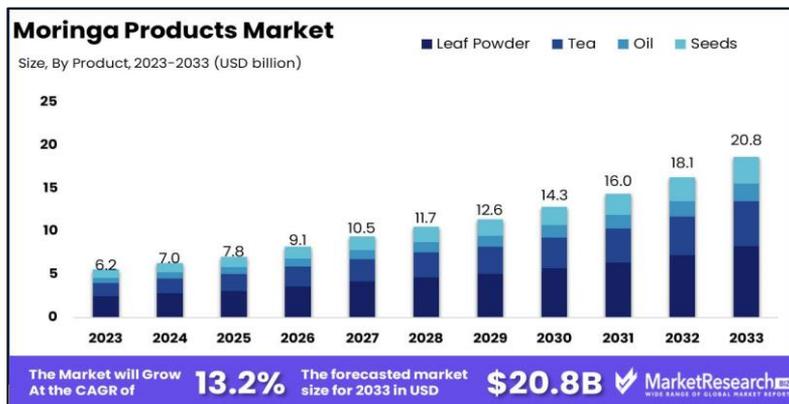
Interpretation: The above data described the global market value of Moringa products in 2021 was about USD 5.6 billion and is expected to reach around USD 10.4 billion by 2030 which

experienced a wide range of annual growth rate(CAGR) of 8% from 2022 to 2030.

(Sirsat, October 29, 2022)

Indian domestic market of Moringa leaves products

Figure: 2



Interpretation: The market value of Moringa products in 2023 was \$6.2 billion. It is currently growing steadily and is expected to reach approximately \$20.8 billion in 2033, with an annual growth of 13.2% during the forecast period from 2024 to 2033. (Moringa Products Market By Product, July 2024 • Report Code: 9967)

(Source: <https://marketresearch.biz/report/moringa-products-mark>)

Marketing Strategies for successful market entry and product differentiation in the competitive Moringa industry

According to the marketing environment at Bhubaneswar, a successful entry into the competitive Moringa industry and its different types of a product, companies can follow the 4As strategic model (Acceptability, Affordability, Accessibility, and Awareness) to craft effective marketing which is as follows;

Acceptability: At present Moringa product is a highly valued health supplement, emphasizing its unique benefits like high nutrient content, anti-inflammatory properties, and so on. For developing different product lines (powders, capsules, tablets, oil, teas) to create various consumer demands and dietary needs, ensuring a customized to customer expectations.

Affordability: In the present pricing strategies appeal to different age group segments. For instance, 50-60 plus and 40-50 years customer-driven premium organic Moringa could target health-conscious consumers willing to pay more, while affordable entry-level options can attract budget-conscious buyers. Wide variety of brands in the Moringa market, 100gm powder prices more or less Rs.150 but it can be promoted for not more than Rs.130 MRP as a new player. For long-term effective customer affordability, subscription models or discounts for bulk

purchases can also be made to increase and sustain. (Ni Luh Putu Putri, Semariyani, & Sudiarta, 2023-01-28)

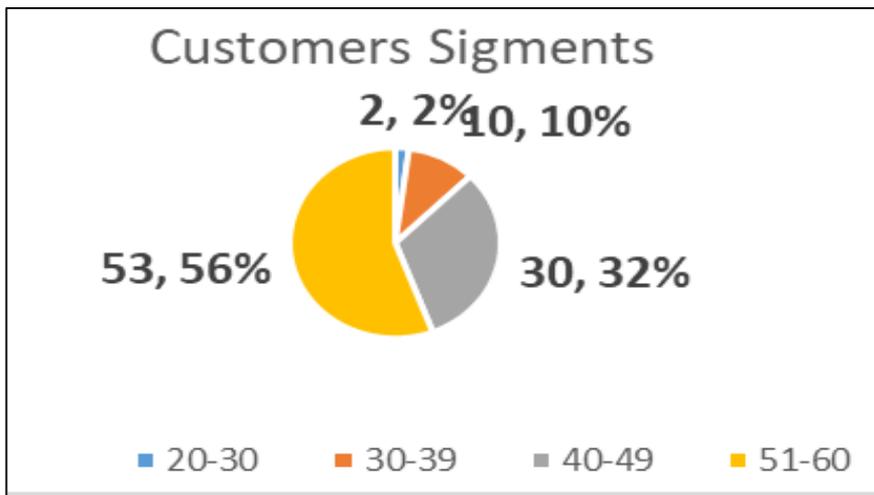
Accessibility: Through maintaining widespread availability of products across both online and offline channels. Partner with health stores, supermarkets, pharmacy and health stores, independent small groceries, online retailing, and e-commerce platforms(Amazon, Flipkart) to maximize visibility. Direct-to-consumer options via a branded website with delivery services can further improve customer reach.

Awareness: Using content marketing and influencer partnerships to educate the public on Moringa's health benefits. Utilize social media marketing (Youtube, Facebook, LinkedIn WhatsApp) SEO-driven blogs, and webinars to drive awareness. Collaborating with nutritionists or health experts can also boost credibility and engagement, building a loyal customer base.

It seems that this approach upgraded product differentiation while addressing consumer needs and market dynamics.

Customer Segments:

Figure: 3

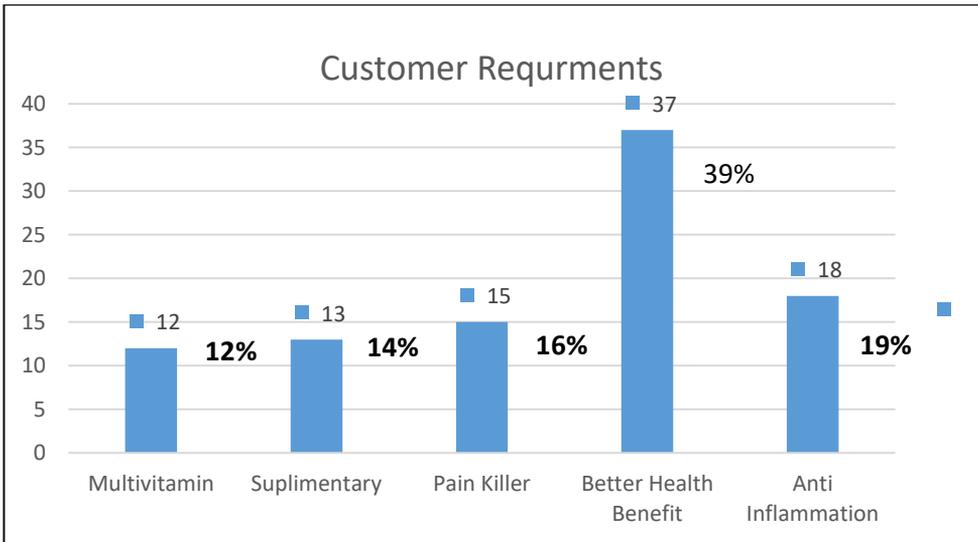


Interpretation: The data illustrate that 51-60 plus age group customers are the highest level purchasing which is 53.56% beside the age group of 40-50 are purchasing about 30.32% which is the second highest and the 30- 39 group

lead purchase about 10 % approximately. The age group of 20-30 purchased 2.2% which is the lowest among the four groups.

Customer Requirements:

Figure: 4



Interpretation: The bar chart compares the percentage of requirements which are getting better health benefits about 39% and 12% of customers are going to ask for multivitamin purposes which is the lowest

among other requirements. But customers demand as a food supplement for 14%, 16% to pail killer, and taking as an anti-inflammation.

Customer Preference of Moringa Leaves Products

Table: 1

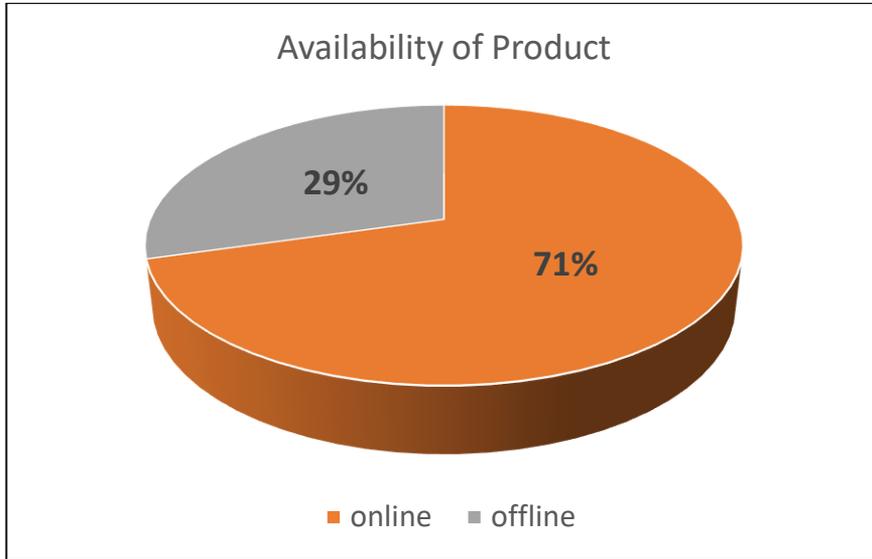
Product Line	No of Customers
Moringa Powder	31
Moringa Tea	44
Moringa Tablet	8
Moringa Capsule	11
Moringa oil	1

Interpretation: A large number of customers like the tea of moringa products which is 44 on the other hand Moringa oil uses only 1 customer.

Moringa powder is taken for 31, capsule for 11, and 8 customers for moringa tablets respectively.

Availability of Products:

Figure: 5



Interpretation: The above pie chart describes 71% of customers collect their product online which is a higher level of

consumers but offline is lower than online for 29% respectively.

Distribution Channel:

Table: 2

Moringa Leaves Product	Online E-commerce Platform
	Amazon
Offline Selling	Flipkart
Supermarket	Online Retailing
Convenient Store	
Pharmacy and health store	
Independent small groceries	

Cost Benefit Analysis:

Table: 3

Cost			Benefit	
Land rent	5000 X 12	60,000	Production	
Solar Dreyer	70,000 X 1	70,000	3 KG X 3=9 KG	Rs. 9,000 daily
Grinder	6000 X 1	6,000	9000 X 25	Rs. 2,25,000 monthly
Infrastructure cost	50000	50,000	2,25,000 X 12	Rs. 27,00,000
Daily labour	(500 X 3) X 12	4,50,000		
Skill Labour	15000 X 12	1,80,000	Net Sale	Rs. 27, 00, 000
Marketing personnel	20,000 X 12	2,40,000	Net expenditure	Rs. 13, 12, 000
Advertising cost	1,00,000	1,00,000	Net Profit	Rs. 13,88,000
Packaging cost	1,00,000	1,00,000		
Transportation cost	50,000	50,000		
Electricity bill	500 X 12	6,000		
Total cost for 1 year		13,12,000		

Role of environment-friendly Agricultural Practices in creating sustainable businesses

Moringa, known as the "miracle tree", has been accepted internationally for its nutritional and therapeutic properties. The rising interest in Moringa leaf products offers a distinctive opportunity for sustainable business growth in this industry, which the author would like to describe. First of all, environment-friendly agricultural practices, such as organic farming, agroforestry, and permaculture, can be crucial in ensuring the long-term sustainability of Moringa cultivation.

These methods reduce soil degradation, preserve biodiversity, and minimize the use of harmful chemicals, ensuring that the environment remains viable for future cultivation.

Secondly, Sustainable cultivation techniques like reduced tillage, use of organic fertilizers, and water conservation help minimize the carbon footprint associated with Moringa farming. This makes the industry more eco-conscious, which appeals to environmentally aware consumers. Moreover, the adoption of sustainable practices in Moringa farming boosts local economies by creating jobs, particularly in rural areas.

Environmentally conscious Moringa businesses can attract investments and contribute to economic development through fair trade, better wages, and equitable business models.

Additionally, businesses that support sustainability can market themselves as eco-friendly, tapping into the growing consumer demand for green products. This contributes to environmental preservation and creates a unique brand identity, offering long-term profitability and market differentiation. Finally, It would appear that by integrating eco-friendly practices, the Moringa industry can lead to sustainable businesses that support economic growth while protecting natural resources, creating a win-win for both the environment and local economies.

Findings:

1. Moringa powder contains numerous herbal and medicinal properties which act as a remedial quality for the human body.
2. Production technique of Moringa powder through solar dryer and grinder for inhouse processing maintains natural quality and preserves all remedial value.
3. Demand for Moringa products rising moderately not only domestic market but also international market.
4. For entering as a new player in the Moringa product market has followed an effective competitive marketing strategy with the 4 As model.

5. After 40 -60, customers are the large body of purchasers for better health-conscious

6. The trend of purchasing Moringa products from online platforms which preferred customers.

7. Financially it is a viable project as well as an eco-friendly greener agriculture practice sustainable venture.

Discussion:

In the context of Indian soil, the natural Moringa plant and its leaf product vibrate to maintain good health and accelerate a new business for dedicated entrepreneurs for developing economic growth which would like to describe from the findings.

First of all, it is a natural and herbal product containing different types of vitamins, minerals, protein, carbohydrates, anti-oxidants, and anti-fungal and anti-inflammatory properties which boost the immune system to protect the body from various enemies such as cancer, diabetics, high blood pressure, brain stock, anaemia and many more. It plays a significant role in keeping the wellness of the human body but a strong young portion of customers are not aware of it.

Secondly, production manufacturing technology evolves with solar dryers which maintain hygiene and natural quality with proper moisture and prevent external hazards like dust and odd particles. As a result, macro and micronutrients as well as antioxidant, anti-fungal, and anti-inflammatory values are

contained in it which lead to the cure recovery of sound health customers.

Moreover, It is true to say that organic products are a natural remedy across the world for human beings, which launches untapped business situations for state-up-owned. Consequently, Moringa products demand is rising not only domestically but also across the globe.

In addition, a fresh player in the competitive market could drive a handloom strategic model where customers purchase trends for an online platform that is easy to access and convenient, which is hassle-free and saves time. It is also true that available moringa products are not just in the physical store but in a wide variety of invisible footprints. Adaptability and availability may attract customers. Effective learning about Moring products may not lead to proper awareness of their esteem value.

Furthermore, middle-aged to late-age customers are practising sound health to protect against internal disorders, but those who are young blood, such as the 20-30 age group, do not have a high value of awareness about it. Finally, it is logical to conclude that Moringa's cultivation of eco-friendly cultivation leads to ahead business development is a proactive decision for opportunities and sustainable economic development.

Conclusion:

An entrepreneur looking for a potential business industry for producing Moringa leaf products holds unlimited opportunities

for enterprises in rising demand due to natural health and well-being. Rich Moringa's nutrient values and properties of medicine, a business can take up a health awareness market that values sustainable organic products and functional benefits. To establish this business, one needs to develop an in-depth understanding of cultivation practices, quality production, and proper time-being marketing strategy for consumers

Moreover, to ensure long-term and sustainable profitability, Moringa cultivation and development Moringa leaf product business enhances and eliminates rural poverty, supports economic development, and also creates employment opportunities. As an entrepreneur, innovative business implementation, sustainability, and unlocking significant business opportunities in the Moringa products, welcoming not only personal health but also enlarging economic growth on a global scale.

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Disruptive Leadership: Inspiring Change and Innovation in Businesses

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Abstract

The need for disruptive leadership in organizations has become more critical than ever due to several key factors shaping the modern business environment. Disruptive leadership is a concept that gained significant attention in recent years, particularly in the context of rapidly changing business environments and the rise of innovative companies. This literature review explores the origins, definitions, and key characteristics of disruptive leadership, as well as its impact on organizations and industries. The review also examines case studies of disruptive leaders and the challenges they face in fostering innovation and leading change.

Keywords: Disruptive leadership, innovations, business strategies, OC

Introduction

Disruptive leadership is a type of leadership that challenges the status quo and encourages innovation, creativity and radical change within an organization or

industry. Unlike, traditional leadership, often focuses on maintaining stability and efficiency, disruptive leadership seeks to create breakthroughs by questioning existing norms, processes and business models.

The key characteristics of a disruptive leadership include:

- 1. **Visionary Thinking:** Disruptive leaders often have a clear and bold vision for future that differs from conventional approaches. They are able to anticipate industry trends and recognize opportunities for significant change.
- 2. **Risk-Taking:** These leaders are willing to take calculated risks to drive innovation. They are not afraid of failure, seeing it as a necessary part of experimentation and learning.
- 3. **Challenging the Status Quo:** Disruptive leaders question existing practices and are constantly looking for ways to improve or revolutionize them. They encourage their teams to think outside the box and explore new ideas.
- 4. **Empowering Others:** Disruptive Leaders often empower their team to take

initiative and be creative. They foster an environment where diverse perspectives are valued, and employees feel encouraged to challenge assumptions.

5. **Agility and Adaptability:** In a rapidly changing environment, disruptive leaders are agile and adaptable. They are quick to pivot when necessary and are open to new ideas and approaches.

6. **Focus on Innovation:** Innovation is at the heart of disruptive leadership. These leaders prioritize research, development and the adoption of new technologies or business models to stay ahead of the competition.

7. **Customer-Centricity:** Disruptive leaders often have a deep understanding of their customers’ needs and preferences. They strive to create products or services that meet those needs in unique and valuable ways.

Graphical Representation of characteristics of Disruptive leadership over the years

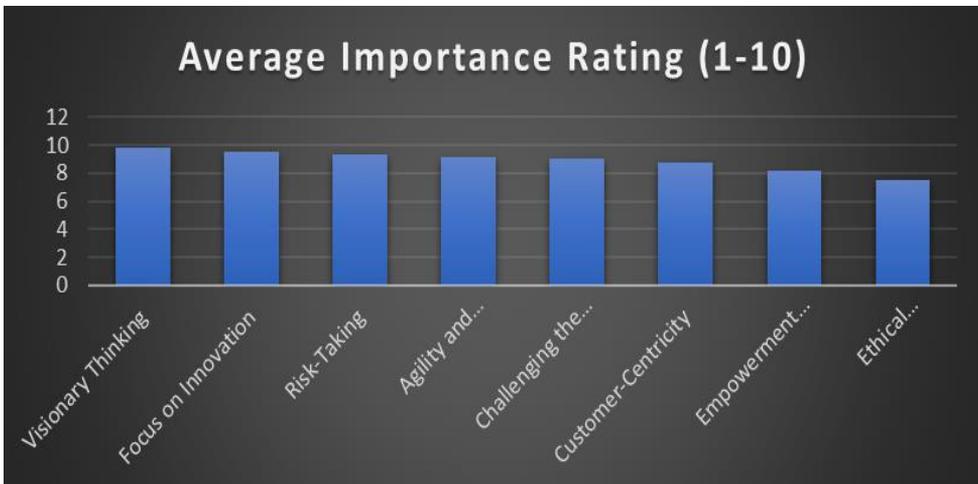
Graph representing the percentage of Leaders Exhibiting the Trait of Disruptive Leadership



Graph 1: Percentage of Leaders Exhibiting the Trait.

Graph-1

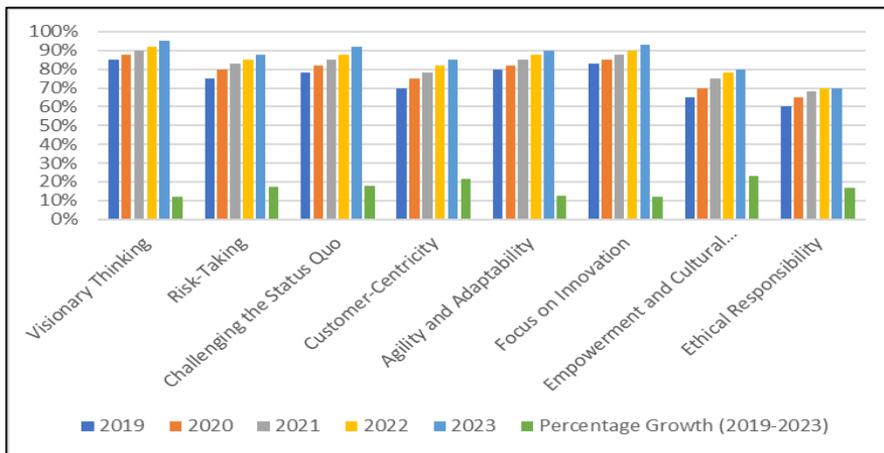
representing the ranking of features of disruptive leadership based on a survey of disruptive leaders



Graph 2: Priority of Characteristics by Importance

Graph-2 representing the statistical representation of the trend analysis of key characteristics of disruptive leadership over time. This can highlight the

percentage increase or the average annual growth rate of each characteristic over a specific period, such as five years.



Graph 3: Percentage growth of characteristics of disruptive leadership over 5 years

Significance of Disruptive Leadership in towards Business environment

The need for disruptive leadership in organizations has become more critical than ever due to several key factors shaping the modern business environment:

1. Rapid Technological Advancement

Digital Transformation: The pace of technological change, driven by advances in AI, Big Data, Cloud Computing, and Automation, is transforming industries at an unprecedented rate. Disruptive leadership is needed to harness these technologies and integrate them into business strategies to stay competitive.

Innovation Pressure: Organizations are under constant pressure to innovate to keep up with or outpace competitors. Disruptive leaders encourage the exploration and adoption of new technologies, products, and services.

2. Changing Consumer Expectations

Personalization and Experience: Consumers today demand more personalized and seamless experiences. Disruptive Leaders focus on understanding these evolving needs and developing innovative solutions that exceeds customer expectations.

Sustainability and Ethics: There is growing customer demand for sustainable and ethically produced products. Disruptive leadership can drive the necessary changes in business practices to meet these expectations.

3. Globalization and Market Disruption

Increased Competition: Globalization has increased competition from both established players and new entrants in the market place. Disruptive Leaders can help organizations differentiate themselves and navigate complex global markets.

Market Volatility: Economic fluctuations, Geopolitical instability, and other external factors can disrupt markets. Disruptive leadership is essential for quickly adapting to these changes and turning challenges into opportunities.

4. Organizational Agility and Resilience

Need for Flexibility: Traditional organizational structures and strategies can be rigid and slow to respond to change. Disruptive leadership fosters a culture of agility, allowing organizations to pivot quickly in response to new developments.

Building Resilience: In a unpredictable world, organizations must be resilient to survive and thrive. Disruptive leaders focus on building adaptable systems and processes that can withstand market shocks and recover quickly,

5. Talent and Workforce Transformation

Changing Workforce Dynamics: The workforce is evolving, with increase in demands for remote work, work-life balance, and meaningful work. Disruptive leaders understand these dynamics and

create environments that attract and retain top talent.

Upskilling and Reskilling: As, technology evolves, so too must the skills of the workforce. Disruptive leaders prioritize continuous learning and development to ensure that their teams are equipped to handle new challenges.

6. Sustainability and Long-Term Value

Environmental and Social Responsibility: The growing emphasis on sustainability requires organizations to rethink their operations and strategies. Disruptive leaders are often at the forefront of driving sustainable practices that balance profitability with social and environmental impact.

Long-Term Value Creation: Rather than focusing solely on short-term gains, disruptive leaders are oriented toward creating long-term value by anticipating future trends and positioning their organizations for sustained success.

7. Cultural Shifts

Emphasis on Diversity and Inclusion: The importance of diversity and inclusion in the workplace is increasingly recognized. Disruptive leaders actively promote a diverse and inclusive culture that fosters innovation and creativity.

Purpose-Driven Leadership: Employees and consumers are looking for organizations with a strong sense of purpose. Disruptive leaders often align their business strategies with a broader

mission or social cause, which can enhance engagement and brand loyalty.

Literature Review

Introduction: Disruptive leadership is a concept that gained significant attention in recent years, particularly in the context of rapidly changing business environments and the rise of innovative companies. This literature review explores the origins, definitions, and key characteristics of disruptive leadership, as well as its impact on organizations and industries. The review also examines case studies of disruptive leaders and the challenges they face in fostering innovation and leading change.

1. Definition and Theoretical

Foundations: Disruptive leadership is rooted in the broader concept of disruptive innovation, a term popularized by Clayton Christensen in his seminal work, "The Innovator's Dilemma" (1997). Disruptive leaders are those who challenge the status quo, embrace change, and often create entirely new markets or transform existing ones. They are characterized by their ability to think creatively, take risks, and lead their organizations through periods of uncertainty.

2. Characteristics of Disruptive

Leaders: Research highlights several key characteristics of disruptive leaders: Visionary thinking, Risk-Taking, Resilience, Empowerment of others.

3. **Impact of Disruptive Leadership on Organizations:** Disruptive leadership can have profound impact on organizations, driving innovations and leading to significant competitive advantages. However, it also poses challenges, particularly in terms of organizational stability and employee morale.
 - **Innovation and Competitive Advantage:** Disruptive leaders often propel their organizations to the forefront of their industries by introducing new products, services, or business models. For example, companies like Apple, Amazon, and Tesla have thrived under disruptive leadership, redefining entire industries.
 - **Organizational Culture:** The influence of disruptive leaders on organizational culture can be both positive and negative. While they can inspire creativity and innovation, their tendency to challenge existing norms can also lead to resistance or conflict within the organization.
 - **Leadership Challenges:** Disruptive leadership face unique challenges, including managing the tension between innovation and stability, maintaining employee engagement during periods of change, and balancing short-term performance with long-term vision.
4. **Challenges and Criticisms of Disruptive Leadership:** While disruptive leadership is often celebrated for its ability to drive innovation, it is not without its criticisms. Critics argue that disruptive leaders can sometimes prioritize innovation at the expense of sustainability or ethical considerations. Additionally, the constant drive for change can lead to burnout among employees and create a volatile work environment.
5. **Future Directions in Disruptive Leadership Research:** As the business landscape continues to evolve, so too will the concept of disruptive leadership. Future research may explore the role of disruptive leadership in emerging fields such as artificial intelligence, renewable energy, and biotechnology. Additionally, there is a need for further examination of the ethical implications of disruptive leadership and its impact on society at large.

Conclusion

Disruptive leadership plays a critical role in shaping the future of industries and organizations. By challenging the status quo and driving innovation, disruptive leaders have the potential to create significant value. However, this type of leadership also comes with challenges and risks that must be carefully managed. As

the world continues to change at a rapid pace, the importance of understanding and effectively practicing disruptive leadership will only grow.

Case Studies of Leaders practicing Disruptive Leadership

Case study 1: Uber's Founder (Travis Kalanick)

Uber's Founder, Travis Kalanick, is often cited as an example of disruptive leadership due to his role in radically transforming the transportation industry. His leadership style exhibited several qualities typical of disruptive leaders:

1. Visionary Thinking

Revolutionizing Transportation:

Kalanick envisioned a world where transportation could be as reliable as running water. This vision led to the creation of Uber, which disrupted traditional taxi services by leveraging technology to offer on-demand rides.

2. Challenging the Status Quo

Breaking Traditional Models:

Kalanick challenged the conventional taxi industry, which was heavily regulated and resistant to change. By introducing peer-to-peer ride-sharing model, he disrupted a long-standing industry and created a new market.

3. Risk-Taking

Pushing Boundaries: Kalanick was known for his willingness to take significant risks, both legally and operationally, to scale Uber rapidly. This

included launching in cities without waiting for regulatory approval, which often led to legal challenges but also accelerated the company's growth.

4. Aggressive Expansion

Rapid Global Growth: Under Kalanick's leadership, Uber expanded aggressively into new markets around the world. This rapid scaling was a hallmark of his disruptive approach, prioritizing growth and market share over traditional business concerns like regulatory compliance or local competition.

5. Tech-Driven Innovation

Leveraging Technology: Kalanick's focus on utilising technology to disrupt the traditional taxi industry was central to Uber's success. The Uber app, which connected drivers with passengers in real-time, was a game-changer in the transportation industry.

6. Customer-Centric Approach

Enhancing User Experience: Uber's platform was designed with the user experience in mind, offering convenience, transparency in pricing, and ease of payment. This focus on the customer helped Uber rapidly gain a loyal user base.

7. Controversial Leadership

Aggressive and Confrontational: Kalanick's leadership style was often described as aggressive and confrontational. While this helped drive Uber's rapid growth, it also led to

significant controversy, including a toxic work culture and numerous legal battles.

8. Focus on Innovation

Expanding Beyond Ridesharing: Under Kalanick's leadership, Uber began to explore new areas such as food delivery with UberEats and logistics with Uber Freight. This focus on continuous innovation helped Uber diversify its offerings and solidify its position as a technology platform, not just a ridesharing company.

Travis Kalanick's leadership at Uber is a prime example of disruptive leadership in action. He leveraged visionary thinking, risk-taking, and a relentless focus on innovation to disrupt the traditional taxi industry. However, his leadership style also had its downsides, leading to significant controversy and, ultimately, his departure from the company. Despite these challenges, Kalanick's impact on the transportation industry is undeniable, showcasing both the power and the risks of disruptive leadership.

Case study 2: Zoom's Founder (Eric Yuan)

Eric Yuan, the founder of Zoom, is another example of disruptive leadership, particularly in the way he revolutionized the video conferencing industry. His leadership qualities reflect many of the core attributes of disruptive leadership:

1. Customer-Centric Innovation

Focus on User Experience: Yuan identified frustrations with existing video

conferencing tools and set out to create product that was user friendly, reliable, and accessible. This customer-centric approach allowed Zoom to quickly gain popularity, especially in a market that had been dominated by more complex and less intuitive platforms.

2. Visionary Thinking

Reimagining Communication: Yuan had a clear vision of making video communication as simple as possible for everyone. This vision drove Zoom's development, making it a platform that could be used by anyone, from individuals to large enterprises, without extensive training or technical support.

3. Agility and Adaptability

Rapid Scaling During the Pandemic: Yuan's leadership was particularly evident during the Covid-19 pandemic when Zoom saw an unprecedented surge in demand. Yuan and his team quickly adapted to this surge, scaling operations to meet the needs of millions of new users, including schools, businesses, and families.

4. Empowering Teams

Strong Company Culture: Yuan is known for fostering a positive and empowering company culture. He prioritized employee well-being and inclusivity, which in turn contributed to Zoom's success by ensuring that the team was motivated and aligned with the company's mission.

5. Ethical and Responsible Leadership

Addressing Security and Privacy: As Zoom's user base exploded, so did concerns about security and privacy. Yuan took these concerns seriously, initiating swift changes to improve Zoom's security features and transparency. His willingness to acknowledge and address these issues demonstrated a responsible and ethical approach to leadership.

6. Challenging the Status Quo

Simplifying Complex Technology: Yuan disrupted the video conferencing industry by simplifying what had traditionally been seen as a complex and often unreliable service. Zoom's ease of use set a new standard, challenging established players to rethink their products and strategies.

7. Long-Term Vision

Beyond Meetings: Yuan envisions Zoom as more than just a video conferencing tool. He sees it as a platform for a wide range of communication needs, from virtual events to telehealth, which positions Zoom for continued growth and relevance in various industries.

Eric Yuan's leadership at Zoom exemplifies disruptive leadership in a way that emphasizes customer needs, ethical responsibility, and adaptability. His ability to foresee and address the shortcomings of existing products, coupled with a strong vision for the future of communication, allowed Zoom to become a market leader. Yuan's focus on simplicity, scalability, and security has not only disrupted the video conferencing industry but has also

set new standards for what users expect from digital communication tools.

Conclusion

Disruptive leadership is essential for organizations to navigate the complexities of the modern business landscape. By challenging the status quo, fostering innovation, and leading with agility, disruptive leaders can help organizations not only survive but thrive in an era of constant change. But in contrast, while disruptive leadership can lead to remarkable success, it also comes with challenges, including potential resistance to change and the need for responsible management of the risks involved. However, when executed effectively, disruptive leadership can not only redefine industries but also create lasting value for organizations, their employees, and their customers. As the business landscape continues to evolve, the demand for disruptive leaders who can navigate and shape this change will only grow. When discussing disruptive leadership, several key points (like, Impact on Industries, Challenges of Disruptive Leadership) can guide a comprehensive exploration of the concept.

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ANALYSIS OF IMPORTS AND EXPORTS IN INDIA: Pre and Post COVID Periods

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Abstract

This paper examines the impact of COVID pandemic on India's imports and exports. By conducting a comparative analysis of pre and post COVID data, the research aims to identify changes in trend patterns and provides a comprehensive view of trade dynamics over these years (2016-2023). The analysis, using a paired t-test, identifies changes in imports and exports between the two periods. The research explores if there are statistically significant differences in trade volumes and identify potential influencing factors such as policy changes, global economic fluctuations. The research revealed significant disruptions in imports and exports during the pandemic with notable declines followed by gradual recovery. The understanding of the impact of pandemic on India's imports and exports is crucial for policymakers and businesses. The findings highlight the broader discourse on trade resilience and adaptability, while also underscoring the need for policy interventions to enhance trade competitiveness.

Keywords: India, Imports, Exports, COVID, Economic Resilience, Trade Policy

Introduction

The COVID-19 pandemic, a global health crisis that unfolded in 2020, had a profound and far-reaching impact on economies worldwide, including India. The global economy has undergone disruptions in supply chains, reduced economic activities leading to significant transformations in global trade patterns. India, being a major player in the global economy, has previously relied heavily on international trade to drive growth and development. Exports and imports play a crucial role in providing access to essential goods and services, fostering economic and political linkages with other countries and generating employment opportunities. Exports and imports play a vital role in India's economic growth, contributing to foreign exchange earnings and supporting sustainable development. However, fluctuations can significantly impact a country's economic development. India has historically maintained a diverse trade portfolio, exporting goods such as textiles, pharmaceuticals, information technology services and agricultural products while importing crude oil, electronics, machinery and gold. Before the pandemic, India was on a steady growth trajectory with exports reaching new markets and imports fulfilling the demands of a rapidly growing middle class and industrial sector. However, the trade balance often skewed towards a deficit due to India's high dependency on imported energy and capital goods. Understanding the shifts in

patterns between pre and post COVID-19 is of vital importance for policymakers, businesses and economists to craft responsive strategies that might help mitigate any future disruptions and capitalize on the emerging opportunities.

Literature Review

A comprehensive review provides valuable insights into these points. The study shows that despite initial declines due to the pandemic, bilateral trade has recovered and surpassed pre-pandemic levels, demonstrating the resilience the Indo-US trade relationship (Shanmugam 2022). The paper discusses the stagnation of India's exports and imports during COVID-19, examining trends in the industrial sector, economic conditions, and foreign trade. The study suggests that India should improve logistics stockpile oil when prices are low, and focus on boosting industrial production to enhance exports. It also highlights the impact of Covid-19 on inflation and the need for policy makers to adapt strategies to improve economic conditions (Kesavan 2020). The paper provides a comprehensive guide for setting up an export-import business in India, covering international trade procedures, documentation, and regulations. It offers practical insights and theoretical knowledge on international shipping, payment methods, and trade practices, making it suitable for both beginners and experienced traders (Jain 2015). The study analyses millet trade performance and

competitiveness, using data from 2013 to 2021. It identifies Ukraine, India, and Russia as major exporters, and Indonesia, Belgium and Germany as key importers, with Indian millet notably going to the UAE, Nepal and Saudi Arabia. The findings suggest boosting India's millet exports by diversifying markets and reducing reliance on a few countries (Madhu 2024). The study examines the long-term relationship between exports and imports in India and Iran from 1970 to 2010, highlighting persistent current account deficits (Ramakrishna 2013). The study shows that India's petroleum exports grew significantly from 1990 to 2019, becoming one of the leading exporters globally despite lacking crude oil and refining technology, due to favourable government policies. However, growth instability in these exports calls for targeted policy interventions (Singh 2023). The research paper analyses the financial performance of five Indian pharmaceutical companies before and after COVID-19. The study finds that the pandemic had a generally positive impact on the most financial parameters for these companies (K 2023). The government aims to make India a global manufacturing hub through initiatives like "Make in India" and "One District One Product" (ODOP), supported by policies such as PLI schemes, GST, and corporate tax reductions. The paper analyses quarterly and yearly data of the manufacturing sector from 2012-13 to 2023-24, examining growth rates, CAGR

and trends. It explores the performance of the sector in both pre and post pandemic periods, identifying fluctuations and patterns in growth rates (Kumar 2014). The study examines the impact of euro and dollar exchange rates on Algeria's foreign trade, especially exports and imports. The exchange rate fluctuations between these currencies have little effect due to inflexibility of Algerian imports and the specific period analysed (Soufiane 2024). The paper explores the impact of the COVID-19 pandemic on the import and export activities of Advanced Air Traffic Systems (M) Sdn Bhd, focusing on the disruption caused by flight schedule limitations. It suggests that adjusting import and export workflows helped the company navigate challenges during the pandemic (Kassim 2024). The study examines the impact of the COVID-19 pandemic on Indonesian cocoa exports using seemingly unrelated regression analysis, revealing a negative effect on exports to the United States and India but not to the Netherlands. Despite the pandemic, cocoa demand remained stable in these markets. It suggests that educational programs and improved agricultural practices could enhance the quality and production of cocoa in Indonesia (Antriyandarti 2023). The study explores how information and communication technologies (ICT) drive the development of export-import activities in EU countries (Norik 2023).

Pre - Covid Period

Before COVID-19 pandemic, global trade was characterized by steady growth in both exports and imports. According to the World Trade Organization, in the third quarter of 2019, the world merchandise trade volumes increased 0.5 percent. The key sectors such as machinery, electronics and automobiles were significant contributors to international trade. For example, the machinery sector showed substantial growth, driven by technological advancements and increased industrial output. To provide some international perspective on large Indian company performance, the overall value of India's exports rose by 22.5% from US\$263.9 billion in 2015 to \$323.5 billion during 2019. From 2018 to 2019, international sales of India's exported goods declined by – 0.2%. The global supply chain was robust and well-integrated with minimal disruptions. Just-in-time manufacturing which relies on the timely delivery of components and materials, was widely adopted across industries. For example, the automotive industry relied heavily on intricate supply chains stretching from raw materials to finished vehicles, with major hubs in Germany, Japan and the United States. The India's supply chain faced challenges due to the country's reliance on imported components and raw materials which made it vulnerable to global supply chain disruptions. The factors such as infrastructure bottlenecks, logistics

inefficiencies and trade barriers could sometimes hinder the smooth flow of goods.

India continued to remain the fastest growing major economy in the world in 2018-19, despite a slight moderation in its GDP growth from 2.7% in 2017-18 to 6.8% in 2018-19. The average growth rate was not only higher than China during 2014-15 but also higher than that of other top major economies as well. The Indian economy grew at 6.8 % in 2018-19, thereby experiencing some moderation mainly due to 'Agricultural and allied', 'Trade, hotel, transport, storage, communication and services related to broadcasting and 'Public administration and defense' sectors. The manufacturing sector was a significant driver of global exports. The manufacturing sector in India was affected due to the slowdown in the auto sector as well where production growth, apart from commercial vehicles, all other categories faced decline in 2018-2019 as compared to 2017-18. Despite the moderation of manufacturing growth within 2018-19 overall growth was higher than 2017-18 due to high growth of 12.1% in first quarter of 2018-19. The energy consumption has more than doubled since 2000, propelled upwards by a growing population. Near- universal household access to electricity was achieved in 2019, which means that over 900 million citizens have received electrical connection in less than two decades.

The trade policies were influenced by various international agreements and regional trade blocs. The World Trade Organization played a central role in regulating global trade, promoting fair competition and reducing tariffs. The period between 2016 and 2019 witnesses a significant shift in India's trade policies, characterized by a gradual move towards greater liberalization and integration into the global economy. A key development during that time was the implementation of the Goods and Service Tax (GST) in July 2017, which unified the country's fragmented indirect tax system and aimed to streamline trade procedures. Furthermore, India actively pursued bilateral and regional trade agreements to enhance market access and reduce the Comprehensive Economic Cooperation Agreement (CECA) with South Korea, the Free Trade Agreement (FTA) with Australia and the Regional Comprehensive Economic Partnership (RCEP), a mega-regional trade deal involving 15 countries in Asia-Pacific. These agreements provided Indian exporters with preferential market access to boost exports.

Post - Covid Period

The COVID-19 pandemic drastically reshaped global trade patterns, impacting exports and imports across various sectors. However, the market started recovering by deploying advanced import – export trade strategies. With the global economy in flux, the export and import dynamics have

witnessed a considerable shift in India. Exports have shown remarkable resilience with a significant upturn in the year 2021-22. The merchandise exports registered a growth of 43.8%, an encouraging sign of recovery and momentum. In the import case, India's economic revival has led to a surge in domestic demand which has resulted in increased import activity. Import and export companies in India contributes 33.33% to the country's GDP in 2022 and 35.60% in 2023. India took steps to reduce its dependence on critical imports, encourage domestic manufacturing and strengthen its supply chain infrastructure. The post- pandemic period witnesses a rise in exports across several key sectors in India. The pharmaceutical industry continued its impressive trajectory, with exports of essential medicines and vaccines achieving significant growth. This growth can be attributed to India's strong manufacturing capabilities and its position as a leading supplier of generic drugs. The Information Technology (IT) services sector also emerged as a strong driver of exports. The increased demand for remote work solutions and digital transformation services due to the pandemic played a crucial role in this sector's success. This highlights India's talent pool and expertise in the IT domain. While the engineering goods sector faced challenges due to the supply chain disruptions, it demonstrated resilience and is gradually regaining momentum. The focus on value-added

products within this sector suggests a strategic shift towards higher-quality exports that improve India's competitiveness in the global market. India's agricultural exports, particularly rice, spices and sugar experiences a surge in demand. This reflects the country's growing prominence in global food markets and its potential to be reliable supplier of essential food items. Despite prioritizing trade liberalization, India adopted self-reliance initiatives such as "Atmanirbhar Bharat" program postered domestic manufacturing in critical sectors to address supply chain vulnerabilities, while Production-linked Incentive (PLI) schemes attracted investments in key industries. Simultaneously, India continued to negotiate trade agreements to access foreign markets and promote exports. This two-pronged strategy aimed to enhance India's trade competitiveness in the post-pandemic era. The COVID-19 pandemic presented significant challenges to India's trade sector. In response, the government implemented a range of measures to support exporters and mitigate the negative impacts of the crisis. These measures included:

- **Emergency Credit Lines:** The government provided emergency credit lines to businesses affected by the pandemic to help them tide over financial difficulties.
- **Export Promotion Capital Goods Scheme (EPCG):** This scheme was

extended and revised to provide incentives for the import of capital goods for export production.

- **Rebate of Duties and Taxes on Exported Products (RoDTEP):** This scheme was introduced to reimburse exporters for the indirect taxes paid on exported duties.

Additionally, India continued to pursue trade liberalization and diversification. Though the pandemic posed significant challenges, India's trade sector demonstrated resilience and adaptability and the country continued to make progress in its trade policy objectives.

Methodology Study Objectives

- To analyse the overall trends and changes in value of imports and exports in India before and after the onset of the covid-19 pandemic which includes identifying major shifts and key commodities affected.
- To assess how different sectors were impacted by the covid pandemic in respect to the import and export activities.
- To examine the changes in India's trade policies and regulations implemented in response to the pandemic.
- To analyse the effects of global supply chain disruptions on India's imports and exports.

- To study how Indian exporters and importers adapted to the challenges posed by the Covid-19 pandemic.
- To analyse how changes in imports and exports during the pandemic affected India's trade balance and overall economic growth.

Scope of The Study

- **Pre-Covid Period:** The study will analyse imports and exports in India for a period of four years leading to the pandemic (2016-2019). This period serves as a baseline to understand different patterns, volumes and values before Covid-19 pandemic.
- **Post-Covid Period:** The study will cover the period from the onset of Covid-19 in early 2020 to the recent data available i.e.,2023. This includes phases of the pandemic to capture the varied imports.
- The study analysis includes both sectors which were heavily affected by the pandemic and those which showed resilience or growth during the period.

Rationale of The Study:

- **Understanding the Economic Impact:** The Covid-19 pandemic caused one of the most significant economic disruptions globally and has severely affected the trade flow across all countries, including India.
- **Identifying Specific Sector Impacts:** The pandemic has affected many different sectors of the Indian economy. For example: the pharmaceutical sector may have increased exports due to demand for medicines and vaccines but the other sectors such as automobiles, textiles faced sharp declines.
- **Evaluating the Policy Effectiveness:** In response to the pandemic, the Indian government implemented several trade related policies and measures to protect domestic industries such as providing export incentives, restricting certain imports and many others.
- **Analysing the Supply Chain Resilience:** Analysing how the supply chain disruptions impacted trade, the study can identify the weakness, suggesting some strategies to enhance supply chain resilience ensuring that India is better prepared for any further disruptions.
- **Shifts in Global Trade Dynamics and Partnerships:** The pandemic accelerated the shifts in global trade dynamics, including a re-evaluation of trade partnerships and dependencies. The study helps in understanding the shifts and new opportunities and risks.
- **Supporting the Atmanirbhar Bharat (Self-Reliant India) Initiative:** The pandemic provided a realization to the importance of self-realization, leading to the Indian government's push for this

initiative. The study provides valuable insights into areas where India needs to strengthen domestic capabilities and reduce reliance on external sources

- **Identifying Opportunities for Growth and Diversification:** Post-pandemic India has observed opportunities to diversify its trade portfolio, explore new markets and increase the exports in sectors with competitive advantage. The study will identify such opportunities to help businesses and government to strategically plan for the future growth.

Data Collection Procedures:

Secondary Sources: The data used in the study is obtained from different government data-bases available online.

Tools Used: MS Excel and SPSS

Data Analysis Procedures:

- **t-test:** The study will use exports and imports data to provide a comparative analysis in two different periods i.e., pre and post Covid. The analysis is done by using paired t-test method to show the whether there is any significant changes in India’s imports and exports before and after Covid-19 pandemic thus, providing valuable insights to the businesses.
- **Graphical Representation:** The study uses graphical representation of the exports and imports annual % growth in terms of years.
- **Forecasting Analysis:** The study forecasts the future trend in annual % growth of India’s imports and exports, adding valuable insights to researchers and businesses to make informed decisions.

Results:

Presentation of Results:

- **t-Test:**
- **Exports:**

Before Covid		After Covid	
Year	Exports(\$ in billions)	Year	Exports(\$ in billions)
2016	439.64	2020	499.73
2017	498.26	2021	677.77
2018	538.64	2022	778.02
2019	529.25	2023	777.14

t-Test: Paired Two Sample for Means	Before Covid	After Covid
	<i>Exports(\$ in billions)</i>	<i>Exports(\$ in billions)</i>
Mean	501.4454089	683.1637217
Variance	1995.214877	17168.76087
Observations	4	4
Pearson Correlation	0.996338186	
Hypothesized Mean Difference	0	
df	3	
t Stat	-4.196262669	
P(T<=t) one-tail	0.012345104	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.024690207	
t Critical two-tail	3.182446305	

➤ Imports:

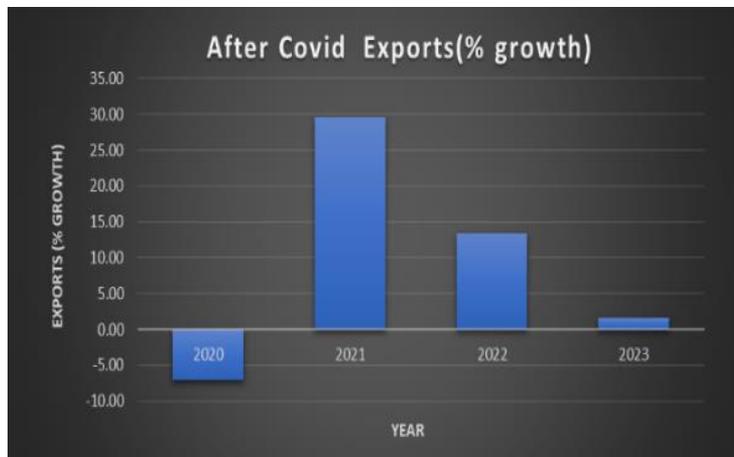
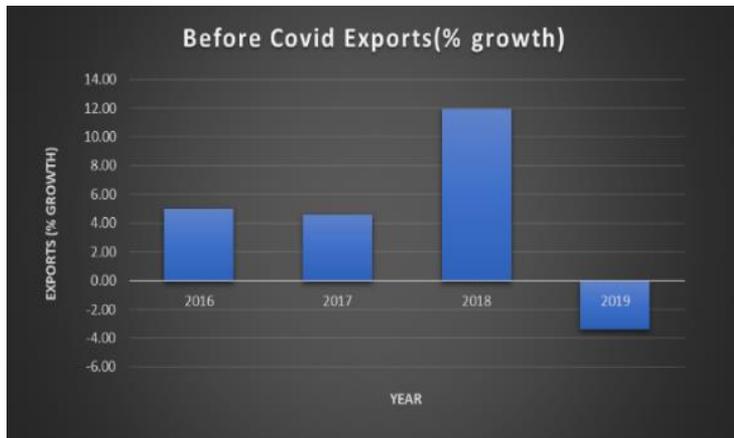
Before Covid		After Covid	
Year	Imports(Rs. In billion)	Year	Imports(Rs. In billion)
2016	480.17	2020	510.24
2017	582.02	2021	760.90
2018	640.30	2022	897.55
2019	602.32	2023	850.64

t-Test: Paired Two Sample for Means	Before Covid	After Covid
	<i>Imports(Rs. In billion)</i>	<i>Imports(Rs. In billion)</i>
Mean	576.2007328	754.8350178
Variance	4682.233698	29802.63884
Observations	4	4
Pearson Correlation	0.992529074	
Hypothesized Mean Difference	0	
df	3	
t Stat	-3.40090467	
P(T<=t) one-tail	0.021216551	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.042433102	
t Critical two-tail	3.182446305	

• Graphical Representation:

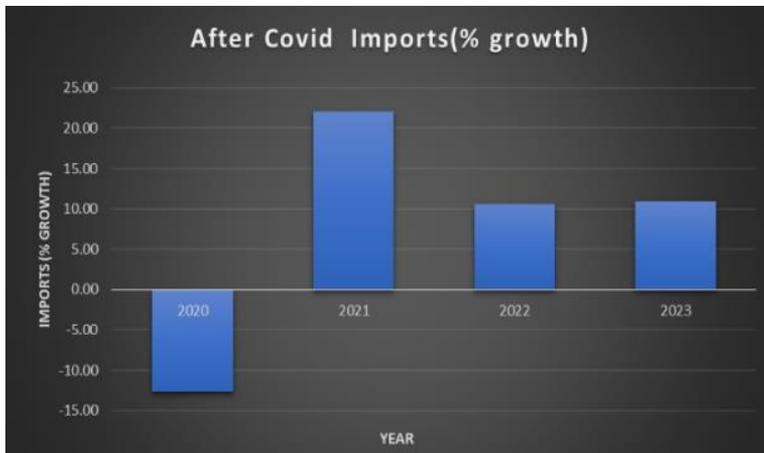
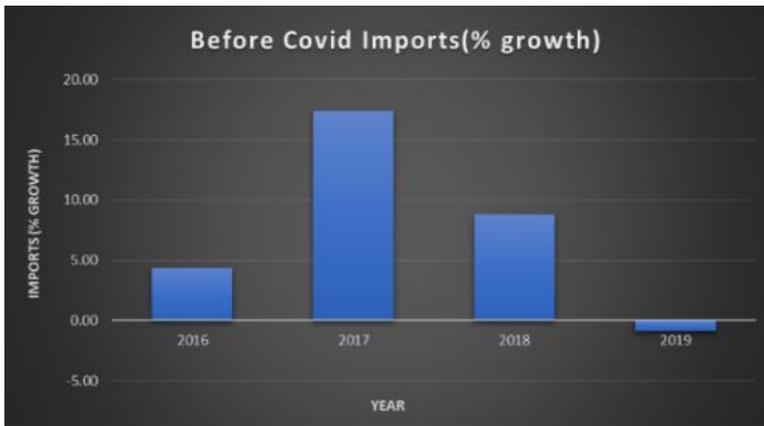
➤ Exports:

Before Covid		After Covid	
Year	Exports(% growth)	Year	Exports(% growth)
2016	4.98	2020	-6.96
2017	4.56	2021	29.60
2018	11.93	2022	13.40
2019	-3.38	2023	1.52



➤ **Imports:**

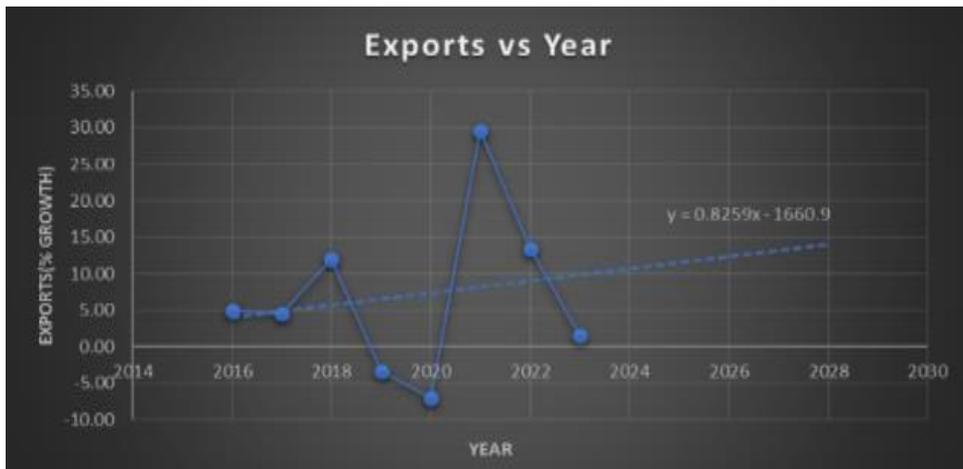
Before Covid		After Covid	
Year	Imports(% growth)	Year	Imports (% growth)
2016	4.38	2020	-12.62
2017	17.42	2021	22.09
2018	8.82	2022	10.59
2019	-0.84	2023	10.91



- **Forecasting Analysis:**

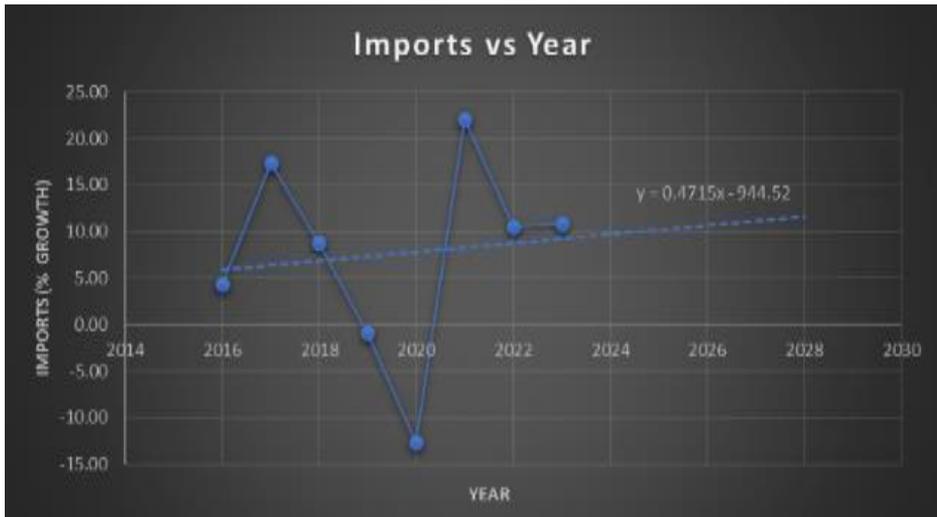
Exports:

Forecast	
Year	Exports(% growth)
2024	10.72
2025	11.55
2026	12.37
2027	13.20
2028	14.03



Imports:

Forecast	
Year	Imports(% growth)
2024	9.80
2025	10.27
2026	10.74
2027	11.21
2028	11.68



INTERPRETATION OF RESULTS:

- **t-Test:**

Exports:

Null Hypothesis (H0): There is no difference between exports before and after COVID.

Alternative Hypothesis (H1): There is difference in exports before and after COVID.

From the above results, since the t-statistic value is greater than the t critical value, it can be concluded that there is a statistically significant difference between exports before and after COVID, not accepting the null hypothesis.

Imports:

- **Graphical Representation:** Before the pandemic, export growth fluctuated

Null Hypothesis (H0): There is no difference between imports before and after COVID.

Alternative Hypothesis (H1): There is difference in imports before and after COVID.

From the above results, since the t-statistic value is greater than the t critical value, it can be concluded that there is a statistically significant difference between imports before and after COVID, not accepting the null hypothesis.

with moderate increase in 2016 and 2017 seeing a significant spike in 2018

and a decline in 2019. Afterwards it is seen that exports initially declined in 2020 with a significant surge in 2021, and then experienced a decreasing growth rate in 2022 and 2023.

Before the pandemic, import growth shows a significant increase in 2017 followed by a sharp decline in 2019. After a significant decline in 2020, it shows that a sharp recovery in import growth in 2021 with relatively stable in subsequent years.

- **Forecasting Analysis:** The export graph shows the growth of exports over time with a general upward trend and fluctuation in specific years. The import graph shows a general upward trend in import growth over time with fluctuations in specific years.

SUMMARY OF THE FINDINGS:

The study shows that the mean exports has increased in the post pandemic period suggesting rise in exports and it is concluded that there is a statistically significant difference in exports between pre and post COVID period. The study shows that average imports have increased significantly after COVID compared to before and indicates that there is a statistically significant difference in imports between the two periods. The analysis reveals that both exports and imports experienced significant fluctuations before and after the pandemic. While exports saw a surge in 2018, they

declined initially after it, then rebounded significantly in 2021. Imports, on the other hand, showed a sharp increase in 2017, followed by a decline in 2019 and then they experienced a sharp recovery in 2021 and maintained relatively stable growth thereafter. The study shows that both export and import graphs show a general upward trend over time, with fluctuations in specific years.

IMPLICATIONS:

The study offers essential insights for policymakers to develop strategies which will enhance trade resilience, adjust trade policies, and reduce dependencies thereby mitigating future risks due to the effects of COVID-19 pandemic and reveals supply chain vulnerabilities due to over-reliance on specific countries. The study provides understanding on the varied impacts of pandemic on different sectors which will help in reducing risks and enhancing growth in these sectors. The changes in import and export volumes are crucial for managing India's trade balance, foreign reserves and economic stability. The study also highlights the increased role of technologies in sustaining trade during the pandemic.

CONCLUSION:

The COVID-19 pandemic has dramatically transformed global trade extremely affecting India's export and import sectors. The study explored significant changes in India's exports and

imports before and after the pandemic, uncovering both vulnerabilities and strengths. In the pre-COVID-19 phase, India's trade was characterized by consistent growth focusing on diverse exports and strategic imports. However, the disruptions caused by the pandemic revealed key dependencies and necessitated a re-evaluation of existing trade strategies. Some sectors, such as pharmaceuticals and information technology were able to adjust and even prospered due to changing global needs such as the need for medicines and vaccines and the government's initiative to make India a cashless economy with the 'Digital India' concept coming into the picture, while other sectors such as textiles and automotive components faced difficulties. The Indian government responded to the challenges posed by the pandemic by implementing several measures aimed at reviving the trade business in the country. Stimulus packages were introduced to support key sectors, and efforts were made to ease bottlenecks in logistics and ensure the smooth functioning of supply chains. In response, the Indian government launched initiatives like 'Atmanirbhar Bharat' to decrease reliance on imports and encourage domestic production, signaling a shift towards greater economic self-sufficiency. This policy encouraged a shift towards local sourcing of materials and led to an increased focus on reducing imports of non-essential goods. The government also

provided incentives to boost exports and ensure that Indian goods gained competitive access to the global market. India also pursued diversification of its export markets and products, focusing on expanding trade ties with regions like Africa and Latin America, reducing over-reliance on traditional markets such as United States and Europe. Additionally, several free trade agreements and bilateral discussions were pursued to create a more favourable environment for Indian goods globally.

Looking into the future, India must leverage the lessons learned during this difficult period to develop a more sustainable and diverse trade strategies. Not only reinforcing the key sectors but also investing in innovations and emerging areas like digital technologies and renewable energy that can fuel future growth. Furthermore, enhancing regional trade partnerships and integrating more deeply into global value chains will be vital for minimizing future risks and boosting India's global competitiveness. The impact of COVID-19 on India's exports and imports emphasizes the necessity of flexibility, diversification and strategic policy-making to manage global uncertainties. The recovery phase was gradual and uneven with some sectors experiencing stronger rebounds than others. As India continues to navigate post-pandemic stage, it is important to address the remaining challenges and continue to adapt to new economic conditions and

taking advantage of new opportunities, India can strengthen its trade position and ensure lasting economic resilience. To ensure sustainable growth in trade, India needs to focus on enhancing its manufacturing capabilities, improving the quality of exports, and ensuring that its trade policies align with best global practices. The study contributes to the understanding of these shifts, providing valuable insights into future of international trade and lays the foundation for further studies aimed at optimizing India's trade strategies in the post-pandemic world.

LIMITATIONS OF THE STUDY:

The data availability might be not be there for especially smaller or less traded items or regions which might potentially affect the accuracy of the analysis. The COVID-19 pandemic has introduced significant uncertainty into the global trade patterns, requiring adjustments to the forecasting models. Since, COVID-19 pandemic is relatively a recent event, the study's time frame might be too short to capture the full long-term impacts on imports and exports.

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Effect of Right to Education Act 2009 In The Schools of Odisha

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Abstract

The investigator intended to examine and explore the effect of RTE Act, 2009 in State of Odisha. The investigator adopted exploratory survey research method for the present study and select the headmaster and SMC members from our elementary school as sample population. Questionnaire method adopted for data collection regarding effect of RTE Act, 2009 in elementary schools of Odisha. The researcher used content analyses and percentage for data interpretation. The findings of the study are that RTE Act was not effective or properly implemented in both rural and urban areas of Odisha. However, the present study found there is gap in its implementation of RTE Act in rural areas in terms of physical infrastructure of the school, student teacher ratio and establishment of neighborhood school. It can be concluded that the RTE Act is neither effective nor properly implemented in rural areas. Further the study found there were many problems in elementary education after implementation of RTE Act in rural area due to lack of physical infrastructure, student teacher ratio and neighborhood school which is a big challenge for both the state govt. and stakeholder. Therefore, require physical resource, human resource and financial resource should be allocated to overcome the existing problems in elementary education in rural area. Considering it as a landmark in the history of education in India, Odisha is one of the first States in India to initiate the process of implementation of the

Right of Children to Free and Compulsory Education (RTE) Act, 2009. The Department of School and Mass Education, being the nodal department to implement the Act, has taken proactive steps towards grounding it at all crucial levels, and reaching out to as many stakeholders as possible. The major initiatives undertaken by the State towards the implementation of the RTE Act is after due consultation with various stakeholders the Odisha RCFCE Rules, 2010 the State has notified the rules as per the Act in 2010. The same rule was amended as Odisha RCFCE (Amendment) Rules, 2010.

Keywords: RTE Act, Schools, Odisha, Education

Introduction:

RTE has come into effect in the State from 1st April 2010. The Basic objectives of the RTE Act 2009 are Universalization of Access & Enrolment, Retention, and Quality & Bridging of different Gender & Social Category Groups. To achieve these objectives the various schemes are undertaken by the Central Government and the State Government. These schemes work as incentive for children as well as their parents in the low-economic range to attend school. The Schemes like Sarva Shiksha Abhiyan (SSA) & Kasturba Gandhi Balika Vidyalaya (KGBV) are the centrally sponsored schemes being implemented in the State to cater the elementary education needs of children at elementary level. Through different kind of schools provided the children in the age group of 6 to 14 are included in educational stream¹. Apart from this different departments of the State Government are also managing 52216 schools to cater the needs of elementary education and 10017 numbers of schools in

secondary level for different kind of children². During 2022-23 in the State of Odisha 21146 school students are enrolled and total 4442 schools provide 41009 seats. The present study is in the area of elementary education. The prime purpose of the study is to investigate the effect of RTE Act, 2009 for improving elementary education in rural area. The study explored the enrolment status, physical infrastructure, student teacher ratio, textbook and drinking water facilities in rural schools. The study also looks into the plan and strategy adopted by the school authorities for improving the progress of elementary education in rural area. The RTE Act provides a ripe platform to reach the unreached, with specific provision for all section of the children owing to social, cultural, economic, geographical, linguistic, gender or such other factors. The act serves as building block to ensure that every child has his or her right to get quality elementary education. The Right to education is a universal entitlement to education. This is recognized in the international convention on economics,

¹ The Total Enrolments of children from Class I –VIII in the State of Odisha during 2016-2021 is placed in figure 4

Government of Odisha in 2021-22 is placed in Figure

²Number of Schools Managed under Different Departments of the

social and cultural rights as a human right that includes the right to free and compulsory primary education for all, an obligation to develop secondary education accessible to all, in particular by the progressive introduction of free secondary education, as well as an obligation to develop equitable access to higher education, ideally by the progressive introduction of free higher education. It also includes a responsibility to provide basic education for individuals who have not completed primary education. In addition to these access to education provisions, the right to education encompasses the obligation to rule out discrimination at all levels of the educational system, to set minimum standards and to improve the quality of education. Universalization of education is widely adopted by India and many other countries. The passing of RTE Act 2009 in India was a historic moment for the children of India, the children will be guaranteed their right to elementary education. The right of children to free and compulsory education bill or right to education bill, which was passed by the Indian parliament on 4th August 2009, describes the modalities of the provision of free and compulsory education for children between 6 and 14 in India under Article 21A of the Indian constitution. India became one of 135 countries to make education a fundamental right of every child, when the act came into force on 1st April 2010. The Right to education Act seeks to give effect to the 86th Constitution Amendment Act. The Government school shall provide free education to all the children and the schools will be managed by school management committees (SMC). Private schools shall admit at least 25% of the children in their schools without any fee. The National

Commission for Elementary Education shall be constituted to monitor all aspects of elementary education including quality. It is observed that our government has been making various rules and regulations for the improvement of education system. But the problem is that due to attitudinal problems and lack of commitment it becomes fruitless.

Literature Review:

The Right of children to free and compulsory Education Act 2009 came into effect on 1st April 2010 which makes provisions that all children between 6-14 years shall get free and compulsory education till the completion of elementary education. Fifteen years already has been passed in the implementation of RTE Act, but the implementation is not effective and satisfactory in terms of enrolment and retention of students in Odisha. It is very difficult to implement this law, especially in rural area. **(CH. 2015)**. The fulfilment of right to education is an ongoing process and that requires Governments, communities and individuals to work together to recognize and overcome obstacle for effective implementation of RTE Act. (Thakur, 2014). Chaturvedi and Kuldeep (2015) revealed that “there is poor implementation and slackness on the part of Govt. that hampers the proper progress on implementation of RTE Act 2009. There is urgent need of taking appropriate steps for inclusive education and organizing program for community awareness in order to make school for all children. “There is lack of awareness among the members of the Panchayats, the officials of the GP and Village members. They are unaware about roles and responsibility of the local authority under the RTE Act”

(Praveen & R. P, 2018). Supporting to this, Sethi and Muddgal (2017) revealed that “most of the teachers in rural and urban areas are not the aware about the norms, standard and criteria of the RTE Act, and they were implementing based on their personal knowledge.” The study of Babu & Sekarayya, (2018) also shows that it is necessary to involve the Local Govt. especially Panchayati Raj Institutions (PRIs) in rural areas for universalization of elementary education through implementation of RTE Act effectively. Singh (2016) revealed that “there are a number or challenges and issues such as lack of requisite infrastructure, lack of co-ordination between various implementing agencies and challenges to provide quality education, effort should be focused on qualitative improvement of the whole program by the Govt. With full dedication and commitment. Singh M. (2017) reported that RTE Act was not implemented effectively in terms of pupil-teacher ratio, trained teachers and in providing quality education. Mandal (2021) revealed that “RTE Act is not implemented properly, Govt. should take immediate action to ensure all the basic facilities in the school like safe drinking water, library,

laboratory etc. for achieving universalization of elementary education”. From the review of related literature of this study it can be concluded that RTE Act is not properly being implemented. Many schools have not fulfilled the criteria norms prescribed by RTE ACT 2009. Many studies have been conducted regarding issues, challenges, and problems in the implementation of RTE Act. Therefore, there is a felt need to study how far the RTE Act

2009 is effective in terms of enrolment of relevant age group children, age 6-14, accessibility, student teacher ratio and provision of infrastructure such as classroom, textbook, drinking water and toilet in elementary education in rural schools.

OBJECTIVES OF THE STUDY:

1. To study the status of the enrollment in elementary schools of rural areas.
2. To study the status of student teacher ratio in elementary schools of rural areas.
3. To study the status of infrastructure facilities in elementary schools of rural areas.
4. To study the problems faced by the school authority while giving enrollment to children of the relevant age group in rural areas.
5. To examine the strategies adopted by school in ensuring universal enrollment of children of relevant age group in rural areas.

METHODOLOGY:

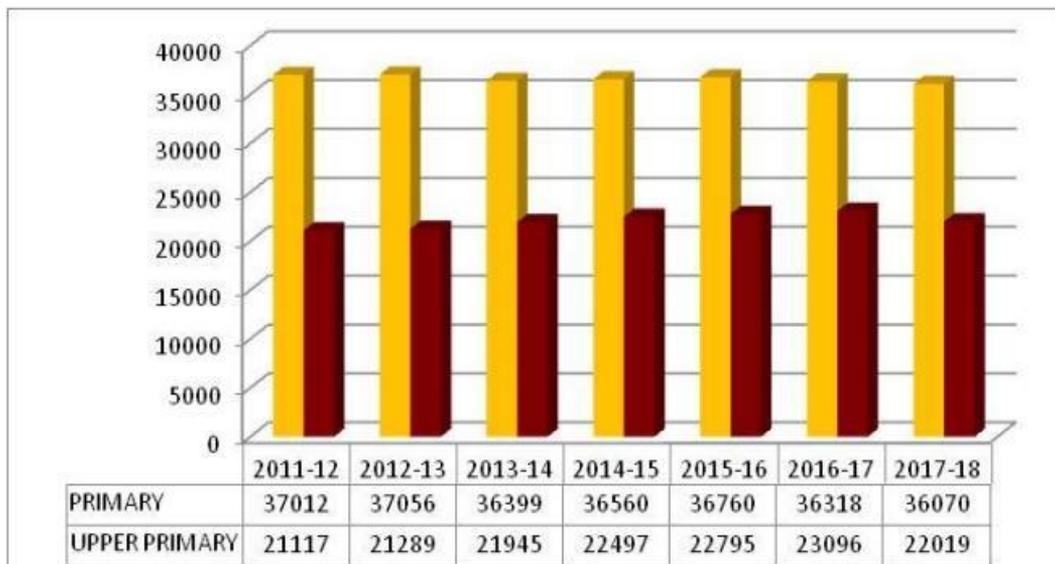
This study aimed at investigating the Effect of RTE Act 2009 in schools of Odisha. However, in terms of enrolment of relevant age group children, age 6-14, accessibility, student teacher ratio and provision of infrastructure such as classroom, textbook, drinking water and toilet in elementary education in rural and urban schools. Hence the present study is stated as “Effect of RTE Act 2009 on Enrolment and Retention of Children in Schools of Odisha. For

this research, an exploratory survey method was used. In some of the elementary schools of Odisha. SMC members and headmaster of school were selected as the sample of study.

The relevant data were collected though Questionary was adopted for this research study.

FINDINGS OF THE STUDY:

Fig1: Showing the Number of Primary and Upper Primary Schools of Odisha



Source: OPEPA

The image shows a bar graph depicting the number of Primary and Upper Primary schools in Odisha from the 2011-12 to 2017-18 academic years.

Analysis:

1. Overall Trend:

- The number of primary schools (shown in yellow) remained relatively stable over the years, with slight fluctuations. In 2011-12, there were about 37,000 primary schools, and by 2017-18, the number was around 36,000.

- The number of upper primary schools (shown in red) also showed a generally stable trend, with a slight decrease towards the end, from approximately 21,000 in 2011-12 to around 22,000 in 2017-18.

2. Comparison Between Primary and Upper Primary Schools:

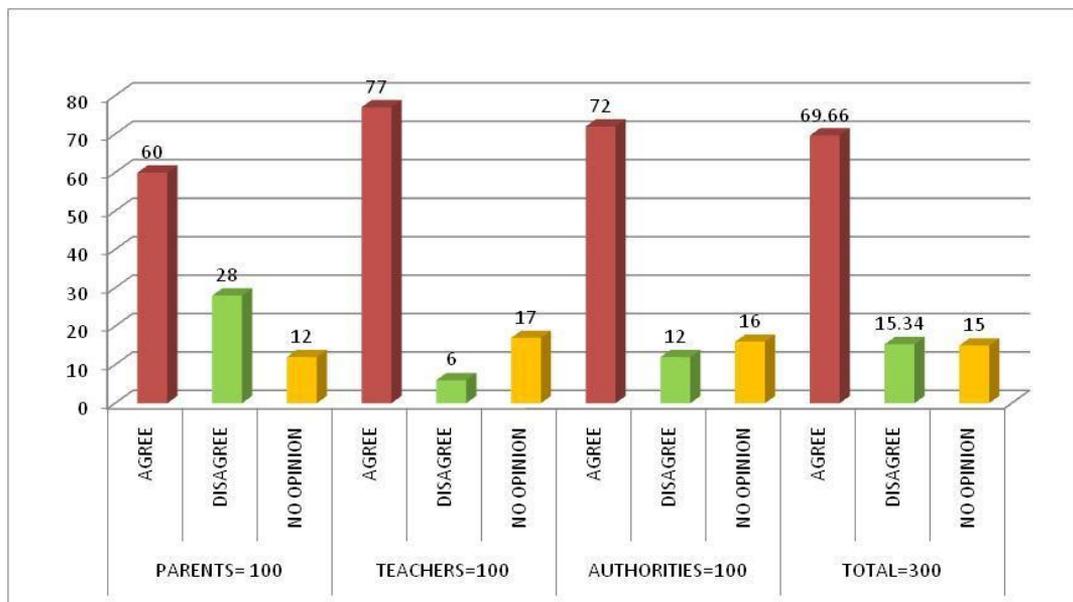
- Throughout the years, the number of primary schools has consistently been higher than the number of upper primary schools. The gap remained relatively constant.

3. Year-to-Year Variations:

- There is a small dip in the number of schools in 2016-17 for both primary

and upper primary levels. However, the numbers rebounded slightly in 2017-18.

Fig2. Responses of the Samples across Groups with respect to Children Receiving Free and Compulsory Education in Schools in the State of Odisha



Source- Data collected by the researcher by application of questionnaire,

The chart shows the responses of three groups (Parents, Teachers, and Authorities) regarding children receiving free and compulsory education in schools in Odisha.

Analysis:

1. Parents' Responses:

- 60% agree, 28% disagree, and 12% have no opinion.
- A majority of parents are in Favor of the idea, but there is still a notable percentage who disagree.

2. Teachers' Responses:

- 77% agree, 6% disagree, and 17% have no opinion.
- Teachers show strong support for the concept, with very few disagreements.

3. Authorities' Responses:

- 72% agree, 12% disagree, and 16% have no opinion.
- Authorities also show strong agreement, though there is some skepticism.

4. Overall Responses:

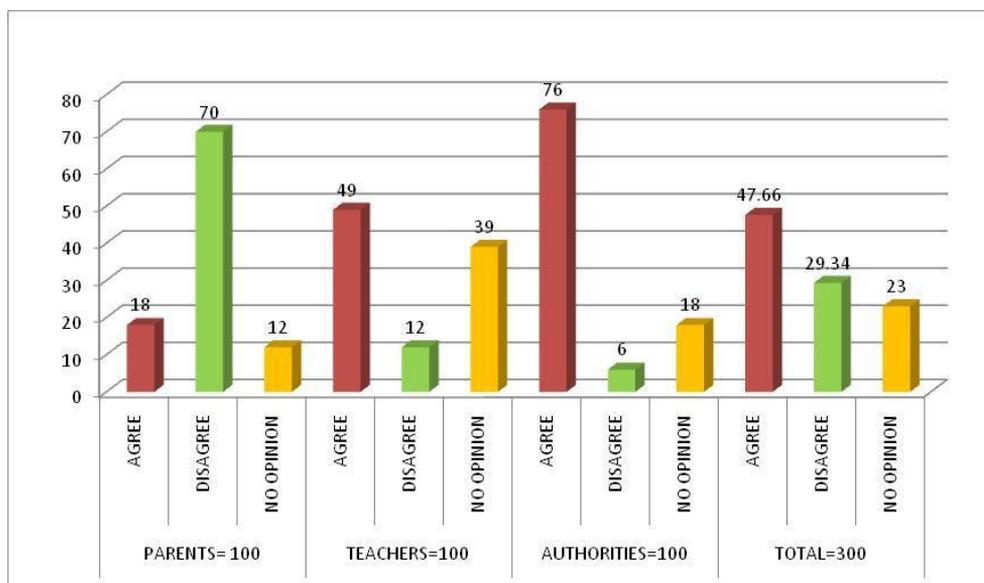
- 69.66% agree, 15% disagree, and

15.34% have no opinion.

○ Overall, the majority supports the

initiative, though some disagreement and uncertainty remain.

Fig 3. Responses of the Samples across Groups with respect to Admission of Child belonging to Disadvantaged Group”, “Child belonging to Weaker Section”; Child with Disability” and child with “Severe Disability”



Source- Data Collected by the researcher

The chart displays responses from three groups (Parents, Teachers, and Authorities) regarding the admission of children from disadvantaged groups, weaker sections, children with disabilities, and severe disabilities in schools.

Analysis:

1. Parents' Responses:

- 18% agree, 70% disagree, and 12% have no opinion.
- A significant majority of parents disagree with the admission of such children, with a small percentage supporting it.

2. Teachers' Responses:

- 49% agree, 39% disagree, and 12% have no opinion.
- Teachers show a more balanced view, with nearly half agreeing and a substantial portion disagreeing.

3. Authorities' Responses:

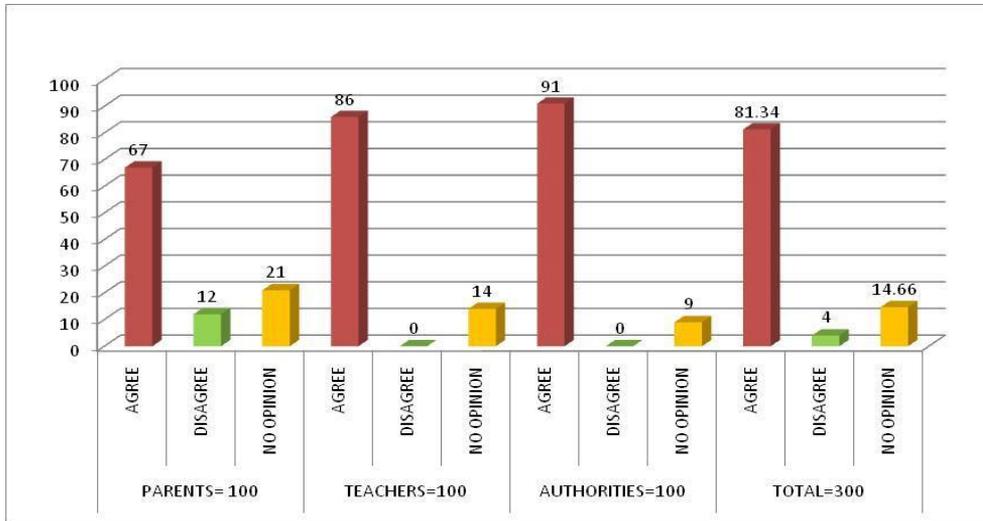
- 76% agree, 6% disagree, and 18% have no opinion.
- Authorities strongly support the admission of children from these categories, with very few disagreeing.

4. Overall Responses:

- 47.66% agree, 29.34% disagree, and 23% have no opinion.

- Overall, there is more agreement than disagreement, though a significant portion remains neutral or disagrees.

Fig.4 Responses of the Samples across Groups with respect to Admission of Drop out Students



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the admission of dropout students.

Analysis:

1. Parents' Responses:

- 67% agree, 12% disagree, and 21% have no opinion.
- A majority of parents support the admission of dropout students, with some disagreement and a significant portion remaining neutral.

2. Teachers' Responses:

- 86% agree, 0% disagree, and 14% have no opinion.

- Teachers overwhelmingly agree with the admission of dropout students, showing strong support.

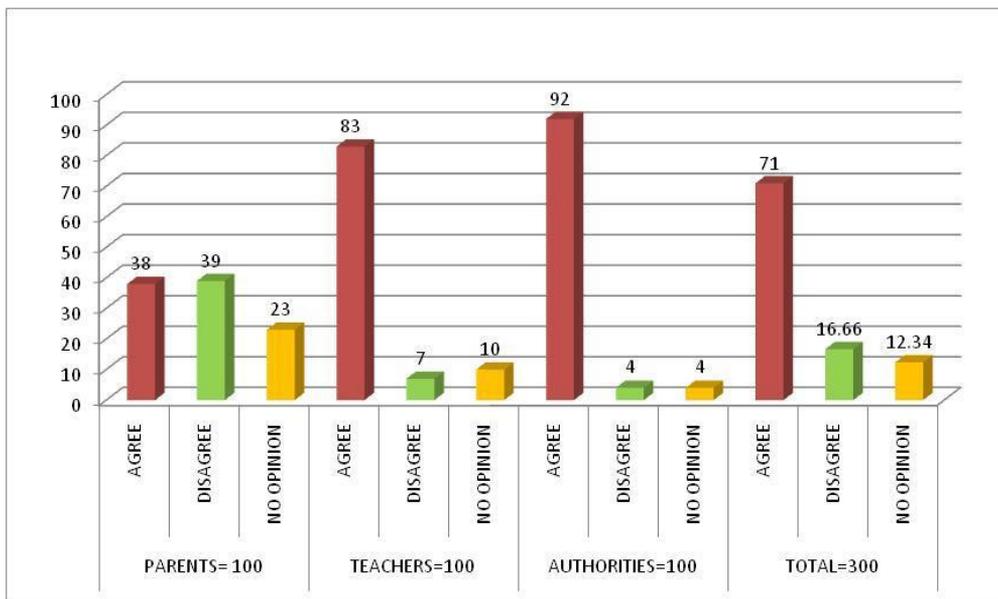
3. Authorities' Responses:

- 91% agree, 0% disagree, and 9% have no opinion.
- Authorities strongly support the admission of dropout students, with minimal opposition.

4. Overall Responses:

- 81.34% agree, 14.66% disagree, and 4% have no opinion.
- The overall consensus is overwhelmingly positive, with most respondents in favor of admitting dropout students.

Fig 5. *Responses of the Samples across Groups with respect to Right to Transfer of Students*



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the right to transfer students.

Analysis:

1. Parents' Responses:

- 38% agree, 39% disagree, and 23% have no opinion.
- Parents are nearly divided on this issue, with a slight majority disagreeing and a portion remaining neutral.

2. Teachers' Responses:

- 83% agree, 7% disagree, and 10% have no opinion.

- Teachers strongly support the right to transfer students, with very few opposing it.

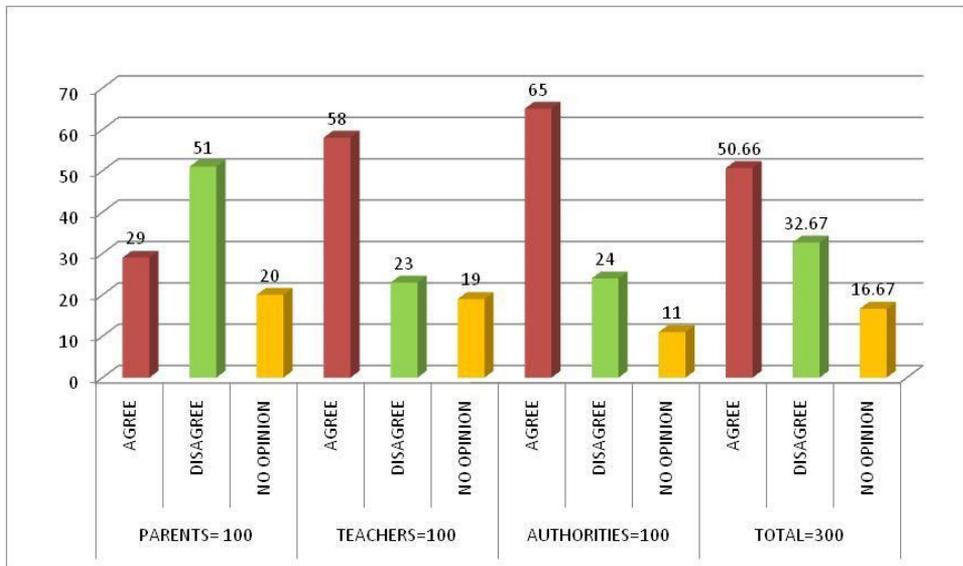
3. Authorities' Responses:

- 92% agree, 4% disagree, and 4% have no opinion.
- Authorities overwhelmingly agree with granting students the right to transfer, with minimal opposition.

4. Overall Responses:

- 71% agree, 16.66% disagree, and 12.34% have no opinion.
- The overall trend is strongly in favor of granting students the right to transfer, though some disagreement and neutrality remain.

Fig.6 Responses of the Samples across Groups with respect to Punishing the Parents for not sending their children to School



Source- Data Collected by the researcher

The chart displays responses from three groups (Parents, Teachers, and Authorities) regarding the issue of punishing parents for not sending their children to school.

Analysis:

1. Parents' Responses:

- 29% agree, 51% disagree, and 20% have no opinion.
- A majority of parents disagree with punishing them, with a significant portion also remaining neutral.

2. Teachers' Responses:

- 58% agree, 23% disagree, and 19% have no opinion.

- Teachers show moderate support for punishing parents, with a smaller portion disagreeing.

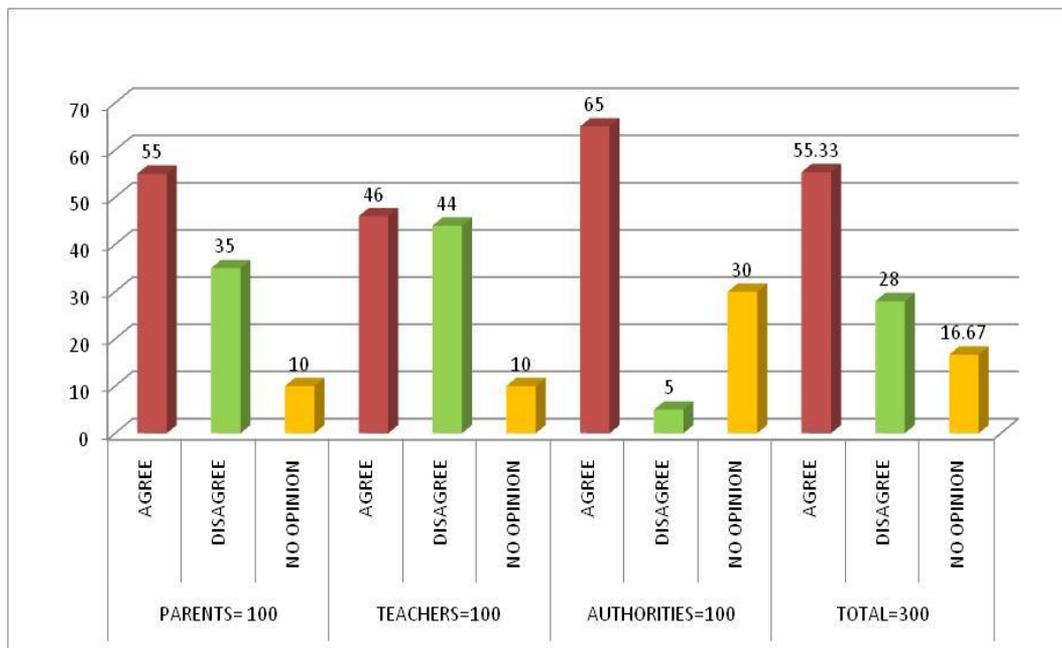
3. Authorities' Responses:

- 65% agree, 24% disagree, and 11% have no opinion.
- Authorities strongly support the idea, with only a few dissenting opinions.

4. Overall Responses:

- 50.66% agree, 32.67% disagree, and 16.67% have no opinion.
- The overall trend shows moderate support for punishing parents, with a considerable portion of respondents disagreeing.

Fig.7 Responses of the Samples across Groups with respect to the Time of Establishment of Neighborhood Schools in the State of Odisha



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the establishment of neighbourhood schools in Odisha.

Analysis:

1. Parents' Responses:

- 55% agree, 35% disagree, and 10% have no opinion.
- A majority of parents support the idea, though a notable percentage disagree.

2. Teachers' Responses:

- 46% agree, 44% disagree, and 10% have no opinion.

- Teachers show a more divided opinion, with nearly equal percentages agreeing and disagreeing.

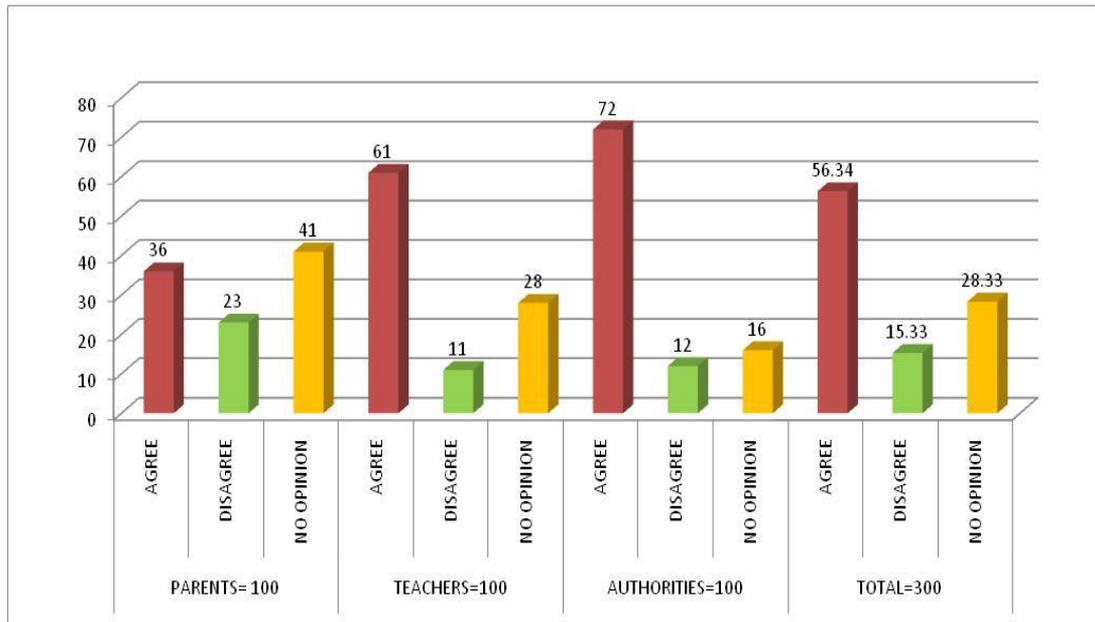
3. Authorities' Responses:

- 65% agree, 5% disagree, and 30% have no opinion.
- Authorities strongly support the establishment of neighbourhood schools, with minimal opposition.

4. Overall Responses:

- 55.33% agree, 28% disagree, and 16.67% have no opinion.
- Overall, there is more agreement than disagreement, with a significant portion remaining neutral.

Fig.8 Responses of the Samples across Groups on whether Central and Government of Odisha Provide Financial grants for the Development and Standardization of School education



The chart displays responses from three groups (Parents, Teachers, and Authorities) regarding whether the Central and Odisha Government provide financial grants for the development and standardization of school education.

Analysis:

1. Parents' Responses:

- 36% agree, 23% disagree, and 41% have no opinion.
- While a portion of parents agrees, a majority remain neutral, indicating uncertainty or lack of information on the issue.

2. Teachers' Responses:

- 61% agree, 11% disagree, and 28% have no opinion.

- Teachers show strong support, with a majority agreeing, but a notable portion remains neutral.

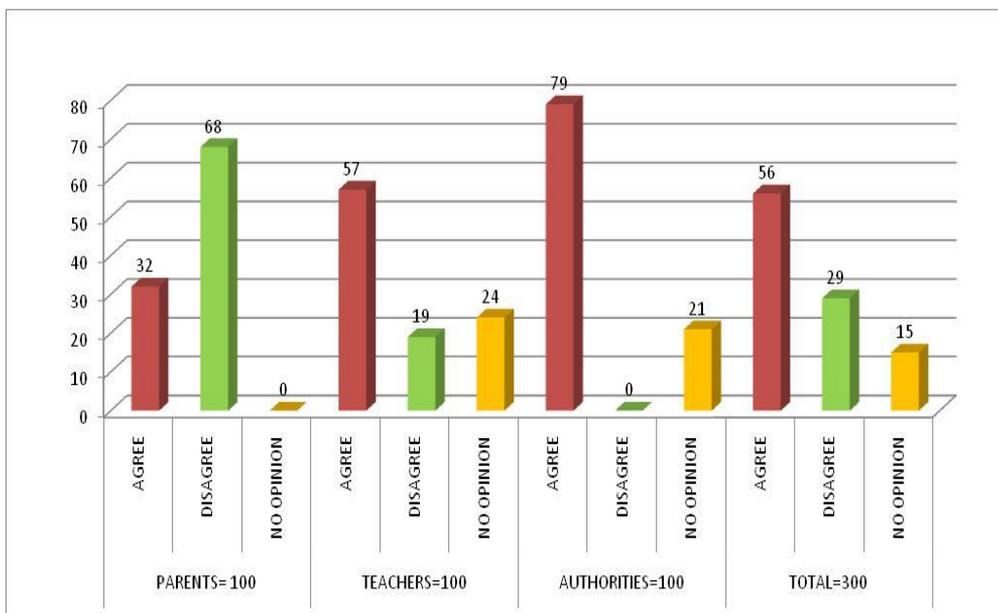
3. Authorities' Responses:

- 72% agree, 12% disagree, and 16% have no opinion.
- Authorities strongly agree, indicating confidence in the financial support provided for educational development.

4. Overall Responses:

- 56.34% agree, 15.33% disagree, and 28.33% have no opinion.
- The overall trend shows moderate agreement, with significant neutral responses, indicating that while there is support for government financial grants, many are unsure or lack clear opinions.

Fig.9 Responses of the Samples across Groups on whether Government of Odisha and Local Authority provide proper Infrastructure, Monitor Admission and Quality Education, Special Training Facility for Students and Teachers.



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) on whether the Government of Odisha and local authorities provide proper infrastructure, monitor admission and quality education, and offer special training facilities for students and teachers.

Analysis:

1. Parents' Responses:

- 32% agree, 68% disagree, and 0% have no opinion.
- A large majority of parents disagree, indicating dissatisfaction with the current infrastructure and training provisions.

2. Teachers' Responses:

- 57% agree, 19% disagree, and 24% have no opinion.
- Teachers show moderate support for the claim, with a majority agreeing but a significant portion remaining neutral.

3. Authorities' Responses:

- 79% agree, 0% disagree, and 21% have no opinion.
- Authorities are overwhelmingly in agreement, indicating strong confidence in the government's provision of proper infrastructure and educational facilities.

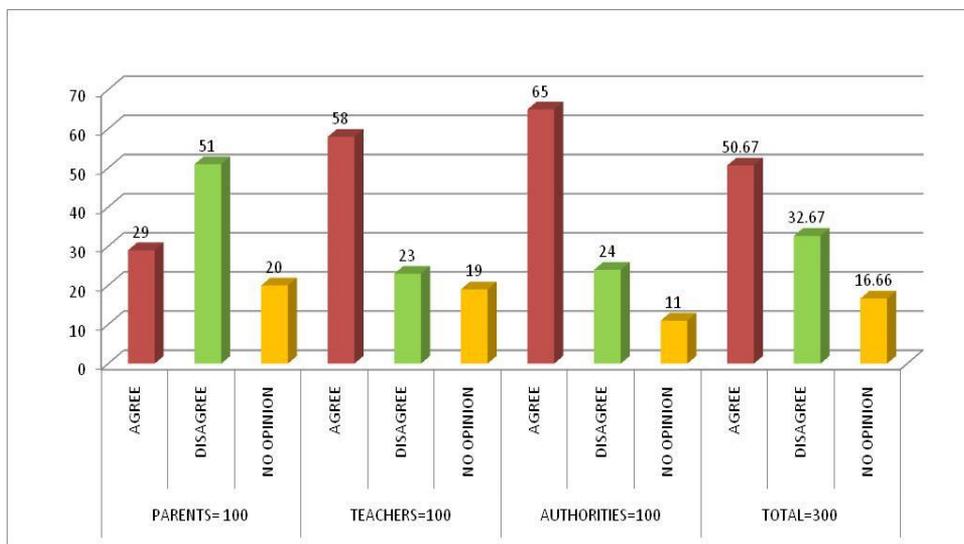
4. Overall Responses:

- 56% agree, 29% disagree, and 15% have no opinion.

- The overall trend shows a majority in favor of the claim, though there is

significant disagreement, particularly among parents.

Fig.10 Responses of the Samples across Groups on Provision of Pre School-Education by Government of Odisha



Source- Data Collected by the researcher

The chart displays responses from three groups (Parents, Teachers, and Authorities) regarding the provision of preschool education by the Government of Odisha.

Analysis:

1. Parents' Responses:

- 29% agree, 51% disagree, and 20% have no opinion.
- A majority of parents disagree with the provision of preschool education, suggesting dissatisfaction with the availability or quality of such services.

2. Teachers' Responses:

- 58% agree, 23% disagree, and 19% have no opinion.
- Teachers show moderate support, with a majority agreeing, though some disagree, and a portion remain neutral.

3. Authorities' Responses:

- 65% agree, 24% disagree, and 11% have no opinion.
- Authorities strongly support the provision of preschool education, indicating confidence in the government's efforts.

4. Overall Responses:

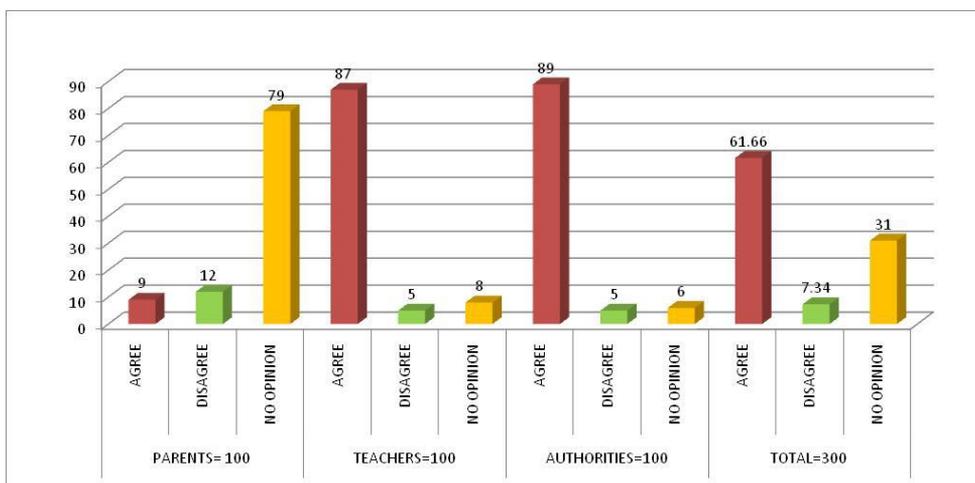
- 50.67% agree, 32.67% disagree, and 16.66% have no opinion.
- The overall trend reflects moderate

support for the provision of preschool education, though there is still

- o parents.

significant disagreement, particularly from

Fig. 11 Responses of the Samples across Groups with respect to Child between the age of six to Fourteen years take admission in school without Proof of age, Admission and Capitation fees and Entrance Test in the State of Odisha.



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the admission of children aged six to fourteen in schools without proof of age, admission fees, or entrance tests in Odisha.

Analysis:

1. Parents' Responses:

- o 9% agree, 12% disagree, and 79% have no opinion.
- o The majority of parents have no opinion on this matter, with a small percentage supporting or opposing it.

2. Teachers' Responses:

- o 87% agree, 5% disagree, and 8% have no opinion.
- o Teachers overwhelmingly support the idea, with minimal opposition and few remaining neutral.

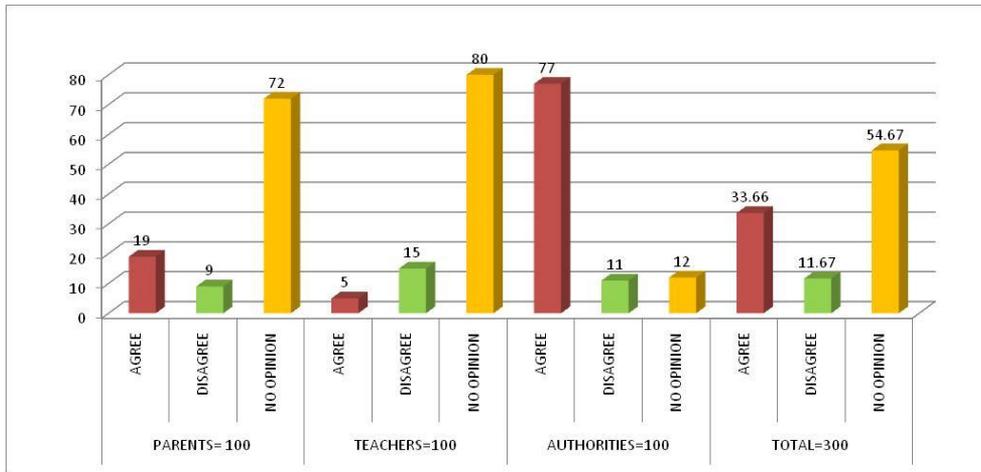
3. Authorities' Responses:

- o 89% agree, 5% disagree, and 6% have no opinion.
- o Authorities also strongly support the idea, with very few dissenting opinions.

4. Overall Responses:

- o 61.66% agree, 7.34% disagree, and 31% have no opinion.
- o The overall trend shows strong agreement, with a significant number of respondents remaining neutral.

Fig. 12 Responses of the Samples across Groups with respect to No Subjection of students to Physical Punishment and Mental Harassment by the Teachers and Authorities.



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the issue of preventing physical punishment and mental harassment of students by teachers and authorities.

Analysis:

1. Parents' Responses:

- 19% agree, 9% disagree, and 72% have no opinion.
- A significant majority of parents have no opinion on this issue, with a small portion agreeing and disagreeing.

2. Teachers' Responses:

- 5% agree, 15% disagree, and 72% have

no opinion.

- Teachers show little support for this issue, with most expressing neutrality and a small portion disagreeing.

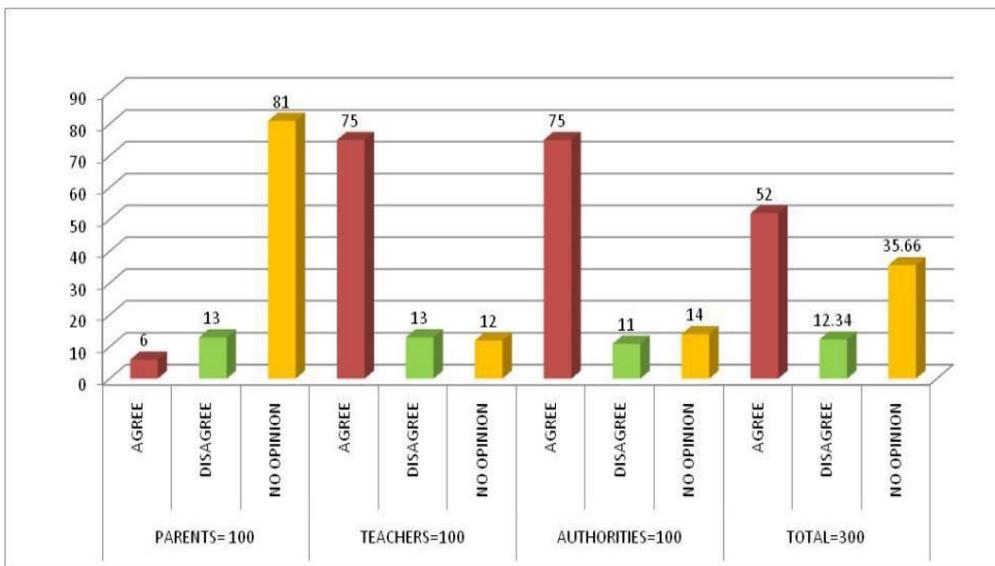
3. Authorities' Responses:

- 80% agree, 11% disagree, and 77% have no opinion.
- Authorities strongly support the idea of no physical punishment or mental harassment, but a large number still remain neutral.

4. Overall Responses:

- 54.67% agree, 33.66% disagree, and 11.67% have no opinion.
- The overall trend shows strong agreement, though many remain neutral or disagree.

Fig. 13 *Responses of the Samples across Groups towards Recognition All Private Neighborhood schools and Fulfillment Statutory Norms.*



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) on the recognition of all private neighbourhood schools and the fulfilment of statutory norms.

Analysis:

1. Parents' Responses:

- 6% agree, 13% disagree, and 81% have no opinion.
- A large majority of parents remain neutral, with a small percentage supporting or opposing the idea.

2. Teachers' Responses:

- 75% agree, 13% disagree, and 12% have no opinion.

- Teachers show strong support for recognizing private neighbourhood schools and fulfilling statutory norms, with minimal opposition.

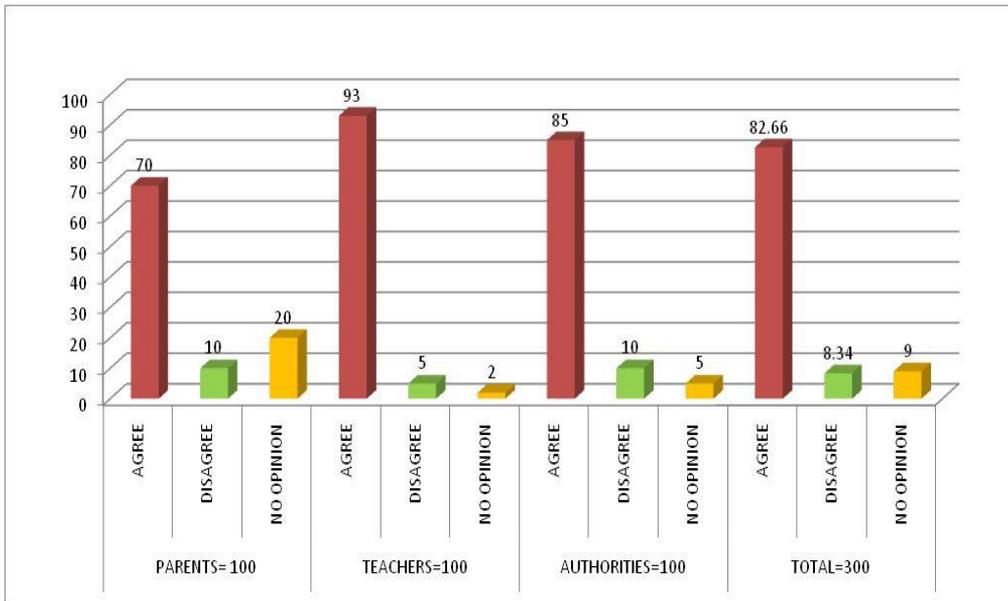
3. Authorities' Responses:

- 75% agree, 11% disagree, and 14% have no opinion.
- Authorities also strongly support the recognition of private schools and adherence to statutory norms.

4. Overall Responses:

- 52% agree, 12.34% disagree, and 35.66% have no opinion.
- The overall trend shows moderate support, but a significant portion remains neutral

Fig. 14 Responses of the Samples across Groups with respect to the Curriculum Designing of Elementary Education in the State of Odisha.



Source- Data Collected by the researcher

The chart presents responses from three groups (Parents, Teachers, and Authorities) regarding the curriculum design for elementary education in Odisha.

Analysis:

1. Parents' Responses:

- 70% agree, 10% disagree, and 20% have no opinion.
- A strong majority of parents support the current curriculum design, though there is some disagreement and neutrality.

2. Teachers' Responses:

- 93% agree, 5% disagree, and 2% have no opinion.

- Teachers overwhelmingly agree with the curriculum design, with very few dissenting opinions.

3. Authorities' Responses:

- 85% agree, 10% disagree, and 5% have no opinion.
- Authorities also show strong support for the curriculum design, though there is some opposition.

4. Overall Responses:

- 82.66% agree, 8.34% disagree, and 9% have no opinion.
- The overall trend is strongly in favor of the current curriculum design, with minimal opposition.

EDUCATIONAL IMPLICATIONS

The present study has its implication based on the findings of the study, the following issues and problems need to be addressed.

1. Out of school children should be enrolled in age-appropriate class so the universalization of elementary education can be achieved in rural area.
2. Professional teachers have to be recruited to fill in the gap of pupil teacher ratio at the elementary level. In most of the rural school pupil teacher ratio was not as per the RTE Act.
3. Residential facilities should be provided for those teachers and students who come from distant places.
4. Separate room for each class needs to be allocated provided the number of students should be accommodated. This needs to be done soon so that the teachers can give attention to each class.
5. Travelling or transportation facilities like school busses for children must be made for those who usually walk to school at a distance place, or the school should be established in their habitation that would be within the walking distance.
6. More awareness programme, SMC meeting and village meeting should be held in rural school for universalization of elementary education.

CONCLUSION:

The Right to Education Act 2009 came into force in the year 2010 however the present study found there is a gap in its implementation of RTE Act in rural areas in terms of physical infrastructure of the school, student teacher ratio and establishment of neighborhood school. It can be concluded that the RTE Act is neither effective nor properly implemented in rural area. Therefore, holistic study would be conducted to understand the implementation of the RTE Act in rural area. Besides, both the State govt.

and local bodies should take initiative to address the problems and issues and further implementation of the RTE Act in rural area. Side by side the study found there are many problems in elementary education after implementation of RTE Act in rural area due to lack physical infrastructure, student teacher ratio and neighborhood school which is a big challenge for both the state govt. and stakeholder. Therefore, required physical resource, human resource and financial resource should be allocated to overcome the existing problems in elementary education in rural area.

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