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**BOOK CHAPTER**  
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# Policy Reforms in Action Transformations & Lessons for Global Economies



Transformations & Lessons for Global Economies

Policy Reforms in Action

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## *From the Editor's Desk,.....*



In an era of rapid globalization, technological disruption, and shifting geopolitical dynamics, the role of public policy has never been more pivotal. Governments worldwide are continually navigating complex socio-economic challenges ranging from fiscal instability and climate change to inequality and digital transformation. *Policy Reforms in Action: Transformations and Lessons for Global Economies* emerges as a timely and essential contribution to understanding how deliberate policy interventions can reshape economic trajectories and social landscapes. This Book chapter volume explores the transformative potential of policy reforms across diverse national contexts. By analyzing case studies from both developed and developing economies, in this chapter volume underscores how strategic shifts in areas such as taxation, trade, labor markets, environmental regulation, and social welfare can drive inclusive growth, resilience, and innovation. The objective is not only to highlight success stories but also to extract critical lessons from reforms that fell short or yielded unintended consequences.

This book chapter volume is intended for policymakers, researchers, students, and practitioners seeking to better understand the dynamics of reform implementation and its real-world impacts. By presenting actionable insights and comparative analyses, it aims to inform future policy design that is equitable, adaptable, and forward-looking.

We hope this work inspires dialogue, reflection, and innovation in the ongoing pursuit of policy that not only responds to present demands but also anticipates the needs of future generations.

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## **A STUDY ON DIGITAL MARKETING STRATEGIES ON CUSTOMER RETENTION IN FASHION RETAIL OUTLETS: A LITERATURE REVIEW**

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**Abstract:** *In the ever-changing world of fashion retail, keeping customers has become essential to long-term success. Fashion stores are depending more and more on digital channels to interact with and keep consumers as the retail industry changes. The production and development of apparel, accessories, footwear, cosmetics, and jewellery are all part of the global fashion industry. This intricate network includes designers, manufacturers, merchants, and customers. They are essential to the fashion industry because they allow customers to physically inspect, feel, and try on items before purchasing. In particular, the study focuses on how digital marketing tactics affect the fashion retail industry's ability to retain customers. Customer retention is essential to long-term company success. It entails individualised communication to accommodate each customer's unique preferences and habits, first-rate customer support to resolve issues rapidly, and rewarding loyalty with exclusive deals and discounts. By providing loyal customers with exclusive offers and learning about their journey, you can find and address their problems and eventually reduce customer attrition. This survey of the literature looks at the fashion industry, fashion shops, customer retention, digital marketing, and marketing methods. In addition to outlining new trends and suggestions for digital engagement and acquisition tactics that are suitable for the particular requirements of the fashion retailing sector, the analysis emphasises important findings from past research.*

**Keywords:** Digital Marketing, Customer Retention, Fashion Industry, Fashion retailers, Marketing Strategies

### **INTRODUCTION**

Digital marketing" refers to a broad category of methods and techniques used to advertise goods and services online. It's a fast-paced industry that uses digital technologies and the Internet to connect and interact with consumers. Digital marketing methods are crucial for companies hoping

to have a solid online presence and successfully connect with their target audience. Since keeping current customers is frequently more cost-effective than finding new ones, client retention is essential for any firm. Businesses should concentrate on offering exceptional customer service, making sure that clients feel acknowledged and appreciated, to increase customer retention. With customised offers and communications based on consumer preferences and behaviour, personalisation is essential. In 2024, automation, sustainability, and vertical integration are driving revolutionary changes in the fashion sector. To guarantee quality and fulfil strict deadlines, businesses are now managing additional supply chain phases, from textile manufacturing to dyeing. With initiatives to use eco-friendly materials and cut waste, sustainability is still a key goal. Robots are replacing conventional labour positions, increasing productivity, and cutting production costs as automation grows. Fashion retail establishments are the backbone of the worldwide fashion industry, providing customers with a wide selection of clothing, jewellery, and other fashion necessities. The size and breadth of these establishments can vary greatly, ranging from upscale boutiques that offer luxury customers exclusive designer items to large department stores that stock a variety of brands.

For instance, stores like Fashion Factory and Unlimited Fashion are well-liked in Tamil Nadu since they offer a wide range of options at affordable prices. Additionally, by providing distinctive, locally made, or designer goods, neighbourhood boutiques add to the lively retail scene. The retail industry's overall digital transition is reflected in the way that many businesses are incorporating digital tools to improve customer experiences and expedite processes.

## **Review of Literature**

### **Digital Marketing**

Dejan Daši, Vladan Vučić, Željko Turčinović, and Miloš Tošić's article "Digital Marketing: Marketing Opportunities and the Power of Digital Consumers" [2023] stresses the important transition from traditional to digital marketing and its vital significance in modern company practices. He discusses several ways to use digital tools to draw in and keep customers. He highlights how digital marketing can boost productivity and customer engagement, particularly in industries like agribusiness. The article also highlights how technologies like artificial intelligence (AI), social media, and e-commerce revolutionise marketing techniques and how companies must adjust to these digital trends to stay competitive and satisfy shifting customer demands.

"Characteristics of the digital marketing advantages and disadvantages," by S.S. Veleva and A.I. Tsvetanova [2020], Digital marketing, which leverages information and communication technology to enhance customer satisfaction and customer relationship management, is crucial for corporate transformation. It is appropriate for various enterprises because of its benefits, which include high interactivity, cost-effectiveness, and quantifiable outcomes. But it also has drawbacks, such as being vulnerable to competition and having to comprehend how customers behave online, as well as possible technical difficulties, which emphasises how crucial a well-planned approach is to successful execution.

In their 2018 study, “Digital Marketing of Mutual Funds: A Demographic Approach,” Madhukar S. M. and Dr. M. G. Krishnamurthy explore how digital marketing affects mutual fund investment choices, particularly emphasising demographic variables that affect online investing. ANOVA and descriptive statistics were used to evaluate the data from a survey that was completed by 100 people in the Dakshina Kannada area. The findings indicate that factors like marital status and career have a big impact on mutual fund investing behaviour online. This emphasises how crucial it is to comprehend demographic profiles to implement successful digital marketing tactics in the mutual fund industry.

### **Marketing Strategies**

Susanne Schwarzl and Grabowska Monika, “Online Marketing Strategies: The Future is Here,” by Brands [2015], act as a standard reference for consumers, making decision-making easier by tying experiences to future options and offering assurance. The balance between the advantages obtained and the expenses incurred—which include work, time, and money—is reflected in the value to the customer. While the purchasing process entails making snap decisions at the moment of sale and post-purchase procedures concentrate on customer pleasure and loyalty, creating a customer value chain, product development, and marketing strategies depend heavily on an understanding of brand perception and consumer value.

In their 2012 work, “Evolution of Sustainability as a Marketing Strategy: Dawn of a New Era,” Vinod Kumara, Zillur Rahman, A. A. Kazmi, and Praveen Goyal In addition to highlighting the change from environmental concerns in the 1970s to a more comprehensive focus on social issues and sustainability today, the study explores the evolution of sustainability as a crucial element of marketing strategy. The presentation of the “triple bottom line” concept highlights the significance of striking a balance between profit, people, and the environment in corporate operations. Although it can be difficult, the authors contend that businesses looking to gain a competitive edge in a market where consumer demands are more closely aligned with sustainable practices must incorporate sustainability into their marketing.

### **Digital Marketing Strategies**

In the article “Exploring Digital Marketing Strategies During the New Normal Era in Enhancing the Use of Digital Payment,” Gede Sri Darma and I Putu Teddy Noviana [2020] talk about how COVID-19 had a big effect on Bali's tourism industry and how many workers began working for micro, small, and medium-sized businesses (MSMEs). To reduce cash transactions, he emphasises the significance of implementing digital marketing and payment methods. Bank Indonesia is essential in assisting and educating MSMEs about digital finance. The successful shift to digital solutions was demonstrated by the noteworthy fact that 90% of incoming payments from MSMEs taking part in the study were handled through mobile banking.

“The Management of Digital Marketing Strategies in Social Network Services: A Comparison between American and European Organisations,” by Luis Matosas-López [2021], Through an analysis of 158,208 publications from 40 colleges, the study looks at the digital marketing tactics employed by American and European businesses in social networking services, particularly Twitter. The findings indicate that European organisations prioritise audience contact, whereas American organisations typically favour one-way communication. Significant variations in publication quantities, constituents, and followership were discovered, indicating that rather than depending on a universal strategy, digital marketing tactics should be customised for local settings.

### **Customer Retention**

A study by Rajani Talikoti, Anuradha C. K., and Dr P. S. Subhadra [2019] titled “An Empirical Study on Technological Impact on Customer Retention” looks at how technology affects customer retention tactics. It emphasises the crucial role that customer experience and satisfaction play by showing that a mere five percent increase in customer retention can result in a 25–95 percent increase in earnings. According to the study's findings, cost reductions increase customer satisfaction but do not always result in greater customer loyalty, even though digital technologies greatly increase customer engagement and retention. This underscores the necessity of continuously enhancing the customer experience through technology.

Scott A. Neslin, Oded Netzer, Eva Ascarza, et al. [2017] “In Pursuit of Enhanced Customer Retention Management: Review, Key Issues, and Future Directions” The difficulties of managing client retention are covered in the paper, which also highlights the necessity for a broad definition of customer retention that extends beyond simple metrics. In addition to addressing the trade-offs between reactive and proactive efforts, it highlights the significance of utilising data and machine learning to forecast customer attrition and create successful client retention strategies. To increase customer loyalty and boost company profitability, the conclusion urges more studies on campaign design, targeting, and efficient customer retention measurement.

### **Fashion Industry**

Shuai Yang, Yiping Song, and Siliang Tong's “Sustainable Retailing in the Fashion Industry: A Systematic Literature Review” [2017]. This study identifies important areas, including green branding and eco-labelling, second-hand clothing retailing, reverse logistics, and sustainable practices in the disposable, fast, and slow fashion industries. It also does a systematic labelling evaluation on sustainable retailing in the fashion business. Although the survey points out that developing markets are not the main emphasis, it does indicate the growing interest in sustainability in the fashion business. The results highlight how important merchants are in advancing sustainability and the necessity of integrated approaches that consider social, economic, and environmental aspects.

By Shaik Vaseem Akram, Praveen Kumar Malik, Rajesh Singh, and others, “Implementation of Digitalised Technologies for Fashion Industry 4.0: Opportunities and Challenges” [2022], The report examines the development and significance of digitisation in the fashion sector, which generates \$3 trillion and accounts for 2% of the world's GDP despite social and environmental

issues such as waste and excessive CO2 emissions. Through applications like smart apparel, supply chain management, health monitoring, and fashion trend forecasting, it emphasises how digital technologies like IoT, AI, blockchain, AR, and VR can enhance sustainability and innovation. The report also offers suggestions for enhancing energy storage in smart apparel, including IoT and AI for real-time health monitoring and implementing blockchain for transparency.

### **Fashion Retail**

Alka Sharma, Vibhu Johar, and Ketan Bhat's article "Technology in fashion retail: exploring the nexus of in-store technology, customer experience, and store image" [2024], The study uses structured equation modelling with AMOS 21 to investigate how store technology affects consumer behaviour. Its foundation is Bitner's stimulus-organisation-response (SOR) model, which highlights how retail environments alter consumers' emotional, cognitive, and psychological reactions. A reliable sample of 245 respondents was used in the study. To determine the relationship between these technologies and consumer behaviour in a retail setting, a questionnaire was created to evaluate demographic profiles and other pertinent technologies."The role of packaging in omnichannel fashion retail supply chains: How can packaging contribute to logistics efficiency?" by Stephan L. K. Freichel, Johannes Wollenburg, and Johannes K. Wörtge [2020]. The study looks at how packaging functions in omnichannel fashion retail distribution and highlights issues and solutions that supply chain partners and retailers encounter. To guarantee neutrality and reliability, the researchers used a thorough coding method to group the data into first-order categories, second-order themes, and aggregated dimensions. Key conclusions emphasise the function of primary and shipping packaging, the significance of packaging systems in integrating distribution networks, and future package design concerns, with a focus on customer acceptance and connectivity as crucial success elements.

### **Conclusion**

To sum up, the research on digital marketing tactics for retaining customers in fashion retail establishments emphasises how important digital tools and methods are for preserving client loyalty. Fashion merchants may successfully engage with their intended consumers and build enduring relationships by utilising tactics like social media engagement, personalised content, and loyalty programs. Overall, the study highlights how crucial a well-designed online marketing strategy is to improving client retention and fostering long-term company success in the cutthroat retail fashion sector.

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## **THE ROLE OF SOCIAL MEDIA IN DIGITAL MARKETING**

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**Abstract:** *In the contemporary digital age, social media has emerged as an indispensable tool in the realm of digital marketing. It plays a fundamental role in enhancing brand awareness, allowing businesses to connect with a global audience, and creating a strong online presence. The ability to reach potential customers through platforms like Facebook, Twitter, Instagram, and LinkedIn offers businesses an unprecedented opportunity to build brand recognition and credibility. By effectively harnessing the power of social media, companies can ensure that their message is not only heard but also shared, leading to increased visibility and a competitive edge in the digital marketplace.*

*Customer engagement is another cornerstone of social media's role in digital marketing. It facilitates direct and real-time interaction between brands and their customers. Through platforms like Twitter and Instagram, businesses can respond to customer inquiries, address concerns, and actively engage with their target audience. This engagement not only fosters brand loyalty but also provides valuable insights into consumer preferences and behaviours, which can inform marketing strategies. Social media's interactive nature allows for the building of meaningful relationships with customers, which in turn can lead to increased customer retention and advocacy.*

*Furthermore, social media has transformed the landscape of advertising. Traditional advertising methods have given way to social media advertising, which offers unprecedented targeting capabilities. Platforms like Facebook and Instagram provide tools for businesses to precisely target their ads based on demographics, interests, and online behaviours. This level of precision allows for efficient use of advertising budgets and maximizes the chances of reaching a receptive audience. The measurement and tracking features on these platforms provide marketers with valuable insights, enabling data-driven decisions and the optimization of marketing campaigns.*

**Key words:** *Digital marketing, Social Media, Facebook, Advertising, YouTube, Twitter, Traditional Marketing*

### **INTRODUCTION**

Digital marketing is a system of reaching to the prospective shoppers or consumers with products or services by using digital devices and channels. The key intent of digital marketing is to reach

consumers by using various online platforms at a cheaper rate than traditional marketing approach. Digital marketing in Bangladesh is at the nascent stage, however, it has recently been expanding at a very faster rate as the number of mobile and internet users in Bangladesh has significantly been increasing over the last decade. As of January 2020, the percentage of social media users in Bangladesh is 22%. The people of Bangladesh mostly use Facebook, You Tube, Twitter and other social media platforms for their entrainment. For digital marketing, a marketer can use Facebook, LinkedIn, Blogging with Custom Contents, Twitter, Website design improvement with Content Strategy, Email Marketing, SMS Marketing, Search Engine Optimization (SEO) and so on at a cheaper rate. A marketer can also use influencer on the social media for promoting their products and services. Being knowing the rising trend of those social media users in Bangladesh, many marketers start promoting their products on those platforms at a cheaper rate than traditional media. The digital marketing tactic gives the marketer better output in terms of generating more impression on their ads at a cheaper rate and enable the marketers to reach with various promotional offers to the prospective shoppers in order to increase sales revenue. As the trend started, so the ecommerce sites have also been improving in the last one year in Bangladesh amid ongoing pandemic. So, there is a good prospect for drawing shoppers' attention through digital marketing at a cheaper rate in Bangladesh and it has the possibility of quantum boom in the next couple of years.

### **SCOPE OF THE STUDY**

The use of survey was adopted to obtain data from respondents identified from the various target population for the research. The limitation of this study is the concentration on some selected universities and Vodafone Ghana (Head office).

The scope of a study on the role of social media in digital marketing encompasses a wide range of factors that researchers need to consider. This scope is inherently broad, given the dynamic nature of digital marketing and the ever-evolving landscape of social media. It includes the selection of specific social media platforms to focus on, the definition of research objectives and goals, the identification of the target audience or demographics under study, and the determination of the geographic scope, which may be regional, national, or global. Additionally, the scope can vary based on the type of businesses examined, such as B2B or B2C, small enterprises or large corporations. Researchers must also specify the time frame, distinguishing between snapshot analyses and longitudinal studies, with the latter considering changes and trends over time. The type of marketing strategies, including organic and paid methods, influencer marketing, and ethical considerations related to data privacy and responsible marketing practices, is another critical aspect of the scope. Comparative analyses and the exploration of emerging trends and challenges within the field of social media marketing may also fall within the scope. Finally, the study may offer recommendations and implications for businesses and marketers, ensuring that the scope remains focused and actionable. Defining the scope of the study is essential to maintain clarity and relevance while contributing valuable insights to the ever-evolving field of social media in digital marketing.

### **OBJECTIVES OF THE STUDY**

1. To aims at impact and significance of social media in the contemporary digital marketing landscape.
2. To explore the influence of social media on brand awareness
3. To enhancing brand visibility and recognition.
4. To investigate the role of social media in customer engagement,
5. To assess the evolving strategies and effectiveness of advertising on social media

## **RESEARCH DESIGN**

The research design for a study on the role of social media in digital marketing plays a pivotal role in shaping the methodology and approach to investigating this dynamic field. To comprehensively explore the multifaceted impact of social media in digital marketing, a mixed-methods research design will be employed. This design will incorporate both quantitative and qualitative data collection methods, allowing for a holistic understanding of the subject. Quantitative surveys will provide numerical data, while qualitative interviews and content analysis will offer in-depth insights, ensuring a well-rounded perspective on the topic. Data will be collected from a diverse sample of businesses and consumers, and the research will be conducted over a specified time frame to capture trends and changes in social media practices. Ethical considerations will be a cornerstone, ensuring data privacy and responsible research practices. The research design will be flexible and adaptable, allowing for an in-depth exploration of the ever-evolving role of social media in digital marketing.

## **CONCLUSION**

The role of social media in digital marketing is undeniably profound, shaping the way businesses engage with their audience and promote their brands in the digital realm. It has become an integral part of modern marketing strategies, revolutionizing the landscape and offering unique opportunities for brand awareness, customer engagement, and advertising effectiveness. First and foremost, social media's influence on brand awareness is remarkable. Businesses can now reach a global audience with ease, fostering brand recognition and credibility through consistent and engaging content. The ability to connect with consumers on a personal level, humanizing brands and building trust, is a fundamental asset of social media in this regard.

Moreover, customer engagement through social media is an invaluable asset for businesses seeking to build lasting relationships with their audience. Direct and real-time interactions allow for responsive customer service, feedback collection, and a means to address consumer concerns promptly. This engagement not only strengthens brand loyalty but also provides a wealth of data and insights that inform marketing strategies.

Furthermore, the evolution of advertising on social media has disrupted traditional marketing methods. Precise targeting options, data-driven decision-making, and the power of influencer marketing have redefined the advertising landscape. These innovations offer businesses the ability to optimize ad spend and enhance campaign effectiveness, all while providing real-time performance metrics. In conclusion, social media's role in digital marketing is dynamic, multifaceted, and ever-evolving. As businesses adapt to the changing landscape, understanding and leveraging social media effectively has become a cornerstone of successful digital marketing strategies, ensuring a competitive edge in the digital marketplace.

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## **SUSTAINABLE AGRICULTURAL DEVELOPMENT THROUGH DRIP METHOD OF IRRIGATION IN INDIA**

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**Abstract:** *Water plays a essential role in the economic development and sustainable agricultural development in India. The inadequate potential of water resources as well as the growing demand for water for multi purposes, it has become important to adopt water saving technologies (WSTs) so as to avoid the water stress in the future. One of the new methods introducing in water management is drip irrigation. Many studies revealed with the use of experimental and field survey data across different regions of India have shown that the water saving and water use efficiency of various crops cultivated under drip method of irrigation is significantly higher as compared to traditional method of irrigation. In this study is particularly focusing on the benefits of drip method irrigation, and examine how it contributes to sustainable agriculture development in India. The present study is carried out mainly using secondary data to provide overall state of development of drip method of irrigation in India. The secondary information is mainly collected from various issue published by Ministry of Agriculture and Farmers Welfare in Government of India. The results of the study imply that the progress of drip irrigation was very slow in the initial years and significant development has been made especially since 2000s. In recent year, the adoption of drip irrigation is very high in India. Looking at the percentage of drip irrigated area to the total drip irrigation area one can find that next to Andhra Pradesh (24 percent), Maharashtra (22 percent) recorded a better position compared to the states which are above the national average in the year 2017-16 to 2022-23. It is also evident from the table that among the total drip irrigated area, Andhra Pradesh (22.90 percent), Maharashtra (22.12 percent), Gujarat (13.51 percent), Karnataka (12.27 percent) and Tamil Nadu (10.84 percent), Madhya Pradesh (5.65 percent), Rajasthan (4.67 percent), Telangana (3.25 percent) accounts for relatively larger area as compared to the other states under drip method of irrigation in India during 2017-16 to 2022-*

*23. Drip method of irrigation can bring many benefits to farmers and it also provides sustainable agricultural development. In spite of enormous benefits, the spread of drip irrigation in India is not very high as of today due to various reasons. In view of this, there is a need to restructure the extension network involving the manufactures of drip system to increase the adoption of drip method of irrigation in India.*

**Keywords:** *Drip Method of Irrigation, Water Use Efficiency, Energy Saving, Productivity.*

## **INTRODUCTION**

In today's world, sustainable agriculture is gaining increasing importance. Irrigation plays a crucial role for success of density plantation system. As a result, farmers and agricultural experts continually explore innovative techniques and practices to optimize crop production while minimizing environmental impact. One such a method introducing in water management is drip irrigation. In this method, water is supplied constantly or at regular interval at the root zone of the crops through a network of pipes with the help of emitters. Primarily, it was used for cultivating vegetables in Israel and thus Israel could achieve higher productivity despite of severe water shortages. Unlike flood method of irrigation (FMI), the efficiency of water use is extremely high in DMI as it substantially reduces the evaporation, conveyance and distribution losses of water. The worldwide survey carried out by the INCID (1994) and ICID (2016) showed that the area under drip method of irrigation has increased from just 40 ha in 1960 to about 54600 has in 1975 to about 1.78 mha in 1991 and further to about 52.62 mha in 2016. Drip method of irrigation is presently adopted over 46 countries, the United States of America alone accounted for over 27 percent of the world's total drip irrigated area (ICID, 2016). Available results in this regard show that the on-farm irrigation efficiency of properly designed and managed drip irrigation system is about 90 per cent, whereas it is about 70 per cent for sprinklers but just about 40 per cent for surface irrigation method (Sivanappan, 1994; INCID, 1994; FICCI, 2016, Devika et al., 2018). Many studies conducted with the use of experimental and field survey data across different regions of India have shown that the water saving and water use efficiency of various crops cultivated under drip method of irrigation is significantly higher as compared to flood method of irrigation (Narayanamoorthy, 2004a, 2005 & 2009; Dhawan, 2002). In this article is mainly focusing on the benefits of drip irrigation, and discuss how it contributes to sustainable agriculture development in India.

## **MATERIALS AND METHODS**

Although drip method of irrigation has been practiced since mid-1980s in India, still it is considered as new method of irrigation in Indian agriculture. Rapid development has taken place in the adoption of drip method of irrigation since late1990s due to subsidy programmes. However, not many studies are available based on secondary data especially in growth and benefits of drip irrigation in India. Most available studies are carried out either based on experimental data or on

the experience of one or a few farmers adopting DMI (Narayanamoorthy, 1997a, 2005 and 2008). Therefore, the present study is carried out mainly using secondary data to provide overall state of development of drip method of irrigation in India. The secondary information is mainly collected from sources such as Drip Irrigation in India (published by the INCID, 1994), Evaluation of Drip Irrigation System (published by the Ministry of Agriculture, Government of India, 2004), National Mission on Micro Irrigation: Impact Evaluation Study (published by Ministry of Agriculture, Government of India, 2014), Accelerating Growth of Indian Agriculture: Micro Irrigation An Efficient Solution (published by FICCI, 2016), various issue of Agricultural Statistics at a Glance, Horticultural at a Glance (published by Ministry of Agricultural and Farm Welfare, 2018), Micro Irrigation at a Glance (published by PMKJY, 2023) and from various documents published by Government of Tamil Nadu, Chennai. In addition to this, information is also collected from various published and unpublished sources where necessary. Simple statistical tool were used for the data analysis. The researcher has also calculated state wise share to the area covered under drip irrigation by using the percentage method.

## **RESULTS AND DISCUSSION**

### **Historical Background in Drip Irrigation in the World**

Drip method of irrigation was developed originally as a sub-irrigation and this basic idea underlying drip irrigation can be traced to experiments in Germany in 1860. Farmers impute clay pipes with open joints about 0.8 meters below the surface of soil in an effort to combine irrigation and drainage as the water table increase and decrease during the year. The first work in drip method of irrigation in the United States was a study by house in Colorado in 1913. An important breakthrough was made in Germany in 1920 where perforated pipe drip method of irrigation was introduced. Irrigating plants through narrow openings in pipes can also be traced back to green house operations in the United Kingdom in the late 1940s. Micro irrigation technology dates back to the work of Blass (1964). Based on the observation that a large tree near a leaking faucet exhibited a more vigorous growth than other trees in the area, he developed the first patented drip/trickle irrigation system. The availability of low cost plastic pipe for water delivery lines helped to speed up the use of drip irrigation concept spread to Australia, North America and South Africa by the late 1960s and eventually all over the world. The large scale use of drip irrigation system started in 1970s in Australia, Israel, Mexico, New Zealand, South Africa and USA to irrigate vegetables, orchards and its coverage was reported as 56,000 hectares. The micro-irrigation area grew slowly but steadily and it was 0.41 mha in 1981, 1.1 mha in 1986, 1.77 mha in 1991, 3.0 mha in 2000, 6.2 mha in 2006, 8.0 mha in 2009 and reached to the extent of 53 mha in 2016 (ICID, 2017). The worldwide survey conducted by the ICID working group on micro-irrigation in 2017 reports that drip irrigation is being practised in 46 countries with the United States (13.99 mha) having the greatest land area under micro-irrigation followed by China (9.00 mha) and India (7.73 mha), as reported in Table 1.

Although micro-irrigation systems are considered the leading water saving technologies in irrigated agriculture, their adoption is still low in relation to total cropped area. At present, out of the total world irrigated area, about 2.9 percent (8 mha) is equipped with micro-irrigation. Most of the area

irrigated by DMI is concentrated in Europe and America. Under irrigation, Asia has the highest area (193 million hectare, which is 69 percent of the total irrigated area), but has very low area of 1.8 million hectare (<1.0 percent) under micro-irrigation. In some countries such as Israel and Jordan, where water availability limits crop production, micro-irrigation systems irrigate about 75 percent of the total irrigated area. In India, DMI accounts for 3.54 percent of the total irrigated area which is 95.77 mha as of 2015-16.

Micro-irrigation like other irrigation methods will not fit every agricultural crop, specific site or objective. Presently, micro-irrigation has the greatest potential where (i) water and labour are expensive or scarce; (ii) water is of marginal quality viz., saline; (iii) soils are sandy, rocky or difficult to level; (iv) steep slopes and undulated topography; and (v) high value crops are produced. The principal crops under micro-irrigation are commercial field crops (sugarcane, cotton, tobacco etc), horticultural crops-fruit & orchard crops, vegetables, flowers, spices & condiments, bulb & tuber crops, plantation crops and forestry plantations. This method of irrigation continues to be important in the protected agriculture viz., greenhouses shade nets, shallow and walking tunnels etc., for production of vegetables and flowers. Besides agriculture purpose, micro-irrigation is also used for landscapes, parks, highways, commercial developments and residences.

### **Current Status and Growth of Area Covered under Drip Irrigation in India**

In India, agriculture is the predominant user of water resources. Irrigation has played a catalytic role in agricultural growth and development of the country due to its positive, direct and indirect impacts. Drip irrigation is relatively a new technique in India. The development of drip irrigation was very slow in the initial years and significant development has been made especially since 2000s. In India, the area under drip method of irrigation has increased from 0.07 mha during 1991-92 to 6.68 mha during 2022-23 (see, Table 1). The area under drip irrigation is expected to increase rapidly as the amount of water available to agriculture declines and the demands for urban and industrial use increases. Micro-irrigation is also one of the techniques that enable growers to overcome salinity problems that currently affect 6.0 mha in India. As this area increases, so too will the use of micro-irrigation to maintain crop production. In addition to this, the expectations of growers towards reduction of cost of production and enhancement of crop quality can be resolved by the improved efficiency of drip irrigation technology which may become increasingly important in the future.

**Table 1** Trends in Area under Drip Method of Irrigation in India (1991-92 to 2022-23)  
(area in million hectares)

Year	DMI	NIA	% of DMI over NIA
1991-92	0.07	49.87	0.14
2000-01	0.29	55.20	0.52
2001-02	0.31	56.94	0.55
2002-03	0.33	53.90	0.62

2003-04	0.71	57.06	1.24
2004-05	0.81	59.23	1.37
2005-06	1.06	60.84	1.74
2006-07	1.67	62.74	2.67
2007-08	2.41	63.19	3.81
2008-09	2.47	63.64	3.89
2009-10	2.57	61.94	4.05
2013-14	2.62	66.10	3.96
2014-15	2.85	68.30	4.18
2015-16	3.39	67.77	5.00
2016-17	3.91	69.22	5.65
2017-18	4.24	70.08	6.05
2018-19	4.78	72.19	6.62
2019-20	5.35	75.46	7.09
2020-21	5.96	NA	NA
2021-22	6.32	NA	NA
2022-23	6.68	NA	NA

Source: Narayanamoorthy (2009), Various Issue of Agricultural at a Glance and Land Use Statistics at a Glance (2023).

### **State-wise area under drip irrigation in India**

Drip irrigation is relatively a new technique in India. Initially, it was used on a limited scale in Tamil Nadu, Karnataka, Kerala and Maharashtra States, mainly for coconut, coffee, grape and vegetable production. Drip Irrigation Systems (DIS) are extremely effective in arid and drought prone areas where water is scarce. Progressive farmers started using this method of irrigation in the late-1970s without the benefit of any subsidies or support from central or state governments. However, as a result of subsequent sustained efforts by the state and central governments, agricultural universities and private sector manufacturers, the use of drip irrigation systems spread through the drought prone areas of southern and western India. The use of drip system, however, is primarily to irrigate high value which is mainly horticultural crops. In states like Maharashtra, Karnataka and Tamil Nadu, DIM is sometimes used for irrigation of vegetable and other commercial crops. The sharp rise in the area under DIM between 1988 and 1989 was to a large extent was due to the significant increase in the use of these systems in the Maharashtra State. Drip method of irrigation is most suitable for wide-spaced crops particularly in water-scarce areas, since water is supplied straight to the crop-root zone through a network of pipes and drip-emitters and therefore, water loss due to conveyance and distribution is lower than that under flood irrigation method.

**Table 2** State-wise area covered under drip method of irrigation in India (2017-18 to 2022-23)

S.No.	State	Area ('000 ha)			
		TE 2017-18 to 2019-20	%	TE 2020-21 to 2022-23	%
1	Andhra Pradesh	1152.84	24.06	1392.34	22.03
2	Arunachal Pradesh	0.61	0.01	3.63	0.06
3	Assam	0.35	0.01	4.73	0.07
4	Bihar	10.44	0.22	14.03	0.22
5	Chhattisgarh	22.38	0.47	31.47	0.50
6	Goa	1.15	0.02	1.37	0.02
7	Gujarat	639.16	13.34	862.56	13.65
8	Haryana	30.29	0.63	39.90	0.63
9	Himachal Pradesh	5.00	0.10	7.59	0.12
10	Jammu & Kashmir	0.02	0.00	7.59	0.12
11	Jharkhand	18.43	0.38	26.94	0.43
12	Karnataka	584.53	12.20	779.03	12.32
13	Kerala	23.19	0.48	24.16	0.38
14	Madhya Pradesh	290.90	6.07	336.61	5.33
15	Maharashtra	1097.91	22.92	1359.65	21.51
16	Manipur	0.31	0.01	0.36	0.01
17	Meghalaya	0.31	0.01	0.31	0.00
18	Mizoram	3.06	0.06	5.52	0.09
19	Nagaland	0.44	0.01	4.68	0.07
20	Odisha	23.53	0.49	29.30	0.46
21	Punjab	35.39	0.74	36.71	0.58
22	Rajasthan	228.88	4.78	290.22	4.59
23	Sikkim	6.04	0.13	6.67	0.11
24	Tamil Nadu	417.42	8.71	786.58	12.44
25	Telangana	154.38	3.22	207.24	3.28
26	Tripura	0.44	0.01	1.06	0.02
27	Uttar Pradesh	22.55	0.47	43.89	0.69
28	Uttarakhand	5.18	0.11	12.88	0.20
29	West Bengal	0.73	0.02	10.37	0.16
	All India	4790.87	100.00	6321.03	100.00

Source: Agricultural at a Glance (2017 to 2022).

The development of drip irrigation was very slow in the initial years and significant development has been made especially since 2000s. In recent year, the adoption of drip method of irrigation is very high in India. Table 2 presents State-wise area under drip method of irrigation in India during 2017-16 to 2022-23. Looking at the percentage of drip irrigated area to the total drip irrigation area one can find that next to Andhra Pradesh (24 percent), Maharashtra (22 percent) recorded a better position compared to the states which are above the national average in the year 2017-16 to

2022-23. It is also evident from the table that among the total drip irrigated area, Andhra Pradesh (22.90 percent), Maharashtra (22.12 percent), Gujarat (13.51 percent), Karnataka (12.27 percent) and Tamil Nadu (10.84 percent), Madhya Pradesh (5.65 percent), Rajasthan (4.67 percent), Telangana (3.25 percent) accounts for relatively larger area as compared to the other states.

## **CONCLUSION AND RECOMMENDATION**

The major aim of this study is to find out the benefits of drip irrigation, and discuss how it contributes to sustainable agriculture development in India. Many studies conducted with the use of experimental and field survey data across different regions of India have shown that the water saving and water use efficiency of various crops cultivated under drip method of irrigation is significantly higher as compared to flood method of irrigation (Narayanamoorthy, 2004a, 2005 & 2009; Dhawan, 2002). In this article is mainly focusing on current status and growth of area covered under drip irrigation in State as well as India. Most available studies are carried out either based on experimental data or on the experience of one or a few farmers adopting DMI (Narayanamoorthy, 1997a, 2005 and 2008). Therefore, the present study is carried out mainly using secondary data to provide overall state of development of drip method of irrigation in India. The secondary information is mainly collected from various issue published by Ministry of Agriculture and Farmers Welfare in Government of India. The results of the study clearly suggest that drip method of irrigation can bring many benefits to farmers and it also provide sustainable agricultural development. While reducing cost of cultivation, weed problems, soil erosion, DMI increases water use efficiency, electricity user efficiency, besides helping to reduce over-exploitation of groundwater. In spite of enormous benefits, the spread of drip irrigation in India is not very high as of today due to various reasons. In view of this, there is a need to restructure the extension network involving the manufactures of drip system to increase the adoption of drip method of irrigation.

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## **A STUDY ON THE ROLE OF GREEN HRM IN ACHIEVING SUSTAINABLE EMPLOYEE**

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**Abstract:** *Green human resource management is the use of HRM initiatives to promote the sustainable use of resources within business organizations, employee well bring and more generally, promotes the cause of environmental sustainability. Effective employee vital resource for an organization. In the responsibility of every organization to implement an ecofriendly system to create a healthy environment for long term sustainability. One emerging concept in the field of management and Ethical Governance is Green Human Resource Management. Green initiative in HR practice is an employee safety and securities itself. Green human concentrate on rules, regulations, recruitment, selection, induction, training, performance appraisal, counselling, safety and welfare concern of employees. This paper highlights on the same. A study was done on a sample of 97 employees working with selected different IT companies, Chennai. The survey adopted for this study involved physical interaction as well as online questionnaire to assess employee well bring and ethical governance. i.e., Green Recruitment, Green Selection, Green induction, green training, green appraisal, green counselling, green safety & welfare in selected Information Technology companies. The present study also highlights the implications of Green HRM initiatives employee well bring and ethical governances.*

*Newly, there has been noticed an increasing awareness within business a specific group of people with a common interest on the significance of going green and adopting various environment management techniques. As the business world is going global, the business is experiencing a shift from a conventional financial structure to a modern capacity-based economy which is ready to examine green economic facets of business. Green Human Resource Management initiative, employee well-being and ethical governance has become a key business strategy for the significant organizations where Human Resource Departments play an active part in going green at the office. The paper mostly focuses upon*

*the various Green Human Resource initiatives followed by the organizations all over the world and, explains the simplified meaning of green human resource management. The study also adds to the extant literature by discussing future direction of some green human resource management functions. Finally, the paper suggests some potentially prolific human resource initiatives for green organizations.*

**Keywords:** *Green HRM, Green initiatives, Sustainability, Conservation, employee wellbeing, Ecofriendly, Ethical Governances.*

## **INTRODUCTION**

Green human resource management initiative, employee wellbeing and ethical governance contribute to the sustainability requirements of social equity, health, wellness and well-being of organisation and its employees in addition to the achievement of economic stability and environmental balance. Previous studies have explored the effects of green human resource management initiative on employee behaviour (Pham et al., 2019a, Pham et al., 2019b), environmental performance (Kim et al., 2019), although, the state-of-the-art of green human resource management lack of studies relating to social sustainability dimension of organisations. This study, therefore, tries to explain the conceptual relationship between GHRM practices and ethical governance of organisations. Moreover, the work tries to bridge green human resource management and Sustainability literature by proposing the moderate role of employee green behaviour at work place using Ability, Motivation, Opportunity (AMO) theory and Social Identity theory.

Green HRM in present scenario: • employee wellbeing and ethical governance • Paperless office • Turn off lights, Computer and Printer after work and on weekends. • Mail communication. Electronic filing. • Waste Management. • Online recruitment. • Video conferencing meeting. • Paper less training. • Performance management on essential of green practices. • governing rules • Job sharing • Ethical governance

### **Components of Green HRM:**

**Green Recruitment:** at present organizations are giving their advertisement around their web-site. This method is speedy, cheap and easy to assess.

**Green Selection:** Interviews are conducted by group discussion, personal interview, and different activities and in online test and Final Selection.

**Green Orientation:** initiation and orientation scheme are framed in such a way that encourage the new comers about green practices. Green issues in a similar way to health and safety, use of material and cleanness of area in work place etc.

**Green Training:** Training should be given an increase of green management. Trainer should give their training on presentation or by video conferencing and data analysis. Trainer should use more feathery materials rather than printed handouts to reduce the use of paper.

**Green Performance Appraisal:** In performance appraisal use of green practice should be one of the greatest performances Area (KPA).

Green Compensation and Reward: Compensation and reward system should be straightway linked to use of green skills development. Special bonuses given to employees for their effort of less carbon foot print and easy way.

Green Counselling: Top level managers and counsellors can take initiative to motivate employees for implementation green practices and business sustainability.

Green Welfare Practices: Recently, many organizations changed the concept of health, safety and welfare of employees to health and family welfare, safety and environmental organisation. These companies have continuously given their effort to reduce stress occupational disease and hazards at work place.

Development awareness of sustainability and corporate social relatability has led to the mounting benefit of human resources in most of the organisations, along with the financial, legal, social and other aspects of cleaner production in business. While finance is generally accepted as ‘the lifeblood of business’ (Renwick et al., 2008), human resource is increasing position as ‘the soul of business’, especially in the environmental Index (Jabbour and Santos, 2008a). A place of business can be reconstructed from the ruins with exactly similar structure as before and may still continue to perform well, while the loss of essential human capital may lead to a decline in the pace of business (Lange, 2009). Human resources, thus, forms the knowledge base (Iqbal, 2018) of a firm, encouraging more companies to invest further into its future prospects.

Top indention business practices, providing unique advantage for a firm in the midst of world competition calls for development and management of world-class human resource competencies (Khandekar and Sharma, 2005; Ambec and Lanoie, 2008) to assure that the values underlying their strategic intent supports the accomplishment of sustainable development goals. Improved organisational productive performance (De Prins et al., 2014), profitability, long-term growth and development are guaranteed to all organisations that follow best resource utilisation practices (Jackson et al., 2011). But the factual problem recounts in identifying the benchmarks and implementing best practices. Moreover, the values, beliefs, attitude and behaviour of human resources towards achievement of the sustainable development goals of their organisation remain a serious question. The concepts like “Going Green” and “Sustainability” are recurrently being used in the contemporary corporate world, demanding every company to follow the best ‘eco-friendly’ and ‘resource-efficient’ benchmark practices.

The ethical governance ‘Go-Green Movement’ across globe has created ‘Green Jobs’ in organisations (government, semi-government and non-government), by promoting most efficient production policies that reduce harmful consequences of industrial pollution, waste, and other toxic chemicals. According to the (Green Jobs: U.S. Bureau of Labour Statistics), “green jobs to be made up of either producing goods and services that benefit the environment and preservation of natural resources or those jobs where the organisational workforce is involved in making their firms’ production process more reliable, sustainable and eco-friendly, thereby reducing its negative impact on the planet”. Green human resource initiative and develop production technologies have

reduced the negative impact on environment (Wilkinson et al., 2001) and to some extent, even reverse the destruction of natural resources as a whole (Ahmad, 2015).

The ‘Green wave’ (Esty and Winston, 2009) across to collective term for societies, along with the more structural and technological transformation in business has upgraded the role of human resources management a long, curling wave in creating better opportunities, especially in companies with long-term vision and leadership strategies. Subsequently, strategic human resource management, e-human resource management and increased concern for environmental protection have triggered the evolution of ‘Green human resource management’ (GHRM) as a separate field (Renwick et al., 2013), both together in theoretical and practical perspectives (Opatha and Arulrajah, 2014; Shah, 2019). Employers readily deploy money in retaining and developing a knowledge capital base for transforming their business into more sustainable one through ‘eco-innovation’ (Huang et al., 2016) and ‘people empowerment and employment’ (Kazlauskaitė and Buciuonienė, 2008). Green human resource management helps an organisation preserve its knowledge base through best eco-friendly practices leaving no carbon-tracks of environmental imbalance (Mehta and Chugan, 2015), thereby providing complementary business solutions to meet long-term sustainability targets (Jabbour and Santos, 2008b).

Even though GHRM research has gained considerable attention, much of the before work in this field (Lee, 2010; Lin and Ho, 2011) relates to awareness, adoption (Yong and Mohd-Yusoff, 2017) and implementation (Chan et al., 2015) of green human resource management practices in organisations (Guerci and Carollo, 2017; Dagiliūtė et al., 2018). A systematic literature review and data analysis, therefore, is necessary to explore the possible outcomes of adopting GHRM practices in organisations. An in-depth review helps a researcher classify and reduce large amount of data collected over the past through qualitative data analysis tools that use explicit and reproducible selection criteria to identify relevant gaps in the literature (Nolan and Garavan, 2016). Through a systematic review, this paper attempts to find out the possible research gaps in GHRM literature, assessing the current trends and key elements underlying green human resource management field, using peer reviewed journal publications from the Scopus and Google Scholar databases.

This article is divided into two sections. The first section discusses the state-of-the-art in green human resource management field using extensive literature review. Beginning with definitions of GHRM suggested by eminent researchers in this field, this review presents various functional dimensions of HRM where green philosophy is applied. Most frequently occurring words were identified to understand the underlying structure of the contents in selected articles on GHRM from 2005 to 2023. Convention was made for accordingly and a cluster analysis was performed to classify the implicit content of articles, reconstruct the latent information into meaningful results through further analysis, supporting the decision-making process. established on further manual analysis, the second section of this article presents the concepts of employee green behaviour at work place and eco-friendly practices for greening the human resource management functions, that contribute to social sustainability of organisations. Thus, this novel work tries to relate human resource practices with one of the 2030 sustainable development aim of good health, wellness and

well development. Exploring the current global trends in GHRM, the authors have identified and structured the main contents of 193 selected articles to develop a comprehensive model for GHRM and social sustainability, stating the major external influencers and barriers to implementation of green human resource management policy in organisations, from an employee perspective.

### **Objectives of the Study**

- 1 To Provide with a basic understanding of green human resource management to the readers.
- 2 To Highlight veritas significant works on green HRM by other workers.  
To study the effectiveness of Green human resource practices in selected IT companies in Chennai.
- 3 To complicated on various green human resource management initiatives and employee wellbeing convention that can be incorporated for building a green workplace.
- 4 To Attempts to suggest some green initiatives for human resource and ethical governance.

### **Review of Literature**

An attempt has been made to put forward a brief review of literature based on a few of the related studies undertaken worldwide in the area of e-commerce as follows.

Primarily this study concentrates on GHRM, which according to Dutta -2012 includes two major elements namely, environmental-friendly HR practices and the preservation of the knowledge capital. Green human resources refer to using every employee touch point/interface to promote sustainable practices and increase employee awareness and commitments on the issues of sustainability (Mandip-2012). HR department of an organization plays a major role in making environmental responsibility a part of the corporate mission statement. Green HRM focuses on employee's environmental behaviour in the company, which in turn, employees can carry on such pattern of consumption in their private life (Muster & Schrader-2011). The main objective of green HRM is to make the employees aware of the intricacies of environment management i.e. what action is needed, how it functions, and how does it help the environment. The exercise really motivates the employees and develops a sense of pride in them for being a part of the going green program.

Forman and Jorgensen (2021) suggested rewards help to improve employee commitment to environment management programmes. There is a positive effect of green HR on business environment that leads the firm to compete with others Sudin (2011). The compensation and rewards systems in an organization could contribute to environment management. Intrinsic and Extrinsic rewards encourage and increase loyalty of workers to be environmentally friendly. HR practices such as performance management, compensation management and reward system also concerned for environment management. It increases the ability to adopt green HRM practices towards environmental safety issues (Carter & Dresner, 2021).

Green HRM in welfare and safety management may an effective way to enhance eco-friendly HR practices (Milliman and Clair, 2006). Govindarajulu and Daily (2022) have found out that employee involvement Programme may help the organization to adopt green practices which improve health, safety and welfare of workers. Green HRM is the use of HR policies for sustainable business organization Madip (2023).

**Research Methodology**

The research is originally primary data and based upon the secondary data. For this extant review of literature related to the topic from different databases, websites, journals, reference books and other available sources were collected. A systematic review of collected literature was done in detail.

**RESPONDENT PROFILE & DISCUSSION OF RESULTS:**

A period of time carryout this survey, we found out only few (33%) companies implemented green human resource management strictly within their campus as sense of responsibility towards environment and ethical governance. Majority responded it was helping in reducing cost of the organization and so it was their driver in following green management. 82% responded Green HRM initiatives increases employee morally. 65% responded It preserves the natural resources.95% expressed It improves the relationship between stake holder, customer, supplier, employees and the media.76% of companies said It reduces the overall cost. Majority (71%) of respondents said It increases the company’s image. 90% responded It motivates innovation and growth and provides competitive advantage. The business file ethical governance 91% responded it motivate employee welfare and safety.

Exhibit 1: List of Participant organizations.

SN	Company Name
1	IBM Global Services
2	Samsung India Software Operation Pvt Ltd
3	Microsoft India Ltd
4	Intel Technology India PVT Ltd
5	Bharti Airtel Ltd
6	Webex Communication India Pvt Ltd
7	Amazon
8	Hindustan Unilever
9	Reliance Industries

**What is Green HRM?**

The Green human resource management is a create policies and systematic organization responsible. The word within the business field at current and its significance is increasing manifold with the passage of time to time the goal of GRM is to create a more sustainable organisation. This term has also its secured position as a hot topic in recent research works since the awareness on environmental management and sustainable development has been increasingly rising day by day all-round the globe. Now a days the topic Green HRM not only includes awareness toward environmental affairs, but also stands for the social as well as economic well-being development of both the organization and the employees within a broader prospect.

Before proceeding further, first of all we take up the question, “what is Green HRM?” various authors have given different definitions create for this term such as—“Green HRM is the use of HRM policies to promote the sustainable use of resources within organizations and, more generally promotes the causes of environment sustainability” (Marhatta & Adhikari, Citation2013). GHRM

is directly responsible in creating green workforce that understands, appreciates, and practices green initiative and maintains its green objectives all throughout the HRM process of recruiting, hiring, training, compensating, developing, and advancing the firms human capital (Mathapati, Citation2013). It refers to the policies, practices, and systems that make employees of the organization green for the benefit of the individual, society, natural environment, and the business (Opatha & Arulrajah, Citation 2014).

### **Conclusion**

The green awareness and green human resource management are still in the stages of infancy, growing awareness within organizations of the significance of green issues have compelled them to embrace environment-friendly human resource management with a specific focus on waste management, recycling, reducing the carbon footprint, and using and producing green products, employee safety and security, governance rules, ethical governance. Clearly, a majority of the employees feel strongly about the environment and, exhibit greater commitment and job satisfaction toward an organization that is ever ready to go “Green.” The fulfil of green human resource management initiative are multifaceted and require constant monitoring to recognize their potential impact on HRM issues. The eventuality of Green human resource management appears promising for all the stakeholders of HRM, be it the employers, employees, practitioners, or academicians. Finally suggest that GHRM has substantial development for research in management information for green management initiatives and implemented government ethical but lacks behind in practice within academic arena; hence, there is a necessity to bridge the gap between professional GHRM preparation and preaches in research and teaching environmental management. Additional or more, we look forward to see more research and data collection in this topic in near future, which can highlight the role of HRM activities in supporting green initiatives and some extent even influencing environmental management strategies. Researches that observe the overall impact of GHRM systems rather than individual practices would be particularly helpful in this respect. Green human resource management appears promising for all the stakeholders of HRM. The employers and employee’s practitioners can establish the usefulness of linking worker and innovative method adopted and involvement and participation in environmental management procedure to improved organizational development, environmental factors, employee performance, like with a specific focus on waste management recycling, creating green products. Green HR goal at reducing wastages and very much concern for environment. Green HR initiative data results higher productivity and build a developmental climate for business. By doing so, organizations would add value to their brand image. The employee recruitment, employee selection, employee induction, green human resource management performance appraisal, green HR compensation and rewards system are powerful tools in making employees more eco-friendly for business sustainability.

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## **STRUCTURAL TRANSFORMATION STRATEGIES IN ENTREPRENEURSHIP**

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**5**

**Abstract:** *The structural transformation strategies in entrepreneurship, emphasize how businesses adapt and evolve in response to changing market conditions, technological advancements and shifting consumer demands. It identifies key strategic approaches entrepreneurs can adopt to foster innovation and promote long-term sustainability. Day by day entrepreneurs are increasingly relying on digitalization, innovation, and agility to navigate economic shifts.*

**Keywords:** *Entrepreneurship, business, strategies, innovation, resources.*

### **INTRODUCTION:**

Structural transformation strategies in entrepreneurship refer to the various approaches entrepreneurs adopt to adapt, grow, and innovate in a constantly evolving business environment. These strategies often involve shifts in business models, organizational structures, and operational processes to keep pace with changing market demands, technological advancements, and customer expectations. In today's fast-paced world, entrepreneurship is increasingly seen as a key driver of economic growth and innovation. Entrepreneurs are leveraging new technologies, data analytics, and global connectivity to transform their businesses. Strategies might include scaling operations, diversifying product offerings, adopting digital transformation, and implementing agile organizational structures. Each day brings new challenges and opportunities, requiring entrepreneurs to continuously reassess their strategies. Success often depends on their ability to pivot, embrace innovation, and respond to market dynamics effectively. As businesses evolve, the role of structural transformation becomes ever more critical in ensuring long-term sustainability and competitiveness in the marketplace. Structural transformation strategies in entrepreneurship involve adapting and evolving a business model to meet changing market demands, technological advancements, and consumer expectations. Here are some strategies entrepreneurs can use day by day:

**1. Adopting Technological Innovation:**

Entrepreneurs can integrate new technologies such as automation, AI, and data analytics to enhance operational efficiency and improve customer experiences.

**2. Diversification and Product Innovation:**

Day-to-day, businesses can explore new product lines or services to cater to evolving customer needs and enter new markets.

3. **Scalable Business Models:**  
Entrepreneurs can shift their business models toward scalable ones, such as subscription-based services or digital platforms, to enable growth with less dependency on physical infrastructure.
4. **Customer-Centric Approaches:**  
Continuously collecting feedback and engaging with customers allows businesses to fine-tune offerings and maintain relevance in competitive markets.
5. **Sustainability and Social Responsibility:**  
More businesses are shifting toward sustainable practices, not only to meet environmental goals but also to appeal to an increasingly eco-conscious customer base.
6. **Flexibility:**  
Entrepreneurs should foster a flexible company culture that encourages rapid pivoting and quick responses to market changes or unforeseen challenges.

### **Adopting Technological Innovation for entrepreneurs**

- **Digitalization:** Entrepreneurs can introduce digital technologies like automation, AI, and data analytics to streamline operations, enhance product development, and improve customer experiences. This might mean shifting traditional business processes to more agile, tech-driven models.
- **Innovation and R&D:** Investing in research and development (R&D) allows businesses to create cutting-edge products or services, moving them away from outdated models and into more competitive, high-growth industries.

### **Business Model Innovation**

- **Shift from Products to Services:** Many industries are seeing a transition from product-based business models to service-based ones (e.g., subscription models, SaaS). Entrepreneurs can reframe their offerings by moving from one-time product sales to ongoing, recurring services, which helps stabilize income streams.
- **Platform Models:** Moving from traditional goods-based businesses to platform-based businesses can unlock new opportunities. Examples include businesses that leverage user-generated content or third-party service providers (like Uber or Airbnb), creating new forms of value.

### **Supply Chain & Operational Efficiency**

- **Supply Chain Diversification:** In an increasingly globalized world, businesses that depend on single-source suppliers may face disruption. Entrepreneurs can innovate by diversifying suppliers, adopting more localized sourcing, or utilizing just-in-time manufacturing techniques to lower costs.
- **Lean Startups:** Applying lean principles—such as minimizing waste, optimizing resources, and using agile project management—can help entrepreneurs rapidly adapt and respond to market changes.

### **Organizational Restructuring**

- **Flat Hierarchies:** Shifting away from hierarchical structures to more decentralized, flat organizations can foster creativity, improve communication, and enable faster

decision-making. This can be particularly effective in industries that require constant innovation.

- **Employee Empowerment and Talent Management:** Adopting a model that emphasizes continuous learning, entrepreneurship within the organization, and talent development can transform a company's culture and drive better performance.

#### **Sustainability & Social Responsibility**

- **Green Innovations:** Entrepreneurs can focus on creating environmentally friendly products, processes, and services. This not only meets growing consumer demand for sustainability but also aligns with global trends toward green economies.
- **Social Entrepreneurship:** A growing interest in social impact has led to the rise of social enterprises. Entrepreneurs can innovate by addressing social issues through business models that prioritize people and planet alongside profits.

#### **Globalization & Market Expansion**

- **Expanding to New Markets:** Entrepreneurs can transform their business by looking beyond local or regional markets and expanding internationally. This might require rethinking product offerings, distribution strategies, and customer outreach methods.
- **Cross-Cultural Adaptation:** For businesses operating across borders, an understanding of diverse cultures and adapting products to local preferences can result in a more inclusive, global market approach.

#### **Collaborative Partnerships and Ecosystems**

- **Strategic Alliances:** Forming alliances with other businesses, academia, or governmental bodies can provide the resources and knowledge necessary for structural transformation. Collaboration enables access to new markets, capital, and expertise.
- **Incubators and Accelerators:** Entrepreneurs can leverage these programs to scale rapidly, network with other like-minded founders, and gain access to mentorship and funding opportunities.

#### **Financial Innovation**

- **Alternative Financing Models:** Entrepreneurs can look to non-traditional financing methods such as crowdfunding, venture capital, or impact investment to secure capital for transformational projects.
- **Blockchain and Cryptocurrencies:** Implementing blockchain for supply chain transparency or accepting cryptocurrencies for payment can be a way to tap into the digital economy.

#### **Consumer-Centric Strategies**

- **Personalization:** Entrepreneurs can use data and AI to offer highly personalized customer experiences, from targeted advertising to tailored products and services.
- **User-Generated Content and Crowdsourcing:** Allowing customers to contribute to product development or marketing campaigns can create strong brand loyalty and open up new avenues for growth.

In sum, structural transformation strategies in entrepreneurship often revolve around innovation, adaptability, and a willingness to rethink business models in response to new opportunities and challenges. Entrepreneurs who embrace these transformations are better positioned to succeed in a rapidly evolving business landscape.

### **Literature Review:**

**Venkataraman (1997)** discussed the entrepreneurial mindset required for successful adaptation. In the Indian context, Venkataraman noted how Indian entrepreneurs have been particularly adept at quickly shifting strategies to respond to shifting economic or regulatory environments, especially during economic reforms in the 1990s.

**Teece (2010)** emphasized the importance of dynamic capabilities in entrepreneurship, suggesting that firms must develop the ability to sense opportunities, seize them, and reconfigure their resources in response to external changes.

**Ramanathan & Jayaraman (2012)**, in an Indian context, highlighted the challenges of strategic transformation faced by small and medium-sized enterprises (SMEs) in India, where owners often need to adapt to both local and global market dynamics.

**Nath & Kumar (2014)** focused on the entrepreneurial mindset required for successful transformation, particularly in India's unique socio-economic context. The study highlighted how entrepreneurial leaders in India need to combine traditional business acumen with innovative thinking to drive change.

**Singh (2016)** explored the challenges Indian entrepreneurs face in leadership when driving transformations, particularly in terms of managing human resources, culture change, and strategic decision-making in a rapidly evolving business environment.

### **Objectives**

- To develop a strategic approach to plan for structural changes in entrepreneurship.
- To understand different types of structural transformations in businesses.

Developing a strategic approach to plan for structural changes in entrepreneurship involves identifying the need for change, setting clear objectives, and implementing a systematic plan to ensure smooth transitions. Entrepreneurs must anticipate shifts in the market, technology, or internal growth, and adapt their organizational structure to support long-term success. Understanding different types of structural transformations in businesses is crucial for responding to dynamic market conditions. These transformations can range from functional restructuring, such as reorganizing teams or departments, to more radical shifts like mergers, acquisitions, or pivoting business models. Recognizing when and how these changes should occur helps businesses stay competitive and innovative.

### **Conclusion**

Developing a strategic approach to planning for structural changes in entrepreneurship is essential for ensuring business growth and adaptability in a constantly evolving market. By understanding the different types of structural transformations, entrepreneurs can proactively navigate challenges, optimize resources, and position their businesses for long-term success. Ultimately, embracing change and implementing thoughtful strategies will allow businesses to stay competitive and resilient in a dynamic environment.

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## **AN INVESTIGATION OF THE FACTORS THAT INFLUENCE WORKPLACE PERFORMANCE**

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**Abstract:** *Workload and work environment are two aspects that can influence employees' effectiveness in the pursuit of organizational objectives. The goal of this study is to see if workload and work environment have an impact on bank employee performance. The study's sample consists of 200 workers from various public sector banks who were chosen using a proportionate random selection technique. Multiple regression tests are used to assess the given data. The findings of this study show that employees' performance is influenced by their workload and work environment. A pleasant work environment, both physically and non-physically, such as strong relationships with coworkers, encourages individuals to improve their performance. Based on these data, it can be stated that offering employees a good workload stimulates them to work more, and providing a pleasant work environment increases their performance.*

**Keywords:** Work Place, Banks, Employees, Engagement.

### **INTRODUCTION**

India presents unique hurdles in the form of a rapidly expanding information base, a worldwide market, rapidly changing product demand, and a diverse population with high expectations. Because spirituality promotes Workplace performance, and Workplace enhances performance, Workplace performance, dedication, motivation, and spirituality might be regarded crucial for achieving the desired goals in this context. Workers in the twenty-first century place a greater focus on 'meaning in work' than in the past. They are looking for more meaning and fulfilment in their jobs. As a result, the postmodern management paradigm emphasizes employee participation as well as spiritual concepts and practices in enterprises. However, no research has been done to determine the antecedents of Workplace performance and to investigate the relationship between Workplace performance, workplace spirituality, commitment, motivation, and employee performance. As a result, the current investigation was deemed necessary. Job qualities, rewards and recognition, perceived organizational and supervisor support, and organizational fairness are just a few of the antecedents of Workplace performance that have been found.

An engaged employee collaborates with coworkers to improve the organization's success. As a result, every firm must work to increase and promote Workplace performance. Many studies also imply that having higher levels of Workplace performance reduces the likelihood of turnover. As a result, it's critical to comprehend the characteristics that boost Workplace performance in the banking industry (antecedents of Workplace performance).

## REVIEW OF LITERATURE

**Truss et al., (2006)** states that workplace performance refers to a person's excitement for their job. An engaged employee is dedicated to their work and invested in the company's goals, and they collaborate with coworkers to improve the organization's performance. Workplace performance aids him in forming a positive relationship with his job.

**Dogar (2015)** defined that Workplace performance boosts the company's growth and productivity. Workplace performance can be used as a retention tool. It is advantageous for both the company and the employees. He goes on to say that dissatisfaction is caused by a variety of factors such as demography, working conditions, and job satisfaction, all of which influence workplace performance. As a result, he comes to the conclusion that Workplace performance level in private banks is very non satisfactory.

**Johnson (2008)** states that Organizations benefit from having engaged leadership teams because engagement necessitates commitment from the top. He/she also said that in the competitive global economy, organisations need have leaders who are capable of moving beyond their main tasks.

**Markos and Sridevi (2010)** defined that Employee disengagement is mostly caused by poor management, which results in lower work commitment. As a result, the researcher discovered a method to address this disengagement by following a few techniques. Start from the top, improve workplace performance through two-way communication, provide adequate possibilities for development and progression, and provide 29 employees with suitable training., have a strong feedback system, build a distinctive corporate culture, focus on top performing employees.

## OBJECTIVES OF THE STUDY

To determine the factors that influence workplace performance. The purpose of this study is to look into the relationship between the antecedents of workplace performance. To investigate the relationship between workplace performance antecedents and employee performance.

## METHODOLOGY

A total of 237 bank workers were included in the study (out of which data of 200 respondents was analyzed). The data were acquired mostly by the delivery of structured questionnaires, and the data type was primary. In the early stages of the study, an exploratory research design was adopted with the primary goal of gaining insight and understanding into the significance of workplace performance. The pilot survey, as well as the building of the scales and data collecting, used a descriptive study design. The data collected through the structured questionnaire were subject to computations in the form of table which made the calculations and analysis easy. The data was analysed using a variety of statistical tools and techniques, including independent samples t-tests, ANOVA, CFA, and structural equation modelling.

## ANALYSIS AND IMPLICATIONS

Demographic Characteristics	Frequencies	Percentage	
<b>Gender</b>	<b>male</b>	124	62
	female	76	38
Marital Status	Married	115	56
	Unmarried	85	44

Qualification	Graduate	79	39.5
	Post Graduate		
	others	41	20.5
Designation	Officer	80	40
	Asst.manager	126	63
	manager	42	21
Age	Below 25	32	16
	26-35	84	42
	36-45	16	08
	Above 45	36	18

**Significance of gender, organization for Workplace performance (independent samples t-test results)**

Variable	Category	Mean	SD	t value	p value	Hypothesis Result
Gender	Male	3.78	0.62	0.856	0.043	Accepted
	female	3.70	0.51			
Organization	Govt.	3.76	1.01	1.492	0.040	Accepted
	Private	3.65				

Significant at 0.05% level of significance

**Comparison of mean workplace performance scores – demographic variables.**

Variable	F value	P value	hypothesis
Age	1.008	.455	NOT ACCEPTED
Marital status	1.251	.286	NOT ACCEPTED
Designation	1.864	0.002	ACCEPTED
Qualification	0.632	0.005	ACCEPTED

Organizational performance is influenced by workplace performance, commitment, motivation, spirituality, and employee performance. According to the research, workplace performance, motivation, spirituality, the number of dependents, and years of service are all closely related. Spirituality, the number of dependents, years of service, and drive are all antecedents of Workplace performance as spirituality and motivation have significant relationship with engagement. Commitment does not have significant relationship with Workplace performance hence it is not an antecedent of Workplace performance. Current study emphasizes that Workplace performance, motivation, spirituality and commitment leads to employee performance and male employees are more engaged and motivated than female employees. Workplace performance has no significant relationship with commitment; hence commitment is not a predictor of workplace performance. Workplace performance is influenced by motivation, spirituality, and dedication, according to the current study, and male employees are more engaged and motivated than female employees. Workplace performance is influenced by spirituality and motivation. An engaged employee completes fundamental job responsibilities on schedule and meets the company's objectives. They put in extra effort and perform better, are more motivated and confident in their work, and remain strongly devoted to the organization. The presence of higher levels of workplace performance reduces the likelihood of turnover. High levels of workplace motivation and spirituality lead to high levels of workplace performance, which in turn leads to high levels of employee performance.

Finally, managers should be aware that the workplace performance process necessitates long-term relationships in order to develop commitments and mutual reliance. Workplace performance is an ongoing, long-term activity. According to the organizational and cultural strategy of engagement (Frank et al., 2004), engagement is a set of acts and steps (Shaw, 2005) that require the effort and participation of organizational members. The success of a company hinges on the performance of its employees.

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## **GREEN HRM INITIATIVES, EMPLOYEE WELLBEING AND ETHICAL GOVERNANCE**

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**Abstract:** *Green Human Resource Management (GHRM) practices in the IT sector have gained significant attention for their role in promoting environmental sustainability. Studies have shown that GHRM practices, such as green recruitment, training, performance appraisal, and employee empowerment, positively impact environmental performance and pro-environmental behavior among employees (Sanya Bharat Lekhi et al., 2024; A. O. Ojo et al., 2020). Research conducted in India and Malaysia demonstrates a strong commitment to GHRM in the IT sector, with green organizational culture and performance appraisal being particularly prominent (Sanya Bharat Lekhi et al., 2024; A. O. Ojo & Murali Raman, 2019). However, some studies have identified areas for improvement, such as the need for more online training programs and e-performance management systems (T. Sharanya & R. Radhika, 2016). Overall, GHRM practices are seen as valuable resources for stimulating pro-environmental IT behavior and supporting environmental IT performance, contributing to both sustainability goals and organizational success (A. O. Ojo et al., 2020).*

**Key words** *Green Human Resource Management (Green HRM), Sustainable Workplaces, IT Sector, Employee Well-being.*

### **INTRODUCTION**

Green Human Resource Management (HRM) is an emerging concept that integrates environmental sustainability into HR practices (Mehta, 2020; Dutta, 2014). It aims to promote eco-friendly initiatives and increase employee awareness about sustainability issues (Vij & Mumbai, 2013; Deshwal, 2015). Green HRM encompasses various practices such as green recruitment, training, performance management, and employee engagement (Mehta, 2020). These initiatives help organizations reduce their carbon footprint through measures like electronic filing, car-sharing, teleconferencing, and virtual interviews (Vij & Mumbai, 2013; Deshwal, 2015). Green Human Resource Management (GHRM) practices are increasingly important in the IT sector, contributing to environmental performance and sustainability. Studies in India have shown strong adoption of GHRM practices, particularly in areas like green organizational culture and performance appraisal (Lekhi et al., 2024). Green HRM practices, including green training and development, performance

management, and employee empowerment, have been found to stimulate pro-environmental IT behavior and improve environmental performance (Ojo et al., 2020). However, some companies still lack online training programs and e-performance management systems for measuring environmental performance (Sharanya & Radhika, 2016). The implementation of Green HRM practices not only promotes environmental considerations but also has social implications, emphasizing the importance of individual responsibility in environmental conservation (Syedaktharsha & Faizatarnam, 2020). Overall, Green HRM practices play a vital role in employee engagement and participation in environmental management programs within the IT sector.

#### **DEFINITION**

Green Human Resource Management (Green HRM) refers to the adoption of environmentally friendly HR initiatives to promote sustainable business practices. It's about integrating environmental management into HRM policies to support the organization's overall green goals.

#### **Green HRM Practices**

- *Green Recruitment and Selection:* Attracting employees passionate about sustainability involves integrating environmental criteria into job descriptions and selection processes.
- *Green Training and Development:* Offering training on sustainable practices ensures that employees are equipped to support the company's environmental goals.
- *Green Performance Management:* Including environmental performance in appraisals encourages employees to incorporate sustainability into their daily work.
- *Green Compensation and Benefits:* Incentivizing eco-friendly behavior with bonuses, recognition, and other rewards can motivate employees to adopt sustainable practices.
- *Green Employee Relations:* Promoting a green workplace culture through initiatives like recycling programs and carpooling incentives helps foster eco-friendly behaviors among employees.

#### **Benefits of Green HRM**

- *Enhanced Corporate Image:* Companies engaging in Green HRM practices are seen as socially responsible and environmentally conscious, strengthening their reputation and differentiating them from competitors. This attracts eco-conscious consumers and builds brand loyalty.
- *Employee Engagement and Retention:* Green HRM boosts employee morale and job satisfaction through eco-friendly initiatives, leading to higher retention rates. Employees take pride in working for a company committed to sustainability, increasing their engagement and loyalty.
- *Attraction of Top Talent:* By showcasing sustainable practices, Green HRM attracts top talent, especially among younger generations who prioritize environmental responsibility, building a strong and committed workforce.
- *Compliance with Regulations:* Implementing Green HRM helps companies stay ahead of environmental regulations, reducing the risk of legal issues and fines by proactively adopting eco-friendly practices.

- *Innovation and Competitiveness:* Green HRM fosters a culture of innovation, encouraging creative solutions to sustainability challenges. This helps companies stay competitive by developing eco-friendly products and services to meet market demand.
- *Community and Stakeholder Relationships:* Green HRM strengthens relationships with the community and stakeholders, leading to collaborations, support for sustainability projects, and a positive societal impact.
- *Risk Management:* Green HRM helps companies identify and mitigate environmental risks, such as pollution and resource depletion, protecting their reputation and financial stability.
- *Long-term Sustainability:* Ultimately, Green HRM supports the long-term sustainability of organizations by embedding environmental values into the company culture, ensuring continuous improvement and success.

### **Impact of Green HRM on Employee Well-being**

Green HRM practices significantly enhance employee well-being by creating healthier, more supportive work environments. Here's how:

- *Reducing Workplace Stress:* Flexible work arrangements and sustainable practices improve work-life balance, reduce stress, and increase job satisfaction, leading to a more productive workforce.
- *Healthier Physical Workspaces:* Green HRM initiatives like better air quality, energy-efficient lighting, and ergonomic office designs contribute to employees' physical health, reducing discomfort and improving productivity.
- *Promoting Mental Well-being:* Nature integration, like indoor plants and green spaces, helps reduce stress and anxiety, while involvement in sustainability initiatives boosts employees' sense of purpose and job satisfaction.
- *Promoting Social Well-being:* Green team-building activities and inclusive workspaces foster a sense of community, collaboration, and respect, improving overall employee morale.
- *Reduced Environmental Impact on Health:* Minimizing exposure to pollutants and promoting sustainable transport options create a healthier environment and reduce health risks.
- *Enhanced Focus and Cognitive Function:* Access to natural light and noise reduction strategies improve focus, productivity, and mental clarity.
- *Promotion of Physical Activity:* Active workstations and fitness programs encourage physical health, reducing stress and absenteeism.
- *Positive Organizational Culture:* Green initiatives foster employee engagement, empowerment, and a sense of shared purpose, enhancing job satisfaction.
- *Sustainable Employee Benefits:* Eco-friendly benefits like transportation incentives and rewards for sustainable behavior align with employee values, boosting satisfaction.

- **Community Connection and Social Responsibility:** Volunteering for environmental causes and employee recognition for sustainability efforts improve mental health and pride.
- **Reduction in Sick Days:** Improved work environments contribute to fewer health-related absences, benefiting both physical and mental well-being.
- **Enhanced Creativity and Innovation:** Green spaces foster creativity and innovation, enhancing engagement and job satisfaction.
- **Promotion of Ethical Responsibility:** Aligning company sustainability goals with employee values creates stronger motivation and job satisfaction.
- **Long-term Career Benefits:** Green initiatives provide skill development, career progression, and recognition, boosting morale and retention.

### **Ethical Governance**

Green HRM practices and ethical leadership play crucial roles in promoting environmentally responsible behaviours within organizations. Studies have shown that ethical leadership positively impacts green HRM practices and employees' in-role and extra-role green behaviours (Islam et al., 2020). Green HRM practices, which include adjustments to various HR functions, mediate the relationship between ethical leadership and green behaviours (Islam et al., 2020; Singh et al., 2022). CEO ethical leadership amplifies the effectiveness of green HRM systems, moderating the relationship between GHRM and top management team green commitment, which in turn affects firms' environmental performance (Ren et al., 2020). Additionally, green self-efficacy mediates the relationship between green HRM practices and employee green behavior (Adnan et al., 2021). These findings highlight the importance of integrating sustainability practices with HRM and emphasize the role of leadership in creating a sustainable organizational culture (Singh et al., 2022; Ren et al., 2020). Green HRM aligns with corporate governance principles and contributes to organizational sustainability through various dimensions, including inclusivity and women's participation in board membership (Bula & Makhamara, 2022). By implementing Green HRM practices, organizations can enhance environmental performance, job satisfaction, and social evaluation (Yin, 2023). The approach encompasses key aspects of good governance, such as participation, accountability, transparency, and effectiveness (Arulrajah, 2016). Despite challenges, adopting Green HRM is essential for organizations aiming to achieve sustainable development and responsible resource management (Yin, 2023). Overall, Green HRM serves as a strategic initiative to promote sustainable business practices and preserve knowledge capital (Dutta, 2014).

### **Key aspects of ethical governance in relation to Green HRM include:**

- **Promoting whistle-blowing:** Ethical leadership plays an important role in motivating employees to report unethical practices related to environmental issues
- **Reducing organizational politics:** Ethical leaders are trustworthy, unbiased, and legitimate, and they do not approve of self-serving attitudes in organizational personnel Setting
- **Ethical standards:** Ethical leaders establish and promote ethical standards related to environmental practices within the organization

### **Relationship between Green HRM, Ethical Governance, and Employee Green Behavior**

Research has shown that both Green HRM practices and ethical leadership can positively influence employee green behavior:

- *Green HRM and Employee Green Behavior:* Green HRM practices have been found to positively affect employee green behavior, both in-role and extra-role
- *Ethical Leadership and Employee Green Behavior:* While one study found an insignificant direct relationship between ethical leadership and employee green behavior, ethical leadership can indirectly influence employee green behavior through environmental consciousness
- *Mediating Role of Green Self-Efficacy:* Green self-efficacy has been found to mediate the relationship between Green HRM practices and employee green behaviour

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## **INTERNET OF THING (IoT) AND SECURITY ISSUES**

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**Abstract:** *The Internet of Things (IoT) refers to the evolutionary stage of the internet, which makes a global communicating infrastructure between humans and machines. IoT is constructing the global infrastructure which will change the fundamental aspects of our lives, from health services to manufacturing, from agriculture to mining. IoT will offer the necessary facilities of the latest rising artificial intelligence (AI) development. This chapter discusses the overview, characteristics, advantages, disadvantages, common uses, security, trust, privacy and functional view of IoT. The Internet of Things (IoT) refers to the evolutionary stage of the internet, which makes a global communicating infrastructure between humans and machines. IoT is constructing the global infrastructure which will change the fundamental aspects of our lives, from health services to manufacturing, from agriculture to mining. IoT will offer the necessary facilities of the latest rising artificial intelligence (AI) development.*

**Key words:** *Internet of Things (IoT), artificial intelligence (AI)*

### **IOT OVERVIEW:**

IoT has grown to be a marketing trend and general news piece. Beyond exaggeration, IoT appeared as a powerful technique with appliances in numerous domains. IoT has origins in multiple former methods: sensor networks, embedded systems and pervasive informatics. Many IoT devices are linked mutually to develop specific purpose schemes; in the global network, they are rarely utilized as public access devices.

An IoT node is a sensor contained hardware piece that broadcasts sensed information to users or any other devices over the internet. IoT nodes embed into industrial equipment, mobile and medical instruments, wireless sensors, and more. Top examples of IoTs are connected smart city, smart industry, smart transport, smart buildings, smart energy, smart manufacturing, smart environment monitoring, smart living, smart health, smart food and water monitoring.

Due to the accessibility of low cost and smart devices, the IoT network refers to a smart system. IoT devices operate independently with their hearing and transmission abilities. Furthermore, the propagation of IoT provides a lot of benefits but also provides potential threats. An overlooked

factor so far is the rise in energy expenditure. IoT nodes are anticipated to always be accessible on other nodes. IoT offers a lot of benefits, including:

- **Locating and tracing abilities:** Customers should be capable of tracking the nodes and locating them in a short amount of time.
- **Ubiquitous information swap:** In IoT where nodes are linked to the internet and where information is transmitted. Ubiquitous means intelligence. Therefore, intelligence sensors collect information and transmit it using a prearranged input.
- **Enhanced power solution:** Customers should be capable of tracking even the strongest node, and the customer should be capable of obtaining the best result.
- **Data and intelligence management:** IoT does not always require providing commands to the instrument; where the node gives intelligence and information previously it can start working and obtains decisions and discovers solutions based on intelligence.
- **Scalability:** IoT should be the measurability, as with any number of IoT nodes above an extensive network all nodes should distinguish uniquely.

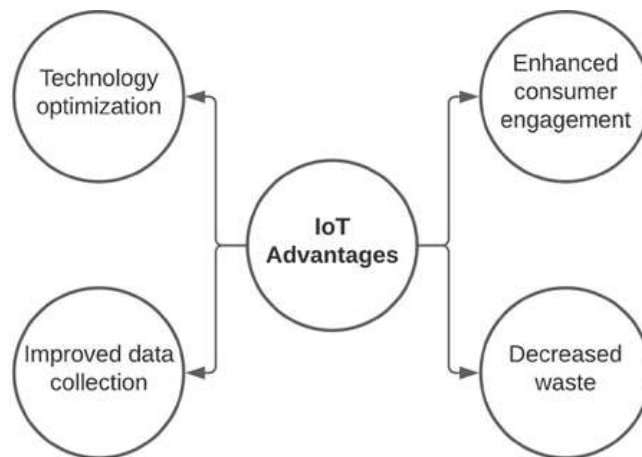
Also, numerous significant IoT problems can be identified. These open problems make it clear that the complexity of internet design currently needs significant capabilities to alter.

- **Unprotected authorization/authentication:** The administrator usually presents authentication to verify the customer identity, and the authorization utilizes rewriting or modifying the content for that appliance and the consent that the administrator will give.
- **The technology of server:** The number of IoT nodes over the IoT field increases the demand and the number of IoT node replies, moreover increases simultaneously depending entirely on the server where customers use the interface. The server response to the IoT node demand should be made immediately. There must be no delay in responding to the customer.
- **Management of storage:** A massive quantity of information is created. When connected IoT nodes have a massive quantity of multimedia data transmitted, they have big data and other types of inconsistent files where data is held concerning these IoT nodes, these files do not take much space. Still, many of them should be useable as soon as possible.
- **Data management:** As transmission between nodes is completed, more information is created daily between nodes, and there is more information to be transmitted from one location to another. Consideration should be given to whether specific information is transmitted or not.
- **Security:** Provision of security can be challenging as the automation of nodes has increased, which has generated novel security problems.

#### **IoT benefits:**

- **Technical enhancement:** Similar techniques and data that enhance consumer observation of IoT facts and enhance IoT node usage, and facilitate the most significant advances in technique. IoT opens up a world of actual data performance and field performance.

Figure 1.1 shows a list of a few of the benefits that IoT will provide:



- **Enhanced consumer engagement:** Recent statistics have the problem of ambiguity and fundamental errors in precision; also, as mentioned, engagement remains are inactive. IoT changes this, attaining a rich and productive engagement, including the spectator.
- **Advanced information compilation:** Today's information compilation undergoes restrictions in plans for practical usage. IoT smashes it down into those gaps and then puts it right where people desire for investigating our planet.
- **Decreased waste:** IoT generates development fields more clearly. Recent statistics provide us with insignificant intelligence, rather IoT presents actuality data that leads to efficient resource management.

#### **IoT common uses:**

IoT schemes are helpful for many types of appliances:

- Industrial schemes utilize sensors to monitor together with the industry procedures themselves—product excellence—and the condition of the apparatus. A growing number of electric motors, for instance, contain sensors that gather information utilized to forecast future motor breakdowns.
- Smart buildings utilize sensors to discover the positions of persons and the condition of a building. That information can be utilized to regulate ventilation/air conditioning and lighting schemes to decrease working prices. Smart buildings also utilize sensors to monitor the physical condition of the building.
- Smart cities utilize sensors to monitor persons walking rather than travelling in a vehicle as well as vehicle traffic, and can compile information from smart buildings.
- Vehicles utilize network sensors to monitor vehicle condition and offer enhancement, decrease energy expenditure, and reduce inferior discharges.
- Medical schemes link with a variety of patient monitoring sensors that can be situated at home, in an emergency vehicle, or in a hospital.

There are lots of use cases that assist users in recognizing the needs of the IoT scheme.

**Notification system:** Messages from IoT devices can be collected and examined. Notices made when certain conditions are met.

**Sensor network:** The scheme can work definitely as an information collection scheme for the sensor sets.

**Reactive system:** Study of IoT device sensed information could incite actuators to be accelerated. Users retain a word reactive for schemes that do not execute standard regulatory rules.

**Analysis system:** Messages from IoT devices are collected and examined, other than in that event, the research is continuing. Research outcomes can be created occasionally.

**Event latency:** Delays from capturing an event to its receiver cannot be significant for volume-based apps but are significant for online research.

**Control scheme:** IoT device sensed information is nourishing to regulate the instructions that produce the effects for the actuator. Users may discover the category of non-functional necessities that execute to most IoT schemes. Non-functional necessities in the scheme force non-functional needs on the elements.

**Buffer volume and event loss rate:** If there are no strict limits on event manufacturing standards, the surroundings can generate multiple events over some time over the scheme. The event loss rate holds the preferred abilities, while buffer volume is a practical need that may directly link to the strength of the elements.

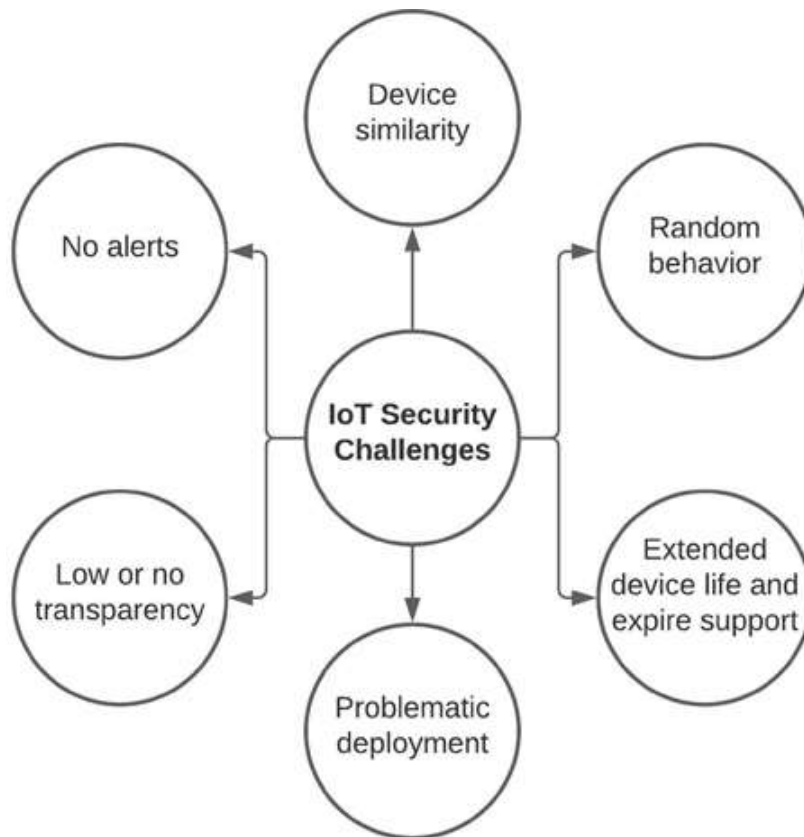
**Availability and reliability:** As IoT, schemes are dispersed; availability is often utilized to explain dispersed schemes. Reliability may determine across network components instead of total scheme reliability.

Security is ultimately seen as a significant necessity for each kind of computer scheme, containing IoT schemes. However, most IoT schemes are significantly safer than standard Windows/Linux/Mac schemes. IoT safety issues arise from a variety of reasons: insufficient hardware safety elements, inadequately created software with broad limitations of susceptibilities, and different safety creation faults.

- **Device similarity:** IoT nodes are well homogeneous. These nodes use a similar communication technique and elements. If one scheme or node is vulnerable from susceptibility, numerous others contain a similar problem.
- **Unexpected activities:** The vast amount of IoT nodes used and their vast list of empowering techniques denote that these nodes activities in the area may be unexpected. A particular scheme might be well-designed within management systems; however, there are no assurances of how it will communicate with other nodes.
- **Device longevity:** One of the advantages of IoT nodes is long life, but that long life denotes that they can live longer with their node assistance. One can measure the similarity or dissimilarity between this and conventional schemes that have to assist and modernize after a long time, with numerous terminating their utilization. Abandon ware and Orphan nodes do not have similar safety toughness for different schemes because of the emergence of techniques over time.
- **Complex deployment:** One of the primary objectives of IoT is to put superior networks and research where they could not go before. Unexpectedly, this makes a difficulty for physical protection of nodes in these areas that are extreme or only accessible with difficulty.

- **Lack of transparency:** Numerous IoT nodes fail to present clarity in terms of their performance. Consumers are unable to see or use their procedures and can only assume the nodes work correctly. They cannot regulate unnecessary activities or information gathering; moreover, when the producer updates the node, it might carry unnecessary activities.

This figure 1.2 show security challenges of IoT



**SUMMARY:**

This chapter describes an overview, characteristics, advantages common uses, security, privacy and functional view of IoT. Furthermore, we propose application areas of IoT in detail. IoT can promote a functional variety of industrial appliances like logistics, manufacturing, food business and services. Novel standards, novel trade, competition, and the need to transport nonstop goods are challenges new businesses face nowadays. As a result, a lot of companies rely on Industrial Internet of Things (IoT), which refers to any performance executed by businesses to model, supervise and enhance their business processes during insights gathered from thousands of linked machines to assist them in enhancing economical profit.

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## **WORK LIFE BALANCE AS A PARAMETER OF JOB SATISFACTION IN THE MANUFACTURING SECTOR**

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***Abstract:** The greater challenges of work and personal aspects of life have intensified the work life balance scenario. Employee engagement and retention has emerged as an important as well as critical tool in today's business. So in order to maintain a equilibrium between personal and professional life, organizations should formulate policies that manage better; any work related stress, tensions or conflict arising at the workplace. The study is based on Literature Review and Secondary data collected from selected papers analyzed and a conceptual framework has been established depicting the reason behind work-life imbalance. This study investigates the factors responsible for work life balance and what are the challenges involved in the manufacturing sector. It was suggested that the employers must consider work life balance programs on the basis of policies they formulate, benefits they provide and services they render. Additionally policies and strategies must be constituted such that it can modify an employee's perception about his employer and they tend to stay in the organization for a longer period of time. It provides a scope for future direction to various researchers, policy makers and also academicians in this field.*

***Keywords-** Work life balance, Job Satisfaction, Employee Retention, Manufacturing.*

### **INTRODUCTION**

Family and work are the two most important aspects in an individual's life and as per Surges & Guest (2004) a balance between them is a must to integrate the family's need and professional requirements. The research in this field has been increased drastically in the past two decades. The change in the social structures like Single Parent families, dual career couples, ageing parents have contributed to be the most commonly researched area in this field.

Work life balance enumerates the time allocated to an employee to balance between his work and family demands. Equilibrium is expected to be maintained between the two completely different roles by an individual. Any imbalance in either of these roles leads to various issues which hampers

the family realm and work realm of a person. Work life balance results in a contented, healthier and successful life and at the same time work life imbalance results in lower productivity, poor performance in the workplace, severe stress, and sometimes even burnout.

A healthy and perfect balance between work and family leads to higher job satisfaction enhances the performance of the employee, keeps motivated, stress free thereby reducing the cost to organization.

#### WORK LIFE BALANCE IN MANUFACTURING SECTOR

In a manufacturing industry where the work process is rigorous and monotonous, a constant effort has been made to improve the quality of work life ever since the industrial revolution. The Labor union in the 1930's and 1940's brought about a radical change in the working conditions and work environment through collective bargaining in this sector. According to IBEF (2018) "India has become one of the most attractive destinations for investments in the Manufacturing sector". This indicates it provides employment opportunities to lakhs of people.

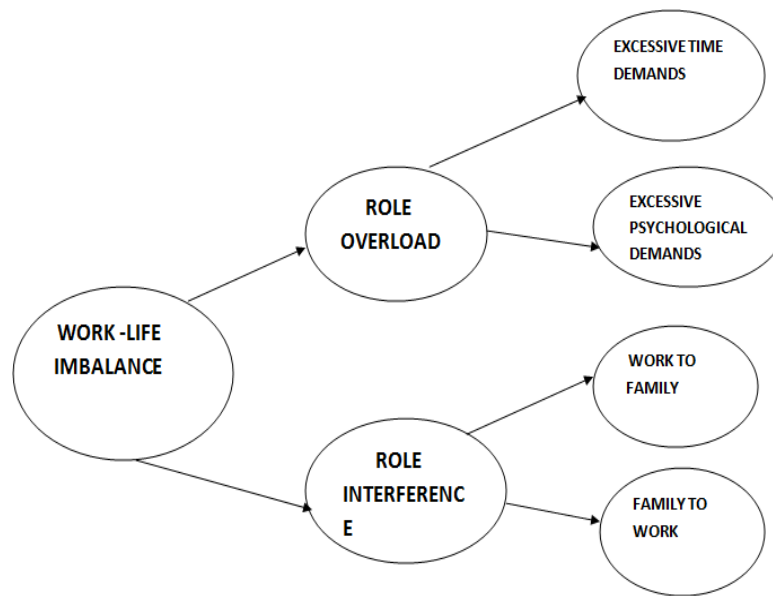
However jobs in the manufacturing sector are less creative and challenging in nature, the jobs are simple and do not require involvement of high mental efforts. This industry faces problems like weak enforcement of rules and regulations, absence of corporate cultures. Such problems lead to employee dissatisfaction affecting the work life balance of the employees.

#### OBJECTIVES OF THE STUDY:

- To investigate the key factors influencing work life balance in the manufacturing sector.
- To find out the challenges faced by Manufacturing sector while managing Work life Balance.
- To suggest measures to refrain from the challenges faced in this sector.

#### CONCEPTUAL FRAMEWORK:

The below figure-1 shows that the two main factors responsible for work life imbalance is: Role overload and role interference.



**Figure-1-** The above model has been developed by the authors.

#### REVIEW OF LITERATURE:

According to C. Karpagham and R. Magesh (2023) their study has been done to investigate the work life balance of the employees employed in the Organized Manufacturing Sector and it was found out that employees were affected by the working hours the most.

According to Idris Ganiyu, Ziska Fields and Sulaiman Atiku (2017) the work life balance strategies act as a mediator between the factors acting as work stressors and the performance of the manufacturing firms. They recommend the strategies related to work life balance need to be redesigned in order to reduce the negative effect of stress on the performance of the organization.

According to A. Panda and C.K Sahoo (2022) their main aim of the study was to examine the relationship between the HR interventions and the work life balance practices and also its impact on the professionals working in the IT industry. It was found that interventions like training and development and communication have the highest impact which helps in developing the interpersonal skills and confidence among them. These HR Interventions will help in retaining the talent and enhance motivation and satisfaction level of the employees.

S.Guru Vignesh (2021) makes an attempt to investigate the factors responsible for work life imbalance in IT sector and noted that long working hours, less time spent with family and friends, travelling time taken to reach their workplace, health ailments caused due to more stress at work, frequent travel away from home are some of the factors contributing to it. He suggested flexible work schedule policy should be introduced for the employees, improvements in the work environments should be made like gymming, exercise sessions, recreational activities like games must be introduced, training programs and workshops must be conducted to reduce stress at work.

A study conducted by A.Pandu (2022) states that among the four variables chosen like work to family conflict, family to work conflict, moral sensitivity about the job and work environment, his main objective was to identify which of the above mentioned variables induce work life balance of married women employed in the IT sector and education sector. It was concluded from the study that feeling at work is a highly affecting factor of work life balance which can be enhanced through an employee's emotional intelligence. It can be done by conducting time to tests in order to enhance an individual's capability, by assigning more challenging tasks and removing the boredom ones etc.

Ashwini J and Aparna J (2021) study made an attempt to find the factors affecting Quality of Work Life in Manufacturing sector and how the employees perceive it. They found out that in this sector employees give more importance to Job Satisfaction hence employees should be given more variety of work to increase the level of satisfaction. This would thereby help in reducing turnover rate, absenteeism, negative feelings about the job etc. Training should be provided to the employees so that they not only develop their skill set but also improve their confidence level to think creatively and make decisions pertaining to their job role.

According to Omar Fayaz Khan and Asif Iqbal Fazili (2020) work life balance gains its importance, much because of the technical innovations where the expectations of the employees are increasing to adopt customer orientation. The introduction of virtual office has blurred the gap between the work and personal life of an individual. This benefits the employee and increases the organization effectiveness by enhancing the productivity, Organization citizenship behaviour and organizational performance.

Shobitha Poulouse and Sudarshan N(2019) investigated the factors influencing job like work load and support on work life balance and its after-effects among the nurses in the healthcare sector. The findings stated that there is an adverse impact of excessive pressure of work and long working hours on the work satisfaction level.

To explore the relationship between supervisory support and job autonomy with job satisfaction a study was made by M. Machuca, J. Berbegal and I. Alegre(2016)Through the survey done it was found that job autonomy allowed the employees to be adaptable in managing their time and work. It helped to make a balance between work and family. Secondly it was found that when managers provided autonomy in decision making and supervisory support to the employees work performances as well as the work environment improved very effectively. So a new relationship was discovered i.e. employees work life balance was positively related to Organizational pride.

According to V.Chandra (2016) their study was made to strike a comparison between eastern and western perspectives on work life balance practices. Change in demographics, family-friendly workplaces lead to work life balance. "one size fits all strategy" may not fit or cater to individual and organization needs.

#### CHALLENGES FACED BY MANUFACTURING SECTOR WHILE MANAGING WORK LIFE BALANCE:

Work life balance can be explained as a feeling of content for proper functioning at work and at home with minimum role conflict and interference (Clark.S, 2000).The perspective of an employee with regard to the quality of work life considers four major factors i.e. Good working conditions and supportive management, individual growth and job autonomy, nature of the job with ample opportunities and better relations with the supervisor, co-workers etc (Rao and Mohan, 2008). Here nature of the job can be understood as, the job should be challenging and feedback must be given periodically and rewards should be linked with goals. Employee retention is a major challenge in the manufacturing sector as employees tend to leave the organization whenever they are dissatisfied with their nature of the job, working conditions, poor pay and other facilities etc.Working couples need to take care of their children as well as family keeping balance in their work. The work involved in the manufacturing sector is very monotonous or repetitive in nature and they lack innovation and creativity. Secondly due to very high interference of government regulations and lack of control mechanism it creates a sense of dissatisfaction among the employees. Job Rotation should be introduced which would help in increasing the production efficiency as well as reduce the labor cost. Moreover inequity in pay is also one of the challenges which leave the employees dissatisfied. As every workplace is different it is also a challenge to manage the multi-generational workforce in different organizations. Organizations also face challenges while developing the motivation and reward strategies with the different categories of workforce. Millennial's need instant feedback and heavy incentives for motivation. In the similar way Baby boomers are more concerned about prestige and generation X get motivated by work life balance (Satpathy I, Patnaik B.C.M, Palai D, 2018)In the similar way Gen X and Y feel job satisfied when they have some kind of leisure activities been conducted at workplace. They appreciate challenging tasks and immediate feedback .Baby boomers are considered as workaholics and they consider job satisfaction in keeping themselves busy as their major focus is on their career

#### FINDINGS AND DISCUSSION

As it is a known fact that the work involved in a manufacturing sector is rigorous and time consuming the main cause for work life imbalance is role overload and role interference. Role overload refers to assignment of more than one role to an employee in the organization. So when two roles overlap or are incompatible with each other role overload occurs. Employees have to do a lot of work within a certain time frame which leads to conflict and stress at work on the other hand role interference refers to inability to maintain a balance between incompatible demands of work leading to work to family interference (WTF) and family to work interference (FTW) where the demands of the family affects the work. Though the concept of work life balance has attracted many organizations to adopt norms and policies for the benefit of the employees but many such policies exist in written only. They are not practiced at all; and in many cases HR practioners are also not sure about their policies and norms or what should be the benefits and services that would cover an ideal work life balance program. Organizations which show concern for their employee's work life balance problems

can stabilize and enhance an employee's perception in return. This action leads to a voluntary commitment by the employee for the organization and the concept is termed as Organizational Citizenship Behavior (OCB). Employers should constitute work-life balance programs in 3 categories: a) Policies b) Benefits and c) Services. Policies should cover the employees leave and flexible schedule both formal and non-formal. Benefits should include forms of compensation, pay, promotion, protection against loss of earnings, medical expenses etc. Services include child care facility, pick and drop vans for work, counseling, concierge facilities etc. Wellness programs must be introduced which would focus on enhancing the health of an employee by adding value to the quality of work life and environment.

#### CONCLUSION

Work life balance is a parameter to measure job satisfaction. It helps in understanding work and life as two most important aspects of life which needs to be balanced through various strategic HR interventions. Juggling between personal and professional lives employees tend to under- perform. Hence to strike a balance is necessary on the part of the employees in order to accomplish the goals of the organization and be an asset to the organization. Role overload and

role interference can be avoided by role sequencing, role prioritizing and role changing. Work life balances practices should be employee friendly so that employees feel more motivated and experience a family friendly environment even at workplaces.

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## **IN RECRUITMENT, PROMOTION, AND TALENT DEVELOPMENT IN THE IT SECTOR**

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**Abstract:** *The importance of Diversity, Equity, and Inclusion (DEI) in the IT industry is examined in this chapter, along with the potential and difficulties associated with developing a more diverse workforce. The underrepresentation of women, racial minorities, LGBTQ+ persons, and people with disabilities, especially in technical and leadership roles, has been a problem for the IT industry despite its leadership in technological innovation. DEI is not only a social concern but also a commercial requirement, as diverse teams promote stronger creativity, problem-solving, and financial performance. Using case studies from industry leaders like Google, Microsoft, and Salesforce to highlight successful programs, the chapter explores best practices for DEI in hiring, career advancement, and talent development. It highlights the significance of inclusive training programs, mentorship, open promotion procedures, and bias-free hiring. The chapter also looks at creative DEI strategies like women's leadership initiatives, blind hiring, and scholarships for underrepresented groups to learn to code. Additionally covered are overcoming opposition to DEI and monitoring results using analytics and data. To promote long-term, sustainable change that will serve as a model for other industries and benefit all employees, the chapter ends by advising tech companies to keep expanding their DEI initiatives.*

**Key words:** *Diversity, Equity, Inclusion, Career Progression, Promotion and Talent*

### **INTRODUCTION**

Innovation, digital transformation, and economic progress have all long been propelled by the information technology (IT) sector. Information Technology has changed sectors, improved productivity, and increased worldwide connectedness through innovations like artificial intelligence, cloud computing, and cybersecurity. However, despite its progressiveness, the IT industry continues to battle with difficulties relating to Diversity, Equity, and Inclusion (DEI).

Certain demographic groups have dominated IT employment for decades; women, members of racial minorities, those with disabilities, and LGBTQ+ workers are underrepresented in technical and leadership roles. The absence of DEI in IT has a direct influence on company culture, creativity, and business performance, making it more than just a social issue. According to research, diverse

teams perform better than homogeneous ones because they are more creative, capable of addressing problems, and flexible in the quickly changing digital environment.

### **The Role of DEI in Recruitment in the IT Sector**

In order to ensure that hiring procedures in the IT industry are impartial, equitable, and representative of a varied talent pool, diversity, equity, and inclusion, or DEI, are essential. The tech sector has long suffered with the underrepresentation of women, racial minorities, people with disabilities, and LGBTQ+ professionals, despite being at the forefront of innovation. In addition to limiting opportunities for underrepresented groups, a lack of diversity in hiring also impedes innovation, problem-solving, and company expansion. IT firms may create a more diverse and inclusive workforce that improves innovation, employee engagement, and financial performance by incorporating DEI principles into their hiring practices. Key tactics for DEI- focused recruitment include bias-free job descriptions, diverse hiring panels, organized interview processes, and blind resume screening to avoid unconscious bias. To establish fair pathways for disadvantaged applicants, corporations also need to fund mentorship programs, relationships with diverse educational institutions, and outreach campaigns. In addition to improving workplace culture, giving DEI high priority during the hiring process aids IT firms in luring top talent, filling skill shortages, and preserving a competitive edge in the quickly changing digital market.

### **Promoting Equity in Career Progression and Promotions**

Fostering an inclusive workplace where all employees have equitable chances for growth and leadership requires ensuring parity in career advancement and promotions. Systemic obstacles including unconscious bias, a lack of mentorship, and opaque promotion standards frequently impede the growth of underrepresented groups, such as women, racial minorities, and people with disabilities, in many businesses, especially in the IT industry. Companies must set up objective, quantifiable, and transparent promotion rules in order to foster equity. This will guarantee that career advancement is determined by abilities, performance, and potential rather than by personal opinions. It is possible to close current gaps and promote the professional development of varied talent by putting in place mentorship opportunities, sponsorship programs, and organized leadership development programs. Organizations must also routinely carry out diversity assessments and pay equity audits in order to find and fix discrepancies in leadership representation and promotions. Businesses may improve employee retention and morale while also fostering creativity, productivity, and long- term organizational success by incorporating equality into people management methods.

### **Talent Development and Training**

A successful and future-ready workforce depends heavily on talent development and training, especially in the IT industry where job positions are constantly changing due to technological improvements. An effective training and development plan guarantees that staff members gain the technical know-how, leadership potential, and flexibility needed to prosper in a changing business

environment.

Businesses need to concentrate on reskilling and upskilling programs, offering possibilities for ongoing education through online courses, mentorship programs, practical workshops, and certification programs. Furthermore, inclusive training programs and customized learning pathways aid in closing skill gaps, guaranteeing fair access to career advancement for staff members from a variety of backgrounds. The pipeline for future CEOs is strengthened and a more inclusive workplace is created when minority groups get leadership development funding. In an increasingly digital environment, companies that prioritize training and talent development not only improve employee engagement and retention but also foster innovation, productivity, and long-term commercial success.

### **Creating an Inclusive Workplace Culture**

Establishing an inclusive workplace culture is crucial to creating a setting where each employee feels appreciated, respected, and free to share their distinct viewpoints. Companies should place a high priority on open communication in order to create such a culture, making sure that everyone's opinions are respected and heard. This can be accomplished by fostering openness, aggressively seeking out input, and supporting cross-group teamwork. Leadership, policy, and training that prioritize empathy, understanding, and inclusivity can foster respect for differences.

Employee Resource Groups (ERGs) are essential to this process because they give underrepresented groups a network of support. ERGs help provide safe spaces for discourse, allowing employees to interact, share experiences, and advocate for their needs. They also offer professional development opportunities, enhancing retention and career progression for members of these groups. By highlighting views that are typically underrepresented, ERGs contribute to a more inclusive company culture.

By guaranteeing that every employee has the assistance they require, inclusive benefits and policies further enhance this work environment. Employees can better manage their personal and professional life when flexible work schedules, family leave, and mental health supports are provided. In order to create an egalitarian workplace where everyone can succeed, it is also essential to provide workplace accessibility for employees with disabilities, such as by offering assistive technologies or physical adjustments.

### **Overcoming challenges in DEI implementation**

Addressing change resistance and ensuring commitment at all organizational levels are necessary to overcome obstacles in DEI adoption, particularly in the IT sector. Lack of knowledge, fear of the unknown, or perceived challenges to established power structures are common causes of resistance. Organizations must educate and communicate clearly about the advantages of DEI, highlighting its contributions to innovation, employee happiness, and company performance, in order to counteract this. Executives should set an example by openly supporting DEI initiatives and providing funding to assist them; leadership buy-in is crucial. To guarantee efficacy, tracking and

Evaluating DEI development is essential. DEI goals should be specific and quantifiable, such as boosting retention rates for underrepresented groups or diversifying leadership positions. By identifying DEI gaps, data and analytics assist direct focused solutions. To assess success and make data-driven modifications, key indicators such as employee satisfaction scores, promotion rates, and representation percentages should be monitored on a regular basis. The entire organization must be held accountable for achieving DEI goals. Managers and leaders should be held responsible for achieving DEI goals, and their performance should be assessed according to how well they are able to promote an inclusive culture and accomplish DEI goals. All staff members, including senior executives, are accountable for promoting diversity and inclusion throughout the company when DEI goals are incorporated into performance management systems.

### **The Business Impact of DEI in IT Sector**

- **Innovation and Creativity:** Diverse teams solve complicated challenges with more inventive and creative solutions because they bring a range of perspectives to the table. In the IT industry, where innovation fuels competitive advantage and market success, this diversity of viewpoints is particularly important.
- **Financial Performance:** Research indicates that businesses with diverse teams get greater financial results because different viewpoints help with problem-solving and decision-making. In the tech sector, for instance, McKinsey's research revealed a substantial relationship between diversity and profitability.
- **Reputation and Attraction of Talent:** Organizations with a solid reputation for diversity and equity are more likely to draw top talent, particularly from underrepresented groups that value inclusivity. Candidates are reassured by a company's dedication to diversity that it promotes equality, justice, and opportunity for advancement.
- **Employee Retention:** DEI programs foster a feeling of community, which raises loyalty and job satisfaction and lowers turnover. This is especially true for underrepresented groups, who are more inclined to stick with organizations that provide opportunities for professional advancement and inclusive work cultures.

#### Best Practices and Case Studies

#### Successful DEI Initiatives in Leading Tech Companies:

1. **Google:**
  - Google promotes accountability and transparency by tracking its DEI progress through its Google Diversity Annual Report.
  - All staff are required to complete Diversity and Inclusion Training, which focuses on inclusive leadership and unconscious bias.
  - Diversity in technical and leadership positions has grown as a result of targeted hiring and mentoring initiatives for underrepresented groups.

2. Microsoft:

- Microsoft evaluates DEI success using a data-driven methodology, emphasizing diversity in leadership by gender, race, and ethnicity.
- The Autism Hiring Program fosters inclusivity and creativity by giving people on the autism spectrum employment opportunities.
- Minority groups can progress inside the company with the support of Employee Resource Groups (ERGs), which provide professional development and mentorship.

3. Salesforce:

- Salesforce's Equality Groups promote an inclusive workplace by offering specialized assistance to women, LGBTQ+ workers, and people of color.
- Through its Ohana Culture, which emphasizes diversity and community development, the company fosters employee satisfaction and regularly audits compensation to ensure gender pay fairness.
- As a result of these initiatives, the industry has recognized DEI leadership and retention rates are strong.

**Innovative Programs and Approaches:**

1. **Blind Hiring:** Businesses are employing blind hiring to eliminate personal information that can cause prejudice in recruiting and instead concentrate only on qualifications and skills.
2. **Women's Leadership Training:** Programs for women's leadership development, like those offered by Intel and Accenture, give women the abilities and self-assurance they need to progress in their careers.
3. **Coding Underrepresented Group Scholarships:** Facebook and IBM provide mentorship programs and scholarships for coding in an effort to increase diversity in computing professions by giving underrepresented groups a chance to enter the field.

**Conclusion**

Although significant progress has been made, there is still much more to be done in the continuous quest for true inclusivity in the IT industry. To guarantee fair career advancement, HR and leadership must continue to play a crucial role through inclusive policies, mentorship, and accountability. Through creative DEI methods and long-lasting change, the IT sector has the chance to set the pattern for other industries. Our dedication to diversity, equity, and inclusion should advance along with technology, and tech businesses should be encouraged to build on their current initiatives to bring about significant, long-lasting change that benefits all employees.

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## **SOCIAL AND POLITICAL, CHALLENGES FACE BY INFORMAL WORKERS IN INDIA: AN OVER VIEW**

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**11**

**Abstract:** *In this age of globalization rapid changes are taking place in social political, industrial and cultural aspects. There occurs massive restructuring of work, employment and industry. Identity and aspirations shift swiftly. The knowledge revolution is taking place. Technologies change in an un-imaginable speed. All these developments caused an increase in the women workforce participation all over the world and also in India. India's workforce comprises nearly 93 per cent in the unorganized segment, with the entire farm sector falling under the informal category, while only one-fifth of the non-farm workers are found in the organized segment. It is widely acknowledged that the informal sector in India suffers from a low productivity syndrome, compared to the formal sector. Poor human capital base (in terms of education, skill and training) as well as lower mobilization status of the work force further add to the vulnerability and weaken the bargaining strength of workers in the informal sector.*

*The alarming expansion of informal sector, in recent times, and increasing feminization of employment in this sector has adversely affected employment and income security for the larger majority of the workforce in general and women in particular, along with a marked reduction in the scale of social welfare security programme. Therefore, this analysis makes an effect of globalisation on developments in the women workforce participation in India.*

**Key Words:** *Informal sector, Labour rights in India, Social protection, Political representation*

### **OBJECTIVES**

The main objectives of the paper are as follows:

- To know the challenges of informal employment in India
- To analyse the problems and prospects of women in informal sector
- To give the suitable suggestions for improve the working of informal s

### **Methodology**

This paper based on secondary date and theory critically examines the challenges of informal employment in India. It is collected from books, journals, Census report, NSS reports and articles. The paper exposes the problems and prospects of informal employment in the Country.

### **Analysis and Discussion**

The purpose of this paper is to analyse the challenges of women working in informal sector in generation of employment opportunities and livelihood. Further, it discusses the different dimensions of informal employment in India.

#### **Developments in women workforce participation**

The entry of women in the occupational field is of great social significance, from the advantage of enlarging vision, widening her outlook and developing her social personality. In ancient period, women have a greater freedom in various fields and in later period the status of women gradually declined. During the 19th century, it was considered derogatory for women to take to outside the word as a means of earning even though she had no other means of subsistence. Women are confined to take up jobs mainly due to economic necessity. The British Govt. is said to have been largely responsible for initiation modernization efforts within the country. Social reform and access to education initiated by various Indian leaders and influenced and aided by the British Govt. paved the path for increased participation of women on various platforms- political, social and economic. After independence India adopted the constitution in 1950. It provides the guidelines for India's future development mainly through its Directive Principles of State policy. By making a number of welfares activates mandatory for state and private organizations through legislations. These documents could be considered to be India's first formal attempt to address work and family matters. Notable legislation was passed around the times that have had a special bearing on women workforce participation in India.

In mid 1980s & 1990s, as the number of urban educated women aspiring for job increased, and as the strength of marriage as a universal and ubiquitous institution within India continued unabated, there was a rise in the number of working couples in urban settings.

#### **Work force participation literacy and population growth**

As per census 2011, India's working population constitute 32% of the working population. Majority of working women are crowded in the unorganized sector. As per Country report, presented at the 4th world conference on women in Beijing in 1995, only 4% of all the working women are in the organized sector. This means that only about 0.005% of India's population comprises of working women in the organized workforce. A Comparative statistical profile relating to women workforce participation in India is shown in table 1.

**Table 1.1 Work Force Participation Rates**

Work Force Participation Rate		1971	1981	1991	2001	2011	2021
Total	Persons	34.2	36.7	37.7	39.3	-	38.3
	Male	52.8	52.6	51.6	51.9	-	50.2
	Female	14.2	19.7	22.7	25.7	-	18.4
Rural	Persons	35.3	38.8	40.2	42	-	-
	Male	53.8	53.8	52.5	52.4	55	53.2

	Female	25.9	23.1	27.2	31	31	28.3
Urban	Persons	29.6	30	30.4	32.2	-	-
	Male	48.9	49.1	49	50.9	54	47.6
	Female	7.2	8.3	9.7	11.6	14	5.4

Source: Computed

This means that only about 0.005% of India's population comprises of working women in the organized workforce. A Comparative statistical profile relating to women workforce participation in India is shown in table 1.1. Table 5.1 reveals that the total women at participation rate increased from 14.2 per cent in 1971 to 25.7 percent in 2001. The rate of rural women at work and urban women at work rate are also showing an increasing trend over the years. Among the total women workers, rural women participation at work is more compared with urban women. The workforce participation of women in urban areas is a mere 14 per cent as compared to 54 per cent for men. In rural areas, it is 31 per cent for women, where as it is 55 per cent for men. Several factors are affecting either positively or negatively on work participation rate of women. Patriarchal tradition, influence of family, religious conservatism, economic condition, education, caste, status, etc are some factors which effects on women work participation rate. Another impediment of women labour participation is the immobility of labour.

**Table 1.2 Sex wise growth of population**

<b>Population (Millions)</b>	<b>1951</b>	<b>1961</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>	<b>2001</b>	<b>2011</b>
<b>Total</b>	361.09	439.23	548.16	683.33	846.3	1027.02	1210.19
<b>Male</b>	185.55	226.29	284.02	353.32	439.18	531.28	623.72
<b>Female</b>	175.53	212.94	264.14	330	407.12	495.74	586.49
<b>Sex-Ratio</b>	946	941	930	934	927	933	940

Source: Computed

**Table 1.3 Literacy rates of population**

<b>Literacy (%)</b>	<b>1951</b>	<b>1961</b>	<b>1971</b>	<b>1981</b>	<b>1991</b>	<b>2001</b>	<b>2011</b>
Total	18.3	28.3	34.5	43.6	52.2	65.4	74.04
Male	27.2	40.4	46.0	56.4	64.1	75.9	82.14
Female	8.9	15.4	22	29.8	39.3	54.2	65.46

Source: Computed

The census survey of India 2011 indicates that there are 940 women for every 1000 men in the country, making the female population in about 48.46 per cent of the total population. The demographic changes of India are depicted in table 1.2.

Table 1.2 shows the sex wise growth of population, sex ratio and Table 3 shows literacy rates. The total population of the country has been increased substantially from 361.09 million in 1951 to 1210.19 million in 2011 census. The figures of 2011 census reveals a decline in the rate of growth of population from 21.54 per cent in 1991-2001 to 17.64 per cent in 2001-2011 census decades. Table also reveals that the women population has substantially increased over the years, whereas, female growth rate and the sex ratios are showing a declining trend. The overall literacy rate has increased from about 18.3 per cent in 1951 to about 74.4 per cent in 2011. Women literacy rate has also increased considerably over the years. The female literacy rate has showing an increasing trend of 8.9 per cent in 1951 to 65.46 per cent in 2011. Even through the literacy rate has increased over the years, the male female gap has not narrowed.

### **Women's employment in the Unorganized Sector in India**

The Indian economy is characterized by the existence of a vast majority of informal or unorganized labor employment. As per a survey carried out by the National Sample Survey Organization (NSSO) in 2009–10, the total employment in the country was of 46.5 crore comprising around 2.8 crore in the organized and the remaining 43.7 crore workers in the unorganized sector. Out of these workers in the unorganized sector, there are 24.6 crore workers employed in agricultural sector, about 4.4 crore in construction work and remaining in manufacturing and service. As per the Economic Survey 2007-08, 93% of India's workforce include the self-employment Labour, Government of India, has categorized the unorganized labour force under four groups in terms of Occupation, nature of employment, especially distressed categories and service categories. In addition to these four categories, there exists a large section of unorganized labour force such as cobblers, Hamals, Handicraft artisans, Handloom weavers, Lady Tailors, Physically handicapped self-employed persons, Rickshaw pullers, Auto drivers, Sericulture workers, Carpenters, Tannery workers, Power loom workers and urban poor.

Though the availability of statistical information on intensity and accuracy vary significantly, the extent of unorganized workers is significantly high among agricultural workers, building and other construction workers and among home-based workers. According to the Economic Survey 2007-08 agricultural workers constitute the largest segment of workers in the unorganized sector (ie. 52% of the total workers. The NSSO Report of May 2011 about the casual workers in India between 2004-05 and 2009-10 compared to that of the period between 1999 –2000 and 2004-05 very clearly shows that there is significant increase in the number of casual workers and decline in the number of regular workers. This report shows a substantial shift between 1999-00 and 2009-10 in the structure of the labour force which can be broadly divided in to self-employed, regular, and casual workers. (Casual workers are employees who do not enjoy the same benefits and security as tenured employees. All daily wage employees and some categories of contract employees are casual labourers.) The percentage of women employment in the organized sector is considerably less than the un-organized sector. Lack of education is one of the hindering factors

to gain productive and remunerative employment. The agricultural workers have the lowest level of education. In un-organized sector, they work in various capacity-attached, bonded, casual, contract labour, workers in sweated industries like construction work, hand and power looms, bidi & cigar making, stone cutting, dhal and rice milling, pottery, crafts, match working, wooden work etc. The women employment in the Organized Sector in India is depicted in table 1.4

**Table 1.4 Women Employment in Organized Sector in India**

Sectors		1995	1996	1997	1998	1999	2000	2001	2006
Public Sector	Total	194.7	194.3	195.6	194.2	194.2	193.1	191.4	-
	Male	168.7	167.9	168.3	166.6	166	164.6	162.8	-
	Female	26.0	26.4	27.3	27.6	28.1	28.6	28.6	30.03
	Total	80.6	85.1	86.9	87.5	87	86.5	86.5	-
Private Sector	Male	64.3	67.2	67.8	67.4	66.8	65.8	65.6	-
	Female	16.3	17.9	19.1	20.1	20.2	20.7	20.9	21.18
Total	Total	275.3	279.4	282.5	271.7	281.1	279.6	277.9	-
	Male	233	235.1	236.1	233.9	232.8	230.4	228.4	-
	Female	42.3	44.3	46.4	47.7	48.3	49.2	49.5	51.21

**Source:** computed

Table 1.4 indicates that out of the total number of women employed in organized sector in India, women employment in the public sector is more than the private sector. The women employment in the public sector has been increased from 26.00 lakhs in 1995 to 30.03 lakhs in 2006, and also increased substantially in private sector from 16.30 lakhs in 1995 to 21.18 lakhs in 2006. The increase in the employment in private sector may be due to the growth of IT, ITES and BT industries. During this period these industries have adopted modern work styles, and family friendly measures, attracted women towards these industries. The women employment in organized sector by industry division is shown in table 1.5.

**Table 1.5 Women Employment in Organised Sector by Industry Division (Thousands)**

Industry Divisions	1981		1991		1996		2000		2006
	Total	Women	Total	Women	Total	Women	Total	Women	Women

Agr. Forestry, Fishing & Hunting	1321	456 (34.5)	1447	498 (34.4)	1459	479(32.8)	1418	542(38.2)	496.56
Mining & Quarrying	948	87(9.2)	1099	79(7.2)	1100	81(7.4)	1005	65(6.5)	84.46
Manufacturing	6047	595 (9.8)	6333	597(9.4)	6787	876(12.9)	6616	1023(15.5)	890.39
Electricity Gas & Water	718	17 (2.4)	945	31(3.3)	988	38(3.8)	987	46(4.6)	52.54
Construction	1161	59(5.1)	1222	61(5.0)	1212	65(5.4)	1149	68(5.9)	65.53
Wholesale & Retail Trade, Restaurant and hotel	394	21 (5.2)	450	34(7.6)	479	41(8.5)	593	45(9.1)	48.50
Transport, Storage & Communication	2769	82(2.9)	3079	140(4.5)	3152	162(5.1)	3147	180(5.7)	190.67
Financial, Insurance & Real Estate	944	80 (8.4)	1448	174(12.0)	1586	208(13.1)	1654	232(14.0)	329.82
Community, Personal & Social Services	8577	1397(16.3)	10712	2167(20.2)	11178	2476(22.2)	11494	2750(23.9)	729.30
<b>Total</b>	<b>2289</b>	<b>2793(12.2)</b>	<b>26735</b>	<b>3781(14)</b>	<b>27941</b>	<b>4426(158)</b>	<b>2793</b>	<b>4960(177)</b>	

**Source:** Computed

Table 1.5 Shows that women employment in organized sector by industry division has shown an increasing trend in all the divisions of employment, women are employed the most in community; personal and social services, in the public sector, while they have the highest percentage of employment in the manufacturing sector followed by agriculture. Almost 400 million people (more than 85% of the working population in India) work in unorganized sector and of these about 120 million are women. According to an estimate, by the National Commission on Self-Employed Women (1988a), of the total number of women workers in India, about 94 percent are in the informal or unorganized sector whereas just 6 percent are in the organized or formal sector.

### **Impact of Globalisation of female work force participation in IT Sector**

The entire world is moving ahead to meet the challenges of globalization, which in turn has compelled us to come to gather on a common platform at the provincial, national and international levels, making issues of participatory democracy a part of the ongoing struggles. After 1990, India became connected to a fast globalizing world. Especially during 1995-2000 India saw Information technology enables service (ITES) e.g. call centre and software sector boom. Many organizations in this sector adopted work styles and organization practices from developed countries in the west. The IT sector was meant to have emancipator potential for working women. The IT industries have been offering family friendly measures. All these developments created new job avenues to women.

Women Employment in India during 1971 to 2011 is studied with the help of exponential growth rate mode. Time series data for 1971 to 2011 was used to study growth rates in Women Work Force Participation; Women Employment in India, an exponential growth model issued.

**Table 1.6 Growth rate of Women Work Force Participation, Women Employment in India**

<b>Items</b>	<b>Growth rate (r) 1971 to 2011</b>
Women Work Force Participation	14.08* (3.45)
Women Employment	18.96* (4.57)

**Source:** Computed

**Note:** \* significant at 1 per cent level

A keen observation of data in table 1.6 reveals that the annual growth rate of women work force participation in India is worked out 14.08 per cent and the annual growth rate of women employment in India is worked out to 18.96 per cent. Therefore, there is a significant annual growth rate of Women Work Force Participation, Women Employment in India during 1971 to 2011.

### **Growth of unorganised sector women's employment, industry, agriculture and service sector in India:**

A woman is identified as a mother, a wife, a daughter-in-law or a daughter but never as an independent person. To be born as a woman means to inhabit, from early infancy to the last day of life, a psychological world that differs from the world of the man. Much of the exasperation and discrimination in woman's life stems from this fact. The overall picture is one of greater disadvantage for women workers in general and those belonging to unorganized sector in particular. As a matter of fact, the problem of female worker is the index of the status of Indian labour in both organized and unorganized sectors. Any discussion regarding the problems associated with the women labour has many aspects, such as economic, political, psychological, sociological and legal etc. The employment in the organized sector requires certain minimum qualifications and most of these educated women workers are drawn from middle classes and richer sections, a very few women from lower class would get chance in these jobs.

The National Commission on Labour describes some characteristics and constraints of unorganized sector, namely: (a) casual nature of employment; (b) ignorance and illiteracy; (c) small size of establishment with low capital investment per person employed; (d) scattered nature of establishments; and (e) superior strength of the employers operating singly and in combination. Therefore, this analysis makes the growth of unorganized women employment in industry, agriculture and service sector in India.

### **Projected employment in agriculture, industry and service**

Almost 400 million people (more than 85% of the working population in India) work in unorganized sector and of these about 120 million are women. According to an estimate, by the National Commission on Self-Employed Women (1988a), of the total number of women workers in India, about 94 percent are in the informal or unorganized sector whereas just 6 percent are in the organized or formal sector. Thus there is no exaggeration in saying that the unorganized sector in India is the women's sector. However, the plight of women in this sector is miserable as they work for extremely low wages, with a total lack of job security and social security benefits, working hours are long and working conditions are unsatisfactory. According to census 2011, women constitute 48.46 percent of the total population in India and about 25.67 percent of female population is designated as workers. Two National Labour Commissions, along with several other international and national commissions, committees and conferences in the last 50 years have documented the socio-economic conditions of workers in the unorganized sector in India.

The Arjun Sengupta Committee report is a stark reminder of the huge size and poor conditions in this sector. The National Commission for Enterprises in the Unorganized Sector (NCEUS), has extensively profiled the unorganized sector and unorganized employment in its report, „The Challenges of Employment in India-An Informal Economy Perspective“ (April, 2009) and suggested the measures that are considered necessary for enhancing competitiveness of the unorganized sector in the emerging global environment and generation of large scale employment opportunities on sustainable basis. The most significant finding is that the economy will experience a greater degree of in formalization of employment that will increase the already high share of informal workers from 91.8% to 93.9% by 2016-17(Table 1.7).

**Table 1.7 Projected employments in agriculture, industry and services**

Year	GDP growth rates	Projected employment in million			Total
		Agriculture	Industry	service	
2011-12	9%	229.2	105.0	153.5	487.7
	7%	225.4	102.0	149.0	476.4
	5%	221.5	99.1	144.6	465.2
2016-17	9%	240.2	126.2	189.5	555.9
	7%	232.0	116.8	174.8	523.5
	5%	224.0	108.1	161.2	493.3

**Source:** computed

### **Important features of unorganized sector**

The most important features of unorganized sector are that most of the women labourers are appointed as contract labourers. Studies conducted in several parts of the country indicate the awful conditions of the women workers in this sector. They continue to face discrimination and

marginalization both subtle and blatant and do not share the fruits of development equally. Ignorance, traditional bound attitudes, illiteracy, lack of skills, seasonal nature of employment, heavy physical work of different types, lack of job security, lack of a comprehensive legislation to cover these workers in unorganized sector and competition in employment are resultant deprivation of real wage. Wages in the unorganized sector are arbitrarily fixed, often without regard to the minimum wage legislations, which adversely affect the income of the wage workers in general, and women workers in particular. In the informal sector, wage workers constituted 36% and the remaining 64% were self-employed. Average wage of men and women workers are Rs. 75 and Rs. 45 respectively which is much less than the wage of Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) i.e. Rs.100. Another dimension of this wage result shows the existence of gender bias in unorganized sector in terms of wage level.

The major problems they face are poverty, lack of access to education and inadequate healthcare facilities. Living in abject poverty, most workers in the unorganized sector barely manage a subsistence existence. The rising costs of private healthcare and the systematic dismantling of the public health system in these times of liberalization are a major reason for the huge indebtedness of households in the unorganized sector. It is not that there are no statutory provisions to ensure fair working conditions for women in India.

In fact, the Constitution of India provides equal rights and opportunities to both the genders. In addition, there are specific provisions for protection and welfare of working women in many of the labour laws. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a major step in the direction of providing security of employment to rural workers. One of the successes of MGNREGA is that, on average the participation of women in the programme is higher than the stipulated minimum requirement of 30%. Women constitute 46% of the beneficiaries in 2007-08. Although the Government is seized of the situation, yet it continues to remain a problem area due to non-availability of reliable statistical data and other information pertaining to working, living and socio-economic conditions of women workers. The first enquiry for studying socio-economic conditions of women worker was undertaken by Labour Bureau in the year 1953 and a report titled “The Economic and Social Status of Women Workers in India” was brought out.

### **Issues and Challenges**

Studies conducted in several parts of the country indicate the awful conditions of the women workers in these sectors. The women workers face a number of difficulties such as, in many cases, they are not considered as workers which make their income very low when linked to the earnings of the male workers. Often, they are considered as workers which are out-of-date and low skilled according to the requirements of the market. They also have to take care of their children at home and at the same time have to work to support their families. In fact, they are doing double the amount of work and paid less than half when compared with their male counter parts. The women who are engaged in domestic work and street vending face difficulties such as sexual harassment and abusive language. Domestic workers have to work in three to five houses per day without any bonus or overtime. They face sexual harassment and many a times their working conditions are

very bad. Migrant domestic workers face such difficulties in a more intense manner. Sometimes the recruiting agents compel the women to engage in sex work. Also they are paid very less and due to the lack of bargaining power, they are not in a position to demand more. They are replaced frequently, in case of better wage demands, as they are in surplus in the market. Research shows that women and girls, who tend to work harder than men, are more likely to invest their earnings in their children.

### **Conditions of women working in the Informal sector in India**

All over the globe the contribution of women in economic development of the country is significant. In every aspect, the role the women is *sine qua non* in the socio economic life of the country. But, the majority of women work in the unorganized sector for low wages and at low levels of skills. The number of women workers during last four decades has more than doubled from 40 million to 90 million. Out of 407 million total work force, 90 million are women workers largely employed (about 87 per cent) in the agricultural sector as workers and cultivators. In a developing country like India, the women workers in the unorganized sectors work in terrible conditions which not only affect their social status but hamper their income, health and other aspects. Therefore, this analysis makes the conditions of women working in the unorganized sector in India.

### **Terrible conditions of women workers in the unorganized sectors**

In a study conducted by the International Labour Organization about four decades back it could be established that 27 out of 100 women were found to be economically active and about one third of the world's labour force comprised of women. At the same time it was also highlighted that participation of the women in economic activity varies considerably from one region to another due to varying economic, social and cultural conditions prevailing in each region. It was well established that the rate of participation by women in economic life varies from a maximum of a more than 40 per cent in Eastern Europe and the USSR where women force constitute more than two-fifth of the total work force on the one hand to that of minimum of less than 15 per cent in Latin America where women could constitute only one-fifth of the total labour force.

At the same time participation of women in labour force was also found to be high in Western Europe where women comprised one third of the economically active population and most of them were found to be gainfully employed in all age groups. In some of the developed countries like Denmark, Germany, Japan, Australia, etc, a major part of women labour force is engaged in agriculture and their participation is also high in non-agricultural activities. And on the whole overall rate of participation of women labour force in these countries tends to be higher as compared to other developed countries. It has been observed with regard to developing countries that one group of countries, namely, Haiti, Nepal, Thailand etc., rate of women participation in economic life exceeds 40 per cent of the total female population while in other group of countries, namely, India, Malaya, Morocco, Tunisia, etc, the rate of women's participation is comparatively less in the range of 30 to 40 per cent of the total agricultural work force and between 20 to 25 per cent of the total female population.

### **Unemployment for the working women in informal sector**

In most of the developing countries wide spread unemployment and under-employment pose varied problems for the working women. In order to understand diversity involved in this regard it becomes imperative to study each specific case in the context of existing plan and the complexities involved in respect of prevailing unemployment and underemployment among the women workers. Leaving apart agriculture, in other sectors of employment the women workers have to face the competition with the men workers and due to that the women workers are deprived of work opportunities, particularly, in the modernized industries and at the same time mechanization of small industries has also resulted in replacement of women workers by their male counterparts and due to these reasons majority of the women workers continue to get employment in rural sectors of employment. One peculiar feature which is common in majority of developing countries has been that women seek employment without having vocational qualifications which might not be having direct nexus to the existing needs of national economic problems and the aspect of social development. All these factors necessitate for the State, particularly in the developing countries to provide vocational training to the women seeking employment so as to ensure optimum scope for their employment.

Labouring women in the informal sector are an important segment on the labour force in India. According to an estimate of the National Commission of Self Employment of women, 94% of the total female work force operates in the unorganized sector. They do arduous work as wage earners, piece rate workers, casual labour and paid family labour. The coverage of labour laws has not benefited these women workers in many areas of wages, working conditions, maternity benefits and social security

### **Range of occupations in the informal sector on women**

The Indian Council of Social Science Research, New Delhi has made several studies in a wide range of occupations in the unorganized sector on women. Studies which were conducted in the various parts of the country reveals the awful conditions of the women labourers in the unorganized sector. It has been observed that a significant percentage of the jobs in this sector are managed by women drawn from lower caste and lower class women. Ignorance, tradition bound attitudes, illiteracy, lack of skills, seasonal nature of employment, heavy physical work of different types, long hours of work with limited payment, discrimination in wage structures of men and women, lack of guarantee of minimum wage, lack of job security, lack of comprehensive legislation to cover these labourers in unorganized informal sector, lack of minimum facilities at the work-site, ill-treatment, migration and disintegration of families of the employment women in this sector.

Women's economic participation can be mentioned in the field of production of goods and services accounted in the national income statistics. However, female work participation has always been low at 26% compared to 52% of men. The problem is that women have always been at work; only the definitions of work and work plan have never been defined or realistic to include their contribution to the economy and the society.

Women work mainly for economic independence, for economic necessity, as some women are qualified enough to work. Most Indian women by and large under-take “productive work” only under economic compulsion, this is the reason for high female participation rates in economically under privileged communities. Usually up-per class women are limited to homes. Work participation rate is found to be higher among rural women (27%) than the urban women (10%). women usually go in for temporary and standby jobs because of the prevalent hesitancy to employ women in regular jobs and providing them with good working conditions. The main workers are those who “work” for the major part of the year. Female main workers constitute 14.65% of the population and men- 50.54 percent.

Female marginal workers constitute 6.26% of the population, whereas males being only 0.98%.<sup>9</sup>In 2005, for the first time, agriculture was no longer the main sector of employment for women and this trend continued in 2006. The service sector now provides most jobs for women. Of the total number of employed women in 2006, 40.4 per cent work in agriculture and 42.4 per cent in services. Most of the women are found to be employed in agricultural activities and in the unorganized sector. The employment of women is high in the informal sector such as part time helpers in households, construction center, tanneries (setting, parting and drying), match and beedi industries etc. An estimate by the World Bank shows that 90% of the women working in the informal sector are not included in the official statistics and their work is undocumented and considered as disguised wage work, unskilled, low paying and do not provide benefits to the workers. Statistics show that vast majority of Indians work in Agriculture where 55% of the population is female agricultural workers and 30% of the men are labourers and not cultivators.

### **Conclusion**

It is observed that the overall literacy rate has increased and the workforce participation has risen over the years, the male female gap has not narrowed. There are many open openings and opportunities emerged in various organized and un-organized sectors due to globalization. Lack of proper education is the hindering factor. Indian women have to be given modern education and professional skills. The experiences of professional women in most of the developing countries indicate that the problems faced by them are essentially the same. The issues are tuned towards in equality, gender representation and social justice. In India the problems faced by women are the same. The governments have to implement suitable policies to effectively address gender disparities and to bring social justice. In a fast-developing country like India, progress and development do not confine to increase in production, health and social welfare alone. We cannot have any major development by marginalizing the majority of educated women with professional skills. The first step in national development is to recognize their merit and their contribution. Women should really feel proud of their accomplishments and status in the society. Further, the annual growth rate of women work force participation in India is worked out 14.08 per cent and the annual growth rate of women employment in India is worked out to 18.96 per cent. Therefore, there is a significant annual growth rate of Women Work Force Participation, Women Employment in India during 1971 to 2011. Further, it is observed that no doubt, there are laws to protect women and prevent exploitation but these laws (the Interstate Migrant Workmen Regulation of

Employment and Conditions of Service Act, 1979, The Bonded Labour System (Abolition) Act, 1976 and Maternity Benefit Act, 1961 etc.), and legislations are not practically and strictly implemented. The very vastness of the country, the scattered nature of women workers, their lack of education and legal literacy, the indifferent attitude of the government-bureaucracy and the general status of women in society caused vulnerability to women. It is the need of the hour that government and Non-Government Organizations (NGOs) must come forward to actively and efficiently deal with the plight of these women. Therefore, a credible employment strategy needs to focus to enhance educational level of the workers, social status of workers including women, specific industries that can absorb a higher proportion of males and females and creation of quality job.

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## **HUMAN CAPITAL DEVELOPMENT THROUGH INCLUSIVE HRM IN INDIA'S IT SECTOR: AN EMPIRICAL**

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**12**

**Abstract:** *This paper explores the role of inclusive Human Resource Management (HRM) practices in fostering human capital development **within** the Indian IT sector. As one of the most dynamic and globally competitive industries, the Indian IT sector is increasingly leveraging inclusive HRM strategies to attract, retain, and develop diverse talent. This study empirically examines how initiatives such as diversity hiring, equitable learning and development (L&D) programs, flexible work environments, and inclusive leadership contribute to employee growth and sustainable organizational performance. Data was collected from HR professionals and employees across leading IT firms through structured questionnaires and interviews. The findings highlight the positive correlation between inclusive HRM practices and enhanced human capital outcomes, offering valuable insights for policymakers and industry leaders aiming for sustainable and inclusive growth.*

**Keywords:** *Inclusive HRM, Human Capital Development, IT Sector, India, Diversity, Sustainable Development*

### **INTRODUCTION**

Human capital is the backbone of the knowledge-driven Indian IT sector. With the advent of globalization, digitization, and demographic shifts, the demand for inclusive and sustainable HR practices has surged. Inclusive HRM refers to practices that ensure fair treatment, equal opportunities, and respect for all individuals, regardless of their background, gender, abilities, or identity. It is no longer just a matter of compliance or corporate social responsibility; it has evolved into a strategic approach that drives innovation, enhances workforce engagement, and creates a competitive advantage.

In the context of India's rapidly growing IT industry, which employs millions of professionals and contributes significantly to the national GDP, human capital has become a key driver of competitive advantage. Organizations are increasingly recognizing the value of workforce diversity and the importance of fostering an inclusive environment where all employees can thrive. The transition from traditional HR practices to inclusive HRM represents a shift toward greater equity, empowerment, and employee well-being. Inclusive HRM aligns individual aspirations with organizational goals, helping firms remain agile in a fast-paced, technology-driven economy.

Moreover, inclusive HRM practices serve as a foundation for sustainable development, which includes economic growth that is equitable and socially responsible. By adopting such practices, IT firms can not only enhance individual employee outcomes—such as satisfaction, performance, and retention—but also contribute to broader societal goals, such as reducing inequality and promoting economic participation across diverse segments of the population. This paper investigates how inclusive HRM strategies contribute to the development of human capital, especially in a sector as dynamic and influential as IT.

### **Literature Review**

A review of existing literature reveals that inclusive HRM practices play a critical role in shaping organizational culture and enhancing employee capabilities. Sharma (2021) notes that inclusive policies such as diversity hiring and equitable performance evaluation systems result in a more engaged and motivated workforce. Rao & Iyer (2020) emphasize that diversity and inclusion (D&I) initiatives contribute to better team performance and problem-solving abilities. Gupta (2019) highlights how sustainable HR practices are intertwined with inclusivity and long-term business success. Despite growing interest, empirical studies focusing specifically on the Indian IT sector's inclusive HRM practices are limited. Moreover, there is a need to analyze how such practices affect different dimensions of human capital, such as skill development, innovation capacity, and leadership readiness. This research aims to bridge that gap by providing data-driven insights into the link between inclusivity and human capital development.

### **Research Methodology**

- **Objective:** The primary objective is to analyze the impact of inclusive HRM practices on human capital development in India's IT sector.
- **Sample:** The study involved 150 respondents, including HR professionals, team leads, and employees from five major IT companies: Infosys, TCS, Wipro, HCL, and Tech Mahindra.
- **Method:** A mixed-method approach was adopted. Quantitative data was collected through structured questionnaires containing Likert-scale items, while qualitative insights were gathered through semi-structured interviews.
- **Tools:** Quantitative data was analyzed using SPSS to identify trends, correlations, and significance levels. Qualitative data was thematically coded to extract patterns, perceptions, and best practices. The triangulation of methods ensured that the data interpretation was robust, valid, and reflective of industry realities.

### **Inclusive HRM Practices Identified**

- **Diversity Hiring:** Companies are increasingly adopting policies to ensure representation across gender, LGBTQ+ communities, people with disabilities (PWD), and socio-economically disadvantaged backgrounds. For instance, targeted recruitment drives, accessible workspaces, and diversity councils are becoming more common. Such initiatives not only promote social equity but also broaden the talent pool, bringing in varied perspectives and problem-solving approaches.
- **Training & Development:** Inclusive HRM emphasizes equitable access to learning and development opportunities. Customized upskilling programs, leadership training for underrepresented groups, and mentorship initiatives are helping to level the playing field for all employees. These efforts help bridge existing competency gaps and foster long-term career advancement for marginalized employees.
- **Inclusive Leadership:** Leadership that values transparency, fairness, and participation is essential for inclusive HRM. Practices include open-door policies, regular feedback sessions, and employee resource groups that influence decision-making. Organizations with inclusive leadership show stronger employee trust, lower turnover, and a more innovative organizational climate.
- **Flexible Work Policies:** The rise of remote work has made flexibility a key pillar of inclusivity. Organizations now offer hybrid models, job-sharing arrangements, parental leave, mental health support, and ergonomic accommodations. These measures have enabled better work-life balance, increased participation of women, and accommodation for employees with disabilities.

### **Key Findings**

- **Job Satisfaction:** 82% of respondents indicated higher job satisfaction due to the presence of inclusive policies, with specific praise for fair performance evaluation and inclusive training opportunities. This satisfaction is linked to a sense of belonging and perceived fairness in career progression.
- **Retention:** Companies with structured diversity and inclusion programs reported a 25% higher employee retention rate over three years, especially among women and minority employees. This stability reduces recruitment costs and enhances organizational memory.
- **Career Growth:** Respondents who participated in inclusive L&D programs were 40% more likely to report career advancement and skill development. It was also observed that these employees showed higher confidence and leadership potential.
- **Team Performance:** Teams led by inclusive leaders showed a 30% increase in collaborative performance, creative problem-solving, and project success rates. Psychological safety created by such leadership was instrumental in achieving these outcomes.

### **Discussion**

The empirical evidence supports the hypothesis that inclusive HRM practices have a positive impact on human capital development. Inclusive organizations are more likely to attract and retain

top talent, reduce skill gaps, and promote continuous learning. Furthermore, inclusive work environments foster psychological safety, which encourages employees to share ideas, innovate, and perform at their best. The Indian IT sector, known for its global clientele and multicultural teams, stands to gain significantly from investing in inclusive HR practices. The empirical evidence supports the hypothesis that inclusive HRM practices have a positive impact on human capital development. Inclusive organizations are more likely to attract and retain top talent, reduce skill gaps, and promote continuous learning. Furthermore, inclusive work environments foster psychological safety, which encourages employees to share ideas, innovate, and perform at their best. The Indian IT sector, known for its global clientele and multicultural teams, stands to gain significantly from investing in inclusive HR practices. When diversity is coupled with inclusive systems, organizations not only improve individual performance but also drive organizational resilience and adaptability in the face of rapid technological change and global disruptions.

### **Implications**

- For HR Practitioners: The study recommends a strategic framework for inclusive HRM that includes diversity hiring targets, inclusive leadership training, and metrics to monitor inclusivity outcomes. Regular audits and feedback loops can help ensure continuous improvement.
- For Policymakers: There is a need for public policy support in the form of incentives for inclusive hiring, tax benefits for disability-friendly workplaces, and D&I certification schemes. Regulatory frameworks can play a crucial role in mainstreaming inclusivity across industries.
- For Academicians: Further research is encouraged in Tier 2 and Tier 3 city-based IT firms, startups, and SMEs to build a comprehensive understanding of inclusive HRM practices across the industry. Comparative studies with global markets may also yield deeper insights.

### **Conclusion**

Inclusive HRM is a transformative force that can significantly enhance human capital in the Indian IT sector. By embedding inclusivity into recruitment, development, leadership, and work culture, companies not only meet the goals of social equity but also unlock higher productivity, creativity, and resilience. As the industry continues to evolve in the digital age, inclusive HRM will remain essential for building a sustainable, diverse, and future-ready workforce. Firms that prioritize inclusivity today are likely to emerge as leaders in both market share and employer branding in the years to come.

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**SUSTAINABLE DEVELOPMENT IS A LONG-TERM CONCEPT THAT GIVES EQUAL IMPORTANCE TO DEVELOPMENT OF FUTURE GENERATIONS: A VIEW**

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**Abstract:** *Reaching environmental sustainability demands a careful balance between human activities aiming to promote the development and maintenance of a stable environment. Environmental sustainability is essential to the global effort to reduce poverty, since environmental degradation is closely linked with problems such as hunger, gender inequality and health. The fundamental requirements for the eradication of poverty are related to an efficient management of natural resources that constitute the basis for economic and social development, as well as to changes in production and consumption patterns. You have already understood that the concept of sustainable development is a long-term concept that gives equal importance to development of future generations also. Sustainable development also emphasizes that actions and measures taken in one part of the world has consequences for people in other parts of the world. For development to be sustainable we must think of development not only for our community or village or country but for the world as a whole. To give an example, if factories emit smoke in North America, then that air pollution from North America affects air quality in Asia. Similarly, pesticides sprayed in Bangladesh could harm fish stocks off the coast of West Bengal.*

**Key words:** Sustainable development, Intergenerational equity, Long-term development, Future generations, Environmental sustainability, Economic sustainability

**OBJECTIVES OF THE STUDIES**

- To know the definition and significance of environment;
- To understand the various environmental problems such as pollution, degradation, depletion of resources;
- To explain the meaning of sustainable development, tell the ways to achieve sustainable development.

### **The Environment: Definition and Significance**

The environment encompasses all living and non-living things occurring naturally on Earth or some region thereof. It includes all the biotic and abiotic factors that Environment and Sustainable Development Notes- 8 Contemporary Economic Issues 102 influence each other in nature. All the living elements like birds, animals, plants, forests, etc. comprise the biotic elements. On the other hand, everything non-living like air, water, rocks, sun, etc. are examples of the abiotic component of the environment. A study of the environment is thus a study of the inter-relationship between the abiotic and the biotic components of the environment.

### **Significance of the Environment:**

#### **The environment provides various resources**

To man-both renewable and non-renewable. Renewable resources are those resources which are replenished easily over time, and hence can be used without the possibility of the resource becoming depleted or exhausted. Examples of renewable resources include trees in the forests, fishes in the ocean, etc. Non-renewable resources, on the other hand, are those resources which can get exhausted or depleted over time as they are used up. Examples of non-renewable resources include fossil fuels and minerals like petroleum, natural gas, coal, etc. Thus, these resources need to be used carefully, while keeping in mind the requirements of the future generations.

- Do you know? Based on current projections, within around 50- 75 years, all the world's extractable coal, oil, natural gas, and uranium-235 deposits- that is, all our current energy sources-would have been used up.

#### **The environment is also an absorber of harmful wastes and byproducts,**

That is, it assimilates waste products. The smoke from chimneys and exhaust pipes of vehicles, sewage from cities and towns, industrial effluents are all absorbed by the environment. These harmful wastes and byproducts are absorbed, cleaned and recycled by various natural processes.

#### **The environment also sustains life by providing bio diversity.**

The genetic variations created by the pressures exerted by the environment on various life forms allows those life forms to adapt, evolve and produce genetic variations which can survive in harsh environments. Hence the environment produces and maintains relationships between different life forms and the abiotic components and sustains life. It is therefore important to preserve these life forms by preserving the environment.

#### **Apart from the biological significance of the environment,**

The environment is also important from the aesthetic point of view. It provides scenery and landscapes to us which are priceless to us, and often play an important role in man's culture around the world.

### **Environmental Problems:**

With the advance of human civilization, human wants have expanded and diversified. This has led to a rapid depletion of natural resources. Many resources are being used up at a rapid rate, which has caused over-utilization and depletion of many resources. With the rapid use of resources, a lot of accompanying environmental problems has cropped up. These include pollution of air and

water, degradation of natural resources like soil and forests, and the depletion of non-renewable resources like fossil fuels and minerals. In the sections below you will read about these environmental problems and understand the significance of their impact on the economy and the planet earth. Pollution the term pollution refers to an undesirable change in the quality of a natural resource or the natural ecosystem. The change may be harmful to life immediately or over a long period of time. Thus, pollution adversely affects the health of living beings. Pollution is caused by a pollutant. A pollutant is a waste material or substance which causes an undesirable change in a natural resource or ecosystem. Smoke, dust and poisonous gases in the atmosphere and industrial effluents and sewage from cities in water are some common examples of pollutants. Further, human activities also generate heat and create noise or harm living beings in a multitude of other ways. Air pollution Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or cause damage to the natural environment or built environment, into the atmosphere. Major air pollutants include sulphur oxides, nitrogen oxides, carbon monoxide, carbon dioxide (which is also a major greenhouse gas), toxic metals, and particulate matter. Do you know? The World Health Organization states that 2.4 million people die each year from causes directly attributable to air pollution. Worldwide more deaths per year are linked to air pollution than to automobile accidents

**Effects of air pollution:**

The health effects caused by air pollution may include difficulty in breathing, wheezing, coughing and aggravation of existing respiratory and cardiac conditions. These effects can result in increased medication, increased doctor or emergency room visits, more hospital admissions and premature death.

**Sources of Air Pollution Major artificial sources (caused by human beings) of air pollution include:**

- Smoke from power plants, factories, incinerators, furnaces, etc.
- Exhaust of vehicles and automobiles like cars, buses, bikes, airplanes, ships, etc.
- Chemicals like pesticides and fertilizers and dust from farming and other agricultural practices.
- Fumes from paint, hair spray, varnish, aerosol sprays and other solvents. Waste deposition in landfills, which generates methane, which also contributes to global warming. Major natural sources of air pollution include:
  - Dust from natural sources, usually barren land.
  - Methane, emitted by the digestion of food by animals, for example cattle.
  - Smoke, particulate matter and carbon monoxide from wildfires.
  - Volcanic activity, which produce sulphur, chlorine, and ash particulates.

**Effects of water pollution:**

A number of waterborne diseases such as cholera, typhoid, diarrhea etc. are produced by the pathogens present in polluted water, affecting human beings and animals alike. Water Pollution affects the chemistry of water. The pollutants, including toxic chemicals can alter the acidity,

conductivity and temperature of water. It also kills life that inhabits water-based ecosystems like fish, birds, plants, etc. and hence disturbs the natural food-cycle,

**Air and water pollution:**

Potable water and the air we breathe are essential conditions for human survival. Pollutants like carbon monoxide and sulfur dioxide can cause irreversible damage to the brain, respiratory diseases and cancer. About 2.5 billion children, mainly from southern countries, die annually due to their families using biomass and manure as fuel inside homes. Water pollution is the contamination of water bodies (example lakes, rivers, oceans and groundwater) by pollutants discharged directly or indirectly into water bodies without adequate treatment to remove harmful compounds. Major sources of water pollution include industrial chemicals and effluents, nutrients, waste water, sewage, etc.

**Effects of noise pollution:**

Noise pollution in the form of unwanted sound can damage physiological and psychological health. Noise pollution can cause annoyance and aggression, hypertension, high stress levels, hearing loss, sleep disturbances, and other harmful effects. Chronic exposure to noise may cause noise-induced hearing loss. People exposed to significant occupational noise demonstrate significantly reduced hearing sensitivity compared to non-exposed people. High and moderately-high noise levels can contribute to cardiovascular effects, a rise in blood pressure, and an increase in stress thus affecting the physical and mental health of people.

**Sources of Noise Pollution Major Sources of noise pollution include:**

- Vehicular traffic, like cars, buses, airplanes, trains etc.
- Industrial processes like stone crushing, making of steel plates, sawing, printing, etc.
- Construction work on roads, bridges, buildings, etc.
- Various noises from houses like stereos, televisions, etc
- Consumer products like air conditioners, refrigerators, etc.

**Climate changes:**

According to the Intergovernmental Panel on Climate Change (IPCC), the planet's global temperature has raised 0.6° C (33° F) and the warming rate has almost doubled in the last 50 years. Which causes instability in e Sources of Water Pollution Major sources of water pollution include: Global warming observed over the last 50 years has had an adverse impact on precipitation patterns, on the increased frequency of extreme climate phenomena (droughts, hurricanes, etc.), on raised sea levels, on new threats to human health, on change to ecosystems, including migratory routes and reproductive patterns. The number of refugees due to climate changes is already higher to that due to military conflicts. There are further factors that, although indirectly, contribute to accelerate environmental degradation, such as demographic changes, economic factors, market flaws and distortions, scientific and technological evolution, poor governance and social and political factors

- Discharge from sewage treatment plants and sewage pipes from cities and towns.
- Industrial effluents released by factories into water bodies.
- Chemicals like pesticides and fertilizers from agricultural farms which constitute runoff from farms.

- Contaminated storm water from storm water drains in cities. Release of heated or radioactive water by power plants into water.
- Oil spills and leakages from tankers and oil rigs. Growth of algae in water bodies'

Noise pollution Noise pollution is an excessive and displeasing environmental noise that disrupts the activity or balance of human or animal life.

**Factors of Environmental Degradation:**

**Soil degradation:**

Urbanization, intensive agricultural use, the construction of road infrastructures, among other factors, give origin to significant changes in the capacity of ecosystems.

**Excessive use of natural resources:**

The unreasonable use of natural resources is endangering their natural capacity for replacing themselves, even in the case of renewable resources.

**Invasion by non-native species:**

The globalization process has caused the movement of species to new environments. Frequently, the appearance of non-native species eventually creates imbalances in ecosystems and puts human health at risk. Air, soil and water pollution caused by chemical agents and organic residues. Pollution constitutes a risk factor to human health, reduces agricultural productivity and threatens the stability of ecosystems.

**Consequences of Environmental Degradation:**

**Agricultural production systems:**

The inadequate use of soils and irrigation systems, climate changes, demographic growth and market distortion are some of the factors that have been accelerating the erosion and impoverishment of agricultural soils, contributing to the precariousness of rural families. **Forests:** 3.4 billion hectares (8.4 billion acres) of forests contribute to the survival of 90% of the 1.2 billion people who live in extreme poverty, supplying wood, fuel, uncultivated food, shelter, water and genetic resources. Over the last decade the world has lost, annually, 9.4 million hectares (23 million acres) of forests.

**Freshwater aquifers and ecosystems:**

Fresh water represents only 2.5% of the planet's water. Due to global warming two thirds of the world's population will face water shortage conditions until 2025. Around the world, one person in five has less than 20 litres (4.4 UK gallons, 5.28 US gallons) of potable water per day (minimum quantity per human being). However, the average daily consumption of water by Europeans and Northern-Americans varies between 200 and 600 litres (between 44 and 132 UK gallons and between 52 and 158 US gallons).

**Fisheries and marine ecosystems:**

Oceans cover 70% of the planet's surface and represent its largest life habitat. 16.5% of animal protein consumed worldwide comes from fishery. However, 75% of the world's fishing areas are being explored above their sustainability level.

**Air and water pollution:**

Potable water and the air we breathe are essential conditions for human survival. Pollutants like carbon monoxide and sulfur dioxide can cause irreversible damage to the brain, respiratory diseases

and cancer. About 2.5 billion children, mainly from southern countries, die annually due to their families using biomass and manure as fuel inside homes.

**Soil degradation:**

Soil degradation refers to an undesirable or deleterious change or disturbance in the quality of the soil. It leads to a change in the species of plants and animals in an area, and often leads to a loss of quality and productivity of the soil in an area. The soil loses its natural nutrients, minerals and organic matter (known as humus) and disrupts the natural balance of the natural ecosystem. The soil hence becomes unfit or unsuitable for growing plants and crops.

**Causes of Soil Degradation Major Causes of soil degradation include:**

- Excessive use of chemical fertilizers and pesticides, which causes soil acidification, increases salinity and alkalinity of the soil, reduces organic matter, and increases levels of organic pollutants and toxins and heavy metals (like Cadmium, Lead, etc.).
- Waterlogging caused by excessive irrigation and failure to subsequently drain the water from the fields causes an increase in salt content of the soil, making it unfit for growing plants, as well as serves as a breeding ground for mosquitos.
- Overgrazing by animals in fields, which reduces plant cover and leaves the soil prone to erosion.

Do you know? Damage from soil erosion worldwide is estimated to be \$400 billion per year (around Rs 20 lakh crores per year). As a result of erosion over the past 40 years, 30 percent of the world's arable land has become unproductive.

Effects of soil degradation Soil degradation can significantly reduce the yield potential of soil for growing crops. The presence of pollutants in soil also leads to pollution of groundwater, which has increased levels of nutrients, organic toxins, and heavy metals. Also, degradation of soil causes the soil to lose its green cover, and hence reduces biodiversity in that region, as the growth of plants in an area is essential for animals to survive and for the food chain to function normally. This also leads to extinction of plant and animal species. Soil degradation also leads to desertification, that is, the land gradually gets converted into a desert which becomes unfit for cultivation or habitation.

Habitat degradation Habitat degradation refers to the process in which habitats lose their normal functioning or quality to support native life due to human activities. Habitat degradation leads to a reduced carrying capacity of that area, that is, the number of animals or plants of a particular species the area can support. This leads to a reduced population of various species in that area (or habitat) which in turn leads to an imbalance in the natural food chain and ecosystem. This imbalance can lead to the mass extinction of many plants and animals on our planet. Causes of Habitat Degradation

Major Causes of habitat degradation: Deforestation and wood extraction for the timber industry. Conversion of forest land into agricultural land urban expansion of natural habitats Soil erosion and desertification, which can lead to whole forests degenerating into deserts. Slashing or slash-and-burn agricultural methods, where forests are burnt and crops grown using the ashes as a natural fertilizer. Effects of habitat degradation: Habitat destruction vastly increases an area's vulnerability to natural disasters like flood and drought, crop failure, spread of disease, and water contamination. Agricultural land too suffers from the destruction of the surrounding landscape.

Do you know? If the current rate of deforestation continues, there will only be 10% of the world's tropical forests left by 2030, and another 10% in a degraded state

### **1.9 Environmental Issues in India:**

In India, factors like rapid growth of population, urbanization, industrialization, and poverty, among others are responsible for harming the environment. Some of the severe environmental issues prevalent in India are

1. Degrading Air Quality Index
2. Rampant Environmental Degradation
3. Loss of Biodiversity
4. Urbanization in the Himalayas
5. Loss of Resilience in Ecosystems
6. Lack of Waste Management
7. Depletion of Resources (land, air, water)
8. Growing Water Scarcity

### **Governmental Initiatives to Tackle Environmental Degradation**

While the cooperation of every citizen of the country is essential for safeguarding the environment, governments have a huge role to play in helping find solutions to the problems. The government of India has taken various steps to safeguard the environment. Some of them are listed below:

1. Swatch Bharat Mission
2. Green Skill Development Programme
3. Namami Gange Programme
4. Compensatory Afforestation Fund Act (CAMPA)
5. National Mission for Green India
6. National River Conservation Programme
7. Conservation of Natural Resources & Eco-systems

### **Conclusion and Recommendation**

In the 21st century, the temperature is expected to rise between 1.4 and 5.8° C (35° F and 42° F). IPCC estimates that rural and fishing communities in developing countries will face extreme risk of droughts and floods, If temperatures rise between 1.5 and 2.5°C (35° F and 37° F), 20% to 30% of species of plants and animals existing on the planet might be extinct – a direct threat to the 450 million poor people who depend directly on the sustainable use of natural resources. Sustainable development is largely about people, their well-being, and equity in their relationships with each other, in a context where nature-society imbalances can threaten economic and social stability. Because climate change, its drivers, its impacts and its policy responses will interact with economic production and services, human settlements and human societies, climate change is likely to be a significant factor in the sustainable development of many areas (e.g., Downing, 2002). Simply stated, climate change has the potential to affect many aspects of human development, positively or negatively, depending on the geographic location, the economic sector, and the level

of economic and social development already attained (e.g., regarding particular vulnerabilities of the poor, see Dow and Wilbanks, 2003). Because settlements and industry are often focal points for both mitigation and adaptation policy-making and action, these interactions are likely to be at the heart of many kinds of development-oriented responses to concerns about climate change. Impacts of climate change on development paths also include impacts of climate-change response policies, which can affect a wide range of development-related choices, from energy sources and costs to industrial competitiveness to patterns of tourism. Areas and sectors most heavily dependent on fossil fuels are especially likely to be affected economically, often calling for adaptation strategies that may in some cases require assistance with capacity building, technological development and transition financing.

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## **BRIDGING EQUITY AND EFFICIENCY: HRM STRATEGIES FOR INCLUSIVE GROWTH IN INDIA'S INFORMATION TECHNOLOGY INDUSTRY**

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**Abstract:** *India's Information Technology (IT) sector has emerged as a vital driver of economic growth, technological innovation, and employment generation. However, the benefits of this growth have not been equitably distributed. This paper explores how Human Resource Management (HRM) strategies can bridge the goals of efficiency and equity to promote inclusive growth. Drawing on academic literature and empirical practices in the Indian IT industry, we identify the key challenges and propose strategic interventions to advance inclusivity. We argue that inclusive HRM practices not only address socio-economic disparities but also enhance organizational performance, adaptability, and long-term sustainability.*

**Keywords:** *Inclusive HRM, India IT industry, diversity, equity, organizational performance, digital workforce.*

### **INTRODUCTION**

India's Information Technology (IT) sector has evolved into a cornerstone of the national economy, contributing significantly to GDP growth, foreign exchange earnings, and employment generation. With a contribution of approximately 7.5% to India's GDP and a workforce exceeding 4.5 million, the sector symbolizes India's integration into the global digital economy. Fueled by rapid technological advancements, a young demographic, and the outsourcing boom, Indian IT firms have earned a strong global reputation for delivering high-quality software services and business process outsourcing.

However, this impressive growth story masks a more nuanced reality: the gains from this expansion have not been equitably distributed. Structural inequalities—rooted in caste, gender, geography, and educational access—continue to shape patterns of recruitment, career progression, and leadership representation in the IT sector. Women, Dalits, Adivasis, persons with disabilities, and candidates from tier-II and tier-III cities remain underrepresented, especially in core technical roles and senior management positions. As India aspires to become a global digital innovation hub, such disparities pose significant challenges to sustainable and inclusive growth.

Traditional Human Resource Management (HRM) models in the Indian IT sector have largely focused on maximizing operational efficiency, scalability, and global competitiveness. While this approach has yielded economic returns, it has often overlooked the social dimensions of work—particularly inclusivity, equity, and representation. The time is ripe for a paradigm shift: one that moves beyond diversity tokenism to embrace Inclusive HRM as a strategic framework that promotes fairness while driving organizational excellence.

This paper aims to explore how HRM strategies can bridge the often-conflicting goals of efficiency and equity in the Indian IT industry. By integrating insights from academic literature, real-world case studies, and policy frameworks, we argue that inclusive HRM is not merely a moral imperative but a strategic necessity. It holds the potential to enhance innovation, employee engagement, and organizational resilience, especially in an increasingly digital and globalized work environment.

### **Literature Review**

Inclusive HRM is defined as a set of policies and practices aimed at promoting fairness, representation, and equal opportunity across organizational functions (Shore et al., 2011). Jayne and Dipboye (2004) emphasize that diversity management enhances firm performance, while Kundu and Mor (2017) assert that inclusive HRM improves innovation, retention, and organizational commitment. Nishii (2013) highlights the importance of climates for inclusion in creating psychological safety, particularly for underrepresented groups.

In the Indian context, Budhwar and Debrah (2013) stress that conventional HRM systems often replicate existing societal hierarchies. Agarwal (2020) finds that mentorship programs play a critical role in facilitating career progression for marginalized groups. Rao and Bhatnagar (2016) show that strategic alignment of HR practices with inclusive goals can significantly enhance employee engagement and reduce attrition.

### **Contextual Challenges in the Indian IT Sector**

Despite its reputation as a global technology hub and a significant contributor to India's economic growth, the Indian IT sector continues to grapple with deep-rooted and complex challenges that impede the realization of inclusive growth. These challenges are both structural and systemic, arising from historical inequities, socio-cultural biases, and organizational inertia. While many IT companies have adopted progressive HR policies on paper, the actual experience of marginalized groups often reflects a gap between policy and practice.

### **Underrepresentation in Technical and Leadership Roles**

A major concern is the persistent underrepresentation of women, persons from Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs), persons with disabilities, and LGBTQ+ individuals in core technical positions and executive leadership. Women, though constituting a significant portion of entry-level hires (especially in software services), experience a sharp drop-off in mid-career and leadership roles—a phenomenon often described as the “leaky pipeline.” The intersection of caste and gender further exacerbates this exclusion, with Dalit and Adivasi women facing compounded barriers to career progression due to socio-economic marginalization and implicit workplace biases.

### **Geographical Concentration of Opportunities**

Most high-paying and high-skill jobs in the IT sector are concentrated in metropolitan centers like Bengaluru, Hyderabad, Pune, and Chennai. This urban concentration limits access for talent from tier-II and tier-III cities, where infrastructure, exposure, and networking opportunities are often lacking. As a result, many skilled individuals from rural or semi-urban areas are either forced to migrate or are left behind, contributing to regional inequalities and talent underutilization.

### **Biases in Hiring, Evaluation, and Promotion**

Despite the widespread adoption of technology-enabled hiring platforms, implicit biases continue to affect decision-making processes. Caste names, accents, college backgrounds, and even home addresses can act as proxies for social identity, influencing the shortlisting of candidates. Performance appraisal systems, often subjective and manager-driven, may unintentionally favor dominant social groups, limiting the upward mobility of minority employees. Promotion decisions may also reflect affinity bias, where managers prefer candidates with similar backgrounds, leading to homogeneity in leadership.

### **Workplace Culture and Psychological Safety**

Many organizations lack a genuinely inclusive workplace culture where diverse employees feel respected, heard, and empowered. Marginalized employees often report feeling isolated or stereotyped, especially in teams where they are the sole representative of their identity group. Microaggressions, unconscious bias, and lack of role models can hinder their sense of belonging and psychological safety, resulting in higher attrition rates. Employee Resource Groups (ERGs), while useful, are often underfunded or not integrated into strategic HR decision-making.

### **Digital Divide and Educational Disparities**

Access to high-quality technical education and digital tools remains unequal across social groups. While elite institutions such as the IITs and NITs serve as key pipelines for IT talent, they remain largely inaccessible to many first-generation learners from marginalized communities. Private engineering colleges, where most students from disadvantaged backgrounds enroll, often lack industry exposure, updated curricula, and career services, further limiting the employability of these graduates.

### **Resistance to Change and Tokenism**

In many firms, diversity and inclusion efforts are perceived as symbolic or compliance-driven rather than strategic. Initiatives may lack measurable goals, accountability mechanisms, or senior leadership commitment. In such environments, there is a risk of tokenism—where a few individuals are showcased as diversity successes while deeper issues remain unaddressed. Furthermore,

resistance to change among middle management, who play a critical role in day-to-day implementation, can derail even well-designed inclusion strategies.

### **Inclusive HRM Strategies**

4.1 Talent Acquisition Recruitment must be expanded to non-traditional talent pools, including tier-II and tier-III cities. Skills-first hiring, rather than credential-based screening, can reduce entry barriers. Returnship programs can help reintegrate individuals with career breaks, particularly women.

4.2 Organizational Culture Bias and sensitivity training should be institutionalized. Employee Resource Groups (ERGs) can serve as support networks and channels for feedback. Flexible working policies help accommodate diverse needs.

4.3 Career Development Mentorship and sponsorship programs are vital to support career mobility for underrepresented employees. Performance evaluations must be restructured to mitigate bias and ensure transparency.

4.4 Data-Driven Accountability HR analytics should be employed to track inclusion metrics, attrition rates by demographic group, and the effectiveness of interventions. Transparency in reporting diversity KPIs builds trust and drives accountability.

### **Implementation Barriers**

Despite well-intentioned efforts, several barriers limit impact:

Deep-rooted social norms influencing workplace behavior

Superficial implementation of diversity policies

Lack of contextual customization

Overcoming these requires strategic commitment and cross-functional coordination.

### **The Business Case for Inclusion**

Empirical studies support the notion that inclusion boosts business performance. Bresciani et al. (2021) found that inclusive firms reported up to 30% greater innovation. Furthermore, alignment with Environmental, Social, and Governance (ESG) goals enhances brand equity and investor appeal.

### **Policy Implications and Recommendations**

Policy Redesign: Integrate equity in recruitment, evaluation, and reward systems.

Leadership Commitment: Equip leaders to act as inclusion champions.

Institutional Partnerships: Collaborate with public institutions and NGOs for talent development.

Lifelong Learning: Incorporate inclusion in professional development programs.

Public Reporting: Regular publication of diversity dashboards and outcomes.

### **Conclusion**

As India's IT sector seeks to maintain its global edge, inclusive HRM is no longer a moral imperative alone—it is a strategic necessity. Bridging equity and efficiency can help firms access untapped talent, enhance innovation, and contribute to a more just and sustainable economy. Future research could further explore sector-specific metrics and longitudinal impacts of inclusive HR interventions.

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## **A STUDY OF LEGAL IMPLICATION FOR UNORGANIZED WORKERS IN CONSTRUCTION FIELD WITH REFERENCE TO CHENNAI**

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**Abstract;** This study **aims** to analyze the legal challenges faced by unorganized construction workers in Chennai, focusing on employment contracts, wages, safety regulations, and social security benefits. The objective is to assess the inadequacies of existing legal frameworks and explore solutions to enhance worker protection. Government initiatives such as the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and welfare schemes aim to improve their working conditions, but enforcement remains weak. The study adopts an empirical research methodology using a structured questionnaire with a sample size of 200, collected through a convenient sampling method. Findings reveal that unorganized workers face significant legal and financial insecurities due to weak regulatory enforcement, lack of awareness about legal rights, and inadequate access to legal aid. In conclusion, stronger policy enforcement, improved legal awareness, and better social security measures are necessary to safeguard the rights and well-being of unorganized construction workers in Chennai.

**KEYWORDS:** *Unorganized workers, Construction industry, Legal implications, Employment contracts, Wages, Safety regulations*

### **INTRODUCTION**

The unorganized workers in the construction sector play a crucial role in urban development, yet they often face poor working conditions, lack of social security, and inadequate legal protections. Despite various labor laws, many workers remain unaware of their rights, leading to exploitation and unsafe environments. The aim of this study is to analyze and understand the existing legal framework governing unorganized workers in the construction sector, evaluate the effectiveness of these laws, assess the legal awareness among these workers, and investigate their working conditions. The evolution of labor laws in India has been marked by efforts to address the challenges faced by unorganized workers. The enactment of the Code on Social Security, 2020,

aimed to consolidate various social security laws to extend benefits to all employees and workers, including those in the unorganized sector. Despite such legislative measures, a significant portion of the workforce continues to operate under informal conditions, often without adequate legal protection or awareness of their rights. A major factor affecting the plight of unorganized construction workers is the lack of enforcement of existing labor laws. For instance, despite the Minimum Wages Act of 1948, many workers receive wages below the stipulated minimum, with marginalized groups being the most affected. Additionally, hazardous working conditions, such as those highlighted by the Blood Bricks Campaign, reveal the prevalence of modern slavery and child labor in India's brick kiln industry. In countries like Germany and Sweden, stringent enforcement of labor laws, comprehensive social security systems, and high levels of legal awareness among workers contribute to better protection and working conditions. To identify gaps and propose measures to enhance the welfare and protection of these vital contributors to urban development.

### **OBJECTIVES**

- To analyze and understand the existing legal framework governing unorganized workers in the construction sector.
- To evaluate the effectiveness of existing laws in governing and protection of unorganized workers.
- To assess legal awareness of unorganized workers in the construction sector.
- To investigate the working condition of unorganized workers in the construction sector.

### **1.2 REVIEW OF LITERATURE**

**Sharma, P. (2020)** – The objective is to analyze the challenges faced by migrant construction workers in urban India. Using ethnographic methods and interviews, the study finds that migrant workers face exploitation, poor living conditions, and lack of legal protections. The conclusion suggests the need for targeted policies to protect migrant workers' rights.

**Chellappa, S., & Kumar, R. (2021)** – The objective is to highlight macro issues faced by construction workers in Indore, focusing on their working conditions and access to welfare schemes. Utilizing surveys and field observations, the study finds that workers face challenges such as lack of job security, poor working conditions, and limited awareness of welfare schemes. The conclusion emphasizes the need for policy interventions to improve the livelihoods of these workers.

**Patel, R. (2021)** – This study examines the role of trade unions in safeguarding the rights of unorganized construction workers. Through case studies and interviews with union leaders, it finds that trade unions have limited reach in the unorganized sector. The study concludes that strengthening trade unions could enhance workers' bargaining power.

**Das, S., & Mishra, S. (2021)** – The research investigates the socio-economic conditions of female construction workers in the unorganized sector. Using surveys and focus group discussions, it finds

that female workers face gender-based discrimination, wage gaps, and lack of social security. The conclusion emphasizes the need for gender-sensitive labor policies.

**Singh, M. (2022)** – The objective is to assess the impact of COVID-19 on unorganized construction workers in India. Utilizing surveys and secondary data analysis, the study finds that the pandemic exacerbated vulnerabilities, leading to job losses and lack of social protection. The conclusion calls for inclusive recovery strategies to support unorganized workers.

**Khan, N. (2022)** – This study explores the legal challenges in implementing occupational safety measures for unorganized construction workers. Through legal analysis and case studies, it finds that existing safety regulations are inadequately enforced in the unorganized sector. The study concludes that robust enforcement mechanisms are necessary to ensure workers' safety.

**Verma, S. (2023)** – This study examines the impact of digital platforms on the employment conditions of unorganized construction workers. Through surveys and analysis of platform policies, it finds that while digital platforms offer job opportunities, they often lack social security provisions. The study concludes that regulatory frameworks need to adapt to protect gig workers in the construction industry.

**Mehta, P. (2023)** – The objective is to analyze the role of non-governmental organizations (NGOs) in advocating for the rights of unorganized construction workers. Using case studies and interviews with NGO representatives, the study finds that NGOs play a crucial role in raising awareness and providing legal aid. The conclusion emphasizes the importance of supporting NGOs to enhance workers' rights.

**Nair, S. (2023)** – This study examines the impact of labor welfare measures on the economic conditions of unorganized construction workers in Kerala. Utilizing a quantitative research design, including surveys and statistical analysis, the findings indicate that existing welfare measures have a limited effect on improving workers' economic status. The study concludes that enhancing the effectiveness of welfare programs is crucial for better economic outcomes among these workers.

**Rao, P. (2023)** – The study investigates the effectiveness of the Occupational Safety, Health and Working Conditions Code, 2020, in improving the working conditions of unorganized construction workers in India. Utilizing a mixed-methods approach, including surveys and interviews with workers and policymakers, the findings suggest that while the code consolidates various labor laws, its implementation faces challenges due to lack of awareness and enforcement mechanisms. The study concludes that targeted awareness campaigns and robust enforcement are essential for the code's success.

**Das, M., & Roy, S. (2023)** – The objective is to analyze the impact of digitalization on employment patterns in the unorganized construction sector. Using quantitative data analysis and interviews, the study finds that while digital platforms offer new job opportunities, they also lead to job displacement and lack of social security. The conclusion calls for regulatory frameworks to balance technological advancement with workers' welfare.

**Chatterjee, A. (2023)** – The study investigates the role of non-governmental organizations (NGOs) in improving the working conditions of unorganized construction workers. Utilizing case studies and interviews with NGO representatives, the findings indicate that NGOs play a significant role in advocacy, awareness, and service delivery. The conclusion suggests that supporting NGOs can complement government efforts in labor welfare.

**Joshi, K. (2023)** – The objective is to analyze the impact of labor law reforms on unorganized construction workers. Using policy analysis and stakeholder interviews, the study finds that recent reforms aim to simplify labor laws but may dilute protections for unorganized workers. The conclusion calls for a balanced approach that ensures ease of doing business without compromising workers' rights.

**Patel, A., & Singh, D. (2023)** – This study explores the impact of the Code on Social Security, 2020, on unorganized construction workers. Using policy analysis and stakeholder interviews, the findings indicate that while the code aims to extend social security benefits to unorganized workers, challenges such as lack of awareness and bureaucratic hurdles hinder its effectiveness. The study concludes that simplifying procedures and enhancing outreach are crucial for the code's success.

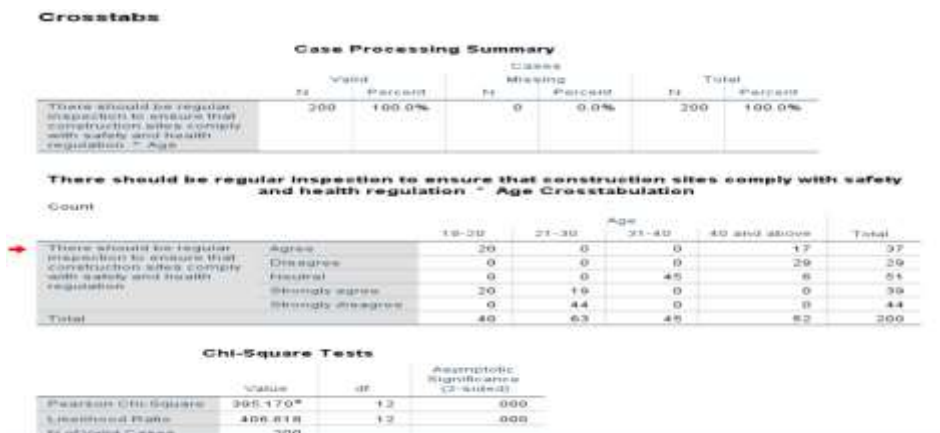
#### **METHODOLOGY:**

The study was based on an empirical method of research. The data was collected within Chennai by adopting the convenient sampling method and sample size is 200. The used for the study is the structured questionnaire. The independent variable included in the study is gender, age, education qualifications, occupation, and locality. There should be regular inspection to ensure that construction sites comply with safety and health regulation, The government should provide financial support to unorganized workers during period of unemployment or injury, Do you faced any challenges in accessing legal protections in the construction sector, To improve the legal process of unorganized workers in the construction field, whether have you aware about the current law for unorganized worker in the construction field, Rate 1-10 how you satisfied with the legal framework and support for unorganized workers in construction sector, statistic tool spss (graph, chi square) is used here.

#### **ANALYSIS**

**Legend: 1** this figure represents the age of the respondent which is compared with the variable, there should be regular inspection to ensure that construction sites comply with safety and health regulation. **Legend: 2** this figure represents the gender of the respondent which is compared with the variable, the government should provide financial support to unorganized workers during periods of unemployment or injury. **Legend: 3** This figure represents the education qualification of the respondent which is compared with the variable, do you face any challenges in accessing legal protection. **Legend: 4** This figure represents the occupation of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field. **Legend: 5** This figure represents the locality of the respondent which is compared with the variable, whether you are aware about the current law for unorganized workers in the construction field. **Legend: 6** this figure represents the age of the respondent which is

compared with the variable, whether you are aware about the current law for unorganized workers in the construction field. **Legend: 7** This figure represents the gender of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field. **Legend: 8** This figure represents the education qualification of the respondent which is compared with the variable, the government should provide financial support to unorganized workers during periods of unemployment or injury. **Legend: 9** This figure represents the age of the respondent which is compared with the variable rate 1-10 how satisfied you are with the legal framework and support for unorganized workers in the construction sector. **Legend: 10** this figure represents the age of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field. **Legend: 11** this figure represents the gender of the respondent which is compared with the variable, whether you are aware about the current law for unorganized workers in the construction field. **Legend: 12** This figure represents the education qualification of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field. **Legend: 13** this figure represents the rate 1-10 how satisfied you are with the legal framework and support for unorganized workers in the construction sector. **Legend: 14** this figure represents the education qualification of the respondent which is compared with the variable, there should be regular inspection to ensure that construction sites comply with safety and health regulation.



**Legend:** This figure represents the chi square test.

**RESULT**

This figure represents the age of the respondent were 18-20 is 20%, 21-30 is 31%, 31-40 is 22%, 40 and above is 28%.**(Fig: 1)** This figure represents the gender of the respondent were female 42%, male 58%.**(Fig:2)** This figure represents the education qualification of the respondent were high school is 20%, illiterate 38%, postgraduate 18%, undergraduate 25%.**(Fig:3)** This figure represents the occupation of the respondent were employed 37% , job 36%, unemployed 26%.**(Fig:4)** This figure represents the locality of the respondents were rural 38%, semi urban 32%, urban 29%.**(Fig:5)** This figure represents the age of the respondent which is compared with the variable, there should be regular inspection to ensure that construction sites comply with safety and health regulation were 18-20 age group of people chosen 10% agree, 21-30 chosen strongly disagree 22%, 31-40 chosen 22%, 40 and above 14% of disagree.**(Fig:6)** This figure represents the gender of the

respondent which is compared with the variable, the government should provide financial support to unorganized workers during periods of unemployment or injury were female chose 22% of neutral, 15% of male chose neutral, 14% of disagree, 8% of agree, 10% of strongly agree, 10% of strongly disagree. **(Fig:7)** This figure represents the education qualification of the respondent which is compared with the variable, do you face any challenges in accessing legal protection were illiterate chose 22% of lack of awareness about their rights, 14% of difficulty in proving employment due to informal nature of work, high school chose 20% of all of the above, post graduate chose lack of awareness 9.50%, undergraduate chose limited access to legal resources 22.50%. **(Fig:8)** This figure represents the occupation of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field were job people chose 22% of implementing stricter enforcement of existing labor laws, and 14% of all of the above, employed chose 16% of providing legal aid service to help workers navigate legal process, 11.50% of increasing awareness about the rights through education and outreach program, 10% of unemployed chosen all of the above. **(Fig:9)** This figure represents the locality of the respondent which is compared with the variable, whether you are aware about the current law for unorganized workers in the construction field were rural chose 28% of no, may be 10%, semi urban 18% of yes, may be 14%, urban chose 10% of no and may be. **(Fig:10)** This figure represents the age of the respondent which is compared with the variable, whether you are aware about the current law for unorganized workers in the construction field were 21-30 age group chose 22% of no, 9.50% of yes, 18-20 age group chose 20% of may be, 31-40 age chose 16% of no, 6% of yes, 40 and above chose 14% of maybe. **(Fig:11)** This figure represents the gender of the respondent which is compared with the variable, to improve the legal process of unorganized workers in the construction field were male chose in implementing stricter enforcement of existing labor law, 14.50% of all the above, 11.50% of increasing awareness about the right through education and outreach programme, 22.50% of providing legal aid services to help workers navigate legal processes. **(Fig:12)** This figure represents the occupation of the respondent which is compared with the variable, do you face any challenges in accessing legal protection were 22% of lack of awareness about their rights by job, 14.50% of difficulty in proving employment due to informal nature of work, employment 16% of limited access to legal resources, 13% of all of the above, unemployment chose 10% of all of the above. **(Fig:13)** This figure represents the education qualification of the respondent which is compared with the variable, the government should provide financial support to unorganized workers during periods of unemployment or injury were undergraduate chose 25.50%, illiterate chose 14.50% of disagree, high school chose 20%, agree chose 18%. **(Fig:14)** This figure represents the locality of the respondent which is compared with the variable, there should be regular inspection to ensure that construction sites comply with safety and health regulation were 16% of neutral by rural, 14.50% of disagree by semi urban, 10% of agree by urban

#### **LIMITATION**

One limitation of the research on legal implications for unorganized workers in the construction field in Chennai is the lack of comprehensive data on the exact number and characteristics of these workers. This limits the ability to generalize the findings to the entire population of unorganized workers in the construction sector. Another limitation is the focus on legal frameworks and

regulations, which may not capture the full range of challenges faced by unorganized workers. Factors such as social stigma, lack of access to education and training, and discrimination based on gender or caste are also important but may not have been adequately explored in the research. Additionally, the research may be limited by the availability and reliability of data, particularly in the context of informal and unorganized work.

#### **SUGGESTION**

Unorganized construction workers in India face significant legal challenges, despite existing labor laws aimed at their protection. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, seeks to safeguard these workers by outlining safety measures and welfare provisions. However, enforcement remains inconsistent, leaving many laborers vulnerable to exploitation. The Occupational Safety, Health and Working Conditions Code, 2020, intended to consolidate various labor laws, has yet to be implemented, further delaying potential improvements in worker protections.

#### **CONCLUSION**

This study aims to analyze the legal challenges faced by unorganized construction workers in Chennai, focusing on employment contracts, safety regulations, and access to social security benefits. The objective is to evaluate the effectiveness of existing legal frameworks and propose reforms to enhance worker protection. Government initiatives such as the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and various welfare schemes attempt to address these issues, but enforcement gaps persist. Findings reveal that workers struggle with informal employment arrangements, inadequate workplace safety, and limited legal awareness, exacerbating their vulnerabilities. To mitigate these challenges, the study suggests stronger enforcement mechanisms, increased legal aid accessibility, and greater awareness campaigns for workers' rights. Addressing the legal implications of unorganized labor requires collaborative efforts from policymakers, employers, and civil society to ensure fair working conditions and legal protections, ultimately fostering a more just and equitable labor environment in Chennai's construction sector.

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## **A STUDY OF CONSUMER PERCEPTION AND SATISFACTION OF BISLERI WATER (WITH SPECIFIC REFERENCE TO CHENNAI CITY)**

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**Abstract:** This study explores consumer perception and satisfaction regarding Bisleri packaged drinking water, with a focused analysis on respondents from Chennai City. The research aims to understand the factors influencing consumer preference, frequency of consumption, brand image, and perceived safety and hygiene associated with Bisleri water. A structured questionnaire was administered to collect primary data, and findings reveal that the majority of respondents are young adults aged 18–25, with a significant portion consuming Bisleri water 3–4 times a week. The study highlights that brand image, product safety, and hygiene are key factors driving consumer choice. While most respondents expressed satisfaction with the product, the study also identifies areas for improvement in accessibility, environmental sustainability, and customer feedback mechanisms. Based on these insights, the study provides strategic suggestions to enhance customer engagement, trust, and overall satisfaction, thereby helping Bisleri further strengthen its market presence in Chennai.

**Key words:** Packed, Drinking, Structure, Feedback and Environmental.

### **Introduction**

In recent years, the demand for clean, safe, and hygienic drinking water has witnessed an exponential rise, driven by factors such as rapid urbanization, increasing health consciousness, rising disposable incomes, and growing concerns about water pollution. In this evolving landscape, the packaged drinking water industry has emerged as one of the fastest-growing sectors in India. Among the prominent players in this industry, Bisleri International Pvt. Ltd. Holds a dominant position and is widely recognized as one of the most trusted and established names in the Indian bottled water market. Bisleri, introduced in India in the 1960s, has built its brand around purity, trust, and consistent quality. Over the years, it has become a household name and is often synonymous with bottled water itself. The company offers a wide range of bottle sizes catering to the diverse needs of consumers—from small, on-the-go bottles to large containers used in offices and homes. The brand has made significant investments in ensuring high-quality filtration, purification processes, and widescale distribution, making it accessible in both urban and rural

areas. However, in today’s dynamic and highly competitive consumer market, brand image and legacy alone are not sufficient to guarantee customer satisfaction and loyalty. Consumer expectations have evolved, and they now demand more in terms of quality, safety, packaging aesthetics, price-value balance, environmental responsibility, and customer service. Moreover, the market is flooded with several other brands offering similar products at competitive rates, making it essential for Bisleri to continuously assess its position and performance from the customer’s perspective. Understanding consumer satisfaction is crucial for any business, as it directly influences repeat purchases, brand loyalty, and word-of-mouth promotion. Satisfied consumers are more likely to remain loyal and act as brand ambassadors, while dissatisfied customers may switch to competitors and even dissuade others from purchasing the product. Hence, evaluating the level of consumer satisfaction with Bisleri water bottles becomes not only relevant but also strategically important. This study is undertaken to explore how consumers perceive Bisleri in terms of various attributes such as product quality, price, packaging, availability, taste, and trustworthiness. It seeks to analyze consumer behavior, identify satisfaction levels, uncover gaps between expectations and experience, and provide practical recommendations for improvement. Through this research, the aim is to offer valuable insights that can assist Bisleri in strengthening its brand image, enhancing customer satisfaction, and maintaining its leadership in the increasingly competitive bottled water industry.

**Statement of the problem**

In recent years, the packaged drinking water market has seen a significant rise in competition. Despite Bisleri being a market leader, there is a growing concern about changing consumer preferences and brand switching. This study addresses the problem of whether Bisleri continues to meet consumer expectations and investigates the factors influencing satisfaction or dissatisfaction. It also seeks to uncover areas where the brand may need to enhance its offerings to retain its market share.

**Objectives of the study**

- ✓ To identify the key factors that influence customer satisfaction.
- ✓ To understand consumer preferences in terms of quality, taste, pricing, and packaging.

**Research methodology**

This study uses a descriptive research design, which is suitable for gaining an accurate and systematic description of facts and characteristics related to consumer satisfaction with Bisleri water. Descriptive design helps in understanding the “what” aspect of the research problem by examining patterns in consumer behavior, preferences, and satisfaction levels without manipulating the variables. The sample size for the study comprises 111 respondents.

**Table: 1 Gender wise classification of the respondents**

Particulars	No. of Respondents	Percentage
Male	69	62.2%
Female	42	37.8%
Total	111	100%

Source: primary data

The above table shows the gender wise classification of the respondents. It is clearly observed from the table, 62.2 % of the respondents are male and 37.8 % of the respondents are female. It is concluded that the majority (62.2 %) of the respondents are male.

**Table: 2 Age of the respondents**

Particular	No. of Respondents	Percentage
Below18	14	12.6%
18-25	50	45%
26-35	30	27%
36-50	16	14.4%
Above50	1	0.9%
Total	111	100%

**Source:** primary data

The above table shows that the age wise classification of the respondents. It is clearly observed from the table, 45 % of the respondents are in the age group of 18 to 25 years, 27 % of the respondents are in the age group of 26 to 35 years, 14.4 % of the respondents are in the age group of 36 to 50 years, 12.6 % of the respondents are in the age group of below 18 years and 0.9 % of the respondents are in the age group of above 50 years. It is concluded that the majority of the respondents (45 %) are in the age group of 18 to 25 years.

**Table: 3 Consumption of bisleri water**

Particular	No. of Respondents	Percentage
Daily	35	31.5%
3-4 times in week	44	39.6%
Occasionally	24	21.6%
Rarely	8	7.2%
Total	111	100%

**Source:** Primary Data.

The above table clearly point out that classification of the respondents on the basis of consumption of bisleri water. From the above table, it is inferred that 39.6 % of the respondents are consumption of bisleri water in 3-4 times in week, 31.5 % of the respondents are consumption of bisleri water in daily, 21.6 % of the respondents are consumption of bisleri water in occasionally and 7.2 % of the respondents are consumption of bisleri water in rarely. It is inferred from the above table that the Majority of the respondent's (39.6 %) are consumption of bisleri water in 3-4 times in week.

**Table: 4 Factors influencing of bisleri water**

Particulars	No. of Respondents	Percentage
Brand image	40	36%
Purity & safety	31	27.9%
Taste	18	16.2%
Easy availability	17	15.3%
Advertisements	5	4.5%
Total	111	100%

**Source:** Primary Data.

The above table exhibits that classification of the respondents on the basis of the factors influences of bisleri water. From the above table, it is inferred that, 36 % of the respondents are choosing the bisleri water for the reason brand image 27.9 % of the respondents are choosing the bisleri water for the reason purity and safety, 16.2 % of the respondents are choosing the bisleri water for the reason taste, 15.3 % of the respondents are choosing the bisleri water for the reason easy availability and 4.5 % of the respondents are choosing the bisleri water for the reason advertisement. It is concluded that the majority (36 %) of the respondents are choosing the bisleri water for the brand image.

**Table: 5 Feel about bisleri water safe and hygienic**

Particular	No. of Respondents	Percentage
Yes	43	38.7%
No	29	26.1%
Maybe	39	35.1%
Total	111	100%

**Source:** Primary Data.

The above table exhibits that classification of the respondents on the basis of feel about bisleri water safe and hygienic. From the above table, it is inferred that, 38.7 % of the respondents are feel about bisleri water safe and hygienic 35.1 % of the respondents are feel about bisleri water maybe safe and hygienic, and 26.1 % of the respondents are feel about bisleri water no safe and hygienic. It is concluded that the majority (38.7 %) of the respondents are feel about bisleri water safe and hygienic.

**Table: 6 Overall satisfaction level of bisleri water**

PARTICULARS	No. of Respondents	Percentage
Very Satisfied	38	34.2%
Satisfied	69	62.2%

Neutral	4	3.6%
Dissatisfied	0	0%
Total	111	100%

**Source:** Primary Data.

The above table predicts that classification of respondents on the basis of level of satisfaction towards bisleri water. It is understood from the table that, 62.2 % of the respondents are opined Satisfied, 34.2 % of the respondents are bisleri water satisfaction level opined is very satisfied, 3.6 % of the respondents are bisleri water satisfaction level opined is neutral. It is inferred from the above table that the Majority of the respondent's (62.2 %) are bisleri water satisfaction level opined is Satisfied.

**Suggestions:**

- ✓ Since the majority of respondents are in the age group of 18–25 years, Bisleri could develop marketing campaigns on platforms popular among youth (like Instagram, YouTube, and college events) to build stronger emotional engagement and brand loyalty.
- ✓ As a significant portion (39.6%) consumes Bisleri water 3–4 times a week, introducing small promotional offers or subscription models could encourage daily consumption.
- ✓ With 36% of respondents choosing Bisleri for its brand image, continuing to maintain premium branding and highlighting historical trust factors can reinforce its market leadership. Testimonials and influencer marketing could also enhance the perception of brand quality.
- ✓ Since 38.7% of respondents feel Bisleri is safe and hygienic, this can be emphasized more in advertising campaigns, packaging, and digital media to attract new customers who value health and safety.
- ✓ Although 62.2% of respondents are satisfied, feedback mechanisms like QR code-based surveys on bottles or helplines can help gather insights from the remaining unsatisfied customers and further improve service quality.
- ✓ Increasing availability in rural and semi-urban areas or expanding tie-ups with online delivery platforms can cater to a wider audience and enhance reach.
- ✓ Considering growing environmental concerns among younger consumers, Bisleri can introduce recyclable or biodegradable bottle options and run sustainability campaigns.

**Conclusion:**

From the analysis, it is evident that Bisleri enjoys a favorable position among young consumers, particularly those aged 18–25, who value brand image, safety, and hygiene. However, to further strengthen its market presence and customer satisfaction, strategic efforts must be made to increase engagement through youth-centric marketing, promote more frequent consumption through attractive offers, and emphasize Bisleri's commitment to quality and hygiene. Expanding accessibility, introducing sustainable packaging, and

implementing robust customer feedback mechanisms will not only enhance customer experience but also align the brand with modern consumer values and environmental consciousness. These initiatives can collectively contribute to reinforcing Bisleri's leadership in the packaged drinking water segment.

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## **INDIA ECONOMIC PROGRESS TOWARDS ACHIEVING RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION: AN OVERVIEW**

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**Abstract:** India is demonstrating significant economic progress through a focused approach towards building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering a dynamic innovation ecosystem. Increased public investment, strategic initiatives like the National Infrastructure Pipeline and PM Gati Shakti, are enhancing connectivity and modernizing transportation networks. The "Make in India" initiative and emphasis on MSMEs are driving sustainable industrial growth and employment. Furthermore, the "Startup India" and Atal Innovation Mission are cultivating a vibrant culture of innovation, supported by rising R&D expenditure and a burgeoning bioeconomy.

**Key Notes:** Key Stakeholder, Direct Mining, Policies, Sustainable industrialization, carbon, and ecosystem.

### **INTRODUCTION**

India, a rapidly evolving global economy, is strategically prioritizing the development of resilient infrastructure, the promotion of inclusive and sustainable industrialization, and the fostering of a robust innovation ecosystem as cornerstones of its long-term economic progress. Recognizing the interconnectedness of these pillars, the nation is undertaking ambitious initiatives and policy reforms to lay a strong foundation for sustained and equitable growth. This concerted effort aims not only to enhance India's global competitiveness and create widespread economic opportunities but also to ensure environmental responsibility and technological advancement. This discourse will delve into the key strategies, achievements, and ongoing challenges in India's journey towards achieving resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering a culture of innovation, highlighting their crucial role in shaping the nation's economic future.

#### **1.2 Objectives of the Studies**

- Assess the Current State and Progress
- Analyze the Impact of Policies and Initiatives:

- Identify Key Drivers and Enablers
- Evaluate Inclusivity and Sustainability Aspects

### **1.3 Resilient Infrastructure: Definition and Significance**

Resilient infrastructure refers to systems and structures designed, built, and managed to **withstand, adapt to, and recover rapidly from** various shocks and stresses. These can include natural disasters (like earthquakes, floods, and extreme weather events), technological failures, cyberattacks, and socio-economic disruptions. The goal is to ensure the continued provision of essential services and functions with minimal disruption, safeguarding human well-being, economic stability, and sustainable development.

### **1.4 Promote Inclusive and Sustainable Industrialization:**

This refers to fostering industrial growth and development in a way that simultaneously:

- **Inclusivity:** Ensures that the benefits of industrialization are shared broadly across all segments of society. This includes creating decent employment opportunities, reducing inequalities, empowering marginalized groups (like women and small-scale enterprises), and ensuring access to the outcomes of industrial progress for all.
- **Sustainability:** Minimizes negative environmental impacts, promotes resource efficiency, and supports long-term ecological balance. This involves adopting cleaner technologies, promoting circular economy principles, managing waste responsibly, and mitigating climate change.
- **Foster Innovation** Fostering innovation involves creating an environment and implementing policies that **encourage, support, and accelerate the generation, development, and adoption of new ideas, technologies, processes, and business models.** This includes:
  - **Cultivating a Culture of Creativity:** Promoting openness to new ideas, experimentation, and even failure as a learning opportunity.
  - **Investing in Research and Development (R&D):** Providing financial and other resources for scientific and technological advancements.
  - **Supporting Entrepreneurship and Startups:** Creating an enabling ecosystem for new businesses and innovative ventures.
  - **Facilitating Collaboration:** Encouraging partnerships between academia, industry, and government to translate ideas into practical applications.
  - **Protecting Intellectual Property:** Providing mechanisms like patents and trademarks to incentivize innovation.
  - **Promoting Digital Transformation:** Leveraging digital technologies to drive innovation across various sectors.
  - **Developing Human Capital:** Investing in education and skills development to build a knowledge-based economy.

### **1.5 Importance:**

- **Economic Growth:** Infrastructure investment is fundamental for facilitating economic activities and reducing inequalities.

- **Social Development:** Sustainable industrialization leads to job creation and improved living standards.
- **Climate Action:** Emphasizes the need for environmentally friendly technologies and practices.

### **1.6 Current Challenges**

- **Global Manufacturing Decline:** Prior to COVID-19, global manufacturing was declining due to trade tensions. The pandemic exacerbated this issue, leading to significant economic impacts, including inflation and supply chain disruptions.
- **Inequality in Progress:** While some regions, particularly LDCs in Asia, have made strides, others, especially in Africa, must accelerate efforts to meet 2030 targets.
- **Environmental Concerns:** Global CO2 emissions reached 36.8 billion metric tons, highlighting the Need For Sustainable Practices.

### **1.7 Progress Made**

- **Mobile Connectivity:** 95% of the world's population has access to mobile broadband networks, with significant improvements in mobile cellular signal reach (97%).
- **Research and Development:** Global R&D spending increased from 1.69% of GDP in 2015 to 1.93% in 2020, with a rise in researchers per million inhabitants.
- **Manufacturing Growth:** Despite a slowdown in 2022 (3.3% growth), medium-high and high-technology industries showed robust growth.

**1.8 Initiatives for SDG 9: India** has made significant strides towards achieving SDG 9 through various government initiatives and programs. Here are some key examples: Infrastructure Development

- **Bharat Net:** A project to connect all villages in India with broadband internet connectivity.
- **Smart Cities Mission:** An initiative to develop 100 cities across India as smart cities with modern infrastructure and technology.
- **National Highways Development Project (NHDP):** A project to expand and modernize the national highway network in India.

### **1.9 Industrialization**

- **Make in India:** A flagship initiative to promote manufacturing and attract foreign investment.
- **Industrial Corridors Development Program:** A project to develop industrial corridors across India to enhance connectivity and attract investment.
- **Skill India Mission:** A mission to provide vocational training and skill development to the youth of India.
- **Micro, Small, and Medium Enterprises (MSMEs):** Government initiatives to support the growth and development of MSMEs, including financial assistance, market access, and technology adoption. Innovation
- **Start-up India:** A program to promote entrepreneurship and innovation among young people in India.
- **National Innovation Foundation (NIF):** An organization that promotes grassroots innovation and traditional knowledge.

- Atal Innovation Mission (AIM): A government initiative to foster innovation and entrepreneurship among students and young professionals.

### **1.10 Conclusion and Recommendation**

India has made commendable strides in its journey towards achieving resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation. Significant policy initiatives and investments have laid the groundwork for progress in each of these interconnected domains. However, realizing the full potential of this progress requires sustained effort and strategic adjustments. While investments in infrastructure have increased, bridging the infrastructure deficit and ensuring the resilience of these assets against future shocks remain critical. Promoting truly inclusive industrialization necessitates a greater focus on skill development, job creation in labor-intensive sectors, and equitable distribution of economic benefits. Similarly, embedding sustainability deeply within industrial practices and transitioning towards a greener economy require stronger regulatory frameworks and incentives. While India's innovation ecosystem is thriving, further enhancing R&D investment, fostering stronger industry-academia linkages, and streamlining intellectual property processes are essential to propel it to the next level.

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