TRAINING PROJECT REPORT
On
EMPLOYMENT IN INDIA: GROWTH, INFORMALIZATION AND OTHER ISSUES

Towards partial fulfillment of
Bachelor of Business Administration - Business Analytics
(BBA BA)
School of Management, Babu Banarasi Das University, Lucknow

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BBD UNIVERSITY

Session 2024-25

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has successfully completed an Industry-oriented project.

Project Name Employment in India: Growth, Informalization and other issues

Technologies Used IBM Cognos

Reference No. AIP/CEP2024/IN/ 2098

Training Date 3rd June - 12th July, 2024

Training Duration 6 Weeks

Training Location Allsoft Solutions and Services Pvt Ltd (NCR / Mohali)

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BIG DATA - ANALYTICS **IoT** **ORACLE** **J2EE** **PHP** **CLOUD COMPUTING**

PROJECT DECLARATION CERTIFICATE

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Date: June, 2024

TO WHOM IT MAY CONCERN

This is to certify, Aelina Taqvi student of Babu Banarasi Das University,Lucknow has undergone 6 Weeks Summer Training on IBM project and technologies with us. The details are as follows: -

PROJECT NAME	Employment in India
TRAINING PERIOD	June 2024-July 2024
TECHNOLOGY	IBM Cognos
DURATION OF TRAINING	6 Weeks
REFERENCE NUMBER	AIP/CEP2024/IN/ 2098
SUBJECT MATTER EXPERT	Mr. Harsh
ACHIEVEMENTS	Project Completion Certificate and Declaration Letter

During the training, assessment and project period we find the students sincere, hardworking and having good behavior and moral character.

We wish intern all success in future endeavors.

Mr. S. K Garg
In charge | Delivery
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DECLARATION

I, Aelina Taqvi, hereby declare that the training project report titled "Employment In India: Growth, Informalization And Other Issues" submitted towards the partial fulfillment of the Bachelor of Business Administration- Business Analytics (BBA BA) program at the School of Management, Babu Banarasi Das University, Lucknow, is my original work.

I further declare that:
The content of this project is based on my own research and analysis.

All sources of information used in this project have been duly acknowledged and cited.

The data collected for this project has been done so ethically and in accordance with the guidelines provided by the university.

Any assistance received in the preparation of this project has been duly acknowledged.

I understand that any form of plagiarism or academic dishonesty is strictly prohibited and may result in disciplinary action.

Date:
Place:

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ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to all those who have contributed to the successful completion of this project.

I would also express my earnest gratitude to **Dr. Abdullah Shadab**, Professor and **Dr. Pooja Srivastava,** Professor at School of Management, Babu Banarasi Das University, Lucknow for his constant support and active supervision.

I extend my sincere appreciation to **Ms. Ramanpreet Kaur**, Trainer at the Allsoft Solutions and **Mr. Harsh Gour**, Trainer at the Allsoft Solutions. for their invaluable guidance, support, and encouragement throughout this journey. Their expertise, constructive feedback, and unwavering assistance have been instrumental in shaping this analysis.

I am also thankful to the faculty members of the School of Management for their valuable insights and suggestions during the course of this study.

Special thanks are due to **Mr. Ayush Chauhan, Program Coordinator and management of Allsoft Solutions and Service Pvt Ltd** for their cooperation and willingness to participate in this research. Their assistance and cooperation have greatly enriched the findings of this study.

Last but not least, I would like to express my gratitude to my family and friends for their understanding, encouragement, and continuous support throughout this endeavor.

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EXECUTIVE SUMMARY

The project "Employment in India: Growth, Informalization and Other Issues" provides a comprehensive analysis of various aspects of employment in India, utilizing the powerful data analytics capabilities of IBM Cognos. This project was developed as part of a summer training program to gain expertise in IBM Cognos and apply it to a real-world scenario.

Key Findings:

1. **Employment Rate and Unemployment Rate**: The project presents a detailed examination of the current employment and unemployment rates in India, highlighting the trends over recent years.
2. **Growth in Employment:** Analysis of employment growth across various sectors and regions, identifying areas of significant progress and sectors lagging behind.
3. **Informalization of Employment:** Investigation into the prevalence of informal employment, its implications on the workforce, and its impact on economic stability.
4. **Rural vs. Urban Employment:** Comparative analysis of employment rates and trends in rural and urban regions, shedding light on regional disparities and migration patterns.
5. **Sectoral Employment:** Breakdown of employment statistics across different industries, highlighting the sectors that contribute most significantly to employment and those that are underperforming.
6. **Gender-based Employment Analysis:** Examination of employment rates according to gender, focusing on the challenges faced by women in the workforce, particularly in managerial positions.
7. **Managerial Level Employment for Females:** Insights into the representation of females at managerial levels, analyzing the barriers to entry and progression in leadership roles.

Tools and Methods:

The project employs a combination of dashboards, reports, and storytelling features of IBM Cognos to present data in an intuitive and visually engaging manner. This approach not only facilitates a deeper understanding of the employment scenario but also enables stakeholders to interact with the data dynamically.

Implications for Stakeholders:

These types of findings are critical for policymakers, non-governmental organizations (NGOs), and governmental organizations. Such detailed analysis can aid in:

- **Policy Formulation:** Providing data-driven insights to formulate policies that address employment challenges and promote inclusive growth.
- **Targeted Interventions:** Identifying specific sectors and regions requiring intervention and support.
- **Gender Equality Initiatives:** Developing strategies to improve female participation and representation in the workforce, particularly at leadership levels.

Future Research and Scope:

While this project provides a robust analysis of the current employment scenario, there remains significant scope for further research. Future studies could delve deeper into:

- The impact of technological advancements on employment.
- Long-term trends in informal employment and its socio-economic effects.
- Detailed case studies on successful employment policies in other countries that could be adapted for the Indian context.

In conclusion, the "Employment Scenario in India" project can serve as a foundational analysis with practical implications for decision-makers. By leveraging the insights gained from such projects, stakeholders can develop more effective and informed strategies to improve the employment landscape in India.

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CHAPTER - I
INTRODUCTION

The project "Employment in India: Growth, Informalization, and Other Issues" presents an extensive analysis of the employment landscape in India, harnessing the capabilities of IBM Cognos to deliver a comprehensive examination of multiple employment facets. This project was executed as part of my summer training program, with a focus on utilizing IBM Cognos for real-world data analysis and interpretation.

In India, employment dynamics are multifaceted and complex, influenced by a myriad of factors ranging from economic policies to societal norms. To understand these dynamics, this project analyzes several critical dimensions: employment rate, unemployment rate, growth in employment, informalization of employment, employment distribution across rural and urban regions, sectoral employment trends, gender-based employment rates, and the representation of females in managerial positions. By employing dashboards, reports, and storytelling features within IBM Cognos, the project effectively translates vast amounts of data into clear, actionable insights.

Employment rates and unemployment rates are vital indicators of economic health, reflecting the ability of the economy to create jobs and absorb the labor force. This project delves into these metrics, tracing their historical trajectories and current states to provide a detailed understanding of employment trends in India. Additionally, the analysis of employment growth highlights how various sectors have developed over time, pinpointing areas of robust growth and sectors that are lagging, thus offering a sector-wise perspective on employment.

The informalization of employment is a significant issue in the Indian labor market. A large segment of the workforce is engaged in informal employment, which has profound implications for job security, income stability, and workers' rights. This project investigates the extent of informal employment, exploring its impact on both the economy and the workforce. Understanding the informal sector's dynamics is crucial for developing policies that aim to formalize the labor market and enhance job quality.

The project also scrutinizes employment distribution in rural and urban areas. Rural and urban employment patterns often reflect broader socio-economic trends, including migration, regional economic development, and infrastructural disparities. By comparing employment rates and trends in these regions, the project sheds light on regional disparities and the unique challenges faced by workers in different settings.

An industry-specific analysis further dissects employment trends, identifying which sectors are the largest employers and which are underperforming. This sectoral perspective is vital for targeted economic planning and intervention, as it helps identify industries with potential for job creation and those needing support to improve employment conditions.

Gender-based employment analysis is another critical component of this project. By examining employment rates across genders, the project highlights the persistent challenges faced by women in the workforce. This includes barriers to entry, unequal pay, and limited opportunities for advancement, particularly in managerial roles. The representation of females in managerial positions is scrutinized to understand the systemic obstacles to leadership and the measures needed to foster gender equality in the workplace.

The project findings provide invaluable insights that can assist policymakers, non-governmental organizations (NGOs), and governmental organizations in making informed decisions. The detailed data analysis and visualization offer a solid foundation for crafting policies that address employment challenges, promote inclusive growth, and ensure equitable employment opportunities across different demographics and regions.

While this project presents a thorough analysis of the current employment scenario in India, it also recognizes the need for further research and exploration. Future studies could delve deeper into long-term employment trends, the effects of technological advancements on job markets, and detailed regional analyses. Additionally, studying successful employment policies from other countries could provide useful lessons and strategies that could be adapted to the Indian context.

In conclusion, the "Employment in India: Growth, Informalization, and Other Issues" project aims to contribute significantly to the existing body of knowledge on India's employment situation. By providing a nuanced and detailed examination of employment trends and issues, this project supports the development of more effective and inclusive policies. It seeks to aid stakeholders in their efforts to improve the employment landscape, ensuring a more equitable and prosperous economy for all. Through continued research and data-driven analysis, this project hopes to foster a deeper understanding and better decision-making in addressing the complex challenges of employment in India.

SIGNIFICANCE OF ANALYSIS

The "Employment in India: Growth, Informalization, and Other Issues" project holds substantial significance for various stakeholders, including policymakers, non-governmental organizations (NGOs), governmental organizations, researchers, and the general public. This project aims to provide a detailed and data-driven analysis of the employment landscape in India, offering valuable insights that can drive informed decision-making and foster more effective policies and interventions. The significance of this project can be outlined as follows:

1. **Informing Policy Development:**
   - By presenting a comprehensive analysis of employment rates, unemployment rates, growth in employment, informalization, and other critical issues, this project provides policymakers with a solid foundation of data and insights. This information is essential for formulating policies that address the specific challenges and disparities within the Indian labor market.
   - The project's findings can help identify priority areas for intervention, enabling policymakers to allocate resources more effectively and develop targeted programs that promote job creation, reduce unemployment, and improve the quality of employment.
2. **Supporting NGOs and Governmental Organizations:**
   - NGOs and governmental organizations working on employment-related issues can leverage the insights from this project to design and implement more effective programs and initiatives. By understanding the current employment landscape, these organizations can tailor their efforts to meet the needs of different regions, sectors, and demographics.
   - The project's analysis of gender-based employment disparities and the representation of women in managerial roles can help organizations develop strategies to promote gender equality in the workplace and support women's advancement in various industries.
3. **Contributing to Academic and Research Communities:**
   - This project adds to the existing body of knowledge on employment in India, offering a detailed examination of various factors that influence the labor market. Researchers and academics can use the findings as a basis for further studies, exploring long-term trends, regional disparities, and the impact of emerging technologies on employment.
   - The project highlights areas where additional research is needed, encouraging ongoing investigation and analysis to deepen the understanding of India's employment dynamics.
4. **Enhancing Public Awareness:**
   - By presenting a clear and comprehensive picture of the employment scenario in India, this project can help raise public awareness about the challenges and

opportunities within the labor market. Increased awareness can drive public support for policies and initiatives aimed at improving employment conditions and promoting inclusive growth.

○ The use of IBM Cognos dashboards, reports, and storytelling features ensures that the data is presented in an accessible and engaging manner, making it easier for the general public to understand and interpret the findings.

5. **Promoting Inclusive Economic Growth:**
   ○ Understanding the issues of informalization, regional disparities, and sectoral imbalances is crucial for developing strategies that promote inclusive economic growth. This project provides insights that can help address these issues, ensuring that economic development benefits a broader segment of the population.
   ○ The focus on quality of employment and decent work conditions aligns with the broader goals of sustainable development, contributing to efforts that aim to improve the overall well-being of workers and their families.

6. **Guiding Strategic Planning for Businesses:**
   ○ Businesses and industry leaders can use the insights from this project to better understand labor market trends and workforce dynamics. This knowledge can inform strategic planning, helping businesses to align their workforce development efforts with the broader trends and needs of the labor market.
   ○ By recognizing the importance of gender diversity and the representation of women in leadership roles, businesses can develop initiatives to foster a more inclusive and equitable work environment.

In conclusion, the "Employment in India: Growth, Informalization, and Other Issues" project plays a crucial role in enhancing the understanding of India's employment landscape. By providing detailed analysis and insights, this project supports informed decision-making, promotes inclusive economic growth, and contributes to the overall effort of improving employment conditions and opportunities in India.

The analysis on "Employment: Growth, Informalization and Other issues" is done using a Business Intelligence tool IBM Cognos Analytics. So, let's know about Business Intelligence.

BUSINESS INTELLIGENCE

Business Intelligence (BI) refers to the technologies, applications, strategies, and practices used to collect, integrate, analyze, and present business information. The goal of BI is to support better business decision-making. Essentially, BI systems are data-driven Decision Support Systems (DSS).

BI encompasses a variety of tools, applications, and methodologies that enable organizations to collect data from internal systems and external sources, prepare it for analysis, develop and run queries against the data, and create reports, dashboards, and data visualizations to make the analytical results available to corporate decision-makers as well as operational workers.

Key Components of Business Intelligence

1. Data Collection:
   - BI systems pull data from various sources, including databases, spreadsheets, and external sources such as market reports and competitor analysis.
   - This data is often structured and unstructured, requiring sophisticated tools to manage and extract meaningful information.
2. Data Integration:
   - This involves combining data from different sources into a single, unified view.
   - Data integration can be achieved through various methods such as ETL (Extract, Transform, Load) processes, data warehousing, and data lakes.
3. Data Storage:
   - Data storage is typically managed through data warehouses and data marts that organize data in a way that makes it easily accessible for analysis.
   - Data lakes can store raw data in its native format until it is needed.
4. Data Analysis:
   - This includes various techniques such as statistical analysis, data mining, and predictive analytics to extract meaningful insights.
   - Tools used for data analysis range from traditional query and reporting tools to advanced machine learning algorithms.
5. Reporting and Visualization:
   - BI tools provide mechanisms to create detailed reports and visual representations of data.
   - Dashboards are commonly used to present data insights in an easily understandable format with real-time updates.
6. Performance Management:

- ○ Involves monitoring key performance indicators (KPIs) and other business metrics to track performance and identify areas for improvement.
- ○ Balanced scorecards and other performance management frameworks are used to align business activities with the organizational strategy.

Types of Business Intelligence Tools

1. Reporting Tools:
   - ○ These tools generate both static and interactive reports that provide detailed views of business performance.
   - ○ Examples include Crystal Reports, JasperReports, and BIRT (Business Intelligence and Reporting Tools).
2. Dashboards:
   - ○ Dashboards provide at-a-glance views of KPIs and other important business metrics, often using visual elements like graphs and charts.
   - ○ Popular dashboard tools include Tableau, Power BI, and QlikView.
3. Data Visualization Tools:
   - ○ These tools help create visual representations of data, making complex data more accessible and understandable.
   - ○ Tools such as D3.js, Google Data Studio, and IBM Cognos Analytics are widely used.
4. Online Analytical Processing (OLAP):
   - ○ OLAP tools allow users to analyze data in multiple dimensions, providing fast and intuitive exploration of data.
   - ○ Examples include Microsoft Analysis Services and SAP BW.
5. Data Mining Tools:
   - ○ These tools discover patterns and relationships within large datasets, often using machine learning algorithms.
   - ○ Examples include SAS Data Mining, RapidMiner, and KNIME.
6. ETL Tools:
   - ○ ETL (Extract, Transform, Load) tools are essential for data integration, allowing organizations to extract data from various sources, transform it as needed, and load it into data warehouses.
   - ○ Popular ETL tools include Talend, Informatica, and Apache Nifi.
7. Ad-Hoc Query Tools:
   - ○ These tools enable users to create and run custom queries on the fly without needing predefined reports.
   - ○ Examples include SQL query tools like MySQL Workbench and PostgreSQL's pgAdmin.

Differences Between Business Intelligence (BI) and Business Analytics (BA)

Focus

- Business Intelligence (BI):
  - BI primarily focuses on descriptive and diagnostic analytics, which means it deals with understanding past and present data to inform business decisions.
  - The goal is to provide insights into what has happened or what is currently happening within the organization.
- Business Analytics (BA):
  - BA extends beyond descriptive and diagnostic analytics to include predictive and prescriptive analytics.
  - It focuses on forecasting future trends and providing recommendations for action based on data analysis.
  - The goal is to help businesses make proactive, data-driven decisions by predicting future trends and identifying the best course of action.

Functionality

- Business Intelligence (BI):
  - BI tools are designed to collect, process, and present data in a way that is easy to understand. This includes generating reports, creating dashboards, and providing historical data analysis.
  - BI systems are often used for routine reporting and data monitoring, helping businesses understand their operations and performance over time.
- Business Analytics (BA):
  - BA uses advanced statistical analysis, data mining, machine learning, and predictive modeling techniques to identify patterns and predict future outcomes.
  - BA is often used for advanced data analysis, scenario planning, and decision-making support to address specific business questions or challenges.

Types of Business Analytics

1. Descriptive Analytics:
   - Focuses on summarizing historical data to understand what has happened in the past.
   - Examples include generating reports, dashboards, and data visualizations that show sales trends, financial performance, and customer demographics.
2. Diagnostic Analytics:
   - Examines historical data to determine why something happened.
   - Examples include root cause analysis, data discovery, and drill-down techniques to identify underlying reasons for past performance.
3. Predictive Analytics:
   - Uses statistical models and machine learning techniques to forecast future events.

- ○ Examples include sales forecasting, customer churn prediction, and risk assessment.
4. Prescriptive Analytics:
   - ○ Provides recommendations for actions based on predictive models.
   - ○ Examples include optimization algorithms, recommendation systems, and scenario analysis to determine the best course of action.

Conclusion

Business Intelligence (BI) and Business Analytics (BA) are essential components of modern business strategy. While BI focuses on understanding past and present data to inform decision-making, BA takes it a step further by predicting future trends and providing actionable insights. Together, these disciplines enable organizations to leverage their data for competitive advantage and strategic planning, driving better business outcomes.

By implementing robust BI and BA tools, organizations can not only monitor their performance and understand their historical data but also anticipate future challenges and opportunities, ensuring they remain agile and competitive in an ever-evolving business landscape.

STATEMENT OF THE PROBLEM

The employment scenario in India is multifaceted, marked by significant disparities and challenges that impede economic growth and equitable development. This project identifies and analyzes several critical issues within the Indian employment landscape:

1. High Unemployment Rate: Despite economic growth, India continues to face a high unemployment rate, particularly among the youth and educated segments of the population. This issue highlights the gap between job creation and the growing labor force.

2. Slow Growth in Employment: The rate of job creation has not kept pace with the increasing number of job seekers. This slow growth in employment across various sectors presents a challenge for sustaining economic development and improving living standards.

3. Informalization of Employment: A significant portion of the Indian workforce is engaged in informal employment, which lacks job security, social benefits, and fair wages. This informalization poses a substantial barrier to achieving decent work and sustainable economic growth.

4. Rural-Urban Employment Disparities: There are pronounced disparities in employment opportunities and conditions between rural and urban areas. Rural regions often experience higher unemployment rates and lower-quality jobs compared to urban areas, exacerbating regional inequalities.

5. Sectoral Employment Imbalance: Employment distribution across different industries reveals imbalances, with some sectors experiencing labor shortages while others face a surplus of workers. This imbalance affects overall economic productivity and growth.

6. Gender Inequality in Employment: Women face significant challenges in the labor market, including lower participation rates, wage gaps, and limited opportunities for advancement. The underrepresentation of women in managerial positions underscores the systemic barriers to gender equality in employment.

7. Lack of Employment Opportunities for Women in Leadership Roles: The representation of females at managerial and executive levels is disproportionately low. This lack of opportunities for women in leadership roles reflects broader issues of gender discrimination and inequality in the workplace.

8. Youth Unemployment and Skill Mismatch: The high rate of youth unemployment and the mismatch between the skills of job seekers and the requirements of available jobs pose a significant challenge. This mismatch affects productivity and the potential for economic growth.

The project "Employment in India: Growth, Informalization, and Other Issues" aims to address these problems by providing a detailed analysis of the current employment landscape. By leveraging IBM Cognos's data analytics capabilities, the project offers insights that can inform policymakers, non-governmental organizations (NGOs), and governmental organizations in their efforts to develop effective strategies and policies to tackle these employment challenges. The ultimate goal is to contribute to the existing body of knowledge on the employment situation in India and support the creation of a more inclusive and equitable employment environment.

CHAPTER - II

COMPANY PROFILE

COMPANY PROFILE

Origin of IBM

In June of 1911, a financier and businessman named Charles Ranlett Flint put the finishing touches on a fateful merger. The new business, which consolidated the Hollerith Tabulating Machine Company with two other market-leading purveyors of data-processing technologies, was called the Computing-Tabulating-Recording Company; later, it would become IBM. Flint had built a successful business bundling companies in industries such as rubber and wool, a talent that would eventually earn him the nickname —Father of Trusts.‖ With C-T-R, however, he set his sights on a more forward-thinking and ambitious merger in a decidedly abstract sector. To make it work, he needed someone with vision, and the will and resolve to follow it. That someone was Thomas J. Watson, who believed deeply that the combination of information and technology could create a powerful industry unto itself. As IBM's CEO for 42 years, Watson would shape the company into a global force in technology, management and culture.

International Business Machines Corporation (IBM) is a global technology and consulting company headquartered in Armonk, New York. Founded in 1911 as the Computing-Tabulating-Recording Company (CTR), it was renamed IBM in 1924. IBM is known for its innovation and leadership in the technology sector, providing hardware, software, and a broad range of services, including cloud computing, artificial intelligence (AI), blockchain, and quantum computing.

About IBM

International Business Machines (**IBM**) is a multinational corporation specializing in computer technology and information technology consulting. Headquartered in Armonk, New York, the company originated from the amalgamation of various enterprises dedicated to automating routine business transactions, notably pioneering punched card-based data tabulating machines and time clocks. In 1911, these entities were unified under the umbrella of the Computing-Tabulating-Recording Company (CTR).

Thomas J. Watson (1874–1956) assumed the role of general manager within the company in 1914 and ascended to the position of President in 1915. By 1924, the company rebranded as "International Business Machines". IBM diversified its offerings to include electric typewriters and other office equipment. Watson, a proficient salesman, aimed to cultivate a highly

motivated, well-compensated sales force capable of devising solutions for clients unacquainted with the latest technological advancements.

In the 1940s and 1950s, IBM began its initial forays into computing, which constituted incremental improvements to the prevailing card-based system. A pivotal moment arrived in the 1960s with the introduction of the System/360 family of mainframe computers. IBM provided a comprehensive spectrum of hardware, software, and service agreements, fostering client loyalty and solidifying its moniker "Big Blue". The customized nature of end-user software, tailored by in-house programmers for a specific brand of computers, deterred brand switching due to its associated costs. Despite challenges posed by clone makers like Amdahl and legal confrontations, IBM leveraged its esteemed reputation, assuring clients with both hardware and system software solutions, earning acclaim as one of the esteemed American corporations during the 1970s and 1980s.

However, IBM encountered difficulties in the late 1980s and 1990s, marked by substantial losses surpassing $8 billion in 1993. The mainframe-centric corporation grappled with adapting swiftly to the burgeoning Unix open systems and personal computer revolutions. Desktop machines and Unix midrange computers emerged as cost-effective and easily manageable alternatives, overshadowing multi-million-dollar mainframes. IBM responded by introducing a Unix line and a range of personal computers. The competitive edge was gradually lost to clone manufacturers who offered cost-effective alternatives, while chip manufacturers like Intel and software corporations like Microsoft reaped significant profits.

Through a series of strategic reorganizations, IBM managed to sustain its status as one of the world's largest computer companies and systems integrators. As of 2014, the company boasted a workforce exceeding 400,000 employees globally and held the distinction of possessing the highest number of patents among U.S.-based technology firms. IBM maintained a robust presence with research laboratories dispersed across twelve locations worldwide. Its extensive network comprised scientists, engineers, consultants, and sales professionals spanning over 175 countries. IBM employees were recognized for their outstanding contributions with numerous accolades, including five Nobel Prizes, four Turing Awards, five National Medals of Technology, and five National Medals of Science.

Key Areas of IBM's Business:

- Cloud Computing: IBM offers a comprehensive suite of cloud services, including IBM Cloud, which supports both public and private cloud environments.
- Artificial Intelligence: IBM's AI capabilities are best exemplified by Watson, a suite of enterprise-ready AI services, applications, and tooling.

- Quantum Computing: IBM is a pioneer in quantum computing, providing access to quantum computers through the IBM Quantum Experience.
- Blockchain: IBM Blockchain helps businesses develop, operate, and grow blockchain solutions.
- Consulting and IT Services: IBM provides a wide range of consulting services, helping businesses leverage technology to solve complex problems and drive growth.

IBM Organization Chart
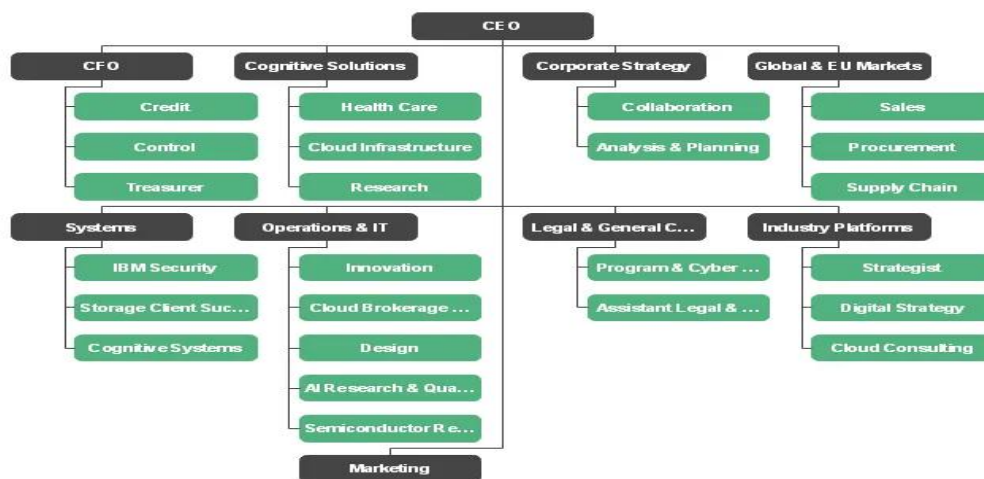
IBM Mission, Vision & Values IBM Mission Statement Our mission and purpose is to be a catalyst that makes the world work better. A catalyst is an agent of change. As catalysts, IBMers collaborate to release new energy. We forge partnerships and bring together powerful combinations of people and technology. We combine the methods of science with the dynamism business to do things neither could do on its own. We solve difficult problems and amplify the impact of our solutions with speed and scale. Our work is focused on the most mission-critical systems on the planet: electrical grids, airlines, mobile networks, banks, transportation systems, healthcare systems. These systems are more than just engines of economic growth. They are the systems that support modern society. In making them faster, more productive, and more secure, we don't just make business work better, we make the world work better.

IBM Vision Statement

IBM's greatest invention is the IBMer. We believe that through the application of intelligence, reason and science, we can improve business, society and the human condition, bringing the power of an open hybrid cloud and AI strategy to life for our clients and partners around the world.

IBM Values

Dedication to every client's success Innovation that matters Trust and personal responsibility in all

Core Aspects of IBM's Mission:

- Innovation: Continuously drive technological advancement and deliver cutting-edge solutions to meet the evolving needs of clients.
- Client Success: Focus on enabling clients to achieve their goals through the effective use of IBM's products and services.
- Global Impact: Leverage technology to solve some of the world's most pressing challenges, contributing to a more sustainable and equitable future.

IBM's Vision Statement

IBM's vision is to be the leading provider of technology solutions that transform businesses and society. The company aims to achieve this by leveraging its expertise in advanced technologies, fostering a culture of continuous innovation, and maintaining a strong focus on customer-centricity.

Key Elements of IBM's Vision:

- Leadership in Technology: Strive to be at the forefront of technological innovation, particularly in areas such as AI, cloud computing, blockchain, and quantum computing.
- Transformation and Impact: Use technology to drive meaningful change in businesses and society, enhancing productivity, efficiency, and sustainability.
- Customer-Centricity: Maintain a deep understanding of client needs and deliver tailored solutions that drive success and satisfaction.

Conclusion

IBM has a rich history of innovation and leadership in the technology sector. Its mission and vision reflect a commitment to driving technological advancement, enabling client success, and making a positive impact on the world. By focusing on these core principles, IBM continues to shape the future of technology and its role in transforming businesses and society.

CHAPTER - III

OBJECTIVES OF THE STUDY

OBJECTIVES OF THE STUDY

The primary objective of the "Employment in India: Growth, Informalization, and Other Issues" project is to create a comprehensive and consolidated dashboard using IBM Cognos. This dashboard aims to centralize and present key employment-related data in an accessible and visually engaging format. By doing so, the project seeks to provide valuable insights into the current employment landscape in India, facilitating better decision-making for various stakeholders. The detailed objectives of this analysis are outlined below:

1. Comprehensive Employment Rate Analysis

Objective: To analyze and visualize the employment and unemployment rates in India, highlighting historical trends, regional disparities, and demographic differences.

- Historical Trends: Examine the changes in employment and unemployment rates over time to understand the impact of economic policies, global economic conditions, and domestic developments.
- Regional Disparities: Identify variations in employment rates across different states and regions, focusing on rural versus urban employment trends.
- Demographic Differences: Explore employment rates across different demographic groups, including age, education level, and socio-economic background, to identify groups that are particularly vulnerable to unemployment.

2. Growth in Employment Across Sectors

Objective: To assess the growth in employment across various industries, identifying key sectors driving job creation and those lagging behind.

- Sectoral Analysis: Evaluate employment growth in major sectors such as agriculture, manufacturing, services, and emerging industries to understand their contribution to overall employment.
- Job Creation: Identify sectors with the highest potential for job creation, helping policymakers and businesses focus their efforts on areas with the greatest impact.
- Sectoral Challenges: Highlight challenges faced by specific industries in terms of employment growth, such as technological disruptions, policy changes, and market dynamics.

3. Informalization of Employment

Objective: To analyze the extent and impact of informal employment in India, focusing on its implications for workers' rights, job security, and economic stability.

- Extent of Informal Employment: Quantify the proportion of the workforce engaged in informal employment across different sectors and regions.
- Impact on Workers: Assess the implications of informal employment on job security, wages, social protection, and working conditions.
- Policy Recommendations: Provide insights into policy measures that can reduce informal employment and promote the formalization of jobs, ensuring better protection for workers.

4. Rural and Urban Employment Dynamics

Objective: To explore the differences in employment opportunities and challenges between rural and urban areas, addressing regional inequalities and migration patterns.

- Employment Opportunities: Compare employment rates and job quality between rural and urban areas, identifying factors contributing to regional disparities.
- Migration Patterns: Analyze migration trends from rural to urban areas, understanding the drivers and consequences of such movements on employment and socio-economic conditions.
- Regional Development: Provide recommendations for policies that can promote balanced regional development and reduce employment inequalities between rural and urban areas.

5. Gender-Based Employment Analysis

Objective: To examine gender disparities in employment, focusing on the participation of women in the labor force, wage gaps, and representation in leadership roles.

- Labor Force Participation: Analyze the rate of female participation in the workforce, identifying barriers to entry and retention.
- Wage Gaps: Investigate gender wage gaps across different industries and job roles, highlighting areas where disparities are most pronounced.
- Leadership Representation: Assess the representation of women in managerial and executive positions, understanding the obstacles to career advancement for women.

6. Representation of Females in Managerial Positions

Objective: To scrutinize the representation of women in managerial roles, focusing on the challenges and opportunities for promoting gender equality in leadership.

- Current Representation: Evaluate the current status of female representation in managerial and executive roles across various sectors.

- Challenges to Advancement: Identify the key challenges that women face in advancing to leadership positions, such as workplace biases, lack of mentorship, and work-life balance issues.
- Strategies for Improvement: Provide recommendations for strategies and policies that can promote gender diversity in leadership, such as mentorship programs, flexible work arrangements, and anti-discrimination policies.

7. Quality of Employment

Objective: To assess the quality of employment in terms of job security, working conditions, and fair compensation, ensuring that job creation efforts lead to decent work opportunities.

- Job Security: Examine the prevalence of temporary, part-time, and contract work, understanding their impact on job stability.
- Working Conditions: Evaluate the working conditions across different industries, focusing on factors such as safety, work hours, and employee benefits.
- Fair Compensation: Analyze wage levels and income distribution, identifying sectors and groups that are most affected by low wages and income inequality.

8. Data-Driven Policy and Strategic Recommendations

Objective: To provide data-driven recommendations for policymakers, NGOs, and businesses, facilitating the development of effective strategies to improve the employment landscape.

- Policy Recommendations: Offer actionable insights for policymakers to address employment challenges, promote job creation, and reduce unemployment.
- NGO Interventions: Suggest areas where NGOs can focus their efforts to support vulnerable groups and promote equitable employment opportunities.
- Business Strategies: Provide strategic recommendations for businesses to align their workforce development efforts with broader employment trends and needs.

By achieving these objectives, the project aims to create a holistic and integrated view of the employment situation in India. The consolidated dashboard will serve as a valuable tool for stakeholders, enabling them to make informed decisions and implement strategies that foster inclusive and sustainable employment growth. Through this comprehensive analysis, the project seeks to contribute significantly to the existing body of knowledge on employment in India, supporting efforts to create a more equitable and prosperous economy for all.

CHAPTER - IV

RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

The "Employment in India: Growth, Informalization, and Other Issues" project aims to provide a comprehensive and consolidated analysis of the employment scenario in India using IBM Cognos. The research methodology adopted for this project is designed to ensure the collection, analysis, and interpretation of relevant data to create an insightful and practical dashboard. The methodology encompasses various stages, including data collection, data processing, analysis, and visualization.

Research Design

In the "Employment in India: Growth, Informalization, and Other Issues" project, the research design includes both qualitative and quantitative approaches to comprehensively analyze the employment landscape in India.

1.1 Research Approach

Quantitative Approach:

- Description: The primary approach for this project is quantitative, involving the systematic collection and analysis of numerical data.
- Purpose: To quantify the employment rates, unemployment rates, growth rates, and other employment-related metrics across different regions, sectors, and demographics.

Qualitative Approach:

- Description: While the focus is on quantitative data, qualitative insights are also incorporated to provide a deeper understanding of the context and implications of the findings.
- Purpose: To interpret the underlying reasons and motivations behind observed trends, such as the factors contributing to informal employment or gender disparities in managerial roles.

1.2 Research Methods

Descriptive Research:

- Description: Descriptive research is used to describe the characteristics of the employment scenario in India. It involves collecting data that provides a detailed picture of the current state of employment.
- Purpose: To present a comprehensive overview of employment rates, unemployment rates, sectoral employment, regional employment differences, and gender-based employment metrics.

Analytical Research:

- Description: Analytical research involves analyzing the collected data to identify patterns, relationships, and trends.
- Purpose: To understand the factors influencing employment growth, informalization, and regional and gender disparities in employment.

Sample Design

The sample design for the "Employment in India: Growth, Informalization, and Other Issues" project outlines the process used to select, collect, and analyze data to ensure that the findings are representative and reliable. Given that the data has been sourced from the International Labour Organization (ILO), the World Bank, and government documents from India, the sample design ensures the data is relevant and specific to the Indian context. Below is a detailed description of the sample design:

1.1 Population

Definition:

- The population for this study includes all individuals engaged in or seeking employment in India across various sectors, regions, and demographics.

Scope:

- The scope covers employment data for India, including urban and rural regions, different industries, various demographic groups, and gender-based employment statistics.

1.2 Sampling Frame

Sources: Secondary Data

- **International Labour Organization (ILO):** Employment and labor market data specific to India.
- **World Bank:** Economic indicators and employment statistics relevant to India.
- **Government of India Documents:** Official reports and data on the employment scenario in India, including surveys from the Ministry of Labour and Employment and Census data.

Selection Criteria:

- Data selected specifically pertains to India, ensuring relevance and specificity to the country's employment landscape.

1.3. Sampling Method

Non-Probability Sampling:

- Given the reliance on existing databases and reports, a non-probability sampling method is used, particularly purposive sampling, where data relevant to the research objectives is intentionally selected.

Criteria for Inclusion:

- **Relevance:** Data directly related to employment metrics in India.
- **Recency:** Preference for the most recent data available to reflect the current employment scenario.
- **Credibility:** Data sourced from reputable and authoritative sources such as ILO, World Bank, and the Government of India.

1.4. Sample Size

Extent of Data:

- The sample size includes all available and relevant data points from 2014-2024 from the selected sources. This comprises a comprehensive dataset on employment rates, unemployment rates, sectoral employment, gender-based employment, and other relevant metrics for India.

Data Points:

- Data on employment and unemployment rates over multiple years to analyze trends.
- Sector-specific employment data to understand industry-wise employment dynamics.
- Regional employment data distinguishing between urban and rural areas.
- Demographic data including age, gender, education, and socio-economic background.

Data Source

The "Employment in India: Growth, Informalization, and Other Issues" project draws on a variety of reputable data sources to ensure comprehensive and accurate analysis. The following primary data sources were utilized in this project:

1. LFS: Periodic Labour Force Survey (PLFS)

Description:
The Periodic Labour Force Survey (PLFS) is conducted by the National Sample Survey Office (NSSO) under the Ministry of Statistics and Programme Implementation (MoSPI), Government of India. It provides key indicators of labor market dynamics such as employment rates, unemployment rates, and other workforce-related metrics.

Data Utilized:

- Employment and Unemployment Rates
- Labor Force Participation Rates
- Sectoral Employment Data
- Rural and Urban Employment Data

Significance:
PLFS data is crucial for understanding the current employment scenario, as it offers detailed insights into various aspects of labor market conditions across India.

2. ILO: Social Security Inquiry Database

Description:
The International Labour Organization (ILO) Social Security Inquiry (SSI) database collects information on social security systems worldwide, including data related to employment protection, unemployment benefits, and social security coverage.

Data Utilized:

- Employment Protection Indicators
- Social Security Coverage

Significance:
This data helps in analyzing the informalization of employment and the extent of social security coverage for workers in India.

3. ILO Modelled Estimates

Description:

The ILO modelled estimates provide internationally comparable statistics on employment, unemployment, and labor force participation rates. These estimates are generated using econometric models and national labor force data.

Data Utilized:

- Employment and Unemployment Rates
- Labor Force Participation Rates
- Gender-Specific Employment Data

Significance:

ILO modelled estimates offer a global perspective, allowing for comparative analysis and understanding of how India's employment situation aligns with international trends.

4. Directorate General of Employment, Government of India

Description:

The Directorate General of Employment (DGE), under the Ministry of Labour and Employment, Government of India, maintains records and statistics related to employment services, job placements, and labor market information.

Data Utilized:

- Job Placement Statistics
- Employment Exchange Data
- Labor Market Information

Significance:

Data from the DGE provides insights into the effectiveness of employment services and job placement programs, contributing to a more comprehensive analysis of the employment landscape in India.

Method of data collection

The data collection process for the "Employment in India: Growth, Informalization, and Other Issues" project was designed to ensure the acquisition of comprehensive, accurate, and relevant data from reputable sources. The following methods were employed to collect the necessary data for analysis:

All the datasets are taken from the already published sources i.e. **Secondary Data.**

1. Identifying Data Sources

The first step involved identifying and selecting credible and authoritative sources of employment-related data. The chosen sources included:

- LFS: Periodic Labour Force Survey (PLFS)
- ILO: Social Security Inquiry Database
- ILO Modelled Estimates
- Directorate General of Employment, Government of India

These sources were selected based on their reliability, comprehensiveness, and relevance to the research objectives.

2. Accessing Data Sources

Once the data sources were identified, the next step involved accessing the required data. This included:

- Government Websites: Accessing the PLFS and DGE data through the official websites of the National Sample Survey Office (NSSO) and the Ministry of Labour and Employment.
- ILO Databases: Accessing the Social Security Inquiry Database and ILO modelled estimates through the International Labour Organization's official database portals.

3. Data Extraction

The extraction process involved downloading and gathering the relevant datasets from the identified sources. Specific steps included:

- PLFS Data Extraction:
  - Navigating to the MoSPI website.
  - Downloading the latest available survey reports and datasets related to employment, unemployment, and labor force participation.
- ILO Data Extraction:

- Accessing the ILO Social Security Inquiry Database and modelled estimates online.
- Downloading datasets specific to India, focusing on social security coverage, employment protection, and labor force statistics.
- DGE Data Extraction:
  - Visiting the Directorate General of Employment's official site.
  - Downloading job placement statistics, employment exchange data, and other labor market information.

4. Data Filtering and Selection

Given that some of the data sources provided global datasets, it was necessary to filter and select data specific to India:

- Filtering ILO and World Bank Data:
  - Isolating data points and metrics relevant to India from the larger global datasets.
  - Ensuring the selected data pertains to the research topics such as employment rates, unemployment rates, sectoral employment, and gender-specific employment statistics.

5. Data Cleaning

The collected data often required cleaning to ensure accuracy and consistency. Data cleaning processes included:

- Removing Duplicates: Ensuring no duplicate records exist within the datasets using MS. Excel and IBM Cognos Analytics
- Handling Missing Values: Imputing or omitting missing values based on the relevance and impact on the overall analysis.
- Standardizing Data Formats: Converting data into consistent formats to facilitate uniform analysis and integration across multiple sources.

6. Data Integration

After cleaning, the data from various sources was integrated into a unified dataset to provide a comprehensive view of the employment scenario:

- Merging Datasets: Combining data from PLFS, ILO databases, and DGE into a single database.

7. Validation and Verification

To ensure the reliability and accuracy of the data, validation and verification steps were undertaken:

- Cross-Verification: Comparing data from different sources to check for consistency and accuracy.
- Peer Review: Having the methodology and findings reviewed by experts and peers to validate the approach and results.

IBM tool used for analysis

IBM Cognos Analytics is an advanced business intelligence (BI) and performance management platform developed by IBM. This software is designed to help organizations turn data into actionable insights, enabling data-driven decision-making through robust reporting, analytics, and visualization capabilities. Cognos Analytics integrates various features, making it a comprehensive solution for modern business intelligence needs.

Key Features of IBM Cognos Analytics

1. **Data Visualization and Dashboards:**
    - Interactive Dashboards: Users can create dynamic, interactive dashboards that provide a visual representation of key metrics and trends. These dashboards are customizable and can be shared across the organization.
    - Rich Visualization Options: The platform offers a wide range of visualization tools, including charts, graphs, maps, and more, allowing users to present data in a meaningful and engaging way.
2. **Reporting and Analysis:**
    - Advanced Reporting: Cognos Analytics provides powerful reporting tools that enable users to create detailed, professional reports. These reports can be scheduled and distributed automatically.
    - Ad-Hoc Analysis: Users can perform ad-hoc analysis, allowing them to explore data on the fly and answer specific business questions without needing predefined reports.
3. **AI and Machine Learning:**
    - AI-Driven Insights: The platform leverages artificial intelligence to uncover hidden patterns and insights in the data. AI-driven recommendations help users discover trends and anomalies that might not be immediately apparent.
    - Natural Language Processing: Users can interact with the data using natural language queries, making it easier to find answers without complex SQL queries.
4. **Data Integration and Connectivity:**
    - Multiple Data Sources: Cognos Analytics can connect to a wide variety of data sources, including databases, cloud storage, spreadsheets, and more. This ensures that users have access to all relevant data for their analysis.
    - Data Modeling: The software includes tools for data modeling, allowing users to prepare and transform data for analysis. This includes data cleansing, blending, and shaping.
5. **Collaboration and Sharing:**
    - Collaboration Features: Users can collaborate on reports and dashboards, adding comments and annotations to share insights and findings with team members.

- Secure Sharing: The platform ensures that data and reports are shared securely, with robust access controls and permissions to maintain data privacy and security.

6. **Self-Service Analytics:**
    - User-Friendly Interface: Cognos Analytics is designed with a user-friendly interface that allows non-technical users to create reports and dashboards without extensive training.
    - Self-Service Capabilities: Users can access and analyze data independently, reducing the reliance on IT departments and enabling faster decision-making.

Benefits of Using IBM Cognos Analytics

- Improved Decision-Making: By providing comprehensive insights and visualizations, Cognos Analytics helps organizations make informed decisions based on accurate and up-to-date data.
- Enhanced Productivity: The platform's self-service capabilities and automation features streamline the reporting process, saving time and resources.
- Scalability: Cognos Analytics is scalable and can grow with the organization, supporting increasing data volumes and more complex analytical needs.
- Security and Compliance: IBM ensures that Cognos Analytics adheres to stringent security standards, protecting sensitive data and helping organizations comply with regulatory requirements.

Use Cases for IBM Cognos Analytics

- Finance: Financial analysts can use Cognos Analytics to create financial reports, track performance metrics, and analyze trends to support strategic planning.
- Sales and Marketing: Sales teams can monitor sales performance, track customer trends, and analyze marketing campaign effectiveness.
- Operations: Operations managers can optimize processes, monitor key performance indicators (KPIs), and identify areas for improvement.
- Human Resources: HR departments can analyze workforce data, track employee performance, and monitor recruitment and retention metrics.

Conclusion

IBM Cognos Analytics is a powerful and versatile BI and performance management platform that enables organizations to harness the power of their data. By providing advanced analytics, interactive visualizations, and AI-driven insights, Cognos Analytics supports data-driven decision-making across various business functions. Its user-friendly interface and robust features make it an ideal solution for organizations looking to improve their analytical capabilities and drive business success.

CHAPTER - V

PROBLEMS AND LIMITATIONS

CHAPTER - V

PROBLEMS AND LIMITATIONS

Despite the comprehensive approach and robust data sources used in the "Employment in India: Growth, Informalization, and Other Issues" project, several problems and limitations need to be acknowledged. These limitations can impact the findings and interpretations of the project and should be considered when using the results for policy-making and other purposes.

1. Data Quality and Reliability

Problem:

- The reliability of secondary data depends on the accuracy and methodology of the original data collection by the respective organizations (ILO, World Bank, Government of India).

Limitation:

- Inconsistencies or errors in the original datasets can propagate into the project, affecting the accuracy of the analysis.
- The secondary data may not be as detailed or specific as primary data collected directly for the project's purposes.

2. Data Timeliness

Problem:

- Employment data can quickly become outdated due to the dynamic nature of labor markets.

Limitation:

- The data used may not reflect the most current employment scenario, especially in rapidly changing economic conditions.
- Delays in publication of official reports and datasets can lead to reliance on older data, affecting the relevance of the findings.

3. Geographical and Sectoral Coverage

Problem:

- Secondary data may not provide uniform coverage across all regions and sectors.

Limitation:

- There may be gaps in data for certain rural areas or specific industries, leading to incomplete analysis.
- Regional disparities and sector-specific nuances may not be fully captured.

4. Scope of Analysis

Problem:

- The scope of the project is broad, covering multiple dimensions of employment (growth, informalization, regional differences, gender disparities).

Limitation:

- The breadth of the project might lead to a less detailed analysis of individual aspects due to resource and time constraints.
- Some important factors influencing employment trends may not be explored in depth.

5. Comparative Analysis

Problem:

- Comparing data from different sources can be challenging due to variations in data collection methods, definitions, and categorizations.

Limitation:

- Inconsistencies between datasets from ILO, World Bank, and the Government of India can complicate direct comparisons.
- Harmonizing data from different sources may involve assumptions that could introduce biases.

6. Data Integration Challenges

Problem:

- Integrating diverse datasets into a unified format can be complex and may result in data loss or misinterpretation.

Limitation:

- The process of cleaning, filtering, and standardizing data can inadvertently lead to the omission of important information.
- Ensuring consistency across integrated datasets can be difficult, potentially affecting the validity of the analysis.

8. Dependence on Secondary Data

Problem:

- The project is entirely dependent on secondary data sources, which can limit the control over data quality and relevance.

Limitation:

- The inability to collect primary data means that the project must rely on the existing data, which may not perfectly align with the research objectives.
- There may be a lack of specific indicators or variables that are crucial for a comprehensive analysis.

Summary

Understanding the problems and limitations of the "Employment in India: Growth, Informalization, and Other Issues" project is crucial for interpreting the findings accurately. While the use of reputable secondary data sources allows for a broad and detailed analysis, issues related to data quality, timeliness, coverage, scope, and integration pose significant challenges. Recognizing these limitations helps in contextualizing the results and underscores the need for cautious and informed use of the insights generated by the project.
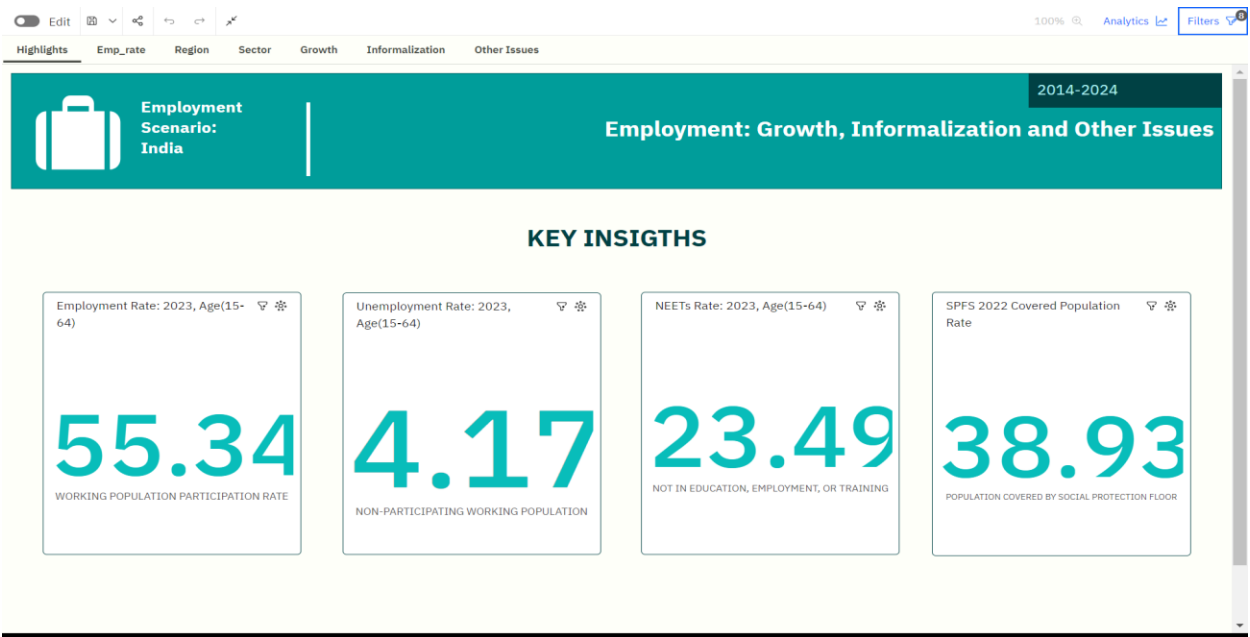
CHAPTER - VI

DATA ANALYSIS AND INTERPRETATION

DATA ANALYSIS AND INTERPRETATION

In the course of my project on "Employment in India: Growth, Informalization, and Other Issues," I utilized IBM Cognos Analytics to conduct a comprehensive analysis of employment-related data.

Dashboards

Tab 1: Highlights

Tab 1: Highlights

Interpretation

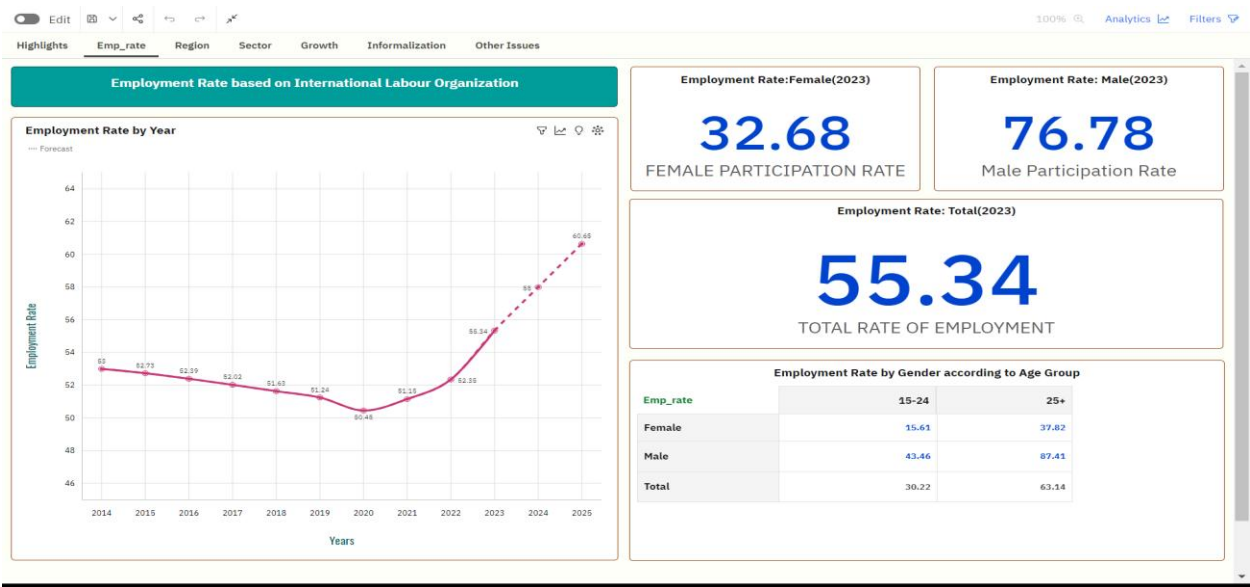Employment rate 2023 : 55.34

Unemployment rate 2023 : 4.17

NEETs (Not in Employment, Education or Training) rate 2023: 23.49

Population covered by Social Protection Floor System 2023: 38.93
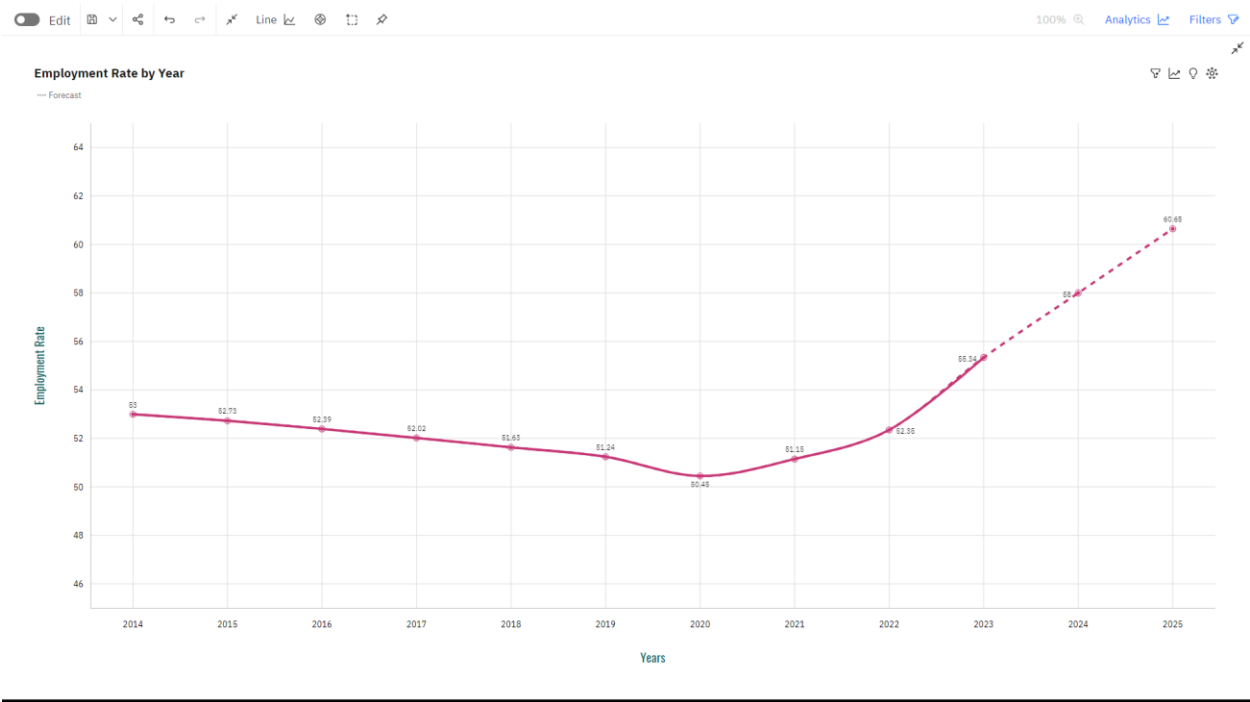
Tab 2: Emp_rate

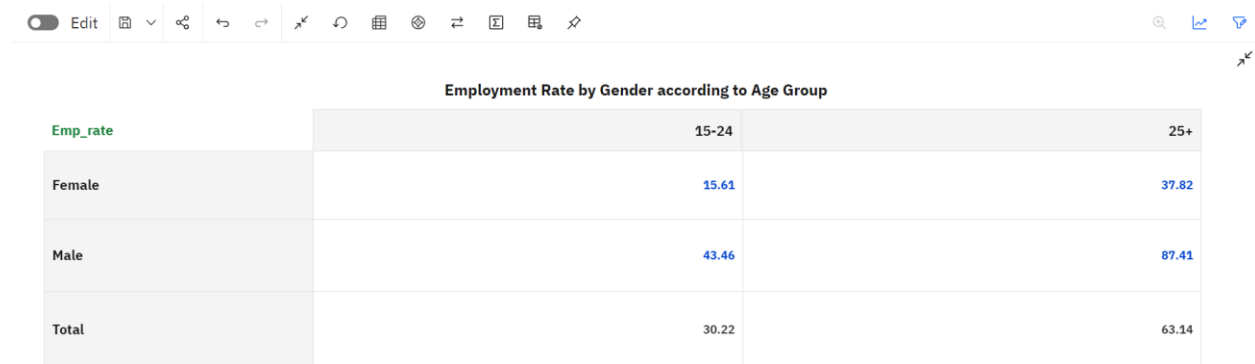**What is the employment rate in India?**

Tab 2: Emp_rate

Tab 2- Chart 1: Employment Rate by Year

Interpretation

Shows the employment rate in India from 2014-2024 and forecast of 2025. In 2014, the employment rate was **53%**. The graph shows the decline in employment rate till 2020 (when the country was affected by pandemic: COVID-19). After that period the employment rate shows growth, in 2023 employment rate was **53.34%** and is expected to reach **60.65% in 2025**.

Emp_rate	15-24	25+
Female	15.61	37.82
Male	43.46	87.41
Total	30.22	63.14

Employment Rate by Gender according to Age Group

Tab 2 Table 1: Employment rate by gender according to age group

Interpretation

The table shows the employment rate by gender and age group.

In Female, the age group of 15-24 has an employment rate of **15.61%** and the age group of above 25 has an employment rate of **37.82%**

In Male, the age group of 15-24 has an employment rate of **43.46%** and the age group of 25 above has employment rate of **63.14%**

In Both, the age group of 25 above shows a greater employment rate.

Tab 3: Region
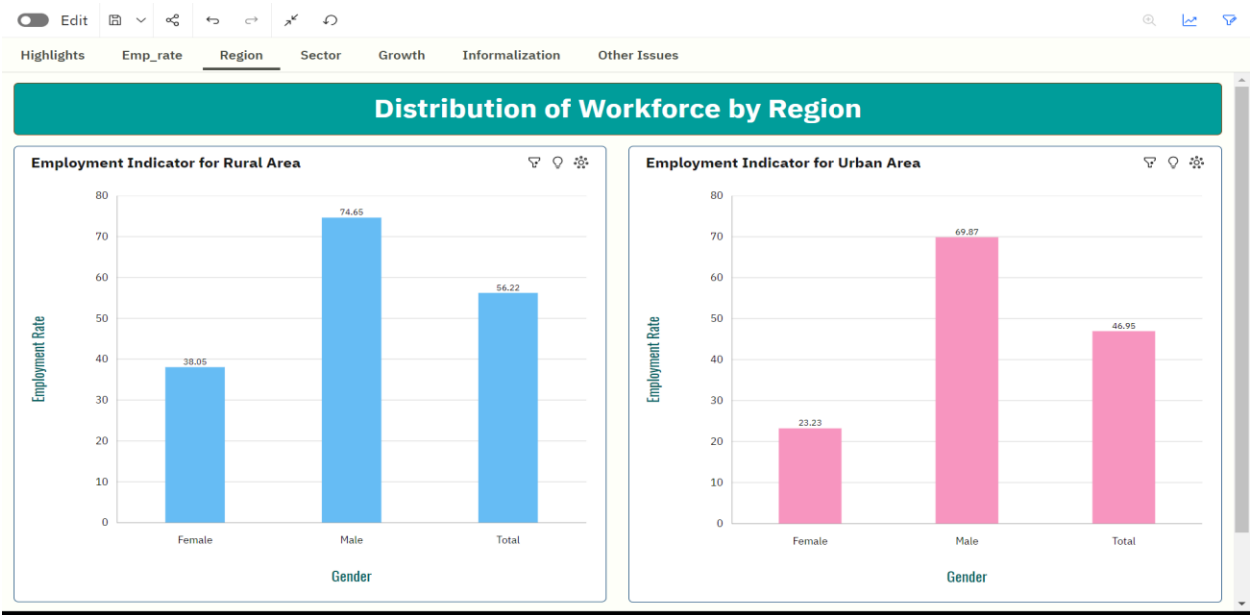
Tab 3: Region

This tab shows the comparison between employment rate in rural and urban regions by gender.
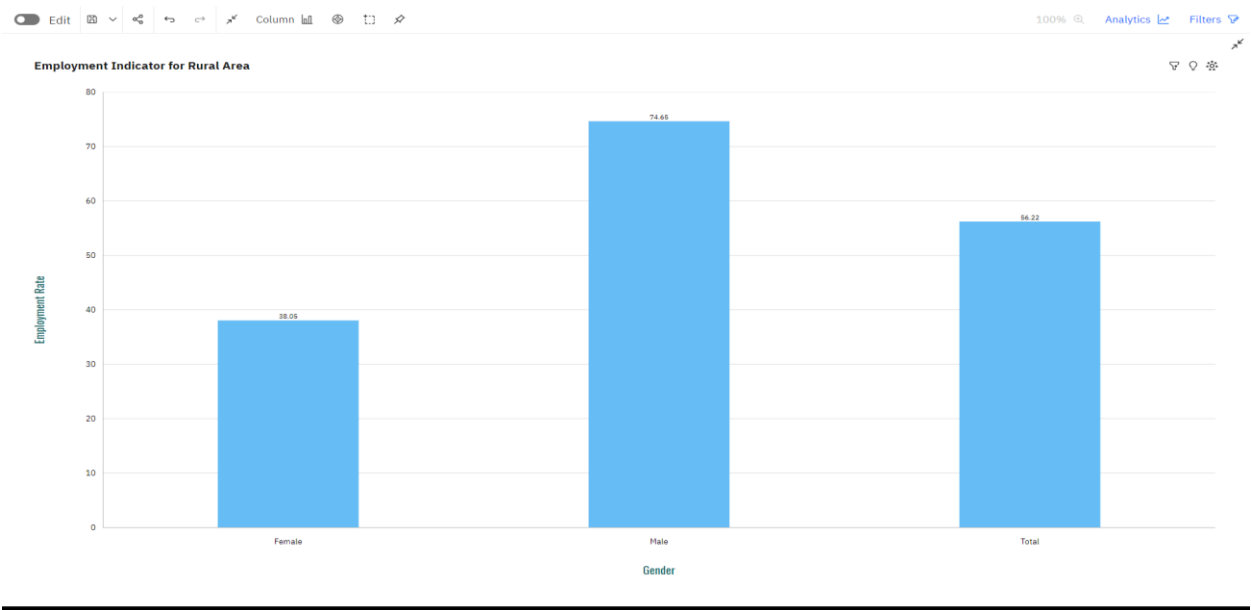
Tab 3 Chart 1: Employment Indicator for Rural Area

Interpretation

The chart shows the employment rate by gender in Rural Area

Female employment rate 2023: **38.05%**

Male employment rate 2023: **74.65%**

Total employment rate 2023: **56.22%**

Male population has twice the rate of employment as compared to female employment rate in rural areas.
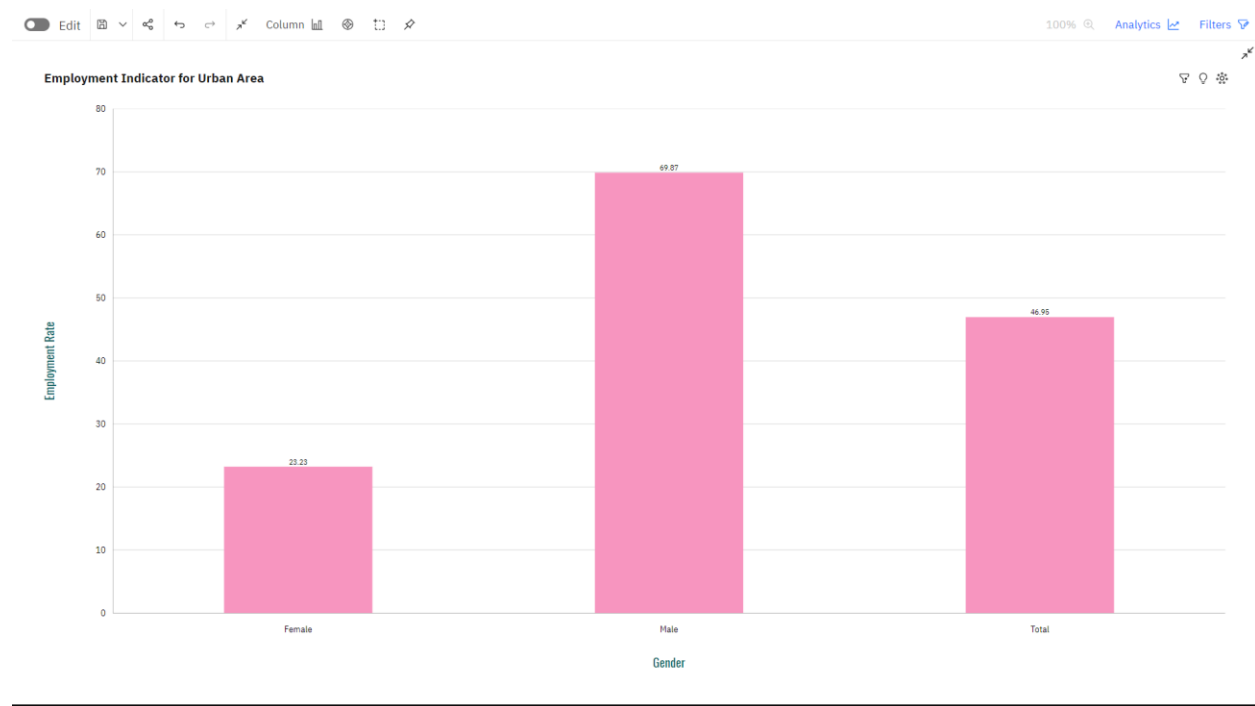
Tab 3 Chart 2: Employment Indicator for Urban Area

Interpretation

The chart shows the employment rate by gender in Urban Area

Female employment rate 2023: **23.23%**

Male employment rate 2023: **69.87%**

Total employment rate 2023: **46.95%**

Male population has higher rate of employment as compared to female employment rate in rural areas.

On comparing Tab 3 Chart 1 and Chart 2, it can be said that females in rural areas have higher employment rate as compared to females in urban areas. The male employment rate is also higher in rural areas in comparison to urban areas. Although, total employment rate is not significant in either areas but rural employment rate is more significant than urban employment rate.

Tab 4: Sector
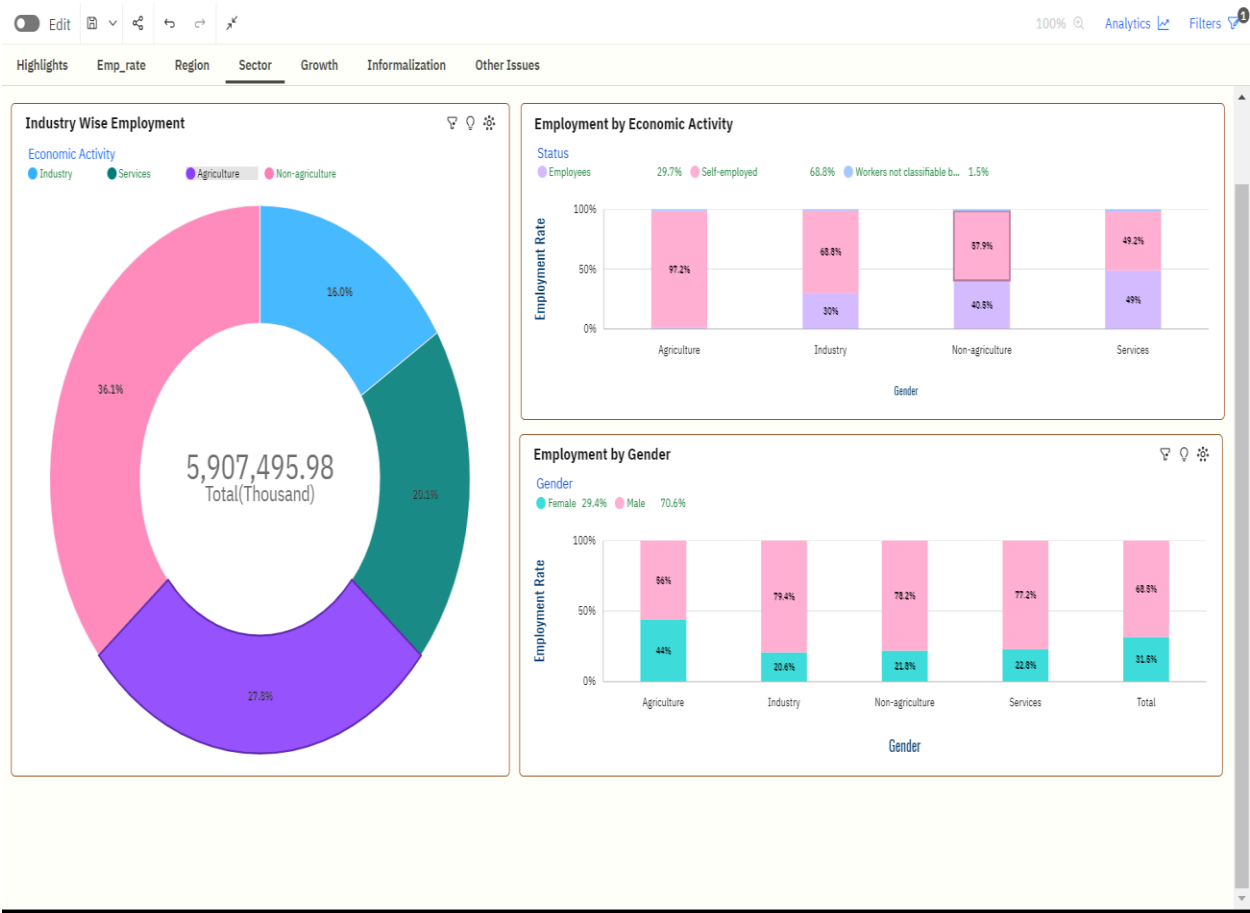
Tab 4: Sector

This tab shows the industry wise employment, employment by economic activity and employment in different industries according to gender.

Economic Activity

● Industry   ● Services   ● Agriculture   ● Non-agriculture
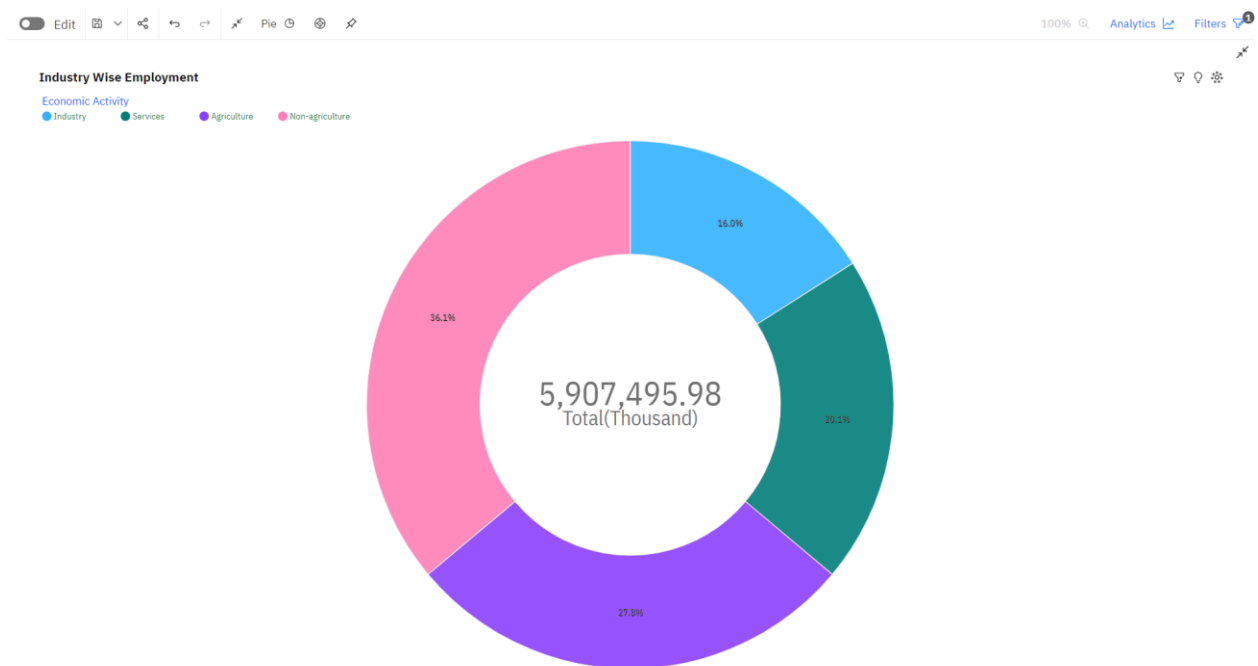
Tab 4 Chart 1: Industry wise employment

Interpretation

Employment in Agriculture Sector: **27.8%**

Employment in Non-Agriculture Sector: **36.1%**

Employment in Industry Sector: **16.0%**

Employment in Service Sector: **20.1%**

Through this pie donut chart, It is clear that non- agriculture sector has the highest employment rate whereas industry sector i.e. Secondary sector has lowest employment rate
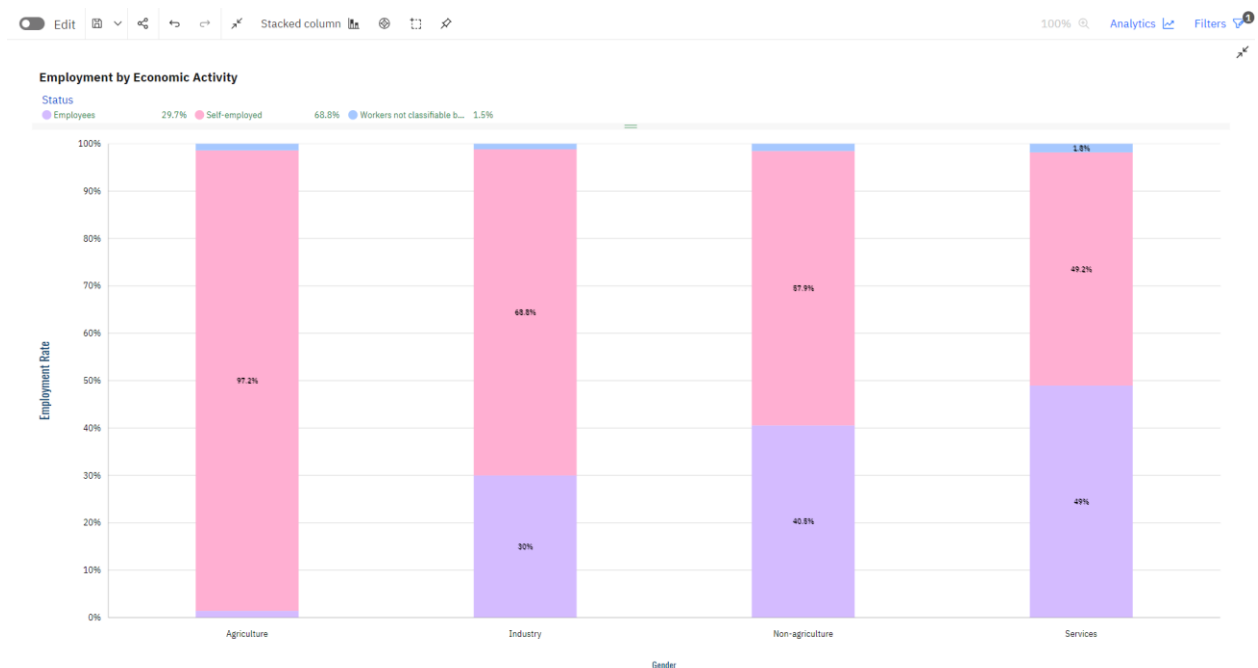
Tab 4 Chart 2: Employment by Economic Activity

Interpretation

Most of the population is self-employed.

In agriculture activity 97.2%,

In industry activity 68.8%,

In non agriculture activity 57.9%

In service 49.2%.

In service sector there is little higher rate of hired individuals i.e. 49%
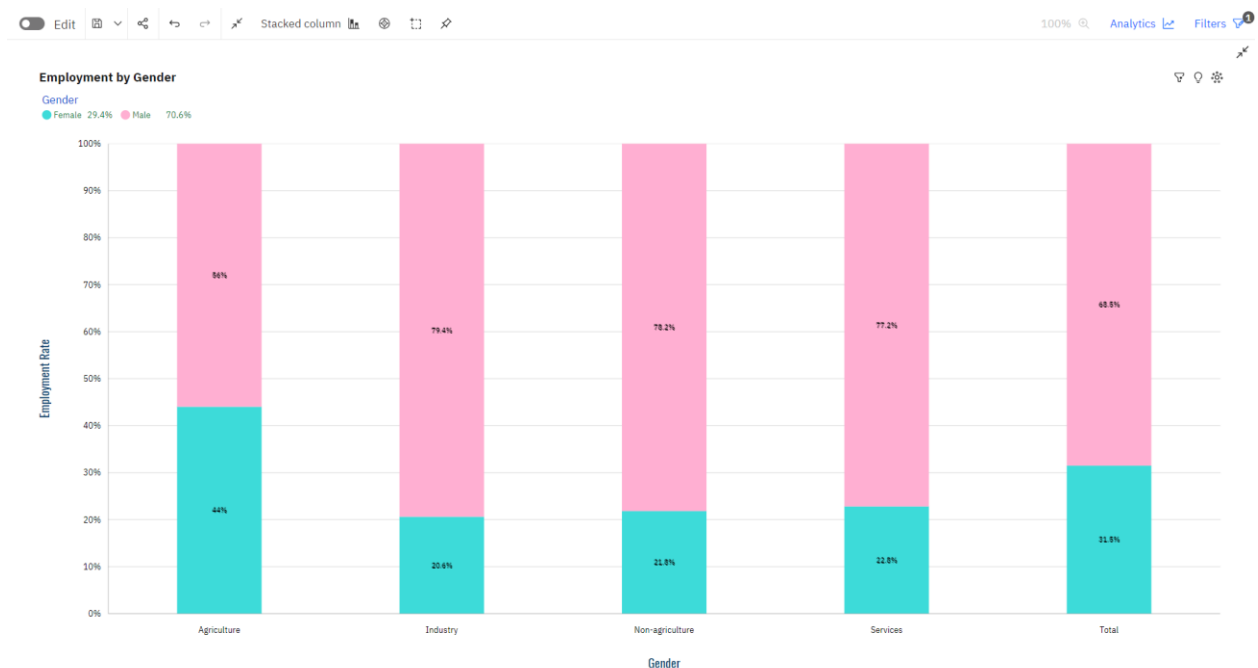
Tab 4 Chart 2: Employment in different sectors according to gender

Interpretation

1. In agriculture sector
    ● Male employment rate: 56%
    ● Female employment rate: 44%
2. In industry sector
    ● Male employment rate: 20.6%
    ● Female employment rate: 79.4%
3. In non-agriculture sector
    ● Male employment rate: 78.2%
    ● Female employment rate: 21.8%
4. In service sector
    ● Male employment rate: 22.8%
    ● Female employment rate: 77.2%

Male employment rate is higher in all the sectors. Low Participation of women in Industry, non-agriculture and service sector is concerning .

Tab 5: Growth

Tab 5: Growth
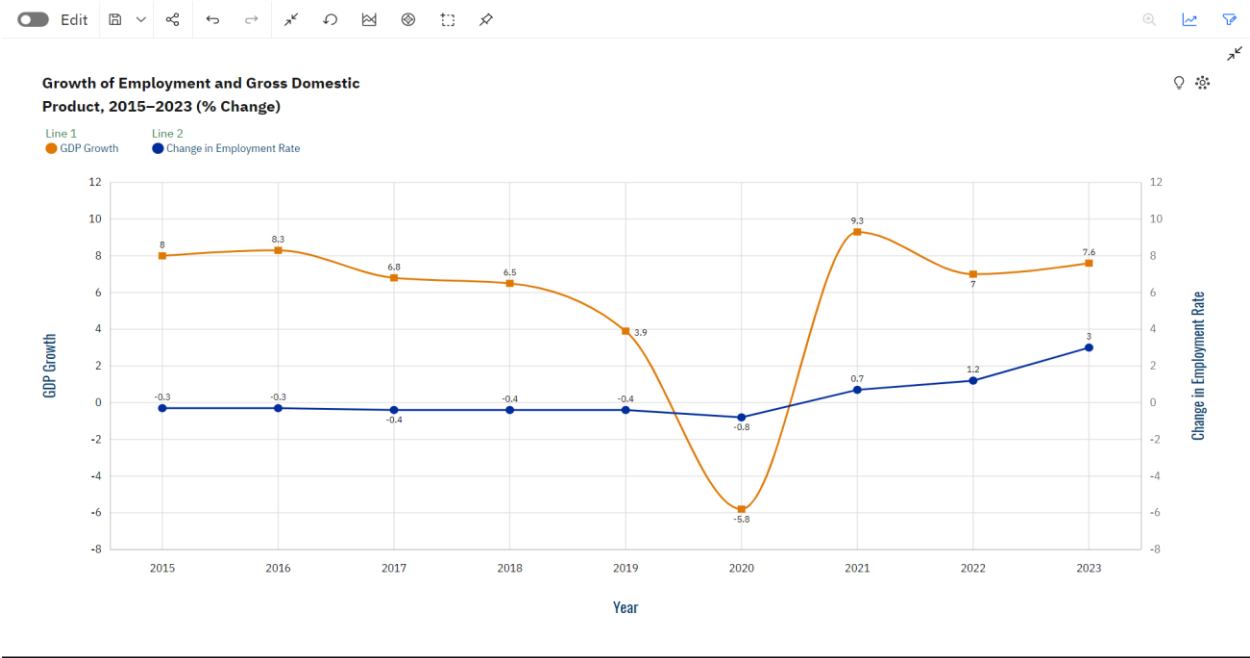
Tab 5 Chart 1: Growth of Employment Rate and GDP (2015-2023) %Change

Interpretation

- GDP growth:

GDP growth rate has increase by 7.6% in 2023

- Employment Rate:

Employment rate has increased by 3% in 2023

There is a slight effect of employment rate on GDP

- Drop in Employment rate has caused drop in GDP and the rise of employment rate causes rise of GDP

Employment Rate has shown fastest increase from 2021 to 2024 in the decade

Tab 6: Informalization
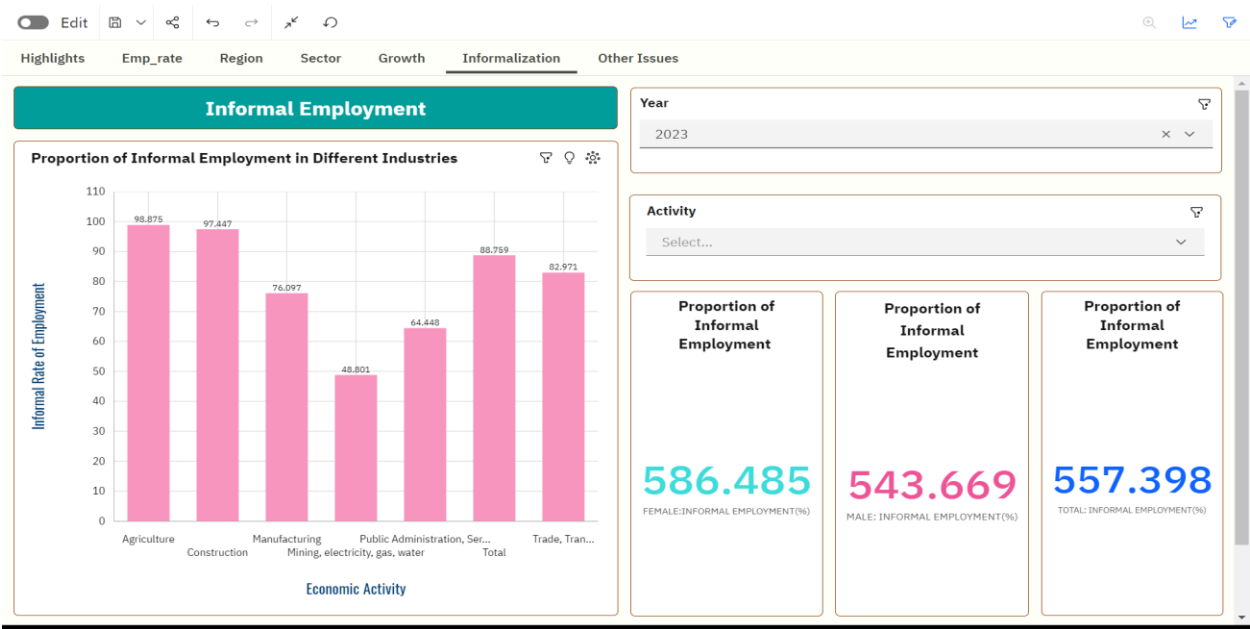
Tab 6: Informalization
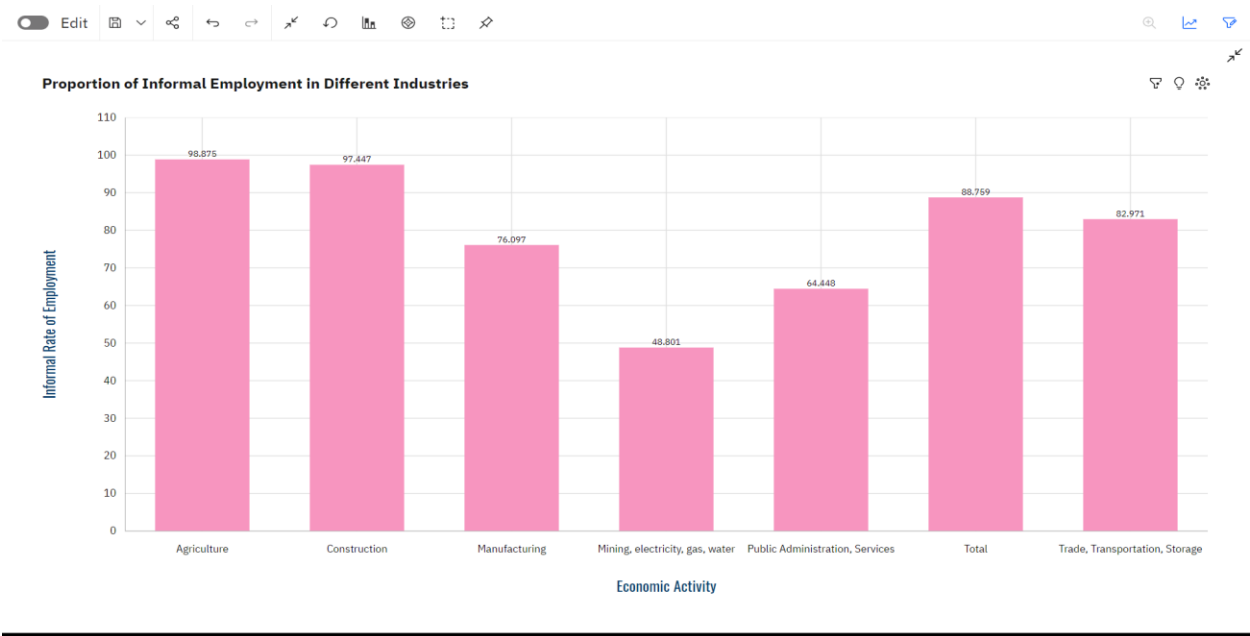
Tab 6 Chart 1: Proportion of Informal Employment in Different Industries

Interpretation

- Agriculture:98.87
- Construction:97.447
- Manufacturing:76.097
- Mining, electricity, gas and water supply:48.601
- Public administration and services:64.448
- Trade, Transport and storage:82.971
- Total:88.769

Major proportion of working population is employed in informal sector

Mining, electricity, gas and water supply sector has significant proportion of formal employment

Tab 7: Other Issues
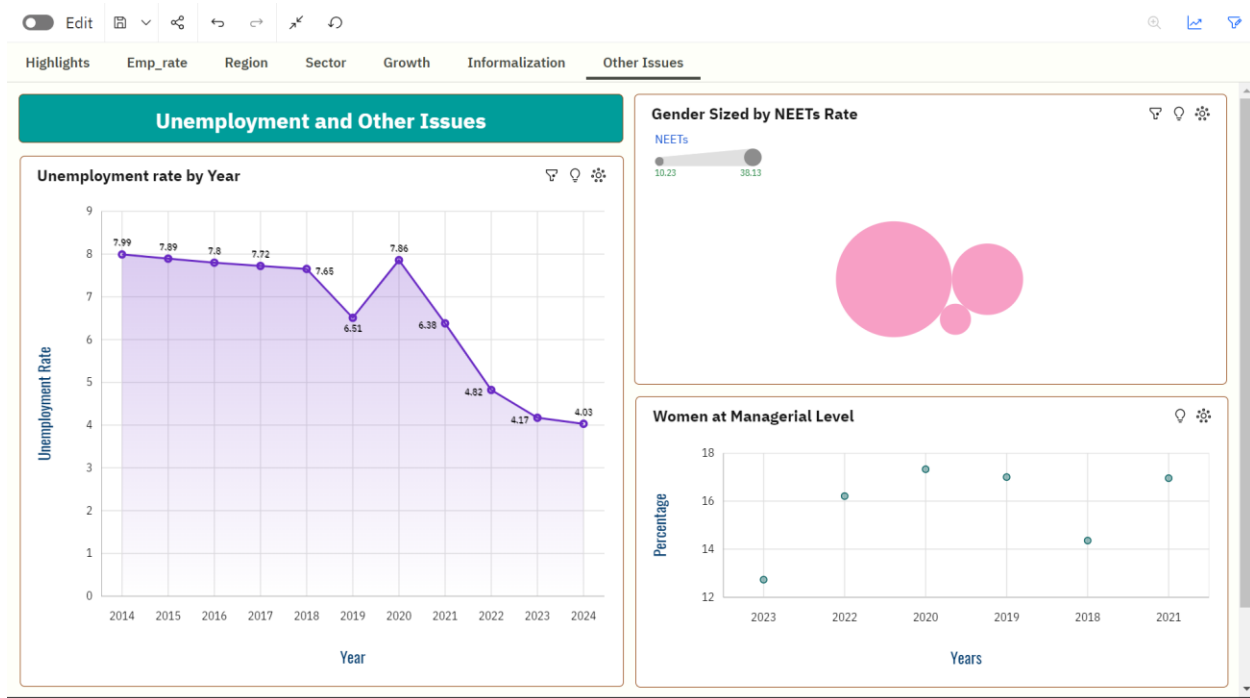
Tab 7: Other Issues

This tab tries to show some of the many issues in employment in India. They are:

1. Unemployment Rate by Year
2. NEETs rate
3. Women at Managerial Level

Tab 7 Chart 1: Unemployment Rate by Year

Interpretation

Unemployment rate

Unemployment rate has decreased.

In 2014 it was 7.99 and it has decreased to 4.03 in 2024

Gender Sized by NEETs Rate

NEETs

10.23   38.13

Female | 38.13   Total | 23.49

Male | 10.23

Tab 7 Chart 2: NEETs Rate

Interpretation

NEET(not in education, employment, or training)

Female: 38%

Male: 10%

Tab 7 Chart 3: Women at Managerial Level

Interpretation

Women at managerial level:

Female employment Rate at managerial level is very low

Reports

Report 1:Employment Rate by Age and Sex

Employment Rate by Sex and Age

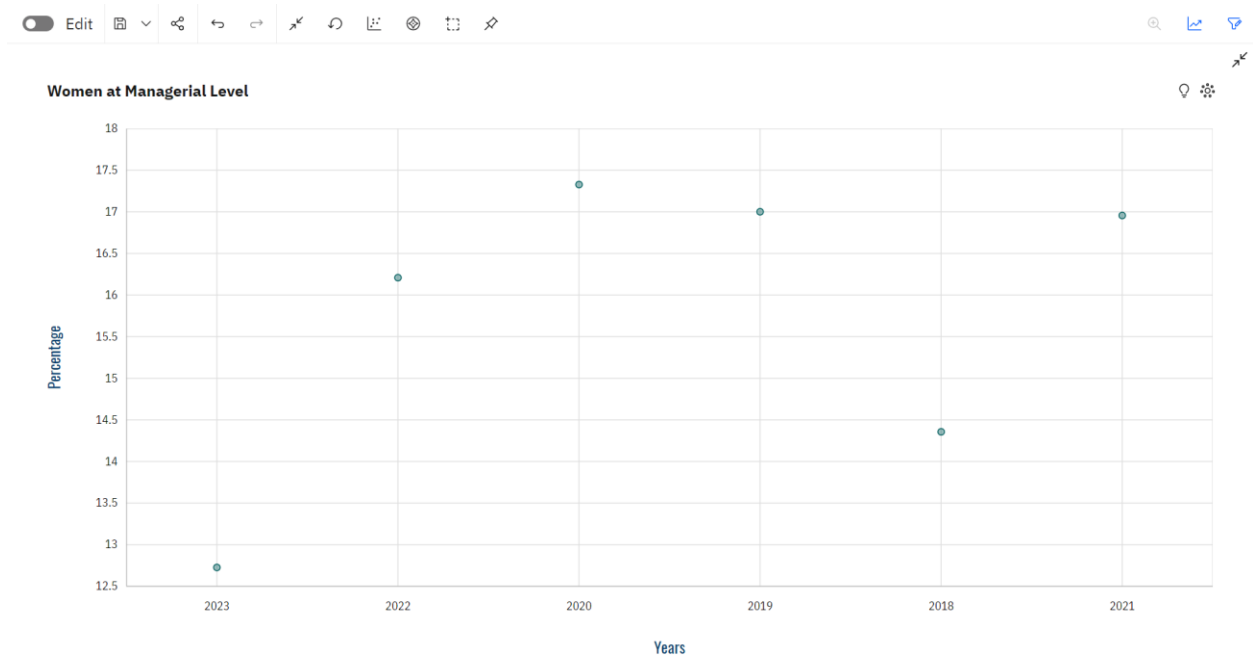| Emp_rate	Female				Male				Total				Average
	15+	15-24	25+	Average	15+	15-24	25+	Average	15+	15-24	25+	Average	
2014	27.03	33.45	30.64	30.38	77.57	96.58	88.36	87.50	53.00	66.48	60.10	59.86	59.24
2015	26.97	32.26	30.70	29.98	77.10	95.19	87.82	86.70	52.73	65.22	59.85	59.27	58.65
2016	26.89	30.91	30.77	29.52	76.51	93.40	87.19	85.70	52.39	63.67	59.56	58.54	57.92
2017	26.76	29.47	30.78	29.00	75.90	91.52	86.55	84.66	52.02	62.01	59.24	57.76	57.14
2018	26.61	28.00	30.75	28.45	75.29	89.59	85.89	83.59	51.63	60.31	58.90	56.95	56.33
2019	26.46	26.58	30.72	27.92	74.67	87.66	85.22	82.52	51.24	58.64	58.54	56.14	55.53
2020	25.94	25.36	30.16	27.15	73.61	85.84	83.93	81.13	50.45	57.10	57.61	55.05	54.44
2021	26.73	24.60	31.24	27.52	74.24	85.98	84.57	81.60	51.15	56.81	58.47	55.48	54.87
2022	27.98	26.52	32.51	29.00	75.40	86.15	85.91	82.49	52.35	57.81	59.77	56.64	56.05
2023	32.68	15.61	37.82	28.70	76.78	43.46	87.41	69.22	55.34	30.22	63.14	49.57	49.16
2024	31.13	14.17	36.14	27.14	76.75	42.67	87.40	68.94	54.57	29.12	62.31	48.67	48.25
Maximum	32.68	33.45	37.82	37.82	77.57	96.58	88.36	96.58	55.34	66.48	63.14	66.48	96.58

Show data source

Report 1:Employment Rate by Age and Sex

Report 2:Unemployment Rate by Age and Sex

Unemployment Rate by Sex and Age

Unemployment rate	Female				Male				Total				Average
	15+	15-24	25+	Average	15+	15-24	25+	Average	15+	15-24	25+	Average	
2014	8.12	21.32	5.59	11.67	7.95	22.55	5.01	11.84	7.99	22.25	5.16	11.80	11.77
2015	8.00	22.20	5.44	11.88	7.86	23.34	4.81	12.00	7.89	23.08	4.97	11.98	11.95
2016	7.90	23.17	5.29	12.12	7.77	24.19	4.62	12.19	7.80	23.95	4.79	12.18	12.16
2017	7.80	24.23	5.18	12.40	7.70	25.11	4.45	12.42	7.72	24.91	4.63	12.42	12.41
2018	7.71	25.38	5.07	12.72	7.63	26.09	4.28	12.67	7.65	25.94	4.48	12.69	12.69
2019	6.08	23.16	3.69	10.97	6.66	22.79	3.82	11.09	6.51	22.87	3.78	11.05	11.04
2020	6.76	24.88	4.34	11.99	8.23	24.52	5.43	12.72	7.86	24.60	5.15	12.53	12.42
2021	5.39	19.95	3.60	9.65	6.72	21.09	4.30	10.70	6.38	20.86	4.12	10.45	10.27
2022	4.58	18.87	2.80	8.75	4.90	17.53	2.84	8.43	4.82	17.82	2.83	8.49	8.56
2023	4.06	15.67	2.61	7.45	4.22	15.83	2.38	7.47	4.17	15.79	2.45	7.47	7.46
2024	4.03	15.99	2.64	7.55	4.03	15.29	2.32	7.21	4.03	15.45	2.41	7.30	7.35
Maximum	8.115	25.383	5.593	25.383	8.226	26.093	5.426	26.093	7.992	25.937	5.158	25.937	26.093

Show data source

Report 2:Unemployment Rate by Age and Sex

Report 3: NEET Rate (Not in education, employment, or training

Not in Education, Employment, or Training (Rate)

NEETs_rate	Female	Male	Total
2018	48.08	15.30	30.80
2019	47.57	16.03	31.20
2020	45.67	17.65	30.70
2021	43.53	13.72	28.01
2022	41.84	11.16	25.76
2023	38.13	10.23	23.49
Maximum	48.08	17.65	31.20

Show data source

Report 3: NEET Rate (Not in education, employment, or training

Report 4: Proportion of Working Population covered by SPFS

People Covered by Social Protection Floor System (Rate)

	SPFS_covered	2016	2019	2020	2022	Average
Female	Contingency: Persons above retirement age receiving a pension	21.7	36.6	36.6	39.5	33.60
	Average	21.70	36.60	36.60	39.50	33.60
Male	Contingency: Persons above retirement age receiving a pension	28.9	48.8	48.8	52.6	44.78
	Average	28.90	48.80	48.80	52.60	44.78
Total	Contingency: Persons above retirement age receiving a pension	25.2	42.5	42.5	45.9	39.02
	Average	25.20	42.50	42.50	45.90	39.02

Show data source

Report 4: Proportion of Working Population covered by SPFS

Report 5: Industry Wise Employment Report

Industry Wise Employment Rate			
AGRICULTURE 36.1	NON-AGRICULTURE 27.89	INDUSTRY 16.0	SERVICE 20.1
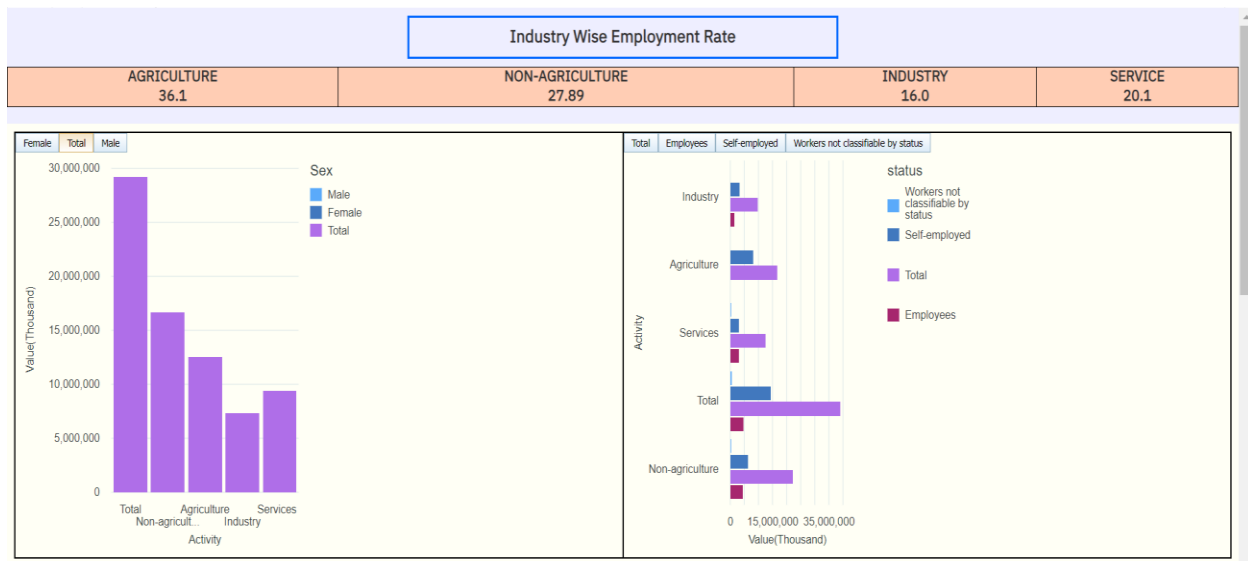
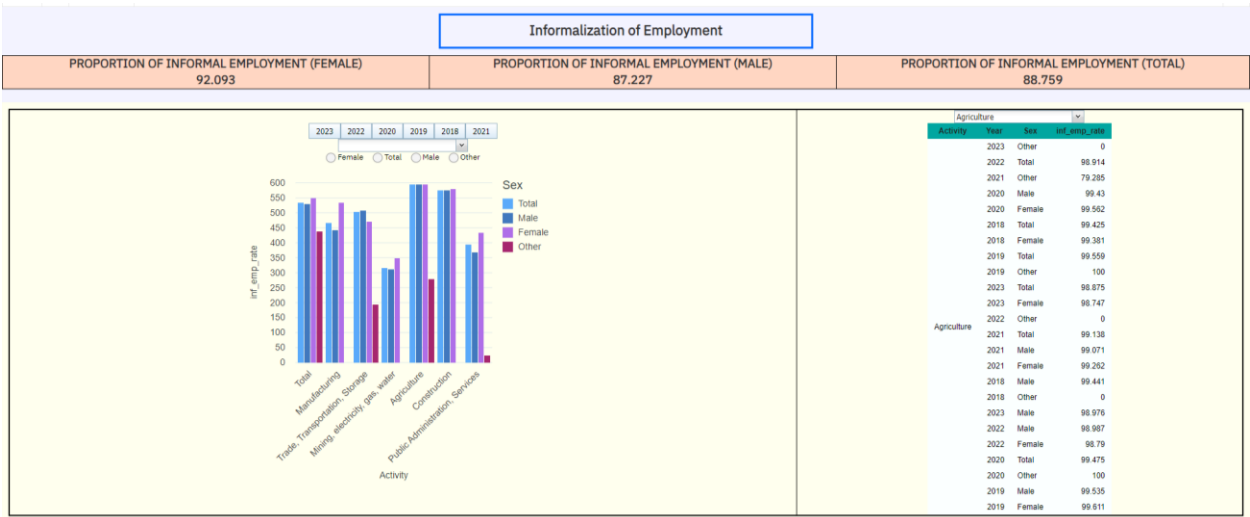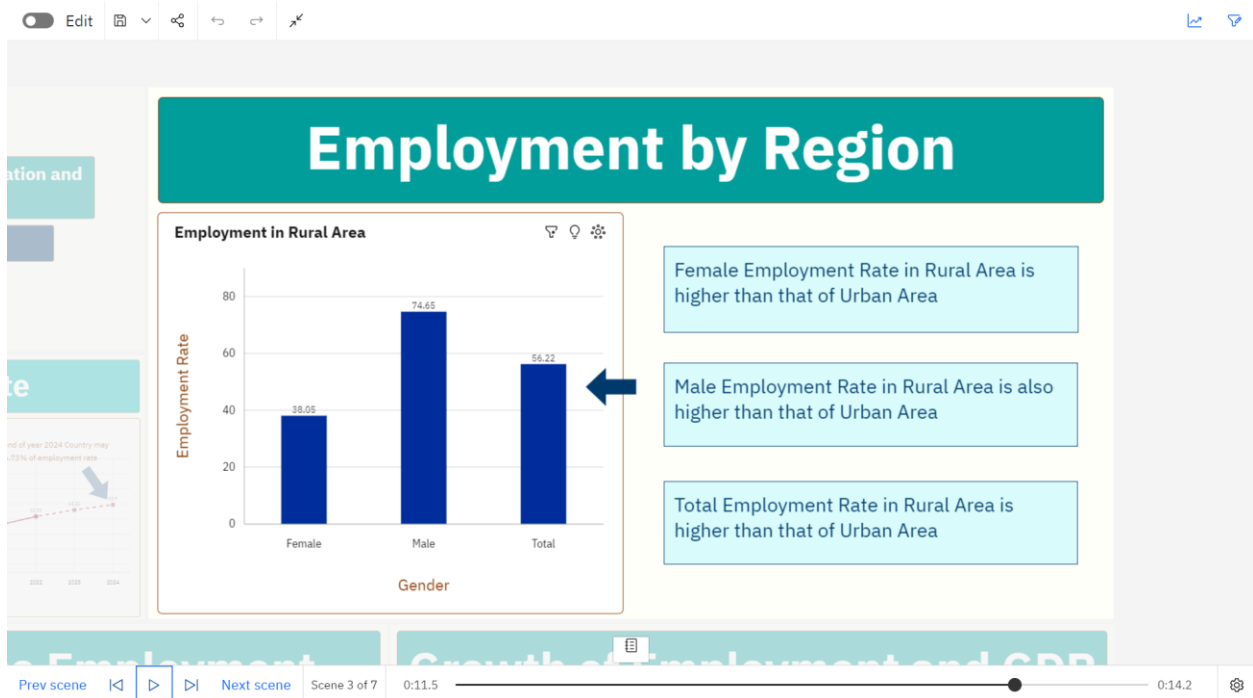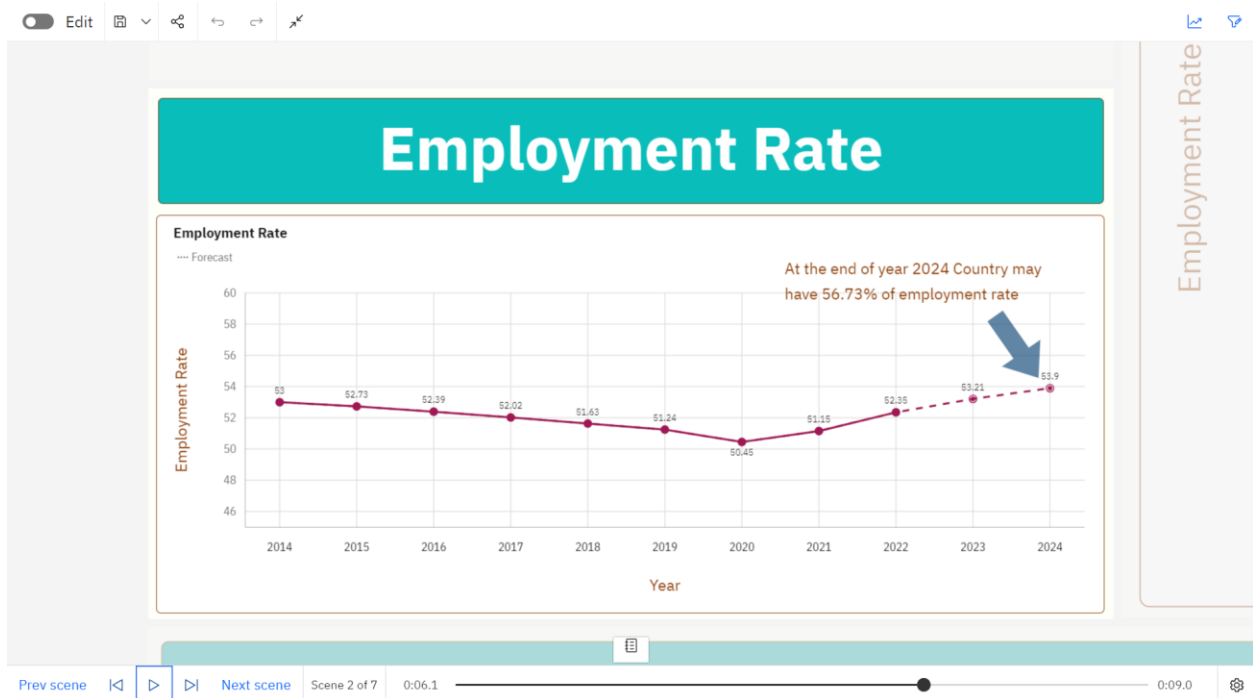| Value(Thousand)	Agriculture Total Self-employed	Industry Total Self-employed	Non-agriculture Total Self-employed	Services Total Self-employed	Total Total Self-employed
2018Q1	136,200.41	63,282.77	117,599.188	54,316.418	253,799.599
2018Q2	126,259.746	65,539.146	119,738.381	54,199.235	245,998.127
2018Q3	150,382.33	56,472.179	108,701.672	52,229.492	259,084.002
2018Q4	143,892.302	57,892.202	115,222.422	57,330.22	259,114.724
2019Q1	132,193.905	66,560.099	123,412.339	56,852.24	255,606.244
2019Q2	126,784.112	66,819.6	129,847.609	63,028.01	256,631.722
2019Q3	169,711.626	63,904.975	125,356.432	61,451.458	295,068.059
2019Q4	173,772.466	64,246.862	129,555.877	65,309.015	303,328.343
2020Q1	158,931.093	63,489.044	123,838.743	60,349.7	282,769.837
2020Q2	154,440.436	41,744.419	81,455.701	39,711.282	235,896.137
2020Q3	176,034.723	66,183.535	123,876.268	57,692.733	299,910.991
2020Q4	177,781.198	66,260.343	127,298.098	61,037.755	305,079.296
2021Q1	170,087.687	73,514.939	138,029.141	64,514.202	308,116.828
2021Q2	159,953.663	62,025.727	116,570.551	54,544.823	276,524.213
2021Q3	184,860.162	68,582.045	131,611.066	63,029.022	316,471.228
2021Q4	182,213.078	68,665.728	132,955.699	64,289.971	315,168.777
2022Q1	172,845.232	75,326.937	141,464.531	66,137.594	314,309.763
2022Q2	158,264.627	79,315.68	146,793.41	67,477.731	305,058.037
2022Q3	217,708.821	101,412.799	168,195.882	66,783.083	385,904.703
2022Q4	194,079.712	79,694.788	149,263.602	69,568.814	343,343.314
2023Q1	185,264.207	82,000.928	156,409.5	74,408.572	341,673.707
2023Q2	180,506.134	84,417.074	156,655.021	72,237.948	337,161.156
2023Q3	219,959.351	80,145.801	155,023.1	74,877.3	374,982.452
2023Q4	212,439.064	78,630.19	149,311.589	70,681.399	361,750.652

Report 4: Industry Wise Employment Report

Report 6:Informalization of Employment Report

Informalization of Employment

PROPORTION OF INFORMAL EMPLOYMENT (FEMALE) 92.093	PROPORTION OF INFORMAL EMPLOYMENT (MALE) 87.227	PROPORTION OF INFORMAL EMPLOYMENT (TOTAL) 88.759

2023 2022 2020 2019 2018 2021

○ Female ○ Total ○ Male ○ Other

Sex: Total, Male, Female, Other

Agriculture

Activity	Year	Sex	inf_emp_rate
	2023	Other	0
	2022	Total	98.914
	2021	Other	79.285
	2020	Male	99.43
	2020	Female	99.562
	2018	Total	99.425
	2018	Female	99.381
	2019	Total	99.559
	2019	Other	100
	2023	Total	98.875
	2023	Female	98.747
	2022	Other	0
Agriculture	2021	Total	99.138
	2021	Male	99.071
	2021	Female	99.262
	2018	Male	99.441
	2018	Other	0
	2023	Male	98.976
	2022	Male	98.987
	2022	Female	98.79
	2020	Total	99.475
	2020	Other	100
	2019	Male	99.535
	2019	Female	99.611

Story

Growth of Employment and GDP

Growth of Employment and Gross Domestic Product, 2015–2023 (% Change)

Line 1
● GDP Growth

Line 2
● Change in Employment Rate

Growth of GDP is affected by Employment rate
Drop in employment rate caused drop in GDP

Edit

Informal Employment in Different Industry

Rate of Informal Employment

In most of the Industries rate of informal employment is very high

In Public Administration, there is moderate rate of informal employment

There is significant rate of Formal employment in Mining, Electricity, Gas and Water Supply

Edit

Activity | Supply

Unemployment and Other Issues

Women at managerial level

Year

- 2018 — 14.36
- 2019 — 17
- 2020 — 17.33
- 2021 — 16.96
- 2022 — 16.21
- 2023 — 12.73

0   5   10   15   20

Percentage

Participation of Women at managerial level is low

NEETs rate (2023)

23.49

NEETs_rate

NEETs rate (2018)

30.81

NEETs_rate

NEET is an abbreviation for not in education, employment or training

NEET Rate has declined by 7.32% in 2023 as compared to NEET

Female Unemployment rate

4.06

Unemployment rate

Male Unemployment rate

4.03

Unemployment rate

Prev scene | Next scene | Scene 7 of 7 | 0:08.4 ——————————————●——— 0:09.2

CHAPTER - VII
FINDINGS

FINDINGS

The project "Employment in India: Growth, Informalization, and Other Issues" conducted an extensive analysis using IBM Cognos Analytics. The analysis focused on several critical aspects of employment in India, including employment rate, unemployment rate, growth in employment, informalization of employment, regional employment disparities, sectoral employment distribution, gender-based employment statistics, and female representation at managerial levels. The findings are summarized as follows:

1. Employment Rate

- The analysis revealed that the overall employment rate in India has shown fluctuations over recent years. While there have been periods of growth, certain economic challenges have impacted the stability of employment.
- Employment rates vary significantly between urban and rural regions, with urban areas generally showing higher employment rates due to better access to opportunities and infrastructure.

2. Unemployment Rate

- The unemployment rate in India remains a critical concern, with notable peaks during periods of economic downturns and disruptions.
- Youth unemployment is particularly high, indicating a gap between education/training and available job opportunities.

3. Growth in Employment

- Certain sectors have demonstrated consistent growth in employment, such as information technology, healthcare, and services.
- Traditional sectors like agriculture still employ a significant portion of the workforce but are facing challenges due to modernization and shifts towards more industrialized forms of employment.

4. Informalization of Employment

- A substantial portion of the workforce remains in the informal sector, characterized by lack of job security, benefits, and formal contracts.
- Informal employment is more prevalent in rural areas, contributing to economic vulnerabilities and lack of social protection for many workers.

5. Regional Employment Disparities

- Significant disparities exist between employment in rural and urban regions. Urban areas tend to offer more formal and high-paying job opportunities compared to rural areas.

- Migration trends from rural to urban areas are influenced by the search for better employment opportunities, although this often leads to urban overpopulation and strain on resources.

6. Sectoral Employment Distribution

- Employment is heavily concentrated in certain sectors such as agriculture, manufacturing, and services. The service sector, in particular, has shown robust growth and offers diverse employment opportunities.
- Emerging sectors like renewable energy and technology are starting to gain traction, offering new avenues for employment growth.

7. Gender-Based Employment Statistics

- There are significant gender disparities in employment rates, with women being underrepresented in the workforce.
- Female participation in the labor force is notably lower than male participation, with socio-cultural factors, safety concerns, and lack of supportive infrastructure contributing to this gap.

8. Female Representation at Managerial Levels

- Female representation at managerial and executive levels remains low, indicating a persistent glass ceiling in many industries.
- Initiatives to promote gender equality and support women in leadership roles are necessary to address this imbalance and ensure diverse leadership in the workforce.

9. Additional Issues and Insights

- The analysis highlighted the need for improved education and vocational training to bridge the gap between skills and job market demands.
- Social security and labor laws need strengthening to protect informal workers and ensure fair treatment and benefits for all employees.

Conclusion

The project provided a comprehensive overview of the employment scenario in India, highlighting key trends, challenges, and areas for improvement. The findings underscore the importance of targeted policies and initiatives to address employment disparities, promote formalization, and enhance gender equality in the workforce. By leveraging the insights from this analysis, policymakers, NGOs, and governmental organizations can make informed decisions to foster a more inclusive and robust employment landscape in India. Further research and analysis are needed to continue exploring these issues and develop effective solutions.

CHAPTER - VIII

SUGGESTIONS AND RECOMMENDATIONS

SUGGESTIONS AND RECOMMENDATIONS

Based on the findings of the project "Employment in India: Growth, Informalization, and Other Issues," several suggestions and recommendations are proposed to address the identified challenges and improve the employment scenario in India. These recommendations are aimed at policymakers, NGOs, governmental organizations, and other stakeholders.

1. Promote Employment Growth in Emerging Sectors

- Recommendation: Encourage investment and development in emerging sectors such as technology, renewable energy, and healthcare. These sectors have shown potential for significant employment growth and can provide diverse job opportunities.
- Action Steps:
    - Provide incentives for businesses to invest in these sectors.
    - Facilitate industry-academia collaboration to align educational programs with industry needs.
    - Support start-ups and small businesses in these sectors through funding and mentorship programs.

2. Enhance Vocational Training and Education

- Recommendation: Improve vocational training and educational programs to better align with the demands of the job market and bridge the skills gap.
- Action Steps:
    - Update and modernize curricula to include relevant skills and technologies.
    - Establish more vocational training centers, especially in rural areas.
    - Promote apprenticeship and on-the-job training programs to provide practical experience.

3. Formalize Informal Employment

- Recommendation: Implement policies to transition workers from the informal sector to the formal sector, ensuring better job security and benefits.
- Action Steps:
    - Simplify business registration processes to encourage formalization.
    - Provide tax incentives and social security benefits to businesses that hire formal employees.
    - Strengthen labor laws to protect informal workers and promote fair wages.

4. Address Regional Employment Disparities

- Recommendation: Develop targeted strategies to address employment disparities between rural and urban regions.

- Action Steps:
  - Invest in rural infrastructure and connectivity to attract businesses to rural areas.
  - Promote rural entrepreneurship through grants and support programs.
  - Develop special economic zones in rural areas to boost local employment.

5. Promote Gender Equality in the Workforce

- Recommendation: Implement policies and initiatives to increase female participation in the workforce and support women in leadership roles.
- Action Steps:
  - Introduce flexible working hours and remote work options to support work-life balance.
  - Provide childcare facilities and maternity benefits to encourage female workforce participation.
  - Implement leadership training and mentorship programs specifically for women.

6. Improve Social Security and Labor Protections

- Recommendation: Strengthen social security systems and labor protections to ensure fair treatment and benefits for all workers, particularly those in the informal sector.
- Action Steps:
  - Expand social security coverage to include informal workers.
  - Enforce minimum wage laws and ensure timely payment of wages.
  - Improve workplace safety regulations and enforcement.

7. Enhance Data Collection and Monitoring

- Recommendation: Improve the collection and monitoring of employment data to better understand labor market trends and inform policy decisions.
- Action Steps:
  - Establish a centralized database for employment statistics.
  - Conduct regular labor force surveys and publish findings promptly.
  - Use technology to track employment trends in real-time and identify emerging issues.

8. Foster Public-Private Partnerships

- Recommendation: Encourage collaboration between the public and private sectors to create job opportunities and support workforce development.
- Action Steps:
  - Develop public-private initiatives for skill development and job creation.
  - Facilitate industry partnerships with educational institutions for curriculum development and internships.
  - Promote corporate social responsibility programs focused on employment and training.

Conclusion

Implementing these suggestions and recommendations can significantly improve the employment scenario in India by addressing key challenges and leveraging opportunities for growth. Policymakers, NGOs, governmental organizations, and other stakeholders must work collaboratively to create a conducive environment for job creation, skill development, and workforce inclusion. By taking these actions, India can build a more robust, equitable, and sustainable employment landscape, benefiting individuals and the economy as a whole.

CHAPTER- IX
CONCLUSION

The project "Employment in India: Growth, Informalization, and Other Issues" has provided a comprehensive analysis of the current employment landscape in India using IBM Cognos Analytics. By examining various facets such as employment rate, unemployment rate, growth in employment, informalization of employment, regional employment disparities, sectoral employment distribution, gender-based employment statistics, and female representation at managerial levels, the project reveals the actual scenario of employment in the country.

Key findings indicate that while certain sectors have shown growth, significant challenges remain, particularly concerning the high rates of informal employment, regional disparities, and gender inequalities in the workforce. The data highlights the need for targeted interventions and policies to address these issues and promote inclusive employment growth.

Major Insights:

1. Employment Rates: Fluctuations in employment rates underscore the need for consistent economic policies to stabilize job creation.
2. Unemployment Rates: Persistent unemployment, particularly among youth, points to a mismatch between education and job market requirements.
3. Informal Employment: The high prevalence of informal employment necessitates reforms to ensure job security and benefits for a large segment of the workforce.
4. Regional Disparities: Significant differences in employment opportunities between rural and urban areas highlight the need for balanced regional development.
5. Sectoral Distribution: Emerging sectors like technology and services show promise for job creation, while traditional sectors like agriculture still employ a significant portion of the workforce.
6. Gender Disparities: Gender-based analysis reveals substantial gaps in employment rates and representation at managerial levels, calling for stronger gender equality initiatives.

Recommendations:

To address these challenges, the project recommends several strategies, including promoting employment growth in emerging sectors, enhancing vocational training, formalizing informal employment, addressing regional disparities, promoting gender equality, improving social security, enhancing data collection, and fostering public-private partnerships.

Implications for Stakeholders:

Policymakers, NGOs, governmental organizations, and other stakeholders can leverage the insights from this analysis to make informed decisions. By implementing the suggested recommendations, they can create a more inclusive and robust employment landscape in India. Targeted policies and initiatives can help bridge the gaps identified in this project, leading to sustainable economic growth and improved livelihoods for the workforce.

Future Research and Analysis:

While this project provides a detailed overview of the employment scenario, there is further scope for research and analysis. Future studies could delve deeper into specific sectors, regional issues, and long-term employment trends. Continuous monitoring and evaluation of employment data will be crucial in adapting policies to the evolving economic landscape.

Contribution to Knowledge:

This project aims to contribute to the existing body of knowledge on employment in India by providing a data-driven analysis using advanced tools like IBM Cognos Analytics. The findings and recommendations offer valuable insights for stakeholders and pave the way for more detailed and targeted research in the future.

In conclusion, addressing the multifaceted issues related to employment in India requires a coordinated effort from all stakeholders. By implementing the strategies suggested in this project, India can move towards a more equitable and prosperous employment scenario, benefiting not only the workforce but the nation as a whole.

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ANNEXURE

Tab 1:
https://rshiny.ilo.org/dataexplorer6/?lang=en&segment=indicator&id=EAP_2WAP_SEX_AGE_RT_A

Tab 2:
https://rshiny.ilo.org/dataexplorer6/?lang=en&segment=indicator&id=EAP_2WAP_SEX_AGE_RT_A

Tab 3:
https://rshiny.ilo.org/dataexplorer38/?lang=en&id=EAP_TEAP_SEX_GEO_NB_A

Tab 4:
https://rshiny.ilo.org/dataexplorer4/?lang=en&id=EMP_TEMP_SEX_ECO_INS_NB_A

Tab 5:
https://data.worldbank.org/indicator/NY.GDP.MKTP.CD

Tab 6:
https://rshiny.ilo.org/dataexplorer24/?lang=en&segment=indicator&id=EMP_2IFL_SEX_RT_A

Tab 7:
https://rshiny.ilo.org/dataexplorer51/?lang=en&segment=indicator&id=UNE_2EAP_SEX_AGE_RT_A