

# **Data Analysis of Unemployment in India Using Tableau**

Submitted in partial fulfillment of the requirements  
of the degree of

**Bachelor of Engineering**

in

**Electronics and Telecommunication**

by

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2020-21

## CERTIFICATE



Department of Electronics and Telecommunication Engineering  
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University of Mumbai

This is to certify that the project entitled **Data Analysis of Unemployment in India Using Tableau** is a bonafide work of **Akhalesh Mishra (18DET08)**, **Maroti Uppe (18DET27)**, **Shamshad Mallick (18DET19)**, **Saqib Abbas (18DET23)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Department of Electronics and Telecommunication Engineering.

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Supervisor

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Examiner

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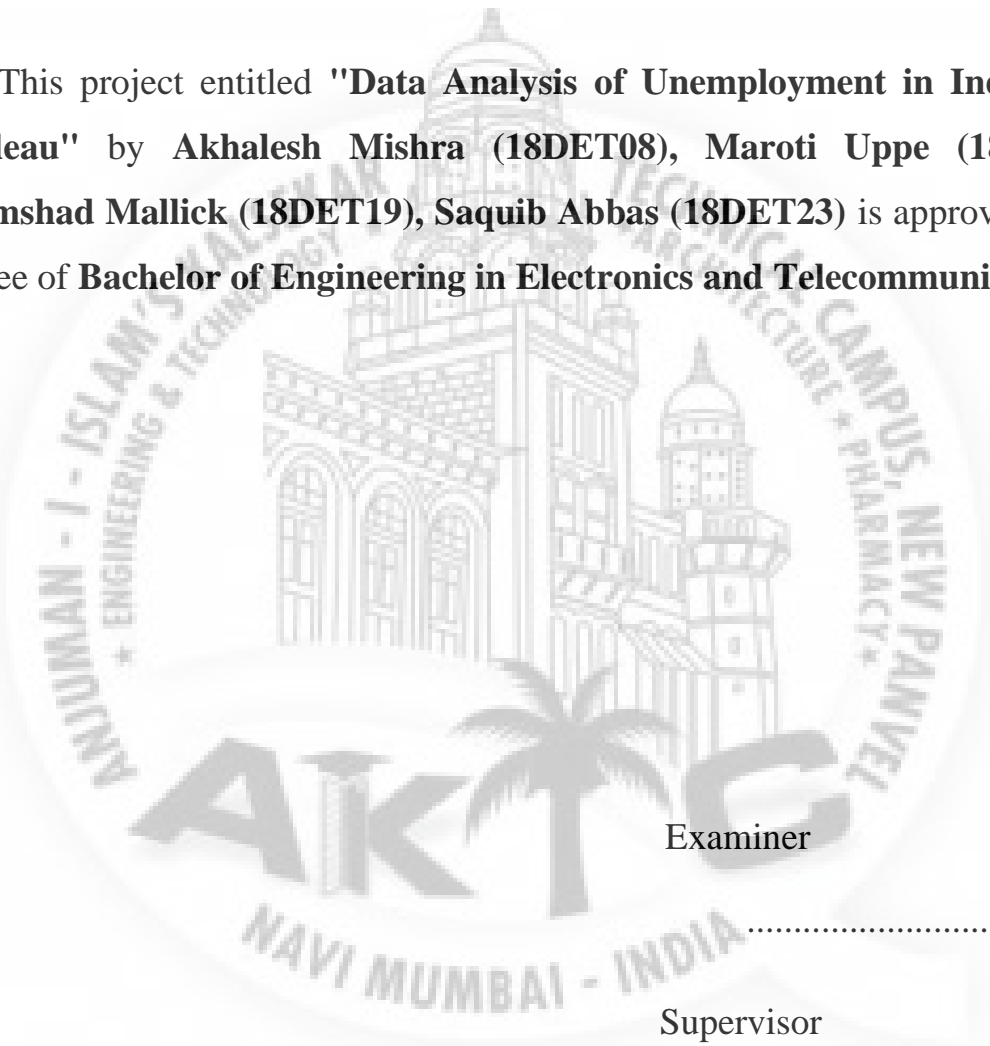
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## Project Report Approval for Bachelor of Engineering

This project entitled "**Data Analysis of Unemployment in India Using Tableau**" by **Akhalesh Mishra (18DET08), Maroti Uppe (18DET27), Shamshad Mallick (18DET19), Saquib Abbas (18DET23)** is approved for the degree of **Bachelor of Engineering in Electronics and Telecommunication.**



Examiner

Supervisor

Date:

Place:

## Declaration

I declare that this written submission represents my ideas in my own words and where others ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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## Abstract

It has been seen that the Unemployment is one of the major problems for the under-developed and developed nations around the globe. To be able to deal with problem of Unemployment, it is necessary to understand its causes in our country. If you just completed your study and are ready for a job this will give you a better understanding of current scenario of market or you want to start your own business or start-up then it may help you to know which Indian state has highest Unemployment rate or which state has most job opportunities in India. For a company this will help to know that which state is most suitable to start a new business and able to provide enough man power or worker they need because in our project we are going to use state wise Unemployment data and then using Tableau Software give an interactive graphical representation. Tableau is a visual analytics platform transforming the way we use data to solve problems—empowering people and organizations to make the most of their data. In Tableau, you can aggregate measures or dimensions, though it is more common to aggregate measures. Whenever you add a measure to your view, an aggregation is applied to that measure by default. The type of aggregation applied varies depending on the context of the view. In our project we use Tableau software we segregate the unemployment data into male, female, urban area, rural area, literacy rate, state etc. This will help us to visualize the data of unemployment and make a decision on this basis.

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## Keywords And Glossary

### Keywords:

Unemployment

Employment

Tableau software

Data Analysis

Literacy

Visualization

Insight





# Chapter 1: Introduction

## Statement of Project:

Our project is based on Data Analysis which is latest thriving field. As we know that nowadays a large amount of data is generated from the social media, websites, public sector, government sector etc. in government or private data base all kind of data will be stored. By using this data and analyzing the data we can gain the understanding of potential profit or makes suitable plans for business. In this project our main focus is on Unemployment rate in India. As we know that in every country Unemployment is one of the major issues which causes the negative effect to economy. There are different causes of unemployment like population growth, poverty, illiteracy, not having required skill, lack of training and management, corruption, pandemic, etc. Therefore, in our project we tried to collect the unemployment rate data throw different sources and segregate it into different categories like age, gender, literacy, urban and rural areas, states etc. after this by using visualization software which in our case is Tableau, gives a meaningful graphical representation through which we can acquire information about rate of unemployment in different states and try to find a solution towards this issue.

## Project Architecture:



Fig 1.1 Project Architecture

## **Motivation:**

As we know that due to the Covid-19 pandemic, the Unemployment became a fear for many of the families. Due to Covid-19 many big and small companies took a huge loss, because of which they have to terminate their employees from jobs or reduce wages to balance out their losses. Because of this the Unemployment rate raised drastically in the country. Therefore, we choose to do Data Analysis on Unemployment rate, to analyse and try to find the solution for this problem. we can conduct a survey on unemployment and collect data, after cleaning and segregation process we use visualization software to give us a graphical representation. Then we can find an information or cause of this problem to find better solution. For example, if in any particular area there is high unemployment due to not having enough skill then we can try to provide required training or courses they require to get a job. By making this project we are try to contribute in our society to find a solution of this problem and make a better society to live in.

## **Objective and Scope**

### **Objective:**

Our objective is to do Analysis on unemployment in India which is now a one of the major problems now facing. In our project we try to collect the unemployment data through different sources and then segregate it into different categories like year, age, gender, state, rural and urban areas etc. Then filter out the unwanted data though data cleansing process, after that Analysis the data to draw a usable result or conclusion. After this process. We can show a graphical representation using visualization software in which we use Tableau software.

### **Scope:**

Using this technique, the data is cleaned, Analyzed and can modeled using tools. This data is then used to driven insights. The insights are then used for business-related decision-making purposes. There are many techniques that data analyst uses in different fields of work. Using this company can make strategies to get the desired results.

## Chapter 2: Literature Review

### 2.1 Paper Title-1 The Cause of Unemployment in Current Market Scenario (Rubee Singh) 2018

This paper examines the cause of unemployment in India in the current market scenario. The paper also suggests and recommends some point to overcome of this current situation of unemployment prevailing in India.

#### 2.1.1 Weaknesses

- In paper the survey is used for to find a cause of unemployment in hole India.
- It does not provide any mare details on the unemployment only theory is mention.
- In this method its does not use any visualization software to give interactive graphical representation
- In his research data that he uses is old.

#### 2.1.2 How to Overcome

- Do the survey on state wise and collect the data of unemployment.
- Collect the unemployment data into different categories like years, age, gender, state etc.
- After analyzing the data use visualization software
- We use new data in our project.

## **2.2 Paper Title-2 Big Data Analytics on Unemployment & Health Records-IJRASET (Mr. K. Bhanu Rajesh Naidu)**

This paper author does big data analytics on unemployment & health records. In his project he uses R programming to analyses the data and Tableau software for graphical representation.

### **2.1.1 Weaknesses**

- In paper the survey is used for to find a cause of unemployment in hole India.
- It does not provide any mare details on the unemployment only theory is mention.
- In his research data that he uses is old.

### **2.1.2 How to Overcome**

- Do the survey on state wise and collect the data of unemployment.
- Collect the unemployment data into different categories like years, age, gender, state etc.
- We use new data in our project.

# Chapter 3: Technical Details

## Methodology

By using Tableau Desktop, we Analysis a data of unemployment in India, and this tableau Desktop tool is powerful data exploration in industry to create our visualizations. We first focused on Local Area Unemployment Statistics. Also, we prepared two slightly different views of this data set to make it easier to work with in Tableau monthly unemployment by state and by country.

First, we Created a Tableau workbook by connecting two Text file and then click Update. Then we see a data set preview, then rename administration Area to State and make sure to assign it a geographic role of State/Province to take advantage of Tableau internal mapping tools, also rename Month to Period to avoid a confusion when drilling down by year, month, etc. And we are ready to explore. We also present data in historical heat-map of unemployment rate that would get updated correspondingly based on filters and aggregation applied to the period. For that we used “AVG (unemployment)/AVG (Labor Force)”.

We also use another way of displaying this data set by focusing only on a few problematic states and by compare their number with a country-wide average by using this “{FIXED[Year] : AVG({FIXED[Year],[Period] : SUM([Unemployment])/SUM([Labor Force])})}” FIXED is a Tableau alternative to SQL GROUP.

## **Project Requirements:**

Operating System:

Windows:

Windows 7 or newer (64-bit)

2 GB memory

1.5 GB minimum free disk space

Mac:

MacBook computers 2009 or newer

macOS High Sierra 10.13 and macOS Mojave 10.14

1.5 GB minimum free disk space

Web browser:

Chrome on Windows, Mac, and Android 4.4 or later

Microsoft Edge & Internet Explorer 11 on Windows

Mozilla Firefox & Firefox ESR on Windows and Mac

Apple Safari on Mac and iOS 8.x or later

## Chapter 4: Market Potential

### Market Potential of Project:

The market potential of data analytics is very vast. The analytics technologies and techniques transform the raw data to draw conclusion and identify different patterns. In our project we have conducted a short survey on unemployment rate in a particular region. The survey mainly included questions like the person's highest qualification, their duration of unemployment and what they think the cause of their unemployment is, if it is not having enough skill, we can try to provide a professional training, if it is lack of opportunities and they have enough skill then there is many startup or companies to work with which we can refer to them. In our project we have selected the topic about Unemployment but we can use same data analytics technique to analyse any business product or in commercial sector to enable organization to make more informed business decisions. Data analytics provides companies with competitive edge over others. It is also fast-growing branch of study which has a bright future in India

### Competitive Advantages of Project

- In our project we have collected the data on unemployment rate in a particular area and segregated it into different types, because of which it's gives more detailed information about data.
- By segregating the unemployment rate data, it is easy to process and analyze it.
- By using Tableau, we can give a detailed graphical representation of the analyzed data.
- By analyzing the state wise data, we can easily measure that in India which state provides more employment as compared to other.

## Chapter 5: Conclusion and Future Scope

### Conclusion:

Unemployment is the situation when people are unable to find a suitable job or any kind of other occupation for earning the monthly income needed for the survival of their family. It's time for giving attention to this major issue of unemployment which can be the reason for destruction of a family and our country, for that it is required proper measures and Analysis of data which is easy to understand and visualize by both technical and non-technical people. We must admit the bitter fact that no government can provide employment to all the unemployed youth, hence it is very essential for any firm or any organization and government to measure the rate of unemployment as it is one of the major issues faced by our country these days and based on the results, the government and Industries should adopt measures to create opportunities for employment. This can be done with the help of various Data visualization tools available in the market and can be used in order to visualize the data of unemployment, one of the best tools used for this purpose is Tableau software.

### Future Scope:

Now days millions of data is generated at every hour, from smart phones, any website you visit, any product you search or by, what movie or shows you see all this data is stored in a data base. Using this data companies can get the mentality or behavior of customer. There is group of people or worker who analyse the raw data and get an information from it they called as data analytics. With newer technologies, more and more data are generated and to handle this large amount of data and get information from its skilled data analytics required. With new technologies like Block-chain, Internet of Things, machine learning, Artificial Intelligence using this type of smart technologized the process can automate and a detailed report can directly to you.

In our project the data collection process can be automated. Using our data any training and management company can find what kind of training or courses is more in demand in any particular area. if there is large number of people who required any specific course then they can open their institute on this area and take a reasonable price from customer.



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