Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

SESSION
AGENDA

Great
Learning

Topics to Cover – Case-study using Accident Insurance Claims Dataset
1. Introduction to Tableau
2. Design Principles
3. Building Dashboards
4. Building Storyboard

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

Great
Learning

- Design Principles- Understanding the Types and Methods

  For an appropriate visualization of data, we to understand the data types of the variables which needs to be classified as continuous or categorical in nature. In Tableau terms, one needs to classify the variable correctly as dimensions or measures.

  Based on the data and business problem in hand, one needs to understand what is the purpose of the analysis, what is the most appropriate chart type, keep in mind the requirement of the end user, appropriate use colours for charts, visualization should be interactive in nature by taking the wholistic perspective of the data and most important is the graphs should not have unnecessary information or clustered data points which is also called cluttering in Tableau

- Parameters in Tableau- These are conditions or values that the users provide to data which are not available for appropriate visualization and decision making. A parameter in tableau can take values such as a number, date, or string that can replace a constant value in a calculation, filter or reference line.

- "What-if" Analysis with Parameters- This analysis is just like an "if-else" condition in excel, where if a new parameter that is created in Tableau, certain conditions can be added to visualize the data to changing values in the parameters

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

Great
Learning

- ## Special Charts
  Apart from the normal Bar chat for any analysis, users would require to access data in different forms to make better decisions. Tableau comes up many charts that cater to not only students, but to professionals from different industry domains, stastiscians, academicians and many more. To name a few special charts: Gantt Chart, Bubble Chart, Scatter Plot, Boxplot, Treemap, Wordcloud, Motion Charts

- ## Building Dashboard
  A dashboard is a collection of several views, letting you compare a variety of data simultaneously. For example, if you have a set of views that you review every day, you can create a dashboard that displays all the views at once, rather than navigate to separate worksheets.

- ## Building Storyboards
  A story is a sequence of visualizations that work together to convey information. You can create stories to tell a data narrative, provide context, demonstrate how decisions relate to outcomes, or to simply make a compelling case. ... Each individual sheet in a story is called a story point.

- ## Understanding Relationship and Joins
  When we have multiple tables in an organisation and we understand that there is some commonality between the   data and we have to consider both these information for analysis, Tableau provides us with an option called   Relationship database just like the case of SQL. In case of adding 2 tables through relationship method, the common parameter through the data can be linked is decided by Tableau itself, but provides us with an option if we want to   change. The data doesn't get merged with the original data in case relationships mapping.

  In case of Joins option, there are multiple options of Inner Joins, Right Joins, Left Join, which helps to merge the data   by defined parameter that taken from the user and the data gets merged.

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

STEP PROCESS

Great Learning

- Step 1- Understand Cognitive Perception

    Before starting with any visualization project, the user needs to have a good understand of data, what are variables considered, the data t types, relationship between each variable and what does the data say as whole in regards to the business objective.

- Step 2- Eliminate Visual Clutters

    In this step, one needs to keep in mind that the chart that we use should be simple and should provide maximum information with minimum effort. Also we should avoid unnecessary legends in the charts.

- Step 3- Choose and appropriate display mechanism

    Appropriate charts needs to taken for data and information that we want convey. The charts should provide maximum information in the right quantity.

- Step 4- Design Dashboards

    Dashboards is collection of information from different worksheets. The Dashboards to be prepared in such a way that information that are related to each needs to be linked properly and should be interactive to all the information.

- Step 5- Explore Visually

    A user needs to understand the different options that are available to make the data visually interesting by exploring the options after creating charts.

- Step 6- Analyse Visually

    Based on each chart that is prepared, some inference needs to be brought out and a user should analyse if some additional information as in providing some new parameters to the data would to add value to business objective

- Step 7- Create Storyboard

    Finally we should prepare a story out of the data that provides clean and crisp information to the end user from all our analysis.

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

CASE STUDY

G Great
Learning

The Company wants to frame an insurance policy for people based on the trend of accidents that has happened in the city. You as a analyst, is required to visually analyse the data to understand the trend of insurance claim with a relationship to type of people, different cars and place where such accidents frequently occur.

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

DATA
DICTIONARY

Great Learning

Data Dictionary:

Months_As_Customer- Number of months as a customer

Age- Age of the Person

Policy_Number- Policy Number

Policy_Bind_Date- Actual Date of taking the Policy

Policy_State- State where the policy has been taken

Policy_Csl- Score of the policy holders

Policy_Deductable- Basic Fee to be deducted

Policy_Annual_Premium- Annual Premium of the Policy

Insured_Zip- Zip Code

Insured_Sex- Gender

Insured_Education_Level- Education

Insured_Occupation- Occupation of the Policy Holder

Insured_Hobbies- Hobbies of the Policy Holder

Insured_Relationship- Relationship to the Policy Holder

Data Dictionary:

Incident_Date- Date of Accident

Incident_Type- Type of Accident

Collision_Type - Types of Collision happended to the vehicle

Incident_Severity- Severity of Accident

Incident_State- State where the accident occurred

Incident_City- City where the accident occurred

Bodily_Injuries- Number of injuries occurred

Witnesses- Number of people who witnessed the accident

Total_Claim_Amount- Total claimed from the insurance

Injury_Claim- Claim amount as part of injury occurred

Vehicle_Claim- Claim amount relating to vehicle damage

Auto_Make- Manufaturer of the Car

Auto_Model- Model of the Car

Auto_Year- Year of Manufacturing

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

APPROACH

Great Learning

Addressing the problem:

Before we actually start looking into the data and solve the business problem, we should always check a few things first and make sure they are in-place –
- Make sure we have linked the dataset to Tableau and all the relevant information is properly imported.
- Check for any nuance in the data i.e. missing values, invalid characters in the data etc.

Now keeping the business problem in mind, we can adopt the below method to do a detailed analysis:
- Understand the relationship between Education, Income and Claim amount made.
- A detailed analysis to be undertaken to understand which model of the car is more prone to accidents and how claims are being made people of different gender
- State wise analysis will also help to understand where more accidents are prone to happen
- A separate analysis on different type of claims being made based on type of accidents that happen and the number injuries.

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

SUMMARY

Great Learning

SUMMARY:

Through the visual analytics, we can understand how different factors affect the total claim amount that is claimed to the claimed the company. Based on these factors, the insurance company can design different type policies with different premiums based on customer's requirement.

Designed for :

EXL

WEEK
11

DAT
MENTOR SESSION

QUESTIONS & ANSWERS

Great
Learning

QUESTIONS ?