



FORTUNE 500

Data Visualization

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I. Introduction:

The Fortune 500 is a list which is published annually by “Fortune magazine.” In this magazine the largest United Corporations are ranked according to their total revenue for that particular fiscal year. The Fortune 500 concept was made by a Fortune editor, Edgar P. Smith and this was made available publicly in the year 1955 [1]. Originally the Fortune 500 was restricted to the companies who come under the sectors such as manufacturing, energy exploration and mining. In 1994, the methodology was changed by Fortune magazine they included the service companies. By including the service companies, the new 291 competitors came in the list. This list not only shows a development of enterprise and the performance of business, but also it is a significant indicator which can evaluate international competitors and can strengthen the business [2].

II. Background of the Dataset:

The dataset which is used for the infographic is downloaded from Kaggle. This data provides the information about the top 500 companies for the year 2018. The data give the information about the revenues in million dollars, revenue change, profits change and profits in a million dollars. The further important information provided is about the city and the states where the companies are located. And some other data is about the rank of the companies in the previous year that is 2017, the sector and the industry of the company. Link of the data source: <https://www.kaggle.com/Eruditepanda/fortune-1000-2018>

III. Process:

Infographic and data visualization can be done in various formats. The five different formats of the infographic are: Static infographics, interactive infographics, video infographics, zooming infographics and animated infographics [3]. Here the static infographic is used. Static infographics are the easiest and stable infographic format out of these five. This is generally saved in the form of image.

Steps carried out for creating the infographic are:

1. Collection of data and pre-processing it:

The data was downloaded from Kaggle in the form of csv file. Then the data was processed for cleaning and transformation here the unwanted columns and rows were removed.

2. Data analysis and Visualizations:

Once the data preprocessing gets completed, the data is then imported in the tableau to carry out the visualizations. Here Microsoft Excel and Tableau software is used for the analysis and visualization process. Different types of analysis were performed on the data to make proper visualizations. The appropriate use of charts and graphs are done. The formation of design and

layout, the labelling of data and data legends are carried out in an appropriate style. In Microsoft Excel the pivot table and pivot chart are used for building up the visualizations.

3. Designing of Infographics:

For creating the infographics various free tools are present namely; Visme, Easel.ly, Visualize.me, PiktoChart, Canva, etc. One of the tools Visme found to me more users friendly and handy which have various designing choices. A Visme tool is available on <https://www.visme.co>. One of the templates was used to create the infographic. The various necessary changes were made on the pre-defined template according to the requirement. The images of visualization which were created in excel, and the tableau was uploaded in the visme account. The infographic also includes the existing icons and the banners images. Appropriate colors in graphs and chart were used to match the color of the background of the infographic. For proper visualization the infographic made use of suitable font size, type and color. The A3 size is used to create the infographic. In this infographic, third-party images and content were not used.

IV. Specification:

The infographic created here is based on the information of Fortune 500. The information conveyed in the form of visualization is understood effortlessly and quickly rather than the information in the form of raw data. Also, the visualization provides proper information which can be understood by just looking at it. The infographic shows:

- The revenues in a million dollars of top 10 companies in the year 2018.
- The top 10 profit in million dollars earning companies in the year 2018.
- The comparison of the rank of top 10 companies in the year 2018 and 2017.
- The map is used to show the number of Fortune 500 companies in different states of the United States.
- The top 10 number of employees of fortune 500 companies.

V. Justification:

Various methods are used to design the infographic:

1. Techniques:

In this infographic, for creating data visualization Microsoft Excel and tableau software are used. In Microsoft Excel the visualization is made using pivot table. In the pivot table mathematical functions can be used such as sum, average, top 10 and many more. Similarly, also, in Tableau software there are same functions and many different types of graphs which can be used for the visualization. Choosing the correct type of graphs plays an important role. This selection of the graphs depends on the type of data which are quantitative data or qualitative data. For qualitative

data the best graphs which can be selected are bar graphs and pie charts. For quantitative data the time plots, value bars can be used.

Below is the list of graphs which are used in this infographic:

- Exploded Doughnut: This graph is created in Microsoft Excel, which shows the revenue in million dollars of top 10 companies. Different colors are used for representing the different companies.
- Column Chart: This graph is created in Microsoft Excel; this graph shows the top 10 profit in million dollars earning companies in the year 2018.
- Column Chart: This graph is created in Microsoft Excel; here the comparison graph is used which shows the comparison of rank of top 10 companies in the year 2018 and 2017.
- Map: The map is created in Tableau software. Here the number of companies according to the states is shown in the map.
- Bar Chart: This chart is created in Microsoft Excel; which shows the top 10 numbers of employees of fortune 500 for the year 2018.

2. Layout:

The infographic starts with the meaning of Fortune 500. It further goes down and shows the revenue and the profit of the companies. Then the comparison of rank for the year 2018 and 2017 is shown. Further, the map is used to show the number of companies according to the states. And at last the number of employees is shown.

3. Style:

The infographic is created in the A3 size. The common font and size are used in the infographic that is properly visible to the viewers. The use of an icon is made in the infographic to convey the message completely to the viewers.

4. Colors:

Color plays an important role in the infographic by using suitable colors the clear information can be conveyed. In this infographic the light blue color is chosen for the background. To show the revenue of different companies ten different colors are used. In chart showing profit have used two different colors green color is used to show the company earning highest profit and for other companies the orange color is used. To show the comparison of rank, two different colors red and blue are used.

VI. Technology:

For creating the infographic various technologies were used. They are:

1. Microsoft Excel: For creating the charts the built-in function is present in excel. Using these functions, various charts and graphs are created. Microsoft Excel was also used for performing data preprocessing.

2. Tableau Software: For building the graphs having maps and other charts tableau software is used. In the tableau the data was uploaded that is the csv file was loaded and the visualizations

are performed. Tableau software provides the suggestions of graphs which tell the number of dimensions and measures required for the graphs.

3. Visme.co: Visme is the free tool available online used for creating the infographics. Here in this tool many user friendly functions are present such as uploading the images which are required for the infographic but not present in the tool, also setting of background color, font of text and style according to the convenience.

VII. Reflection:

For developing the infographic there were various advantages and limitations:

1. Advantages:

- As data was available in csv format it was very easy to import it in tableau software and excel which made analyzing it very easy for creating the visualization.
- For choosing any graphs and charts there were no restriction that made the visualization smoothly.
- Creating the infographic on the online tool gave the knowledge of different types of charts and structures.

2. Limitations:

- The first limitation was of the space; due to lack of space, there are some factors which could not be analyzed.
- Only the numeric data was able to visualize.
- Also, due to lack of space, the charts and graphs including the data labels and legend were difficult to include in the infographic.

VIII. References:

1. Wikipedia (2019) *Fortune 500* [Online] Available at: https://en.wikipedia.org/wiki/Fortune_500 [Accessed 16 March 2019].
2. Long, X. (2016) 'Comparative Study on the Fortune Global 500-Basing on the 2005-2015 Ranking'. *Open Journal of Business and Management*, 4: pp. 763-777
3. Krum, R. (2015) 'Infographics Are Evolving into Many Formats', *Cool Infographics*, Jun 15. Available at: <https://coolinfographics.com/blog/2015/6/15/infographics-are-evolving-into-many-formats.html> [Accessed 17 March 2019].