HIGH-D CASE STUDY

IDENTIFYING THE RELATION BETWEEN FLUCTUATING NUMBERS OF H1B VISA APPLICATIONS FOR U.S.A. AND PREVAILING WAGES ACROSS THE YEARS 2011 THROUGH 2016

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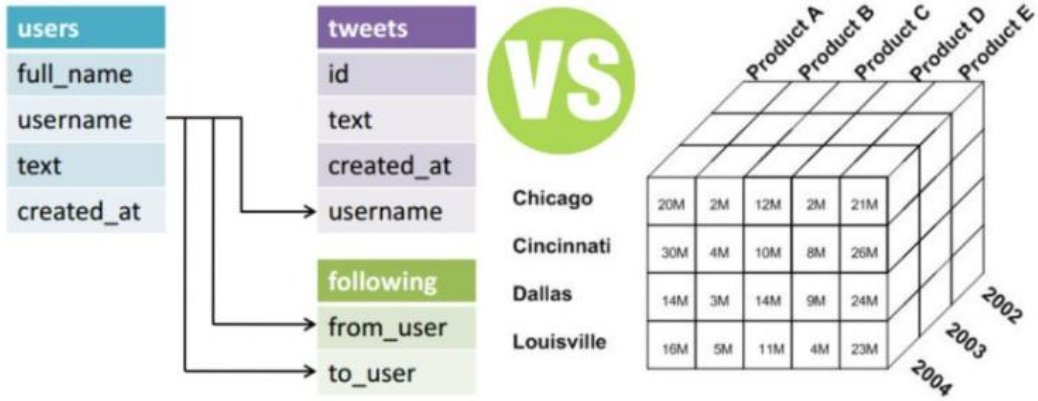
Why MDDB?

A multidimensional database stores data in dimensions, whereas a relational database is a two-dimensional table. A multidimensional database can store more than two dimensions of data. These multiple dimensions allow users to access and analyze any view of the database data.



As evident from the above figure, querying a multidimensional data (organized in hypercubes) is not only easier but also provides better ground for making decisions and inferences.

Utility of the High-D tool

With the help of this tool, it is possible to analyze relationship among numerous dimensions of the database. This visualization is not possible when data is scattered across different tables, even though they are normalized. Query performance is better while manipulating a multidimensional cube containing sub-cubes of data across many dimensions. While one can consider Tableau, Tableau will just plot the data and give results i.e. it won't show dynamically that what happens to a variable when another variable changes.

The Data Set for This Case Study

The data set for this case study has been collected from www.kaggle.com. It is a H1B Visa Petitions data for different countries, established in different locations across the United States of America, in **.xlsx** format.

The size of the data set is 267X11 i.e. it has 267 rows and 11 columns. The various columns of the data set (along with range of values indicated in brackets) are as follows:

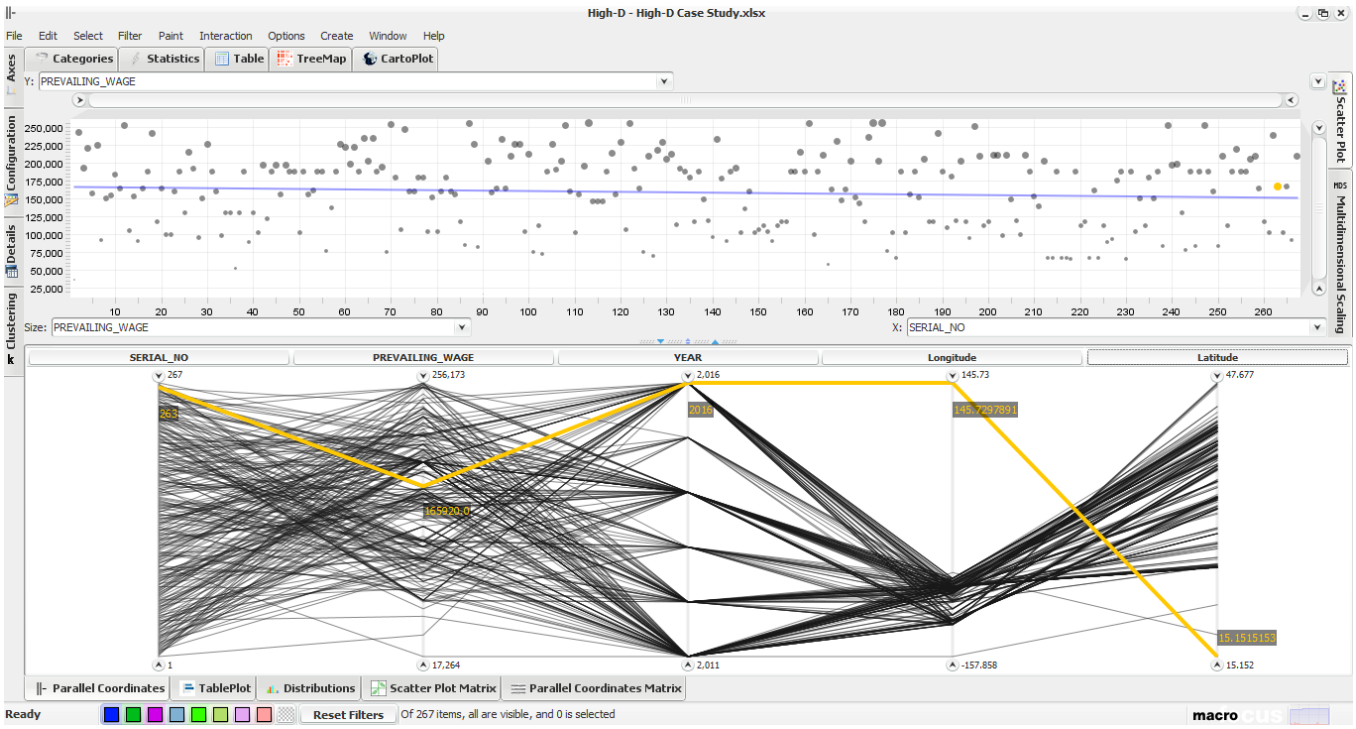
1. SERIAL_NO.
2. CASE_STATUS
3. EMPLOYER_NAME
4. SOC_NAME
5. JOB_TITLE
6. FULL_TIME_POSITION
7. PREVAILING_WAGE
8. YEAR
9. WORKSITE
10. LATITUDE
11. LONGITUDE

Data Visualization As Per The Main Objective For This Case Study

OBJECTIVE: Using High-D tool, try to get insights about a possible relation between increase/decrease in H1B visa application for different employers in the USA and the prevailing wages through times of 2011 to 2016.

APPROACH:

Import the excel worksheet containing the data about visa petitions in High-D. Click on the 'parallel coordinates' tab on the extreme left hand lower side of the tool's UI.
We get the following graphic as a result.



CONCLUSION

As is evident from the output of the High-D tool above, it is quite difficult to ascertain whether the rise or decline in filing the H1B visa applications for employers in USA is driven by corresponding rise and fall in prevailing wages over the years.

The scatter plot above the plot of parallel coordinates also justifies this visually. There is no steep and continuous incline/decline in the prevailing wages. Most of the employers offer wages above $175000 per annum to their employees but it still does not give an insight into the correlation between wages and motive to apply.