Business Intelligence (CIS 5270)

Project-1 Reflection note : Tableau Project

Topic: Call Center dataset analysis

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I worked on this project with the help of my fellow team member **Nagender Chauhan.**

Introduction

This project helped me learn more about a very powerful interactive data visualization software - Tableau. It was a very fruitful experience to see the data from the Excel format to be converted into beautiful and insightful charts in Tableau.

Tableau allowed us to transform data from Excel into visually appealing charts, which helped to highlight patterns, trends, and insights that might have been hidden within the raw data. This experience showed me the power of data visualization in helping to make complex information more accessible and easier to understand. Through the work with Tableau, I was also able to develop a deeper understanding of how to manipulate data in order to create meaningful visualizations that can be used to make better decisions. The project ultimately helped me to develop valuable skills that can be applied in a variety of settings, from business to research and beyond.

Why we selected this dataset

We gave a lot of thought to selecting this particular dataset. We had 5 suitable datasets which we thought of using and then finally selected this Call center data set.

One of the benefits of this dataset was that it was not overly complicated in its raw format, which made it easier to work with. Additionally, my teammate was particularly excited about this

dataset because he had experience working in this field during his early career. This gave us a unique perspective and added expertise to the project.

When I first looked at the dataset, I was able to quickly come up with a few questions that we could explore using the data. However, we then spent some time narrowing down some questions, focusing to ten questions that they felt would be the most impactful and relevant for their project.

Overall, the process of selecting the dataset was a thoughtful and deliberate one. By choosing a dataset that was relevant to our interests and expertise, we were able to maximize the insights we could derive from it. The importance of careful dataset selection in data visualization and the benefits of working with data that is easily understandable and relevant to one's interests helped us a lot.

Challenges I faced during this project

I faced some challenges in finding the right dataset to work on within the project. Many datasets were either designed for use in machine learning, which may not have been suitable for the project, or they didn't have the necessary number of columns, which typically falls within the range of 14-15.

Despite these challenges, we were able to locate a suitable dataset and work with it in Tableau to create insightful and visually appealing charts. This experience highlights the importance of careful dataset selection in data visualization, as having the right data is crucial to creating meaningful insights and visualizations that can be used to make informed decisions.

Secondly, it took us some time to do data cleaning. We were stuck with one issue, we wanted to change the number of seconds into minutes. We tried to do it logically but then we realized there is a mathematical formula for this problem. We found that after a lot of time after surfing the internet "=TEXT(K3/(24*60*60), "mm: ss")". After making the changes in Excel, it was not reflected in the Tableau notebook as it should have been. We recognised it was not recognizing the data format. Then we went and edited the data in the proper format in Excel and re-uploaded the Excel file in Tableau.

Then we also had minor issues regarding which measures and Dimensions to use, and which concept to be applied here. Weather ranks/hierarchy will look good in this chart or the previous chart we created. We referred to our previous submissions and lecture recordings in this step, this helped us to go move forward with our project quickly and gave us the assurance that the steps were also correct.

Interesting takeaways from this project

One of the key takeaways from this project is the importance of data visualization in making sense of complex information. By using Tableau to create visually appealing and informative charts, I was able to uncover patterns and trends in the data that may have been difficult to spot otherwise. For example the relation of customer sentiment to the wait time and call duration, Customer sentiments based on the issue category and top contributing issue type and forecasting the number of calls for the next week.

Another takeaway is the importance of careful dataset selection. We had to sift through several datasets before finding one that was suitable for their needs. This highlights the importance of

selecting data that is relevant and meaningful for the research question at hand, as this can help to maximize insights and ensure that the resulting visualizations are informative and useful. Finally, the project helped me to develop valuable skills in data manipulation and visualization. Our work with Tableau, helped me gain a deeper understanding of how to transform data into meaningful charts and visualizations, and how to use these insights to inform decision-making. These skills are likely to be valuable in a variety of settings and can help me to enhance my professional skill set.

Anything I would have done differently.

Next time I would like to take the time to review Tableau archives and see the existing projects that have been done so I could learn what new things people are doing now. I would also love to experiment with a much more complicated dataset which would increase the complexity of the project and make it a nice challenge to complete it. I would also like to add some code and KPIs to the project. Also, learn and implement use the filter options and make the dashboard much more interactive.

References

1. Article Title: Community Projects

URL: https://www.tableau.com/community/community-projects

Website Title: Tableau

2. “Statistical analysis of a telephone call center: A queueing-science perspective”, Technical Report, University of Pennsylvania.

URL: http://www.columbia.edu/~ww2040/4615S13/Brown2005.pdf