Teradata 2019 Data Challenge

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# Summary

This project is a quest to answer one of the business questions Hire Heroes USA has provided to support their business processes in making crucial conclusions and recommendations about their business operations. Our main mission as a team includes a variety of challenges and tasks to be tackled in order for Hire Heroes USA to meet their business expectations and goals. This mainly includes cautiously analyzing the sets of data given to draw unquestionable conclusions.

# Problem and Motivation

Do we have an average lifespan of a monthly donor? It was one of the many questions on our list as a team to choose from along with other business questions. Our team has decided to have an answer or at least an idea to this question as it will expand our horizon to visualize the vital impact donations can have on a business. Donors play an integral role to sustain a healthy business. Small business owners and entrepreneurs in a need for support to grow big. That can only be achieved through helping businesspeople to stand on their feet. Donations have the tremendous ability to create jobs, stabilize the economy, promote growth, and develop communities.

# Approach

We have undertaken several steps to successfully reach our conclusion. Our ideation approach was consisted of brainstorming, brainwriting, and worst possible idea. In each process, it was a collective effort that each team member had the opportunity to express and share thoughts to what business question we should pick and solve. Each one of the business questions was challenging enough to twist our minds. However, we selected a development question in regard to the average lifespan of a monthly donor, rate of retention for monthly donors, and whether monthly donors give more than one year increase their gift amount year over year. The significance behind seeking a solution to this question relies on the value donations have to offer in providing opportunities to small business owners and entrepreneurs.

# Datasets

# Tools and Analytics

The tools used were both Tableau Prep and Tableau Desktop. Tableau Prep and Tableau Desktop are essential analytical tools to work with and connect various datasets through interactive dashboards and worksheets. These tools were useful to clean, aggregate, and join datasets. Not to mention the importance of creating calculated fields as well as building graphs to better represent our conclusion. The methodology we used to tackle the question can be summarized in three critical steps. The first step was to know the business. Hire Heroes USA is a non-profit organization that was founded 1992 to fulfil their mission to empower U.S. military members, veterans and military spouses to succeed in the civilian workforce. We understood how donations can heavily make a change to secure a bright future for military members, veterans and military spouses through their transition to the civilian workforce. The second step was to know the data. We looked at each table along with their data dictionary for each column inside the different tables to get an understanding of what data could be helpful, and what might be neglected or rejected. Last but not least, the third step was to prepare the data. After the data were examined, we had to make use of the specific set of data that could be utilized to draw conclusions as it aids in the process of tackling the question mentioned. We concluded that 2 tables would be sufficient and used to deliver a solution for the firm. We selected the tables **SalesForce\_Account** and **SalesForce\_Opportunity** since other tables were inessential. The average lifespan of a monthly donor can be calculated by first selecting monthly donors, then subtracting Last Donation Date by First Donation Date for each monthly donor.

# Results

We have generated a total of three visualizations as a contribution to the future success of Hire Heroes USA. A visualization that represents each question solved.

**Do we have an average lifespan of a monthly donor?**

**A screenshot of a cell phone

Description automatically generated**

The above chart shows the average lifespan of the three types of a donor. It gives the big picture of how many days a donor donates annually, monthly or quarterly. As a matter of fact, a donor donates the shortest number of days annually with about 210 days. On the other hand, a donor donates the longest number of days quarterly with about 290 days. This can tell that donors have a higher chance to commit quarterly in short terms than annually in long terms.

**Do our monthly donors give for a year and then lapse, or do they give over the course of a few years?**

A close up of a map

Description automatically generated

The second chart shows the average donations by monthly donors over a course of 5 consecutive fiscal years from 2012 to 2017. As shown above, average donations remained constant for about 2 fiscal years from 2012 to 2014 with an amount that was close to approximately $9,250. Surprisingly, average donations increasingly started to decline with an amount that was close to approximately $9,250 in 2014 to an amount that was close to approximately $5,250 in 2017. This dramatic change in the average donations can be explained by a set of reasons. One reason can be targeting the wrong audience.

**Do our monthly donors who give more than one year increase their gift amount year over year?**

**A close up of a map

Description automatically generated**

The last chart shows the number of monthly donors who return after a year. From 2012 to 2014, the number of monthly donors who return after a year stayed the same. Nevertheless, the number of monthly donors went up from 2014 to 2016. Last but not least, the number of monthly donors dropped from 2016 to 2017. This fluctuation can be a result of shift in market trends from 2014 to 2017. In conclusion, we as a team suggested that Hire Heroes USA should consider reframing their marketing strategy to solely target a focused group as it helps to increase the number of donors in the future.