

TERADATA UNIVERSITY

DATA CHALLENGE

Data Warehousing Project

Hire Heroes Social media correlation with Donations

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EXECUTIVE SUMMARY

Abstract:

Hire Heroes USA is a nonprofit organization that empowers US military members, veterans and their spouses to succeed in their civilian life. They conduct various workshops for career coaching and employment preparation for the veterans and their spouses. They conduct all these activities from the amount of donations they get and grant from the government of USA. The donations play a major role in the activities of their organization. Hire Heroes USA entered into the social media like Facebook, LinkedIn and Twitter in the year 2014.

We spotted a trend between the social media presence and donations collected for Hire Heroes USA organization. This can be used to raise the funds further in future. When the trends of donations were plotted for the year 2015 on a monthly basis we found no trend in it as the 'grant' dominated other amounts.

Problem and Motivation:

The challenge that was presented to us was to find the effect of social media messaging/online presence on the amount of donations received over the years. Also, has there been an increase in fundraising over the years because of the brand awareness created in the social media as well as hosting the website.

Our solution to the above challenge was to show the trend between the amount donated and the various social media statistics. We also used the website statistics to show the impact created by the hosted website on the amount donated. The data sets that we used for this challenge were Donor Perfect, Hub spot, Twitter, LinkedIn, Google Analytics and Facebook.

Tools Utilized:

Tools used are Microsoft Excel and Tableau.

The datasets provided were in Microsoft Excel. So we used excel to manually clean the data. For the purpose of data analysis and visualization we used Tableau.

Approaches:

The approaches that were used to find a solution for the given data challenge was:

Data Cleaning:

The data sets provided by Hire Heroes USA had raw data in them. The data had a number of columns that had nulls. So the nulls had to be removed as a part of data cleaning. We had to remove junk characters like '\$'. We even removed unnecessary rows which are not present in our time frame and columns that were not useful or irrelevant.

Data Transformation:

All the datasets provided are in the format of Microsoft Excel. The whole data is imported into Tableau for data visualization. But the format used by Excel is cross tab valuation mode/aggregated mode. Tableau needs data in normalised form. So, we transformed the data from cross tab valuation mode to normalised mode. Apart from this all the datasets had different formats of dates. So we converted dates from string format to date format. We even created relationships to link datasets in Tableau.

In Tableau, we plotted social media data against the donations collected and observed the trend followed between them.

Results:

We mainly analysed the influence of social media and the Hire Heroes USA website on the trends of donations. But when we excluded grant, we found a particular trend. As the number of page views increased the donations also increased.

- The social media also helped in the increase of donations.
- With increase in Facebook, Twitter and LinkedIn activities the donations are increased and with their decrease the donations decreased.
- Facebook had the maximum effect on donations followed by Twitter and LinkedIn.
- From the available data, donation prediction for year 2016 would be around 1000K excluding grants.
- Grants are allocated by government, so they are not affected by the social media.
- As the page views in google analytics data increased donations are increased.