TOPIC: Data Analysis and Visualization for the Superhero U Event.

Concept of the project

GlobalShala has been running ad campaigns on Facebook for an event called Superhero U and the Marketing team needs help identifying at least one campaign to recommend discontinuing in order to cut costs. At the end , we will select one or more ad campaigns to recommend discontinuing based on data analysis and visualization.

Problem Statement

Build a Predictive Model using Machine Learning to identify the underperforming campaigns based on data analysis and provide recommendations for discontinuing them to optimize the ad spending and allocate resources more effectively.

The objective of the Project:

This Project is intended for:

- The overall aim is to optimize the ad spending
- Cut costs
- Allocate resources more efficiently for future marketing efforts

Data sources used

https://docs.google.com/spreadsheets/d/1Aj69ZzZfNXXsk-Wg22_BAaHh1lKUsbdLPpZDqQRzF5g/edit#gid=0

Data Analytics software used

MS-Excel for data cleaning and formatting.
Python programming for analysis and visualization.
Libraries needed: Matplotlib, Pandas, Numpy, Seaborn, sklearn.
PowerBI, Tableau for better and attractive data visualization.

Data sets probable visualizations

Bar Graphs and Line Charts will be used for better visualization.

Methodology

The procedure includes:

Step 1: Cleaning the Data

In this step, the data is cleaned to ensure there are no missing values or inconsistencies.

Step 2: Pivot Table Creation

A pivot table is created using the campaign ID, unique click-through rate (CTR), and cost per result as inputs. A pivot table is a data summarization tool that allows for easy analysis and manipulation of data. By using the campaign ID as rows and unique CTR and cost per result as values, the pivot table provides a comprehensive overview of the performance metrics for each campaign.

Step 3: Data Visualization

In this step, a clustered column chart is created using the pivot table data. The X-axis represents the campaign ID, while the Y-axis represents the average of unique CTR and cost per result. The clustered column chart visually displays the performance metrics for each campaign, allowing for easy comparison and identification of underperforming campaigns.

Step 4: Selection of Campaigns

Based on the clustered column chart, Campaigns are selected for discontinuation. The selection is made by analyzing the data and identifying campaigns with lower unique CTR and higher cost per result, indicating poor performance compared to other campaigns.

Probable Outcome

Based on the analysis, the Marketing team will gain insights into the effectiveness of each campaign and be able to make informed decisions on which campaigns are not performing well and should be discontinued. The recommended discontinuation of specific campaigns will help GlobalShala to cut costs by reallocating resources to more successful campaigns or exploring alternative marketing strategies.