Internship Report on Power BI Project: Twitter Data Analysis

Introduction  
  
The scope of this internship project was analyzing Twitter data with the help of a tool Power BI. The purpose of the project was to integrate visual reports on tweet likes, the distribution of tweet hashtags, the user profile hashtag’s click through rate, and the time period in which tweets were sent to achieve business goals. The analysis included metrics which allowed for the data to be analyzed according to weekdays and months which helped to show general engagement curves.  
  
Background  
  
The project used Power BI for the interpretation of the data available from Twitter database in crude forms and deriving relevant insights from the big. Important datasets included the number of likes, the number of hashtags and the number of profile interactions that have been defined using time-based dimensions such as date and time.  
  
Learning Objectives  
  
1. To learn the principles of visualization of data applying such tools as Power BI and Power Query.  
2. To build skills for working with big data.  
3. To analyse Twitter usage in the context of time in a bid to detect trends.  
4. To obtain skills necessary for creating business dashboards and business insights reports.  
Activities and Tasks  
  
1. **Data Collection:** importing and cleansing Twitter data to preserve the quality of data.  
  
2**. Data Modelling:** Organizing data into tables and defining relationships between them for easy analysis, Creating Conditional Columns.  
  
3. **Visualization:** Designing an interactive dashboard to display:

- The trends in likes and the number of likes every tweet receives.

- The trending hashtags and how they are used.

- User Profile, hashtag clicks.

- Temporal changes by days of the week and month of the year.

Generating Insights: used Power BI features such as slicers, filters, and DAX measures and present the insights generated in the required format.

Skills and Competencies

1. Mastering of Power BI tools and techniques

2. Data set cleansing and pre-processing via Power Query

3. Construction of interactive dashboards.

4. Using DAX for complex calculations.

5. Interpretation of societal marketing concepts in quantitative terms.

Feedback and Evidence

The interactive dashboards supplied precise information that could be acted upon. These visual aids well show how likes, the use of hashtags, and other engagement activities change over time. However, focus of the training could be on more guidelines on how to create measures and columns using DAX at a higher level which would possibly support the increase in competencies.

Challenges and Solutions

1. **Performance Issues:** during the execution of each task it was quite a challenge to demonstrate all the filters in one visual in order to make the target accurately. It was a little challenging to add the visibility of work.

2. **Dax functions error:** to make conditional columns for highlight sometimes displayed an error, only to show up later after repeated trials.

3. **Guidance issues:** Such pre-requisite conditions and relationships made it quite hard as it meant working manually without proper help from the mentor because the training was only very introductory level but doing the creation and the implementation of measures has intermediate to advance knowledge components to it

Outcomes and Impact

The aim of this project was fulfilled in full as this produced and brought to use the impressive Power BI dashboard which did the following:

- Saw the weeks and the months when student engagement was at the maximum.

- Listed the most influenced hashtags and the most re-tweeted tweets.

- Provided charts of when the tweets posts occurred on the hourly basis in regard to the evidence meanings

Conclusion

Data that was gathered during this internship helped to understand better how social media data can be used for research. This project confirmed that data is crucial in making important choices and decisions. The knowledge and experience that has been acquired in this project will be useful in the future.