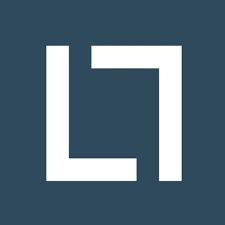
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**INTERNSHIP REPORT**

**REAL-TIME TWITTER ANALYTICS DASHBOARD - POWER BI**

**NULL CLASS**

***Prepared by***

***Name:Velpuri Sai Nageswar***

***Email:***[***velpurisainageswar@gmail.com***](mailto:velpurisainageswar@gmail.com)

***Phone.No:9059856213***

**INTRODUCTION**

This Report is to summarize my internship experience at Null Class Edtech Pvt.ltd during 10-04-2024 to 10-06-2024 as Data Analyst . This Internship gave me an opportunity to apply my knowledge learned during my academic studies into real-world practice. During my internship, I worked on Social media Analysis main focused on Twitter data .

My primary responsibilities included five tasks building a dashboard using Power Bi by tweets data given which includes extraction, transformation, visualization, and analysis . A most important part of my work involved building a comprehensive dashboard using Power BI, focusing on Twitter data to analyze key performance metrics such as impressions, engagement rates, clicks, and media views. The project assisted the organization in gaining further insight into social media trends and improving their online engagement strategies.

In this report, the objectives of the internship, how they were achieved, the issues that occurred, and what was gained through the experience are all described. It also shows how the internship assisted me in developing professionally and personally.

**BACKGROUND**

Social media sites are essential to organizations nowadays to interact with their publics, develop brand recognition, and enhance their marketing efforts in the new era. Twitter is very significant among the sites due to its speedy nature and global reach. Organizations need to monitor Twitter activity if they are to measure their performance online and enhance their content marketing.

Null class Edtech Pvt.Ltd recognized that social media metrics are necessary for decision-making. Therefore, they initiated a project to build an easy-to-use Twitter Analytics Dashboard. They wanted to build a central location that displays meaningful metrics such as impressions, engagement rate, link clicks, and media views on a timeline. This would allow the marketing and communications teams to understand how well they are performing, know which content performs well, and make decisions based on facts.

Throughout my internship, I was responsible for developing and designing this dashboard on Microsoft Power BI. The development involved importing raw data from Twitter, cleaning and manipulating the data sets, creating calculated measures, and designing simple-to-use visualizations. The dashboard also had filtering by time, comparing performance between various campaigns, and displaying the most crucial factors of engagement.

This project was crucial in allowing the organization to gain a more tangible, real-time view of its social media performance and ultimately provide more effective, targeted digital marketing campaigns.

**LEARNING OBJECTIVES**

My primary objective during my internship was to enhance my hands-on competency in data analytics with actual social media data, Twitter metrics. I sought to advance my competence in applying Microsoft Power BI in extracting, cleaning, transforming, and presenting data. Through this project, I created interactive dashboards to enable stakeholders to easily monitor key performance indicators such as impressions, engagement rates, clicks, retweets, and media views. Through data modeling and visualization methods, I had an opportunity to apply what I learned in class in a practical environment and observe how analytics were being implemented in digital marketing campaigns.

The second significant objective was to enhance my technical skills and analytical thinking. I practiced acquiring Power BI functionality such as creating calculated measures using DAX functions, developing interactive visualizations, and applying dynamic filtering to enable greater utility and ease of use in the dashboard. Concurrently, I practiced understanding social media performance trends and identifying patterns that would be beneficial in making business decisions. Developing these analytical skills enabled me to realize how social media activities influence organizational objectives and enhanced my strategic thinking and clear thinking.

The internship also gave me the chance to learn professional and communication skills. I had to master presenting complicated data in a straightforward, simple, and engaging way so that both technical and nontechnical people could easily understand it. Creating reports, creating presentations, and explaining my findings to my managers helped me become more at ease in presenting data-driven stories. Being part of a professional environment helped me learn key soft skills like teamwork, flexibility, and time management, which are absolutely vital in attaining success in any data analytics or business intelligence career in the future.

**ACTIVITIES AND TASKS**

Throughout my internship, I was provided with various tough tasks with the objective of building a very interactive and intelligent Power BI dashboard on the basis of Twitter data. The tasks were designed to examine and enhance my capabilities in complicated data modeling, DAX formulas, dynamic visuals, and condition-based filtering based on various conditions.

One of the difficult tasks was to create a pie chart illustrating the percentage of overall clicks (URL clicks, user profile clicks, and hashtag clicks) for tweets with over 500 impressions. The pie chart also had a drill-down capability that enabled users to see the breakdown of the kind of clicks for each tweet. Another difficult task was to create a scatter chart comparing the media engagement ratio and media view ratio for tweets with over 10 replies. This visualization had to emphasize tweets with an engagement rate of over 5%, and had to be displayed only between 6 PM and 11 PM IST. It had to take into account only those tweets when the tweeter date was odd and the word count was more than 50 words. I was required to create a chart to determine the top 10 tweets by the total retweets and likes, but only for tweets that were not tweeted during weekends. This chart also needed to display the user profile of every tweet and be live only between 3 PM to 5 PM IST. It was restricted to tweets with even number impressions, an odd tweet date, and a word length of fewer than 30 words. Another complex visualization compared replies, retweets, and likes for tweets that had media engagements greater than the middle value, i.e., for tweets tweeted between June and August 2020. This graph was visible only between two time intervals — 3 PM to 5 PM IST and 7 AM to 11 AM IST — and had extra rules such as odd tweet dates, even media views, tweet character lengths greater than 20, and excluding any words containing the letter 'S'.

Lastly, I created a line chart to show the average engagement rate per month. It distinguished between tweets that contained media and tweets that did not contain media. This chart was displayed in the same specific time intervals as specified above. It also required filters for even engagement values, odd dates of the tweets, lengths of tweets that exceed 20 characters, and excluding words containing the letter 'C'. These activities challenged me to utilize advanced DAX, use stringent time-based visual rules, and work with complicated data changes. This enabled me to enhance my technical capabilities and problem-solving capabilities in Power BI.

**SKILLS AND COMPETENCIES**

I developed numerous technical and professional skills throughout my internship, which significantly enhanced my skills. One of the key skills that I developed was working with Microsoft Power BI. I became more proficient in creating interactive dashboards, designing elaborate visual displays, and utilizing advanced features such as drill-down features, changing views according to time, and filtering data according to various criteria. I also became more proficient in writing DAX (Data Analysis Expressions) formulas to build calculations, control changing filters, and utilize custom groupings and changes in the dashboard.

I also learned data cleaning and preparation techniques, which were crucial to ensuring the visualizations were accurate and reliable. Using actual Twitter data taught me how to handle missing or dirty data and clean datasets for improved outcomes in Power BI. I also developed good skills in data interpretation and analysis, which enabled me to identify key trends, patterns, and insights that could be utilized to make more informed social media campaign decisions. Handling large and complex datasets taught me to think more critically and solve problems in an effective way. In the workplace, I acquired practical skills such as project management, attention to detail, and communication. I acquired the ability to present technical data in terms that various individuals, such as bosses and marketing teams, can use. Through continuous feedback and team meetings, I enhanced my teamwork, flexibility, and reporting. Working on numerous tasks and achieving close deadlines, I enhanced my time management and being organized. Generally, the internship improved my technical abilities and ability to excel in a professional analytics environment.

**FEEDBACK AND EVIDENCE**

Throughout my internship, I created an interactive Power BI dashboard named "Twitter Dashboard," which compared social media performance from tweet-level data. The dashboard successfully displays important metrics like impressions, engagement rate, media views, link clicks, and time-based trends. One of the dashboard's strengths is its clean layout, where users can filter by date ranges and see patterns in engagement over time. I used dynamic graphics, like bar charts, line graphs, and KPI cards, to emphasize the performance indicators on a glance. The use of slicers and tailored tooltips also improved the user experience by keeping the data exploration intuitive and revealing.

The proof of my work is proved by the fact that the dashboard can unveil actionably meaningful insights. For instance, through the comparison of media views and impressions, the dashboard was able to determine what post types were more engaging per their reach. With time series analysis, the stakeholders were also able to determine the highest engagement times, which supported scheduling decisions for the content. I employed best practices like uniform color usage, reasonable grouping of metrics, and brief labelling throughout the development process to enhance readability. With input from my supervisor, some minor enhancements, including axis scaling adjustments and load time optimizations, were made to optimize performance and readability. In all, this project showcased my skill at taking raw social media data and converting it into a strategic decision-making application with technical prowess in Power BI as well as analytical rigor in a business application.

**CHALLENGES AND SOLUTIONS**

During the course of building the Twitter dashboard, I faced a number of challenges that needed problem-solving and flexibility. One of the biggest challenges was dealing with inconsistent data formats, especially with date fields and engagement metrics, which initially resulted in errors in time-based visualizations.

To overcome this, I normalized the dataset in Power BI using data transformation methods like data type conversions and calculated columns. Yet another challenge was making dashboards interactive, with huge volumes of tweet-level data loading slow down and interfering with user interaction. The solution involved implementing data reduction measures such as limiting the dataset to pertinent periods and reducing visuals on every page without sacrificing depth in analysis.

It was also hard initially to design user-friendly filters, and earlier iterations of the dashboard were frustrating to use, piling users with so many slicers to use. In response, I cleaned up the interface by organizing filters in a logical manner and establishing default views that directed user discovery more effectively. Additionally, making sure that KPIs and visual trends communicated useful insights instead of mere raw data was a constant challenge.

Through several iterations, I directly aligned visualizations with important business questions, making the dashboard informative and actionable. These problems and solutions I came up with not only benefited the end product, but they helped me develop my technical expertise, problem-solving skills, and skills to provide user-focused analytics solutions.

**OUTCOMES AND IMPACT**

The creation and deployment of the Twitter dashboard positively affected the organization's ability to analyze social media. By aggregating tweet-level information into an interactive, visually intuitive interface, the dashboard enabled stakeholders to rapidly evaluate performance trends, detect top-performing content, and make informed decisions about future social media initiatives.

Key results were enhanced visibility into metrics like impressions, engagement rates, media views, and link clicks, which facilitated the marketing team in optimizing their content scheduling and promotion strategies. Time-based analysis features allowed more strategic timing of posts, maximizing audience engagement. Supervisor feedback suggested that the dashboard not only optimized reporting efficiency but also the quality of insights delivered during monthly reviews.

At a personal level, this project improved my technical skillset with Power BI, reinforced my understanding of data visualization principles, and refined my capability to transform raw data into effective business intelligence. The delivery of this project on schedule showed the concrete worth of data-driven reporting and reinforced the key contribution analytical tools can have to aid marketing and communications aims.

**CONCLUSION**

My internship experience has been instrumental in bridging the gap between academic knowledge and real-world application, particularly in the area of data analytics and visualization. Developing the Twitter dashboard project allowed me to work hands-on with real social media data and use Power BI to design a dynamic, user-centered reporting tool. Through this project, I learned how to manage data cleaning challenges, optimize dashboard performance, and create clear visual narratives that align with business objectives. Each step of the process — from initial data exploration to the final interactive design — enhanced my technical skills, critical thinking, and problem-solving abilities.

The dashboard successfully provided stakeholders with actionable insights into key performance metrics such as impressions, engagement rates, media views, and click-through rates. It enabled more informed decision-making around content strategy and audience engagement timing, which contributed directly to the organization's communication goals. Feedback from supervisors emphasized that the dashboard made monthly reporting faster, more insightful, and visually engaging, proving the value of effective data presentation in a business context.

This project also taught me the importance of user experience in dashboard design, encouraging me to think beyond technical accuracy and focus on accessibility, interactivity, and clarity. I developed a deeper understanding of how thoughtful data visualization can drive better business outcomes. Overall, the internship strengthened my proficiency in Power BI, enhanced my ability to translate data into business insights, and confirmed my passion for pursuing a career in data analytics and business intelligence. Moving forward, I am motivated to further develop my skills by exploring more advanced analytics techniques, such as predictive modeling and automation, to create even more impactful data-driven solutions.