

WEEKLY REPORT

WEEK - 1 (From Dt. 3/7/24 to Dt. 5/7/24)

Objective of the Activity Done: Introduction to Power BI and Data Analytics

Detailed Report: Data Analytics is the process of implementing a solution based on insights that has been generated by performing analysis on the data based on the user requirements or problems to take better decisions.

- The Data Analytics can be used in Everywhere.
- Agenda of Data Analytics includes, understanding the fundamentals of power BI and Emphasizing the role of data-driven decision-making in modern businesses.
- The Sessions Covered the basics of data analysis, different types of data are Numerical data and categorical data, the importance and types of data visualization. The Data can be Analysis by using Tools, methods and Techniques.
- We also explored power BI, understanding its interface, features, and how it integrates with other Microsoft products.
- Power BI is a data visualization platform.
- The week concluded with a hands-on session on loading and transforming data in Power BI.

Objective of the Activity Done:

Data Transformation and Modeling

Detailed Report:

The second week focused on data transformation and modeling within power BI.

- Explored different data connectors available in power BI, such as Excel, SQL databases and online services.
- We learned how to clean, reshape, and prepare data using power query Editor.
- The training covered essential functions like filtering, merging and appending datasets.
- Practiced data modeling concepts such as relationships between tables, cardinality, and data hierarchies.
- Successfully imported datasets from multiple sources into power BI then learning about the ETL (Extract, Transform, Load) process within power BI and practiced data modeling techniques.
- The practical sessions helped reinforce these concepts by allowing us to create and manage data models effectively.

Objective of the Activity Done:

Data Visualization Techniques

Detailed Report:

This week focused on creating effective and interactive data visualizations in power BI.

- Studied various visualizations options available in power BI, including various types of charts, graphs, and maps.
- Explored various types of charts, graphs and maps that can be created in power BI to visualize data insights.
- Participated in a hands-on session to design interactive dashboards with slicers, filters and drill throughs.
- The sessions included best practices for selecting the right visualizations based on the type of data and the message we want to convey.
- Designed a comprehensive dashboard featuring key metrics using a mix of visuals.
- Also learned about customizing visual elements, using themes and enhancing reports with interactive features.

Objective of the Activity Done:

Advanced Data Analysis with DAX

Detailed Report:

This week delved into advanced analytics and Data Analysis Expressions (DAX) in power BI.

- DAX is a formula expression language used in analysis services.
- DAX is also functional language where full code is kept inside a function.
- Learned how to create calculated columns, measures, and custom tables using DAX.
- The training covered complex DAX functions such as Aggregate functions, text function, Date function, logical functions, Counting functions and Information functions, time intelligence, filtering.
- Used DAX to create calculated columns and measures for enhanced analysis.
- Explored advanced analytical techniques like trend analysis, forecasting, and what-if scenarios.
- Improved the accuracy and efficiency of data models using advanced DAX.
- The week ended with exercises to build dynamic reports using DAX-driven insights.

Objective of the Activity Done:

Real-world case study: Sales Analytics

Detailed Report:

This week focus on applying power BI skills to a real world sales analytics case study.

- Received a dataset representing sales data from a fictional company
- Defined key performance indicators (KPIs) such as sales growth, customer acquisition, and product performance.
- Built a sales dashboard to visualize the KPIs and identify trends, outliers, and areas for improvement.
- Created a Comprehensive Sales Dashboard that highlighted crucial business insights.
- Used data storytelling techniques to communicate findings effectively.
- Received positive feedback from mentors on the practical application of power BI skills.

Objective of the Activity Done:

Power BI Service and Collaboration

Detailed Report:

This week covered the power BI Service and its Collaboration features.

- Learned how to publish reports to the power BI Service, share dashboards, and collaborate with team members in real-time.
- The sessions emphasized data security, row-level security (RLS), and managing workspaces.
- Also explored power BI's integration with other Microsoft tools like Excel, Teams and Sharepoint, making it easier to collaborate and share insights across the organization.
- The week wrapped up with an overview of the upcoming project work.

Objective of the Activity Done: Project work - Data Analysis and Visualization.

Detailed Report:

This week marked the beginning of the project phase.

- Started by defining the project scope, objectives and deliverables.
- The project involved analyzing a dataset provided by Smart Internz, cleaning and transforming the data, and building a data model.
- Our team focused on identifying key metrics, trends and patterns that could drive business decisions.
- The initial reports and dashboards were created to visualize these insights, using the skills and techniques learned over the past six weeks.

Objective of the Activity Done: Project work - Finalization and Presentation.

Detailed Report:

In this week, we completed the project by refining our reports and dashboards, ensuring they met the project requirements.

- We focused on enhancing the visual appeal and usability of the dashboards by adding interactive elements and ensuring the data was accurately represented.
- The week culminated with a presentation to the Smart Internz team, where we showcased our findings, explained the methodologies used, and demonstrated how the insights could be applied to solve real business problems.
- The project was well received, marking a successful conclusion to the internship.