**Power BI Assignment 3**

1. **List and explain different PowerBI products?**

Power BI Desktop: A free Windows application for creating interactive data visualizations and reports.

Power BI Service: A cloud-based platform for publishing, sharing, and collaborating on Power BI reports and dashboards.

Power BI Mobile Apps: iOS and Android apps for accessing and interacting with Power BI content on mobile devices.

Power BI Report Server: An on-premises solution for hosting and managing Power BI reports within an organization's infrastructure.

Power BI Embedded: Allows developers to integrate Power BI capabilities into custom applications.

Power BI Premium: A capacity-based licensing model offering enhanced performance and larger data storage.

Power BI Dataflows: Enables data preparation, transformation, and enrichment within Power BI.

Power BI Paginated Reports: Designed for pixel-perfect, printable reports with advanced layout control.

In summary, the Power BI suite includes various products catering to report creation, cloud-based sharing, mobile access, on-premises hosting, developer integration, premium features, data preparation, and paginated reporting. These offerings provide a comprehensive and versatile business intelligence platform.

1. **What limitations of Excel, Microsoft solved by PowerBi?**

1. Handling Large Datasets: Excel can struggle with large datasets, leading to slower performance and potential crashes. Power BI's optimized data models and in-memory processing handle vast amounts of data efficiently.

2. Scalability: Excel's scalability is limited when sharing reports or collaborating with multiple users. Power BI Service offers cloud-based sharing and collaboration with real-time data refresh.

3. Data Connectivity: Excel has limited data connectivity options compared to Power BI, which supports a wide range of data sources, including cloud-based and on-premises databases.

4. Interactive Visualizations: While Excel offers basic charting capabilities, Power BI provides a more robust set of interactive and customizable visualizations for dynamic data exploration.

5. Real-Time Data Analysis: Excel may require manual data updates, while Power BI supports real-time or scheduled data refresh, ensuring reports are always up-to-date.

6. Complex Data Transformations: Power BI's Power Query Editor enables advanced data transformations without complex Excel formulas, making data preparation easier.

7. Data Modelling: Power BI's DAX (Data Analysis Expressions) language allows for more sophisticated data modelling and calculations compared to Excel's PivotTables.

8. Mobile Access: Power BI Mobile Apps provide a seamless mobile experience, while Excel may not be optimized for viewing reports on mobile devices.

1. **Explain PowerQuery?**

Power Query is a data transformation and data preparation tool in Microsoft Power BI and Excel. It allows users to connect to various data sources, perform data cleaning, shaping, and transformation operations, and load the data into a desired destination for analysis and reporting. Power Query simplifies the process of combining, cleaning, and transforming data from different sources, making it easier to create accurate and insightful reports and dashboards.

1. **Explain PowerMap?**

Power Map was a 3D data visualization tool in Excel that allowed users to create interactive geographic and time-based visualizations. It plotted data on a 3D globe or flat map, enabling users to explore and animate data over time. However, as of my knowledge cutoff in September 2021, Power Map has been deprecated and its functionalities integrated into other Power BI visualization features.

1. **How powerBI eliminated the need to host SharePoint Server on premises?**

Power BI eliminated the need to host SharePoint Server on premises through its cloud-based architecture and integrated collaboration features. With Power BI, users can publish, share, and collaborate on reports and dashboards directly from the cloud-based Power BI Service, eliminating the requirement for on-premises SharePoint Server. The cloud-based approach provides real-time collaboration, automatic data refresh, improved scalability, and potential cost savings, making it unnecessary to manage SharePoint infrastructure for business intelligence reporting and analytics.

1. **Explain the updates done in Power Bi Service (power BI 2.0) as compared to older version?**

1. Enhanced User Interface: Power BI Service underwent continuous UI improvements, offering a more intuitive and user-friendly experience for report creation, sharing, and collaboration.

2. Advanced Analytics: New features like AI-powered visuals, natural language queries, and machine learning integration were introduced, providing users with more powerful and advanced analytics capabilities.

3. Data Connectivity: Power BI expanded its data connectivity options, allowing users to connect to an extensive range of data sources, both on-premises and in the cloud.

4. Improved Collaboration: Collaboration features were enhanced, enabling real-time collaboration, commenting, and easier sharing of reports and dashboards with colleagues.

5. Paginated Reports: Power BI introduced paginated reports, allowing for pixel-perfect, printable reports, addressing specific reporting needs.

6. Power Automate Integration: Power BI Service integrated with Power Automate (formerly Microsoft Flow), enabling workflow automation and notifications based on data changes.

7. Deployment Pipelines: Introduced deployment pipelines for managing the lifecycle of Power BI assets, providing better control over report deployment and promotion between environments.

8. Composite Models: Power BI enabled the creation of composite models, allowing users to combine different data sources, including imported and DirectQuery models, in a single report.

9. App Workspaces: App workspaces were improved for better organization and sharing of reports and dashboards with specific groups of users.

10. Incremental Refresh: Introduced incremental refresh to efficiently refresh large datasets incrementally, reducing data refresh times and resource usage.

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