DATA ANALYSIS ASSIGNMENT1

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COMPARE AND CONTRAST EXCEL AND POWER BI

Feature	Excel	Power BI
Purpose	Spreadsheet software for data entry, analysis, and reporting	Business intelligence tool for data visualization, dashboards, and real-time insights
Data Handling	Works well with small to medium datasets	Handles large datasets more efficiently with optimized performance
User Interface	Grid-based (rows and columns)	Dashboard and visual-based
Data Visualization	Charts, pivot tables, conditional formatting	Advanced interactive dashboards, reports, and AI-powered insights
Data Connectivity	Limited to file-based and cloud sources (CSV, SQL, etc.)	Connects to multiple data sources (Databases, APIs, cloud services)
Data Processing	Uses formulas, macros (VBA), and Power Query for transformation	Uses Power Query, Power Pivot, and DAX for advanced modeling
Collaboration	File-based sharing (OneDrive, SharePoint)	Cloud-based sharing via Power BI Service
Cost	Included in Microsoft 365	Free (Power BI Desktop), Pro and Premium versions require a subscription

Key Differences

Excel is best for **manual data analysis, financial modeling, and quick calculations**.
Power BI is best for **real-time dashboards, big data visualization, and automated reporting**.

Consideration that would inform your choice for data analysis tool

1. **Data Size & Complexity -Small to Medium** Excel is good .**Large Data Sets -**Power BI is better for handling big data efficiently.
2. **Type of Analysis -**Basic calculations, statistics, and financial modeling: **Excel** is ideal. Advanced analytics, real-time monitoring, and predictive modeling: **Power BI** is better.
3. **Data Visualization Needed-** Simple charts, tables, and pivot tables**: Excel** is enough. Interactive dashboards, dynamic reports, and AI-powered insights**: Power BI** excels.
4. **Data Connectivity -** If data comes from spreadsheets, local files, or databases: Both tools work. If integrating multiple sources like SQL, cloud services, or APIs: Power BI is more powerful.

Consideration that would inform your choice for data analysis tool

5. Collaboration & Sharing- For personal use or small team sharing: Excel is easier For organization-wide reporting and real-time collaboration: Power BI provides better access control and cloud integration.

6. Automation & Efficiency- For manual analysis and formula-based tasks: Excel is great. For scheduled updates, real-time reports, and automation: Power BI is better.

7. Cost & Licensing Excel is affordable for individuals and small teams. Power BI Desktop is free, but Pro and Premium plans require a subscription.

What is power BI, and how is it used in data analysis

Power BI is a business analytics tool developed by Microsoft that enables users to visualize and analyze data from various sources to make informed decisions.

What is the key components of power BI

Power BI Desktop-Desktop application for creating and designing data models, reports, and dashboards.

Power BI Service- Web-based platform for publishing, sharing, and collaborating on Power BI content.

Power BI Mobile - Mobile app for accessing Power BI content on smartphones and tablets.

What are the different types of Power BI services available?

- ➤ Power BI Desktop
- ➤ Power BI Service
- ➤ Power BI Mobile

How can you share a power BI dashboard with others?

➢ Sharing via Power BI Service

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