BLACKBIRD FOR TRAINING

Data Analysis and Interactive Reporting Using Power BI



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Introduction

Data analysis has become an essential part of decision-making within organizations, especially with the increasing volume of data and the variety of data sources used across departments. Business intelligence tools help organizations transform raw data into clear reports and dashboards that support performance monitoring, trend analysis, and the identification of opportunities and challenges.

This course focuses on using Power BI for data analysis, interactive reporting, dashboard development, and connecting data insights with performance indicators that support practical management decisions. It covers the main workflow stages, starting with importing and cleaning data, moving through data modeling and relationship building, and ending with report design, measures, and result presentation.

The course is structured over one week in a logical sequence. It begins with the core concepts of Power BI and data analysis, then moves into data preparation, data modeling, interactive visualization, dashboard development, and practical result analysis.

Course Objectives

By the end of this course, participants will be able to:

- Understand the role of Power BI in data analysis and organizational decision-making.
- Identify the main components of the Power BI environment and their uses.
- Import data from multiple sources and prepare it for analysis.
- Clean data by handling errors, duplicates, and missing values.
- Build structured data models that support accurate reporting.
- Create relationships between tables to analyze connected data.
- Use measures and indicators to analyze performance and results.
- Design interactive reports that help users read data easily.
- Build dashboards that present key results clearly.
- Analyze data to identify trends, gaps, and opportunities.
- Improve report design according to management and user needs.
- Apply the acquired knowledge to practical workplace-related cases.



Course Outlines

Day 1: Introduction to Power BI and Data Analysis

- The concept of data analysis and its role in supporting decisions.
- Overview of the Power BI environment and its main components.
- Understanding the workflow from raw data to final reports.
- Identifying common data sources used in organizations.
- Importing data into Power BI from different sources.
- Initial practice on reviewing data and understanding its structure.

Day 2: Data Preparation and Cleaning

- Understanding the importance of data quality in reporting and analysis.
- Using data preparation tools to manage tables and fields.
- Cleaning data by removing duplicates and handling missing values.
- Adjusting data types and formatting fields for analysis.
- Merging or splitting data according to analytical needs.
- Practical application on preparing a dataset for reporting.

Day 3: Data Modeling and Relationship Building

- The concept of data modeling and its importance in accurate reporting.
- Organizing tables and building relationships between them.
- Distinguishing between fact tables and dimension tables.
- Creating fields and measures that support performance analysis.
- Using indicators to read results and track objectives.
- Practical application of building a connected data model.

Day 4: Report Design and Interactive Visualizations

- Selecting the appropriate visual type according to the nature of the data.
- Designing clear reports that present results in an easy-to-understand way.
- Using filters and interactive slicers to support data analysis.
- Building connected and organized report pages according to user needs.
- Improving report readability through layout, colors, and titles.
- Practical application on designing a complete interactive report.



Day 5: Dashboards, Result Analysis, and Integrated Application

- Building dashboards that display performance indicators and key results.
- Analyzing trends and gaps using interactive reports.
- Connecting results with management needs and decision-making requirements.
- Reviewing report quality in terms of accuracy, clarity, and usability.
- Completing an integrated application from data preparation to final dashboard presentation.
- Discussing common mistakes in Power BI report preparation and how to avoid them.

Why Attend this Course: Wins & Losses!

- Gain practical understanding of using Power BI for data analysis.
- Improve the ability to transform raw data into clear reports.
- Develop skills in data preparation and cleaning before analysis.
- Build more organized and accurate data models.
- Create interactive reports that help users read results quickly.
- Prepare dashboards that support performance indicator monitoring.
- Improve data presentation skills for management and users.
- Support organizational decisions with clearer and more reliable data.
- Apply analysis tools to practical workplace cases.
- Reduce the time spent on manual and repetitive reporting.

Conclusion

The Data Analysis and Interactive Reporting Using Power BI course provides a practical framework that helps participants understand the stages of reporting and analysis in the workplace, starting with data import and preparation, moving through cleaning and modeling, and ending with interactive reports and dashboards.

The course focuses on the practical use of Power BI to transform data into understandable and analyzable information, with attention to data quality, table relationships, suitable visual selection, and clear result presentation. This helps management and teams monitor performance and make better decisions.

Through the integrated application on the final day, participants will complete a full workflow inside Power BI, starting from raw data and ending with a usable dashboard. The course provides practical knowledge that can be applied across departments such as management, finance, human resources, sales, marketing, projects, and operations, supporting improved organizational performance and better reporting quality.

