Business Insights 360

Comprehensive Data Analysis and Visualization using Power BI

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1. Project Background

Context & Problem Statement

AtliQ Hardwares, a leading computer hardware manufacturer, faced significant challenges with **manual reporting**, **fragmented data sources**, and the inability to make t**imely, data-backed decisions**. The client **relied heavily on Excel-based reports**, which were time-consuming, error-prone, and l**acked the interactive features** necessary for deeper analysis.

Objectives

- Create an **interactive Power BI dashboard** to consolidate business data from multiple sources.

- Implement **automated data integration** to eliminate inefficiencies and reduce the reliance on manual reporting

- Provide **real-time analytics** and predictive insights to improve decision-making processes.

- Establish a **scalable reporting framework** for future data needs.

Key Deliverables

- A fully **functional** and **user-friendly dashboard** integrating real-time business data.

- Seamless data updates through automated **Extract, Transform, Load (ETL)** processes.

- A comprehensive data-driven insightful framework with tailored views for **Finance, Sales, Marketing, Supply Chain, and Executives**.

Duration	The project was completed within **6 weeks,** following an agile approach with iterative improvements.

2. My Role & Contributions

Role & Skills Acquired

As a Junior Data Analyst, I have developed a strong skill set in Data Analytics & Visualization, with expertise in Power BI (Data Modeling, DAX, Dashboard Design), SQL & Python for data processing, Business Intelligence & Storytelling, and Stakeholder Communication & Project Management.

Data Integration & Processing

ETL Processes: Extracted, transformed, and **loaded data** from multiple sources, including SQL databases and Excel sheets.

Data Cleansing: Implemented data **cleansing** and **validation** techniques to ensure data **accuracy, consistency,** and **reliability.**

Dashboard Design & Development

Dashboard Design: Designed an intuitive and visually engaging Power BI dashboard, incorporating **Key Performance Indicators (KPIs), trend analysis, and predictive insights**.

Custom Data Models: Built custom **data model**s and **Data Analysis Expressions (DAX)** formulas to enhance reporting capabilities.

Collaboration & Stakeholder Engagement

Requirement Gathering: Worked closely with **business stakeholders** to understand their reporting requirements and **align the dashboard with their need**s.

Feedback **Loops:** Established ongoing feedback loops to **refine dashboard elements** based on user inputs or feedbacks.

3. Outcomes & Impact

Key Achievements

Increased Efficiency:
The automated Power BI dashboard reduced manual reporting time by 60%, saving the client significant operational hours.

Improved Decision-Making:
Provided real-time, data-driven insights, allowing leadership to make strategic business decisions faster.

Enhanced Data Accessibility:
Enabled business teams to access interactive reports anytime, eliminating the reliance on static Excel sheets.

Scalability & Reusability:
Developed a flexible reporting framework that can be expanded for additional business functions in the future.

Quantifiable Impact

Reduction in Reporting Errors:
Achieved a 40% reduction in reporting errors due to automation.

Data Processing Speed:
Improved report generation time by 70%.

Faster Insights:
Reduced decision-making turnaround from days to minutes.

4. Key Lessons Learned

- **Understanding Business Needs is Crucial:**

  Engaging with end-users early ensured the dashboard met their exact business requirements, increasing adoption rates.

- **Data Quality is the Foundation of Good Analytics:**

  Establishing data validation and cleaning mechanisms was critical for ensuring the accuracy of insights.

- **Automation Saves Time & Reduces Errors:**

  Implementing ETL automation significantly reduced the need for manual data manipulation, improving both efficiency and accuracy.

- **User Training Drives Success:**

  Training and documentation played a vital role in empowering business teams to make data-driven decisions independently.

5. Relevance to Focus Area

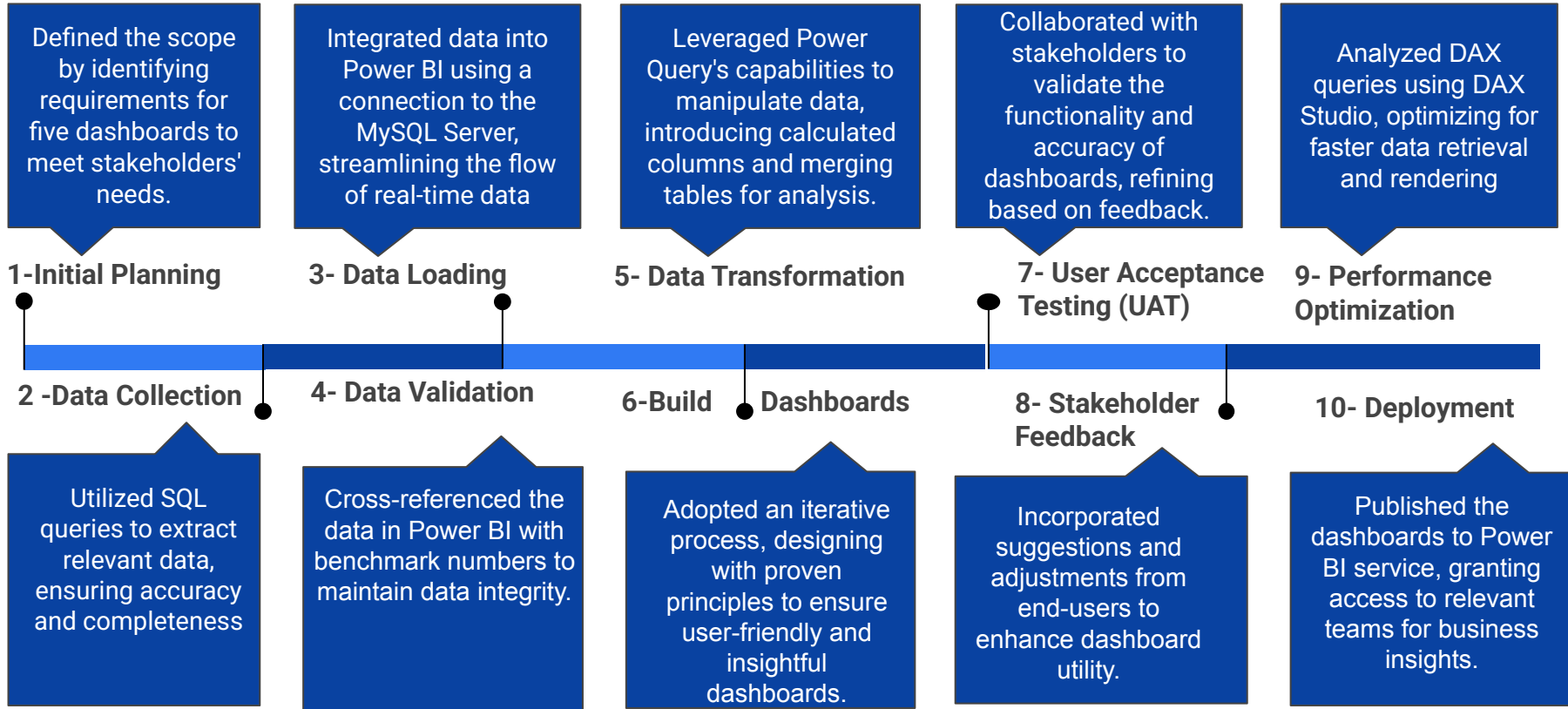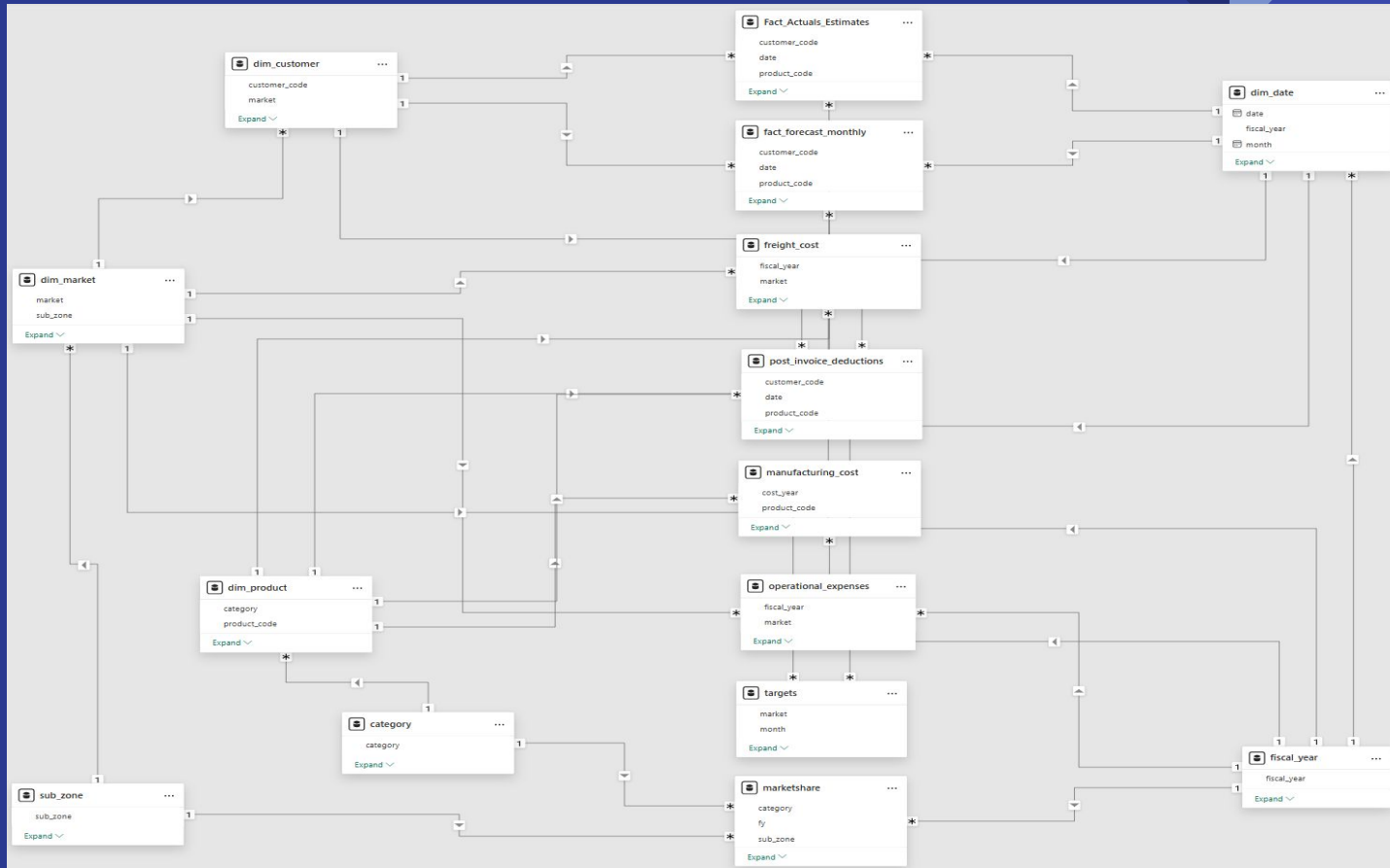|	
Demonstrates Strong Data Analytics & BI Expertise	Showcases my ability to work with large datasets, transform raw data into insights, and build interactive dashboards.
Experience in Cross-Functional Collaboration	Worked with executives, IT teams, and business units to translate business needs into technical solutions.
Proficiency in Power BI, SQL & Python for Data Processing	Strengthened my skills in data modeling, visualization, and automation—critical for data-driven roles.
Alignment with Analytics, Consulting & Business Intelligence Roles	This project mirrors real-world industry applications, making me well-prepared for data analytics consulting, BI development, or reporting-focused roles.
Proven Problem-Solving & Process Improvement Abilities	Hands-on experience in identifying inefficiencies, automating workflows, and implementing scalable solutions.

6. Appendix

Project Approach

1- Initial Planning

Defined the scope by identifying requirements for five dashboards to meet stakeholders' needs.

2 - Data Collection

Utilized SQL queries to extract relevant data, ensuring accuracy and completeness

3- Data Loading

Integrated data into Power BI using a connection to the MySQL Server, streamlining the flow of real-time data

4- Data Validation

Cross-referenced the data in Power BI with benchmark numbers to maintain data integrity.

5- Data Transformation

Leveraged Power Query's capabilities to manipulate data, introducing calculated columns and merging tables for analysis.

6-Build Dashboards

Adopted an iterative process, designing with proven principles to ensure user-friendly and insightful dashboards.

7- User Acceptance Testing (UAT)

Collaborated with stakeholders to validate the functionality and accuracy of dashboards, refining based on feedback.

8- Stakeholder Feedback

Incorporated suggestions and adjustments from end-users to enhance dashboard utility.

9- Performance Optimization

Analyzed DAX queries using DAX Studio, optimizing for faster data retrieval and rendering

10- Deployment

Published the dashboards to Power BI service, granting access to relevant teams for business insights.

Project Showcase

Power BI Dashboard : Link

Github Repository: Link

LinkedIn Project Showcase: Link

Project Data Model

Thank You