

Business Insight 360 Report

About AtliQ Hardware

AtliQ Hardware is a global manufacturer and retailer of computer hardware, including PCs, mice, printers, and more. It serves a diverse clientele that includes both physical stores and e-commerce platforms. Notable customers include Croma, Amazon, Neptune, Staples, Walmart, among others.

Problem Statement

As AtliQ Hardware has expanded, so has the volume of its data, outgrowing the capabilities of basic MS Excel analysis. To leverage this data for strategic decision-making, the company is enlisting the help of data analysts to create insightful analyses that can inform business strategies.

Management's Dashboard Requirements

1. **Finance View:** Displays profit and loss statements segmented by products, markets, and customers.
2. **Sales View:** Highlights top and bottom-performing customers with key performance metrics.
3. **Marketing View:** Similar to the Sales View but focuses on product performance instead of customer performance.
4. **Supply Chain View:** Provides insights into supply chain reliability and efficiency.
5. **Executive View:** Offers a consolidated view of key insights for executives.

Project Execution

Step 1: Data Integration

- Loaded data into a MySQL Database and connected it to Power BI.

Step 2: Database Relationship Management

- Reviewed and managed database relationships within Power BI and created necessary dimension tables using Power Query.

Step 3: Data Validation

- Validated data using Power BI tables, cross-referencing with original data sources.

Step 4: Data Transformation

- Created dynamic reference tables, such as a Last Sales Month Reference table, to ensure data is up-to-date.

Step 5: Calculated Columns

- Developed calculated columns in Power Query, such as fiscal_year, and merged necessary tables.

Step 6: Data Modelling

- Utilized a Star Schema for data modelling, connecting dimension tables to fact tables for efficient querying.

Step 7: DAX Formulas

- Implemented over 40 DAX formulas to create calculated columns, ensuring accuracy by verifying against MySQL or Excel data.

Step 8: Report Optimization

- Optimized the report to minimize file size, facilitating easier sharing and access.

Building The Dashboard

Home Page

- A navigation hub for accessing detailed report views, with summaries to guide users to their areas of interest.

Finance View

- Displays P&L statements, product and customer performance data, and year-on-year comparisons. Includes a feature to assess net sales performance against targets for strategic goal-setting.

Sales View

- Allows the sales team to analyze product and customer performance across regions with filters for detailed insights.

Marketing View

- Provides financial statistics like gross margin %, net profit %, operational expenses, and cost of goods sold, helping in budget allocation and market potential assessment.

Supply Chain View

- Offers insights into inventory management and demand forecasting. Highlights improvements in forecast accuracy, critical for operational efficiency.

Executive View

- Consolidates key performance indicators such as net sales, gross margin, and market share for quick executive review, saving time for senior stakeholders.

Key Findings

- **Financial Year:** Begins in September.
- **Sales Growth:** Net sales in FY2022 increased by 358.5% compared to FY2021.
- **Cost Increases:** COGS rose by 342%, and operational expenses by 447.5% from FY2021.
- **Gross Margin Improvement:** Increased by 1.59% from FY2021.
- **Net Loss:** Increased significantly by 855% from FY2021.
- **Regional Sales Distribution:** APAC region accounts for over 50% of sales, followed by NA and EU.
- **Top Performing Countries by Sales:**
 - India: 26.19%
 - USA: 18.34%
 - South Korea: 9.06%
 - Canada: 5.76%
 - UK: 5.24%
- **Top Products by Sales:**
 - Notebook: 42.30%
 - Peripherals: 24.02%
 - Desktop: 19.03%
- **Sales Channels:** Highest sales from Amazon and AtliQ Exclusive, followed by AtliQ e-store and Flipkart.
- **Gross Margin:** Flipkart and AtliQ Exclusive have better margins.
- **Forecast Accuracy:** Improved by 1.2% over the previous fiscal year.
- **Revenue Streams:** Retail comprises 71.53% of total revenue, followed by direct and distribution channels.

This comprehensive report provides a robust foundation for strategic decision-making aligning AtliQ Hardware's operations with its growth objectives.

Learnings from the Project

Embarking on this project provided a comprehensive understanding of various elements that extend beyond the technical aspects of Power BI. It offered valuable insights into business analysis, financial assessment, and strategic decision-making. Below is an overview of the key learnings and skills developed through this project.

Power BI

Data Modelling

- **Understanding Data Relationships:** Building robust data models to establish relationships between various datasets, ensuring data integrity and reliability.
- **Data Transformation:** Utilizing Power Query to clean and transform raw data into a usable format for analysis.

Dashboard Creation & Designing

- **Visualization Techniques:** Designing interactive and user-friendly dashboards that effectively communicate data insights.
- **User Experience (UX) Design:** Focusing on intuitive navigation and layout to enhance user engagement and understanding.

Project Charter

- **Defining Project Objectives:** Establishing clear goals and deliverables to guide the project's direction and ensure alignment with stakeholders' expectations.
- **Scope and Timeline Management:** Identifying project scope and setting realistic timelines to manage resources efficiently.

Stakeholder Mapping

- **Identifying Key Stakeholders:** Recognizing individuals and groups affected by the project, and understanding their needs and expectations.
- **Engagement Strategies:** Developing communication plans to keep stakeholders informed and involved throughout the project lifecycle.

Financial Analysis

Going Through P&L Statements

- **Performance Comparison:** Analyzing Profit & Loss statements to evaluate the financial performance of products, categories, and markets.
- **Financial Metrics Calculation:** Using financial data to calculate key performance indicators such as Profit %, Gross Margin %, and Forecast %.

Business Transactions

- **Profit and Margin Analysis:** Creating metrics like Profit % and Gross Margin % to assess profitability and operational efficiency.
- **Sales Comparison:** Conducting comparative analysis of sales performance across different periods to identify trends and growth opportunities.

DAX Formulas

Developing proficiency in DAX (Data Analysis Expressions) was crucial for performing complex calculations and data analysis. The following formulas were integral to the project's success:

- **Profit % Calculation:** $\text{Profit \%} = (\text{Net Profit} / \text{Revenue}) * 100$
- **Gross Margin % Calculation:** $\text{Gross Margin \%} = (\text{Revenue} - \text{Cost of Goods Sold}) / \text{Revenue} * 100$
- **Forecast % Calculation:** $\text{Forecast \%} = (\text{Projected Sales} - \text{Actual Sales}) / \text{Projected Sales} * 100$

- **Sales Comparison:** Employing DAX time intelligence functions to compare sales data from previous periods.

Conclusion

The project not only enhanced technical skills in Power BI and data analysis but also deepened understanding of business strategies and financial metrics. By integrating technical knowledge with business acumen, it prepared participants to make informed decisions and deliver impactful results. The ability to translate complex data into actionable insights is a key takeaway from this experience.