



A Study on Design and Development of Interactive Business Dashboards Using Power BI for Data Visualization and Reporting: Sri Balaji Traders, Hyderabad

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Abstract:

In the modern business environment, data-driven decision-making plays a crucial role in improving organizational performance. Business intelligence tools such as Microsoft Power BI enable organizations to convert raw data into meaningful insights through interactive dashboards and visual reports. This study focuses on the design and development of interactive business dashboards using Power BI for Sri Balaji Traders, Hyderabad. The main purpose of the research is to analyze how interactive dashboards enhance data visualization, reporting efficiency, and managerial decision-making. A questionnaire survey was conducted among 50 respondents associated with the organization to understand their perceptions regarding the effectiveness of Power BI dashboards. Both primary and secondary data sources were used for the research. The collected data was analyzed using tables and graphical representations. The results indicate that interactive dashboards significantly improve data accessibility, reduce reporting time, and provide real-time insights for business operations. The study concludes that implementing Power BI dashboards can enhance business intelligence capabilities and support better strategic planning for small and medium enterprises.

Keywords: Power BI, Data Visualization, Business Intelligence, Interactive Dashboards.

Introduction:

In today's digital economy, organizations generate vast amounts of data through daily business operations. Managing and interpreting this data effectively is essential for strategic planning and decision-making. Traditional reporting systems often present data in static formats, making it difficult for managers to extract meaningful insights quickly.

Interactive dashboards provide a modern solution by presenting data visually through charts, graphs, and real-time metrics. Tools such as Power BI enable businesses to integrate multiple data sources and create dynamic

dashboards that support better analysis and monitoring of key performance indicators.

Sri Balaji Traders, Hyderabad, deals with trading and distribution activities that involve large amounts of operational and sales data. Implementing an interactive dashboard system helps the company track performance, monitor sales trends, and make faster decisions.

Problem Statement:

Many small and medium enterprises still rely on manual or spreadsheet-based reporting methods, which are time-consuming and lack interactive visualization features. There is a need

to implement a more efficient data visualization and reporting system using Power BI dashboards for better business insights.

Literature Review:

Sharma & Gupta (2021) examined the role of business intelligence tools in improving organizational decision-making. Their study found that interactive dashboards help managers analyze complex datasets quickly.

Kumar (2020) studied the effectiveness of data visualization tools in business analytics and concluded that Power BI improves reporting efficiency and data accessibility for organizations.

Reddy and Prasad (2019) analyzed the implementation of dashboard systems in small enterprises and reported increased operational efficiency through real-time monitoring.

Thomas (2022) explored the application of Power BI in business reporting and highlighted its capability to integrate data from multiple sources and create interactive visualizations.

These studies demonstrate that dashboard technologies significantly enhance data interpretation and reporting efficiency in modern organizations.

Objectives of the Study:

1. To study the design and development of interactive dashboards using Power BI.
2. To analyze the effectiveness of Power BI dashboards in business data visualization.
3. To evaluate the impact of dashboard reporting on decision-making in Sri Balaji Traders.

Data Analysis:

Table 1: Challenges in Data Visualization Data

Challenge	Manual Data Entry	Lack of Advanced Tools	Data Inaccuracy	Lack of Training
Percentage (%)	30	36	20	14

Research Questions:

1. How effective are interactive dashboards in improving business data visualization?
2. Does Power BI improve reporting efficiency in organizations?
3. How do dashboards support managerial decision-making?

Research Methodology:

1. Research Design:

The study follows a **descriptive research design** to analyze the effectiveness of Power BI dashboards for business reporting.

2. Sample Size:

The sample size of the study consists of **50 respondents**.

3. Sample Area:

The study was conducted at **Sri Balaji Traders, Hyderabad**.

4. Data Collection:

Primary Data:

Primary data was collected through a **structured questionnaire survey** distributed among employees and management staff.

Secondary Data:

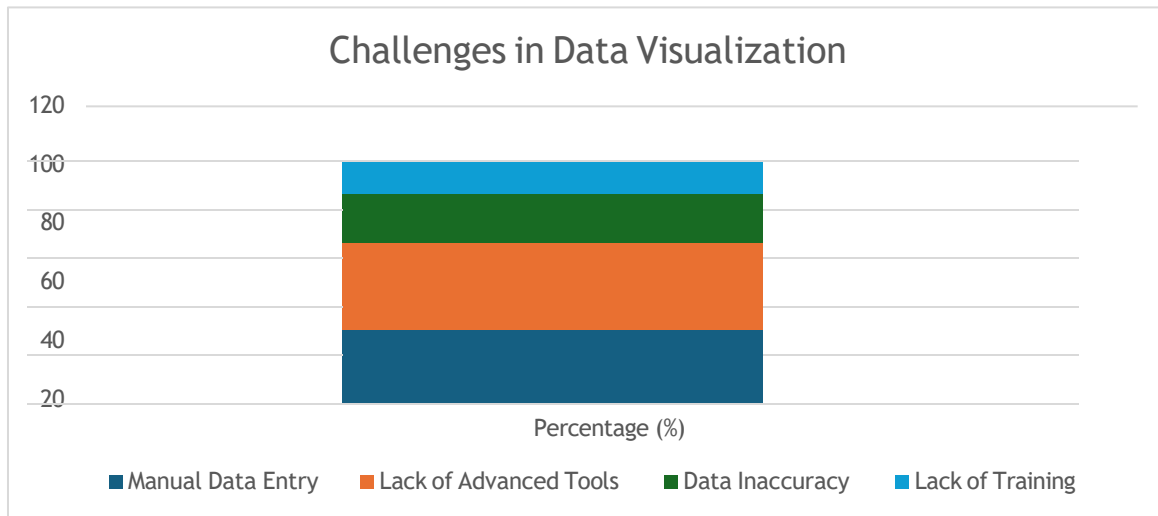
Secondary data was collected from:

- Research journals
- Websites
- Books
- Industry reports

Sampling Technique:

The study used the **simple random sampling technique** to select respondents.

Graph 1 : Stacked Column Chart showing challenges in data visualization.

**Interpretation:**

The main challenges are lack of advanced tools and manual data entry. This confirms the

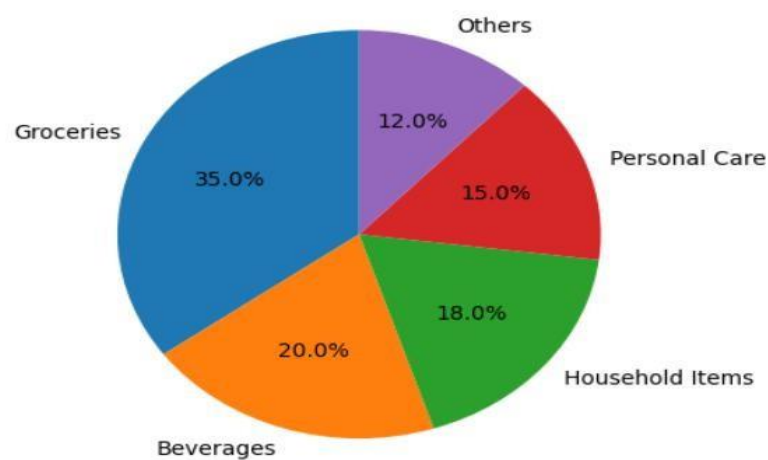
need for automation and adoption of modern visualization software.

Table 2: Products-wise sales contribution of Shree Balaji traders

Product Category	Groceries	Beverages	Household Items	Personal Care	others
Sales Contribution (%)	35	20	18	15	12

Graph 2: Pie Chart showing sales in shree Balaji traders.

Product-wise Sales Contribution of Shree Balaji Traders



Interpretation:

The pie chart clearly shows that grocery products contribute the maximum share (35%) to total sales. This indicates that grocery items are the core revenue drivers of Shree Balaji Traders. Beverages and household items also contribute a significant portion of sales, while personal care and other products contribute comparatively less. Management should ensure uninterrupted supply of grocery products and explore strategies to improve sales of lower- contributing categories.

Findings:

1. Most respondents are aware of Power BI dashboards and their functionalities.
2. Interactive dashboards improve the visualization of complex business data.
3. Power BI reduces the time required for generating reports.
4. The majority of respondents believe dashboards enhance managerial decision-making.

Suggestions:

1. Organizations should provide training programs to improve employee skills in Power BI.
2. Businesses should integrate dashboard systems with existing databases for real-time reporting.
3. Regular updates and improvements should be made to dashboard designs.
4. Small and medium enterprises should adopt business intelligence tools to enhance decision-making.

Conclusion:

The study concludes that interactive dashboards developed using Power BI significantly improve business data visualization

and reporting efficiency. For Sri Balaji Traders, implementing dashboard systems enables better monitoring of sales performance, operational data, and key business indicators. The use of visual analytics simplifies complex datasets and supports informed decision-making. Therefore, adopting modern business intelligence tools like Power BI is essential for organizations aiming to improve efficiency, transparency, and strategic planning. Thus, data visualization should not be viewed merely as a reporting technique but as a strategic asset that supports informed decision-making and business excellence.

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