



# SNS College of Technology

[An Autonomous Institution]

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai

Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &

Accredited by NBA (B.E CSE, EEE, ECE, Mech & B.Tech.IT)

COIMBATORE-641 035, TAMIL NADU

DEPARTMENT OF MANAGEMENT STUDIES



Academic Year : 2023-24 Semester : 02  
Course Code : 23BAT615  
Course Name : Artificial Intelligence for Managers  
Unit : V – Frameworks for Delivering AI Solutions

## Questions [2 Marks]

### 1. How can data visualization influence business decisions?

Data visualization can influence business decisions by presenting complex data in a clear and accessible manner, making it easier to identify patterns, trends, and insights. Visualizations help stakeholders quickly grasp key information, compare different scenarios, and make data-driven decisions based on evidence rather than intuition or guesswork.

### 2. What are some examples of data visualization impacting decision-making in businesses?

Examples include using sales dashboards to monitor performance and adjust strategies, visualizing customer feedback to improve product development, employing financial visualizations to guide investment decisions, and using supply chain visualizations to optimize operations and reduce costs.

### 3. Why is it important to tailor visualizations to your audience?

Tailoring visualizations to your audience is important because different audiences have varying levels of data literacy, interests, and decision-making needs. Customizing visualizations ensures that the information is accessible, relevant, and compelling to the specific audience, whether they are executives, managers, analysts, or other stakeholders.

### 4. How can interactive visualizations enhance decision-making?

Interactive visualizations enhance decision-making by allowing users to explore data from different angles, drill down into details, and adjust parameters to see potential

outcomes. This interactivity helps users gain deeper insights, answer specific questions, and test hypotheses, leading to more informed and flexible decision-making.

**5. What role does data storytelling play in presenting business cases to stakeholders?**

Data storytelling plays a crucial role in presenting business cases to stakeholders by framing data within a compelling narrative that highlights the problem, explains the analysis, and illustrates the potential impact of proposed solutions. It helps to engage stakeholders, build a persuasive argument, and drive consensus and action.

**6. What are the basic principles of effective data visualization?**

Basic principles include clarity, simplicity, accuracy, and relevance. Effective visualizations should communicate information clearly and concisely, avoid unnecessary complexity, accurately represent the data, and be relevant to the audience's needs and objectives.

**7. How can the choice of chart type affect the interpretation of data?**

The choice of chart type affects interpretation by highlighting different aspects of the data. For example, bar charts are effective for comparing quantities, line charts for showing trends over time, pie charts for illustrating proportions, and scatter plots for displaying relationships between variables. Choosing the right chart type ensures that the data's key message is communicated effectively.

**8. What are the common mistakes to avoid in data visualization?**

Common mistakes include using inappropriate chart types, cluttering visualizations with too much information, ignoring the need for context, using misleading scales or labels, and neglecting accessibility considerations. Avoiding these mistakes ensures that visualizations are clear, accurate, and useful.

**9. How can color be used effectively in data visualizations?**

Color can be used effectively to differentiate data categories, highlight key points, and enhance readability. It's important to use color consistently, choose color schemes that are accessible to those with color vision deficiencies, and avoid using too many colors, which can overwhelm the viewer.

**10. What tools and software are commonly used for creating data visualizations?**

Common tools and software include Microsoft Excel, Tableau, Power BI, Google Data Studio, R with ggplot2, Python with Matplotlib and Seaborn, and D3.js. These tools offer

a range of capabilities for creating static and interactive visualizations, suitable for various data visualization needs.

**11. Why is it important to use accurate and reliable data in visualizations?**

Using accurate and reliable data is crucial because visualizations based on incorrect or misleading data can lead to faulty conclusions and poor decision-making. Ensuring data integrity and validity helps maintain trust in the visualizations and supports informed, evidence-based decisions.

**12. How can annotations and labels enhance the clarity of a visualization?**

Annotations and labels enhance clarity by providing additional context, explaining specific data points, highlighting key insights, and guiding the viewer through the visualization. They help to ensure that the audience understands the data and the message being conveyed.

**13. What are the benefits of using dashboards for data visualization?**

Dashboards provide a comprehensive view of key metrics and performance indicators in a single, interactive interface. They allow users to monitor trends, identify issues, and make quick, informed decisions. Dashboards also facilitate real-time data analysis and can be customized to meet the needs of different stakeholders.

**14. How can visualizations be used to identify trends and patterns in data?**

Visualizations help identify trends and patterns by presenting data in a graphical format that highlights changes over time, correlations, and distributions. Techniques such as line charts, heatmaps, and scatter plots make it easier to spot trends, outliers, and relationships within the data.

**15. Why is it important to consider the audience's data literacy when creating visualizations?**

Considering the audience's data literacy is important because it ensures that the visualization is accessible and understandable to the intended viewers. Tailoring the complexity and detail of the visualization to the audience's level of expertise helps to effectively communicate the key message and avoid confusion.

**16. How can you ensure that data visualizations are accessible to all users, including those with disabilities?**

Ensuring accessibility involves using high-contrast colors, providing text alternatives for visual content, using accessible fonts, avoiding reliance on color alone to convey information, and following web accessibility guidelines