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Formatting in Tableau

Pre-requisites

Hope you have gone through the self-learning content for this session on the PRISM portal.

By the End of this Session, You Will:

- Master font, alignment, borders, and shading for clear and engaging data visualization.
- Edit axes and date formatting to enhance data interpretation and clarity.
- Seamlessly integrate visuals, create interactive actions, and employ containers for organized, user-centric dashboards.
- Utilize Device Designer for adaptable layouts across different devices.
- Craft compelling data-driven stories by combining dashboards, visuals, and text.
- Establish visual hierarchy, color schemes, and font consistency for an appealing design.
- Share visualizations effectively through exporting, Tableau Online/Server, and Tableau Public.
- Enhance user engagement through interactive actions, such as filtering and highlighting.

Recap

Poll Time

Q. Which of the following formatting options in Tableau deals with the appearance of text?

a. Format Font

b. Format Shading

c. Dashboard Interface

d. Edit Axes – Date

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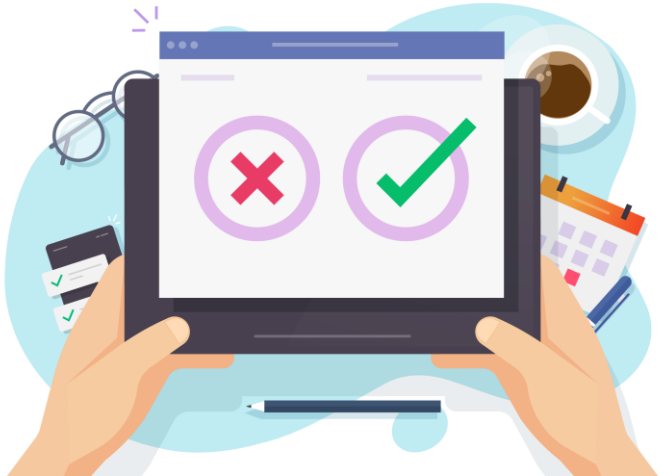

Formatting in Tableau

Font in Visualization: Enhancing Impact

Font choice, size, style, and color are critical elements in visualization design as they significantly impact how data is perceived and understood. These aspects enhance the visual appeal and effectiveness of visualizations by guiding the viewer's attention, conveying information hierarchy, and evoking emotions. Here's their significance:

- **Font Choice:** Impacts message alignment and audience perception.
- **Font Size:** Dictates readability and navigational ease.
- **Font Style:** Emphasizes elements, adding hierarchy.
- **Color:** Conveys meaning, distinguishes categories, and evokes emotions.
- **Legibility and Accessibility:** Ensures data accessibility for all users.
- **User Engagement:** Captures attention, encourages exploration.
- **Context and Mood:** Sets tone, aligns with message, and mood.

Selecting & Modifying Fonts

Default Font: Set in "Format" > "Workbook" > "Default Font."

Text Elements: Format > Marks card > Font section.
Choose font for titles, headers, labels.

Axes Font: Click axis > "Format" pane > Axis Titles / Tick Marks.

Labels & Annotations: Right-click > Format for font adjustments.

Conditional Formatting: Create condition-based calculated fields.
Adjust font settings in Marks card based on conditions.

Tips: Maintain font consistency for coherence.
Prioritize readability over decoration.
Test and refine for a polished design.

Proper Text Alignment for Readability

The following are the importance of proper text alignment for readability:

- **Clear Hierarchy:** Guides viewers through structured content.
- **Visual Flow:** Creates seamless narrative progression.
- **Reduced Load:** Easy information absorption, reduced strain.
- **Consistency:** Enhances credibility and professionalism.
- **Accessibility:** Inclusive engagement for all audiences.
- **Aesthetics:** Increases engagement, visual appeal.
- **Result:** Well-aligned text elevates readability, engagement, and comprehension of data visualizations.

Aligning Headers, Labels, and Text in Cells

Headers: Format > Alignment > Left/Center/Right.

Labels: Marks card > Alignment > Horizontal/Vertical.

Text: Format > Alignment settings.

Benefits: Readability
Visual Appeal
Structured Organization
Enhanced User Experience

Defining Data Areas with Borders

Borders play a significant role in data visualization by defining and organizing data areas within charts, graphs, and tables. Just as borders on a map delineate boundaries, borders in data visualizations delineate the boundaries of data segments, highlighting relationships and emphasizing distinctions.

Visual Structure: Separates data from other elements.
Establishes a clear layout.

Emphasis on Data: Highlights key information.
Guides viewer's attention.

Organized Presentation: Creates a tidy, uncluttered appearance.
Enhances overall readability.

Visual Hierarchy: Establishes data categorization.
Supports data interpretation.

Improved Aesthetics: Enhances overall visual appeal.
Adds a professional touch.

Pop Quiz

Q. What is the purpose of using alignment formatting in Tableau?

a. To change the color of text

b. To adjust the size of text

c. To control the position of text within a cell

d. To add decorative elements to text

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Emphasizing Data with Background Shading

Background shading is a powerful technique in data visualization that enhances the visual impact of specific data points and aids in conveying insights more effectively. Think of background shading as a spotlight that highlights key information and guides the viewer's attention toward important elements within a visualization.

The significance of background shading is as follows:

- **Selective Highlighting:**
  - Shade specific data points.
- **Visual Contrast:**
  - Darker or contrasting color.
- **Comparative Analysis:**
  - Enhance comparison among points.
- **Data Emphasis:**
  - Focus on important information.

Poll Time

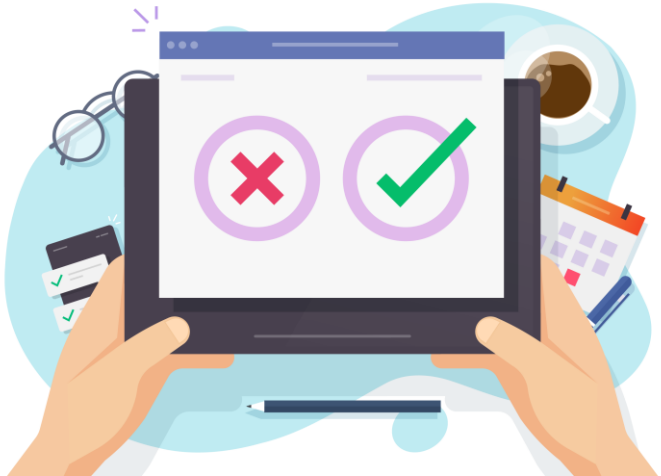
Q. Which formatting element helps distinguish different areas of data in a visualization?

a. Shading

b. Alignment

c. Borders

d. Font size



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Demo – Editing Axes


Q&A

Dashboard Designing

Introduction to Dashboard Canvas

The dashboard canvas in Tableau is a blank slate where you can creatively assemble and arrange various visual elements, allowing you to present a comprehensive view of your data insights. Think of the dashboard canvas as your "data storytelling canvas" where you paint a vivid picture of your analysis for your audience.

The purpose of Dashboard Canvas is as follows:

- **Unified Presentation:** Combine visuals for cohesive narrative.
- **Interactivity:** Enable user engagement and exploration.
- **Focused Insights:** Highlight key metrics for decisions.
- **Storytelling:** Guide through data insights logically.
- **Multi-Visual Analysis:** Compare diverse data aspects.
- **Customization:** Tailor layout for impactful experience.

Working with Worksheets

Access Dashboard:
- Open new/existing dashboard.

Open Worksheet Tabs:
- Click desired worksheet tabs.

Drag and Drop:
- Click, hold, and drag onto canvas.

Position and Resize:
- Adjust layout and size.

Interactivity:
- Add filters, actions, parameters.

Repeat Steps:
- Combine multiple visuals.

Dashboard Actions: Interactive Enhancement

Dashboard actions in Tableau are like invisible threads that connect different parts of your visualization, enabling seamless interaction and enhancing the user experience. Think of them as the pathways that allow users to explore, drill down, and gain deeper insights from your data visualizations.

Role of Dashboard Actions:

- **Interactivity Boost:**
  - Users interact, visuals respond dynamically.
- **Filter Actions:**
  - Selection filters related visuals.
  - Drill down into specific data.
- **Highlight Actions:**
  - Click highlights relevant info.
  - Emphasizes associated insights.
- **URL Actions:**
  - Link visuals to external content.
  - Provide context or reference.
- **Parameter Actions:**
  - Adjust parameters for custom view.

Creating Filter and Highlight Actions

Access Dashboard Actions:

- "Dashboard" > "Actions".

Filter Actions:

- "Add Action" > "Filter".
- Source, target visuals.
- Define filtering fields.

Highlight Actions:

- "Add Action" > "Highlight".
- Source, target visuals.
- Specify highlighting fields.

Test and Refine:

- Ensure desired user experience.

Save and Apply:

- Save actions configuration.

Pop Quiz

Q. Which statement accurately describes the behavior of filter actions in Tableau dashboards?

a. Filter actions can only be applied to one visualization on a dashboard

b. Filter actions allow users to switch between different dashboards

c. Filter actions exclude data based on selected values in one visualization

d. Filter actions are used to navigate to external web pages

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Demo – Device Designer

Storytelling through Data Visualization

- Storytelling through data visualization is the art of using data-driven visuals to communicate a compelling narrative, making complex information accessible and engaging for your audience.
- Think of it as crafting a captivating story using data as your characters, insights as your plot points, and visuals as your medium of expression.

Creating a Story with Dashboards

Open New Story:

- Navigate to "Story" in Tableau.

Add Content:

- Drag dashboards, visuals.
- Arrange logically.

Add Text:

- Use "T" icon for explanations.

Narrative Flow:

- Sequence visuals, text coherently.

Creating a Story with Dashboards

Formatting:

- Maintain a consistent appearance.

Interactive Elements:

- Add filter actions for engagement.

Preview and Refine:

- Edit for optimal communication.

Save and Share:

- Save and share for impactful storytelling.

Poll Time

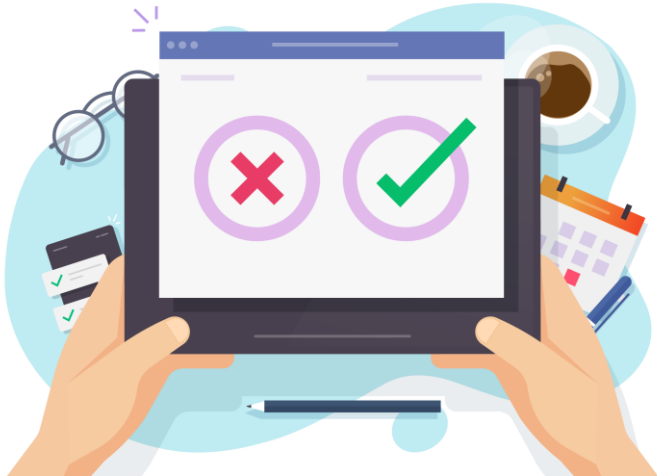
Q. What is the primary role of the Story feature in Tableau?

a. Adding decorative images to dashboards

b. Creating a sequence of visualizations to tell a data-driven narrative

c. Organizing visuals in a dashboard

d. Adjusting font and text alignment



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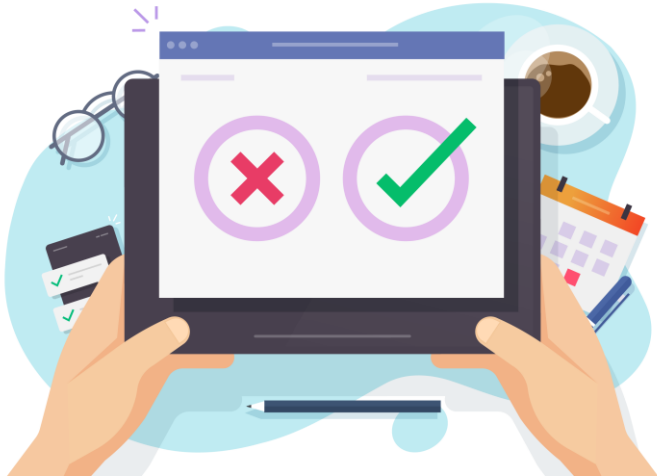


Demo - Publishing and Sharing

Poll Time

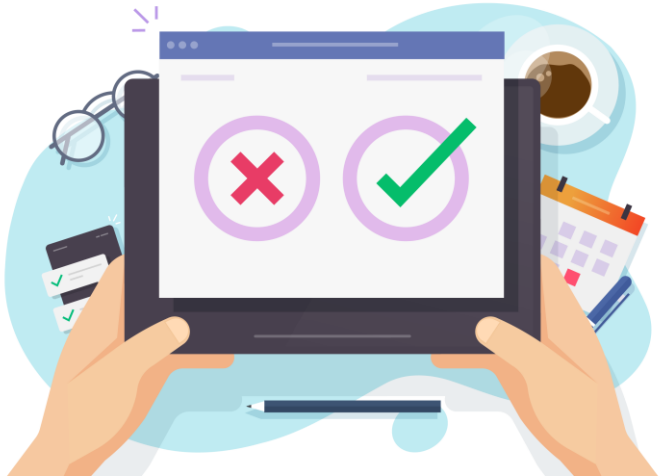
Q. Which feature in Tableau allows users to interact with the data by selecting data points or time periods?

a. Story

b. Dashboard Actions

c. Device Designer

d. Borders



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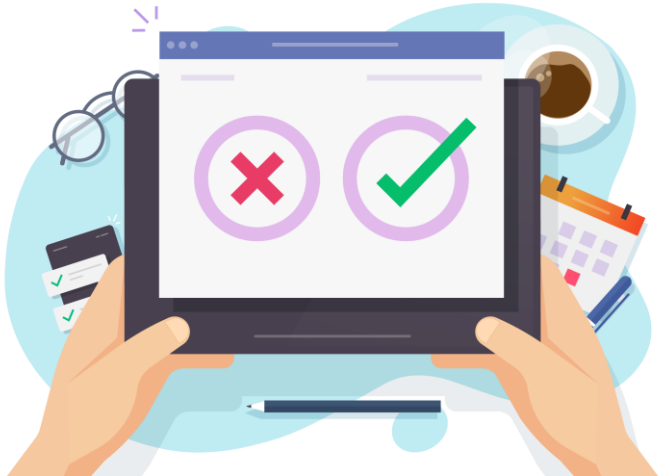


Q&A

Summary

- Explored formatting techniques, including font, alignment, borders, and shading, to enhance visual appeal and reader engagement.
- Crafted user-friendly dashboards by understanding the dashboard interface, leveraging interactive actions, and creating a responsive layout with the Device Designer.
- Elevated your insights with storytelling through the Story feature, guiding viewers through data-driven narratives with context and clarity.
- Harnessed the power of Dashboard Containers to organize visuals, maintain alignment, and creating a well-structured, professional dashboard layout.

Summary

- Dived into dashboard design and development, embracing an iterative approach that brings creativity and effectiveness to your visualizations.
- Discovered various sharing options, from exporting and publishing to Tableau Online or Server, to making insights public on Tableau Public.
- Equipped yourself with skills to design, share, and communicate data-driven insights effectively, fostering collaboration and informed decisions.

Activity

Pre-requisites: Familiarity with Tableau's dashboard creation and formatting features covered in the session.

Scenario: Imagine you are a data analyst working for an e-commerce company. Your team has gathered sales, customer feedback, and product data over the past year. Your goal is to create a comprehensive data-driven storyboard that highlights the company's performance and potential areas for improvement.

Expected Outcome: Create a Tableau dashboard that tells a compelling story about the company's performance using the data provided. Utilize formatting, design principles, storytelling techniques, and interactive elements to engage viewers and guide them through the narrative.

Activity

- **Data Selection:** Choose relevant datasets from the provided sales, customer feedback, and product data.
- **Dashboard Structure:** Plan the structure of your dashboard, including the order of visualizations and key insights you want to convey.
- **Formatting Mastery:** Apply formatting techniques learned in the session, including font choices, alignment, borders, and shading, to ensure a polished and appealing dashboard.
- **Storytelling:** Use the Story feature to guide viewers through the narrative. Consider including text annotations to provide context and explain the significance of each visualization.

Activity

- **Interactive Elements:** Implement dashboard actions to enable viewers to interact with the data and uncover insights by selecting different data points or time periods.
- **Responsive Design:** Ensure your dashboard is responsive using the Device Designer, making it accessible across various devices and screen sizes.
- **Container Organization:** Utilize Dashboard Containers to maintain a structured layout and ensure visuals are well-organized.
- **Sharing and Presentation:** Once complete, export your dashboard and share it with your peers. If applicable, upload it to Tableau Public and share the link for further collaboration.

Next Session:
Case Study on Tableau

THANK YOU!

Please complete your assessments and review the self-learning content for this session on the **PRISM** portal.

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Case Study on Tableau

Pre-requisites

Hope you have gone through the self-learning content for this session on the PRISM portal.

By the End of this Session:

- Interpret Total Revenue calculation and implications.
- Analyze Month-wise Revenue using appropriate visualization.
- Utilize State-wise Revenue patterns for insights.
- Apply Age-wise Sales visualization for analysis.
- Comprehend Revenue Share by Region visualization.
- Identify Gender-wise Sales patterns and correlations.
- Interpret Quantity-Discount relationships.
- Calculate differences in Revenue and Quantity Ordered.
- Determine the most frequently used payment method.
- Grasp Total Revenue by Quantity Ordered concept.

Recap

Pop Quiz

Q. What type of dashboard is characterized by the title "Customer Analysis"?

a. Exploratory Dashboard

b. Analytical Dashboard

c. Operational Dashboard

d. Executive Dashboard

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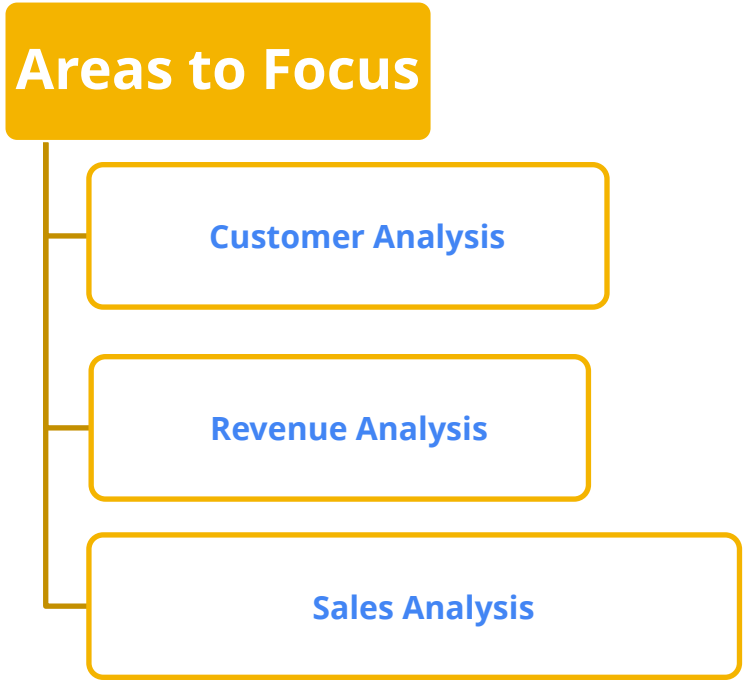
Case Study on Data Visualization Using Tableau

Case Study – Problem Statement

Problem Statement

Explore a comprehensive customer analysis dashboard, diving into key aspects that drive business insights. This dashboard provides a wealth of data, and we'll challenge ourselves with a series of thought-provoking questions to uncover valuable insights and trends. By answering these questions, we aim to develop a profound understanding of various dimensions of customer behavior, purchase patterns, and revenue generation. Through visualizations and calculations, we will decode the dashboard's insights and enhance our analytical skills.

Areas to Focus



Poll Time

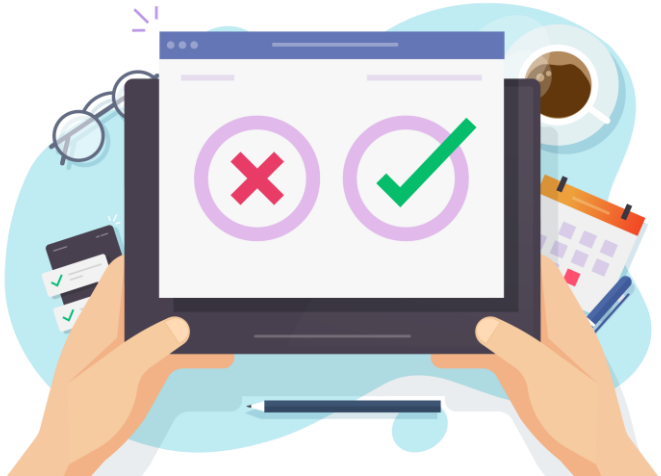
Q. The term "Total Revenue" refers to _____.

a. Combined revenue of all products

b. Total revenue from online sales

c. Sum of revenue generated from all sources for all products

d. Total profit earned from sales



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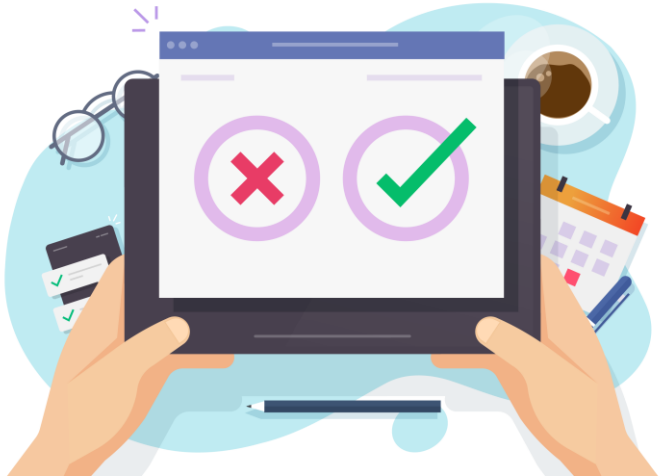



Q&A

Hands-on: Case Study Questions

Poll Time

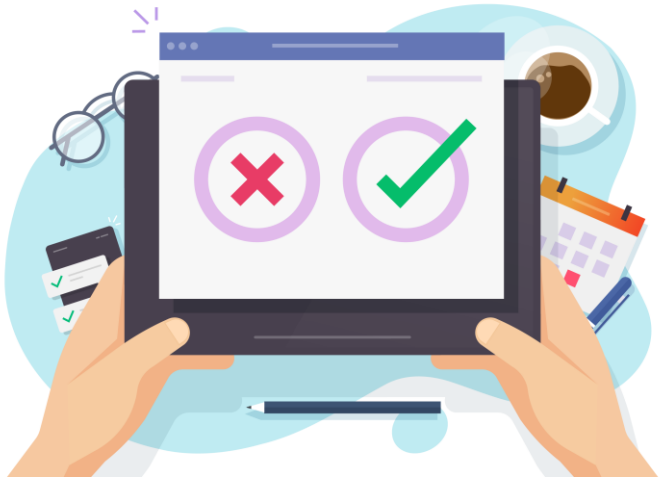
Q. The concept of "Fixed LOD" is primarily used for:

a. Creating customized calculations

b. Providing filters to the dashboard

c. Maintaining consistent calculations irrespective of filters

d. Displaying interactive tooltips



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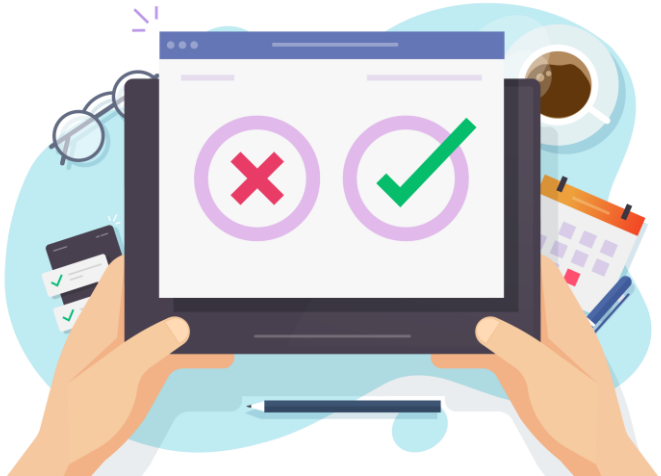


Q&A

Activity

Pre-requisites: Familiarity with Tableau dashboard navigation and basic data analysis concepts.

Scenario: Imagine you're an analyst working for an e-commerce company. Your task is to dive deeper into the customer analysis dashboard and answer specific questions to extract valuable insights.

Expected Outcome: Learners will answer a series of questions using the customer analysis dashboard, showcasing their ability to interpret visualizations and extract insights.

Activity

Steps:

- Access the customer analysis dashboard provided.
- Answer questions related to dashboard type, title, Total Revenue, Month-wise Revenue, and other dimensions.
- Identify the visualizations used for each question and explain the insights they provide.
- Calculate the revenue difference between 2020 and 2021.
- Determine the highest sales month, lowest sales category for Male and Female, and more.
- Analyze the significance of metrics like Quantity Ordered and Revenue by Quantity Ordered.

Activity

Pre-requisites: Understanding of Tableau dashboards and data analysis concepts covered in the session.

Scenario: Imagine you're presenting your findings to the company's leadership team. Your task is to prepare a presentation showcasing insights derived from the customer analysis dashboard.

Expected Outcome: Learners will create a presentation summarizing their insights from the customer analysis dashboard and its visualizations.

Activity

Steps:

- Review and analyze the customer analysis dashboard.
- Compile key insights gained from the dashboard's visualizations and calculations.
- Organize your insights into a coherent presentation format.
- Use visualizations or screenshots from the dashboard to support your findings.
- Include slide titles like "Revenue Trends," "Sales by Gender," "Top Performing Month," etc.
- Explain the significance of each insight and its potential impact on business decisions.

Summary

- Recognized the dashboard type and its focus on customer analysis.
- Understood the Total Revenue metric and its implications for the business.
- Rechecked Month-wise, State-wise, Age-wise, and Region-wise revenue patterns.
- Analyzed sales patterns based on gender and identified co-relations.

Summary

- Identified visualization types for various analyses.
- Calculated the revenue and quantity differences and explored payment methods.
- Grasped the Total Revenue by Quantity Ordered concept for comprehensive insights.

Session Feedback

Next Session:
Math for Data Science and Regression

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