AI-Assisted Power BI for Business Analytics

Figure 1: AI-Assisted Power BI for Business Analytics

Lab 5: Executive Dashboard Design

Module 5: Visualization Design & Storytelling

Duration: 35 minutes **Dataset**: M365Marketing (Microsoft 365 Campaign Analytics) **Deliverable**: Executive summary (1-2 pages) with dashboard screenshots

Learning Objectives

By the end of this lab, you will be able to:

- Choose appropriate visualizations for business questions
- Design dashboards optimized for executive audiences
- Create interactive navigation with bookmarks and drill-through
- Transform cluttered reports into clean, actionable dashboards

Before You Begin

Required Reading

1. **M365Marketing BRD** - View BRD
   - Understand the VP of Demand Generation's priorities
   - Note the specific KPIs: CTR, Conversion Rate, Pipeline Generated, ROI
2. **M365Marketing Data Dictionary** - View Data Dictionary
   - Understand the star schema with 5 tables
   - Note key metrics in the fact table

Design Principles to Apply

Principle	Application
Less is more	5-7 visuals max per page
Color with purpose	Use color to highlight, not decorate
Hierarchy matters	Most important metrics at top-left
Mobile-first	Design for the smallest screen first

Lab Instructions

Part 1: Generate Initial Report with Copilot (5 minutes)

Start with AI, then refine with design principles.

Step 1: Access the Dataset

1. Navigate to app.powerbi.com
2. Open the course workspace
3. Find the semantic model: `M365Marketing`
4. Create a new report: **...** → **Create report** → **Start from scratch**

Step 2: Generate with Copilot   Use this prompt to get started:

```
Create an executive marketing dashboard showing campaign performance
with total spend, pipeline generated, ROI, and performance by channel.
Include trends over time.
```

Step 3: Assess the Output   Before refining, evaluate Copilot's work:

- How many visuals did it create? _____
- Is the layout cluttered or clean? _____
- Does it answer the BRD's key questions? _____

Screenshot #1: Capture the initial Copilot-generated report

Part 2: Apply the "5-Visual Rule" (10 minutes)

Executive dashboards should convey key information at a glance. Less is more.

The Challenge   Transform your Copilot output into a clean executive summary with exactly 5 visuals:

Visual #	Purpose	Recommended Type
1	Headline KPI	Card or Big Number
2	Primary trend	Line chart
3	Comparison	Bar chart
4	Breakdown	Donut or Treemap
5	Detail on demand	Table (small)

Step 1: Identify Your 5 Visuals   Based on the BRD, decide which metrics matter most to the VP:

1. **Headline KPI**: _____ (e.g., Total Pipeline Generated)
2. **Primary trend**: _____ (e.g., ROI over time)
3. **Comparison**: _____ (e.g., Performance by Channel)
4. **Breakdown**: _____ (e.g., Spend by Campaign Type)
5. **Detail**: _____ (e.g., Top 5 Campaigns table)

Step 2: Redesign the Page

1. Delete visuals that don't make your top 5
2. Resize remaining visuals to use space effectively
3. Arrange in order of importance (top-left = most important)

Step 3: Add a Title Card

1. Add a **Text box** at the top
2. Include:
   - Dashboard title
   - Date range
   - One-sentence summary

Example: > **M365 Marketing Performance Dashboard** > *Q4 2024 | Pipeline: $12.4M (+18% QoQ)*

Screenshot #2: Capture your redesigned 5-visual executive page

Part 3: Add Interactivity (10 minutes)

Executives want details on demand, not cluttered pages. Use interactivity to provide depth without complexity.

Step 1: Add Slicers Add filters that executives care about:

1. Insert a **Slicer** for `Campaign_Quarter` or date range
2. Insert a **Slicer** for `Channel_Name`
3. Format slicers:
    - Use dropdown style (saves space)
    - Position at top of page
    - Make them visually subtle

Step 2: Create a Drill-Through Page Allow executives to drill into campaign details:

1. **Create new page**: Name it `Campaign Details`
2. **Add detail visuals**:
    - Campaign name, spend, pipeline, ROI
    - Performance by creative
    - Audience performance
3. **Configure drill-through**:
    - Select a field (e.g., `Campaign_Name`)
    - Drag to **Drill-through** well in Visualizations pane
4. **Test it**:
    - Go back to executive page
    - Right-click on a campaign → Drill through → Campaign Details

Step 3: Create Bookmarks for Storytelling Bookmarks save the current state of a report for guided navigation.

1. **Open Bookmarks pane**: View → Bookmarks
2. **Create 3 bookmarks**:
    - Bookmark 1: "Overview" (default view)
    - Bookmark 2: "Top Performers" (filter to top channel)
    - Bookmark 3: "Needs Attention" (filter to low ROI campaigns)
3. **Add navigation buttons**:
    - Insert → Buttons → Blank
    - Assign each button to a bookmark
    - Style with clear labels

Screenshot #3: Capture your interactive elements (slicers, drill-through, or bookmarks)

Part 4: Professional Polish (5 minutes)

The details matter for executive-facing work.

Design Checklist Apply these finishing touches:

- ☐ **Consistent colors**: Use 2-3 colors maximum
- ☐ **Aligned visuals**: Use Format → Align to snap visuals to grid
- ☐ **Clear titles**: Every visual has a descriptive title
- ☐ **Data labels**: Add where they help (not everywhere)
- ☐ **Remove clutter**: Hide gridlines, borders where unnecessary
- ☐ **Professional fonts**: Use sans-serif, consistent sizing

Mobile Layout Executives check reports on phones. Optimize for mobile:

1. Go to **View** → **Mobile layout**
2. Drag visuals to arrange for portrait orientation
3. Prioritize: KPI card first, then trend, then details
4. Test the preview

Save and Publish

1. Save your report: `M365Marketing_Executive_[YourName]`
2. Publish to the course workspace

Screenshot #4: Capture your final polished dashboard

Part 5: Synthesize Insights (5 minutes)

The dashboard is a tool. The insights are the deliverable.

Based on your analysis, answer these questions for the VP:

1. **What's working?**
   - Which channel delivers best ROI?
   - Which campaigns exceeded targets?
2. **What needs attention?**
   - Where is spend not generating pipeline?
   - What trends are concerning?
3. **What should the VP do?**
   - Specific, actionable recommendations
   - Backed by data from your dashboard

Lab Deliverable

Submit: Executive summary (1-2 pages) + Published dashboard

Executive Summary Template

Use the Executive Summary Template or follow this structure:

1. Executive Overview (3-4 sentences) - Dashboard purpose and scope - Headline finding - Bottom-line recommendation

2. Performance Highlights (bullet points with numbers) - Best performing channel: [name] with [ROI]% - Top campaign: [name] generated $[X] pipeline - Overall trend: [up/down X%] quarter-over-quarter

3. Areas of Concern (bullet points) - [Channel/Campaign] showing declining ROI - [Specific metric] below target by [X]%

4. Recommendations (numbered, specific actions) 1. Increase investment in [channel] based on [evidence] 2. Pause/optimize [campaign] due to [reason] 3. Investigate [anomaly] before next quarter planning

5. Dashboard Screenshots (2-3 key visuals) - Include your executive summary page - Include one drill-through or detail view

Submission Format

- **File Name**: `Lab5_ExecSummary_[YourName].docx` or `.pdf`
- **Length**: 1-2 pages
- **Dashboard**: Published as `M365Marketing_Executive_[YourName]`
- **Submit via**: Canvas → Assignments → Lab 5

Completion Checklist

Before submitting, confirm you have:

☐ Generated initial report with Copilot
☐ Redesigned to 5-visual executive format
☐ Added slicers for key filters

□ Created drill-through page for details
□ Created at least 2 bookmarks for navigation
□ Applied professional formatting
□ Created mobile layout
□ Published dashboard to workspace
□ Written executive summary with recommendations
□ Included screenshots in summary
□ Submitted via Canvas

Key Takeaways

1. **Executives want answers, not data**: Design for decisions, not exploration
2. **5-7 visuals maximum**: If you need more, use drill-through pages
3. **Interactivity provides depth**: Slicers and drill-through give detail without clutter
4. **Bookmarks tell stories**: Guide executives through your narrative
5. **The report is not the deliverable**: Your insights and recommendations are

Visualization Selection Guide

Question Type	Best Visual	Why
What's the total?	Card	Big number, instant comprehension
How does it trend?	Line chart	Shows change over time
How do things compare?	Bar chart	Easy comparison of categories
What's the composition?	Donut/Treemap	Part-to-whole relationships
What are the details?	Table	Precise values when needed
Where geographically?	Map	Spatial patterns
What drives the outcome?	Key Influencers	AI-powered analysis

Executive Design Patterns

The "Z-Pattern" Layout

Executives scan in a Z pattern. Place content accordingly:

```
[Title]        [KPI Cards]     ← Start here
```

```
    [Main Visual/Trend]          ← Primary focus


 [Secondary]      [Detail]        ← Supporting info

                          ↑ End here
```

Color Psychology

Color	Association	Use For
Blue	Trust, stability	Primary metrics
Green	Growth, positive	Above target
Red	Alert, decline	Below target, urgent
Gray	Neutral, context	Secondary elements

Preparation for Next Lab

- Complete Prompting Journal entry #5
- Think about: Who should have access to your marketing dashboard?
- Consider: What data should be hidden from certain users?

"A dashboard should be like a good newspaper headline: it tells you what happened and why it matters in seconds."