

Figure 1: AI-Assisted Power BI for Business Analytics

Case Study 2: Marketing Dashboard Transformation

Microsoft Demand Generation Team

Module Alignment: Module 5 (Visualization Design & Storytelling) **Discussion Time:** 30 minutes

Protagonist: Amara Okafor, VP of Demand Generation

The Story

Chapter 1: The \$4.7 Million Question

The quarterly marketing review had barely begun when Amara Okafor felt her stomach drop.

The VP of Demand Generation at Microsoft sat at the head of a conference table filled with her leadership team. On the screen: a slide titled “Q3 Marketing Performance.” Below it, a number that made no sense.

“We spent \$4.7 million on paid social this quarter,” said the CMO, pointing at the slide. “What did we get for it?”

Amara turned to her Channel Marketing lead. “Marcus?”

Marcus pulled up his spreadsheet. “Paid social generated 12,400 qualified leads at \$379 CPL.”

The Digital Marketing director, Sofia, frowned at her own laptop. “I’m showing 9,800 leads at \$480 CPL.”

The CMO’s expression hardened. “So which number do I tell the CFO when she asks why we should keep spending on social?”

Silence.

The meeting ended without a decision. The CMO’s parting words: “Fix this before the board presentation. I’m not going in front of the CEO with two different ROI numbers.”

Chapter 2: The 23-Spreadsheet Problem

Back in her office, Amara summoned her Chief of Staff, Elena Rodriguez.

“How did we get here?”

Elena pulled up the team’s shared drive on her tablet and sighed. What appeared was a nightmare of file management:

Marketing Performance Reports (Shared Drive)

Channel Reports

Paid_Social_Q3_Marcus_v2_FINAL.xlsx

Paid_Social_Q3_Sofia_updated.xlsx

Paid_Search_Weekly_Oct.xlsx

... (11 more)

Campaign Reports

M365_Launch_Campaign_Results.pptx

Security_Campaign_ROI.xlsx

... (8 more)

Executive Summaries

CMO_Briefing_Oct_draft.pptx

... (3 more)

Total: 23 spreadsheets per week
Owners: 6 different teams
Refresh days: Monday through Friday (varies)

“Twenty-three spreadsheets,” Elena said. “Every week. Six teams, six definitions of ‘qualified lead,’ three different attribution models.”

“And ‘pipeline’ means...”

“At least four different things. Marketing-sourced, marketing-influenced, first-touch, multi-touch. Every team picks the definition that makes their channel look best.”

Amara closed her eyes. Her team ran one of the most sophisticated marketing operations in the world. They could target audiences with surgical precision, personalize content at scale, and measure campaign performance in real time. And yet - they couldn’t answer a simple question: *What’s working?*

“We’re building one dashboard,” she said. “One. And everyone’s going to use it.”

```
%%{init: {'theme': 'base', 'themeVariables': { 'edgeLabelBackground': '#ffffff'}}}%  
flowchart LR
```

```
    subgraph before["Before: 23 Spreadsheet Chaos"]  
        direction TB  
        pm[" Paid Media<br/>3 spreadsheets"]  
        org[" Organic<br/>4 spreadsheets"]  
        events[" Events<br/>5 spreadsheets"]  
        content[" Content<br/>4 spreadsheets"]  
        partner[" Partner<br/>3 spreadsheets"]  
        exec[" Executive Summaries<br/>4 spreadsheets"]  
    end  
  
    subgraph conflict[" Conflicting Numbers"]  
        marcus["Marcus: 12,400 leads<br/>$379 CPL"]  
        sofia["Sofia: 9,800 leads<br/>$480 CPL"]  
    end  
  
    subgraph after["After: Single Source of Truth"]  
        dash[" Marketing Dashboard<br/>Live • Mobile • AI-Assisted"]  
    end  
  
    pm --> conflict  
    org --> conflict  
    events --> conflict  
    content --> conflict  
    partner --> conflict  
    exec --> conflict  
  
    conflict -->|"Consolidation<br/>Project"| after  
  
    style before fill:#fef3f7,stroke:#f0d0dc  
    style conflict fill:#fefcf0,stroke:#e8dbb8  
    style after fill:#edf6ee,stroke:#c2dbc8
```

Chapter 3: The Attribution War

The project kicked off with optimism. It nearly died within a week.

Amara assembled representatives from every marketing function: Paid Media, Organic, Events, Partner Marketing, and Content. The goal was simple - agree on how to measure success.

What should have been a two-hour meeting stretched into eight, then spilled into the next day.

The Paid Media lead insisted on first-touch attribution. “We generate the awareness. Without us, there’s no funnel to influence.”

The Content team countered with multi-touch. “Our nurture emails convert those leads. First-touch ignores 90% of the customer journey.”

Events claimed their pipeline was “stolen” by digital. “Someone attends our conference, then clicks a retargeting ad, and suddenly Digital gets credit?”

Partner Marketing just wanted anyone to acknowledge they existed.

“It was brutal,” Elena later recalled. “Every team had built their empire on their own metrics. Asking them to standardize felt like asking them to surrender budget.”

The breakthrough came from an unlikely source: an analyst named Wei Chen, who had been quietly building a side project.

“What if we stopped arguing about which attribution model is ‘right’ and showed all of them - side by side?”

Metric	Definition	Owner
Marketing Qualified Leads (MQL)	Leads meeting scoring threshold	Marketing Ops
Pipeline (First-Touch)	Opportunity \$ where marketing was first contact	Paid Media
Pipeline (Multi-Touch)	Opportunity \$ influenced by any marketing touch	Content
Cost Per Lead (CPL)	Spend / MQLs	Finance
Return on Marketing Investment (ROMI)	Pipeline Generated / Spend	CMO

“Let stakeholders pick their lens,” Wei continued. “But make sure the underlying data is identical. No more spreadsheet wars.”

```
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flowchart LR
```

```
    subgraph touch["Customer Journey"]  
        direction LR  
        t1[" Paid Ad<br/><i>First Touch</i>"]  
        t2[" Nurture Email<br/><i>Touch 2</i>"]  
        t3[" Webinar<br/><i>Touch 3</i>"]  
        t4[" Sales Call<br/><i>Conversion</i>"]  
        t1 --> t2 --> t3 --> t4  
    end
```

```
    subgraph models["Attribution Models"]  
        direction TB  
        first["<b>First-Touch</b><br/>Paid Media: 100%<br/>Others: 0%"]  
        multi["<b>Multi-Touch</b><br/>All Channels Share<br/>Credit"]  
        last["<b>Last-Touch</b><br/>Sales: 100%<br/>Marketing: 0%"]  
    end
```

```
    subgraph solution[" Wei's Solution"]  
        all["Show ALL Models<br/>Side-by-Side<br/><i>Same underlying data</i>"]  
    end
```

Marketing Dashboard Wireframe

Figure 2: Marketing Dashboard Wireframe

```
touch --> models
models --> solution

style touch fill:#f0f7ff,stroke:#c7d8ed
style models fill:#fdffb6,stroke:#997404
style solution fill:#edf6ee,stroke:#c2dbc8
```

Four weeks of negotiation. One page of definitions. The foundation was set.

Chapter 4: The Five-Visual Rule

With metrics aligned, the design team faced their next challenge: what to actually build.

Amara had one demand: “I want to open my phone before a leadership meeting and know instantly how marketing is performing. If I have to scroll, you’ve failed.”

The design lead, a former data journalist named Priya Sharma, took this literally. She imposed what she called “The Five-Visual Rule.”

“Executives don’t analyze. They scan. If you can’t tell the story in five visuals, you don’t understand the story.”

The team prototyped dozens of layouts. Most were rejected.

- “Too cluttered.”
- “Where’s the trend?”
- “I can’t tell if this is good or bad at a glance.”
- “This requires me to think. I don’t have time to think.”

The final design was ruthlessly simple:

The 5-Visual Rule applied: KPI cards, trend chart, channel breakdown, Smart Narrative, and navigation—everything executives need in one glance.

```
%%{init: {'theme': 'base', 'themeVariables': { 'edgeLabelBackground': '#ffffff'}}}%
flowchart TB
    subgraph executive[" Executive View (10 seconds)"]
        kpi["KPI Cards<br/>MQLs • Pipeline • CPL • ROMI"]
        trend["8-Quarter Trend"]
        narrative["Smart Narrative"]
    end

    subgraph director[" Director Drill-Down"]
        channels["Channel Performance<br/>Paid • Organic • Events"]
        campaigns["Campaign Performance<br/>Top/Bottom Performers"]
    end

    subgraph manager[" Manager Deep-Dive"]
        creatives["Creative Analysis<br/>Video vs Display"]
        audiences["Audience Segments<br/>IT vs Business Buyers"]
        geo["Geographic Performance<br/>Region • Country"]
    end

    kpi -->|"Tap Channel"| channels
```

```
trend -->|"Tap Campaign"| campaigns
channels -->|"Drill to Creative"| creatives
channels -->|"Drill to Audience"| audiences
campaigns -->|"Drill to Geo"| geo
```

```
style executive fill:#cdb4db,stroke:#6f42c1
style director fill:#fdffb6,stroke:#997404
style manager fill:#a2d2ff,stroke:#0d6efd
```

Visual count: 5 (KPI cards counted as one combined visual)

Scan time: 10 seconds to understand marketing health

Executive Dashboard Mockup *Before/after comparison: The cluttered spreadsheet vs. the focused 5-visual dashboard.*

Chapter 5: The AI That Writes the Story

The Smart Narrative changed everything.

Priya had included a text box in the bottom-right corner that seemed, at first glance, like a placeholder. But it wasn't static - it was AI-generated, refreshing automatically every morning with a summary of what had changed.

She configured it with a simple template:

Summarize:

- Total MQLs and quarter-over-quarter change
- Best and worst performing channels
- Any channels significantly above/below CPL target
- Notable campaign performance or anomalies

The first auto-generated summary appeared on a Monday morning:

“Marketing generated 42,847 qualified leads this quarter, up 18% QoQ. Paid Search led pipeline contribution at \$39M (+31%), while Paid Social underperformed at \$28M (-8%) despite increased spend. Cost per lead improved to \$312, driven by organic channel efficiency. The ‘Security for SMB’ campaign exceeded targets by 47% - recommend scaling.”

Amara read it twice. Then she forwarded it to the CMO with a single line: “This used to take Elena three hours to write.”

The CMO's response: “Why isn't this my morning briefing?”

By month two, it was.

Chapter 6: The Meeting That Answered Everything

Three months after launch, the quarterly marketing review convened again.

The agenda included the usual performance assessment - traditionally a 60-minute ordeal as channel leads defended their numbers and everyone argued about attribution. But something was different this time.

Amara opened by projecting the marketing dashboard on the screen. Live. Unscripted.

“MQLs up 18%. Pipeline up 24%. CPL down 15%. ROMI improved to 4.2x. Questions?”

The CMO raised an eyebrow. “What's happening with Paid Social? The numbers look soft.”

Amara tapped the Channels tab, then Paid Social. The dashboard drilled down to show:

- Video creatives outperforming display by 2.3x CTR
- IT Decision Makers responding 40% better than Business Decision Makers

- LinkedIn generating 3x the pipeline of Facebook at half the CPL

“Video to IT buyers on LinkedIn is working,” Amara summarized. “Static display to business buyers on Facebook is not. We’re recommending a \$1.2M reallocation.”

The CFO leaned forward. “And you can show me the pipeline that \$1.2M will generate?”

Two more taps. A projection appeared: estimated pipeline impact by reallocation scenario.

The entire marketing review took 22 minutes. Sixty had been allocated.

“What do we do with the extra time?” the CMO asked, smiling.

“Strategy,” said Amara. “We finally have time to talk about what’s next instead of defending what happened.”

Chapter 7: The Death of the Weekly Roll-Up

Not everyone celebrated.

Across the marketing organization, analysts and report-builders watched nervously as their weekly deliverables became... optional. The Paid Media team had spent years perfecting their channel performance deck. Events had a dedicated analyst whose entire job was the post-event ROI summary.

Elena handled the transition carefully. She met with each team individually.

“Your reports aren’t going away because they were bad,” she explained. “They’re going away because something better exists. And I need your help making the dashboard even better.”

Some analysts were reassigned to the dashboard team, improving drill-throughs and adding new segments. Others moved into strategic analysis - the kind of deep-dive work that had always been crowded out by weekly report production.

One analyst, initially skeptical, would later become the dashboard’s biggest advocate:

“I used to spend 15 hours a week producing a channel report that maybe 4 people read. Now I spend that time finding insights that actually change budget decisions. I went from reporting the news to making the news.”

Within six months, the 23 weekly spreadsheets had dwindled to 3 - edge cases that required custom analysis. Everything else was live, on-demand, self-service.

```

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  'cScale4': '#f5f0ff', 'cScaleLabel4': '#4a5568'
}}}%%
timeline
  title Dashboard Transformation Journey

  section Discovery
    Week 1-2 : 23 spreadsheets identified
             : 6 teams, 6 metric definitions
             : Attribution conflict documented

  section Foundation
    Week 3-6 : Metric definitions negotiated
             : Wei's multi-model solution adopted
             : Data governance established

```

section Design
 Week 7-10 : 5-Visual Rule applied
 : Mobile-first prototyping
 : Smart Narrative configured

section Launch
 Week 11-12 : Executive pilot (6 VPs)
 : Feedback incorporated
 : Full rollout

section Adoption
 Month 3-6 : 23 → 3 spreadsheets
 : 87% weekly active users
 : Analysts reassigned to insights

The Results

Quantitative Impact

Metric	Before	After	Change
Spreadsheets to leadership	23/week	1/day (live)	-96%
Prep time (CMO briefing)	4 hours	10 minutes	-96%
Time to answer exec questions	Hours/days	Real-time	-99%
Attribution definition conflicts	~Weekly	Zero	-100%
Mobile report access	0%	100%	∞

```

%{init: {'theme': 'base', 'themeVariables': { 'edgeLabelBackground': '#ffffff'}}}%
flowchart LR
  subgraph before[" Before: The Question Chase"]
    direction TB
    q1["CMO: 'What's our<br/>social performance?'" ]
    q1 --> ask["Ask Chief of Staff"]
    ask --> hunt["Hunt through<br/>23 spreadsheets"]
    hunt --> reconcile["Reconcile conflicting<br/>numbers"]
    reconcile --> answer["Answer: 4 hours later<br/><i>(if lucky)</i>"]
  end

  subgraph after[" After: Instant Insight"]
    direction TB
    q2["CMO: 'What's our<br/>social performance?'" ]
    q2 --> tap["Tap phone → Dashboard"]
    tap --> drill["Tap Paid Social"]
    drill --> insight["Answer: 10 seconds<br/><i>+ AI recommendation</i>"]
  end

  before -.->|"Transformation"| after

  style before fill:#fef3f7,stroke:#f0d0dc
  style after fill:#edf6ee,stroke:#c2dbc8
  
```

Adoption

Mobile-Desktop Comparison

Figure 3: Mobile-Desktop Comparison

User Group	Weekly Active	Avg. Session
CMO + VPs (6 executives)	100%	5.1 min
Directors (22 leaders)	91%	8.2 min
Channel Managers (45)	87%	12.4 min

What Stakeholders Said

“I used to dread the quarterly review because I never knew if my numbers would match the CMO’s. Now we’re looking at the same dashboard, live, during the meeting. Questions get answered immediately.”

Channel Marketing Director

“The Smart Narrative is my favorite feature. I scan it in 10 seconds and know exactly what changed. If something looks off, I tap to drill down. It’s replaced my morning report review entirely.”

CMO

Key Learnings

Design Principles That Worked

Principle	Why It Mattered
Less is more	5 visuals replaced 23 spreadsheets - faster comprehension
Mobile-first	Designed for phone, scaled to desktop - 100% mobile adoption
AI-assisted narrative	Smart Narratives auto-summarize - 10-second scan
Drill-through, not clutter	Clean surface with deep exploration on demand
Consistent refresh	All data at 6 AM daily - eliminated timing debates

Mobile-first design: The same data adapts seamlessly from phone to desktop, ensuring executives can access insights anywhere.

What Was Hard

1. **Political resistance:** Some teams felt their reports were being “taken away” - addressed through reassignment and reframing
2. **Attribution alignment:** Agreeing on showing multiple models took longer than building the dashboard
3. **Change management:** Training executives to self-serve instead of asking staff
4. **Scope creep:** Constant requests to add “just one more visual” - held firm at 5

Discussion Questions

For Class Discussion

1. **The 5-Visual Rule:** Is 5 visuals enough for marketing decision-making? What would you include or exclude?

2. **Smart Narratives:** How much should executives trust AI-generated summaries? What guardrails would you add?
3. **Attribution Models:** Why did the team choose to show multiple attribution models instead of picking one “right” answer?
4. **Change Management:** How do you retire 23 spreadsheets without alienating their creators?
5. **Mobile-First Design:** Should all marketing dashboards be mobile-first? What works well on mobile vs. desktop?

Reflection Prompts

- What “23-spreadsheet problem” exists in your organization?
- How would you apply the 5-Visual Rule to dashboards you’ve seen?
- What attribution or metric definition conflicts have you encountered?

Design Exercise

In-Class Activity (15 minutes)

You’ve been asked to create an executive marketing dashboard for a retail company:

Audience: CMO and Marketing VPs **Constraint:** Maximum 5 visuals **Refresh:** Daily

Available Metrics: Impressions, Clicks, CTR, Conversions, Revenue, ROAS, Email open rate, Social engagement, Customer acquisition cost (CAC), Brand awareness score, NPS, Campaign budget vs. actual

Questions: 1. Which 5 visuals would you choose? Why? 2. What would your Smart Narrative template include? 3. What drill-through pages would you create?

Connection to Course Labs

Lab	Connection
Lab 5	You’ll apply the 5-Visual Rule to your M365Marketing dashboard
Lab 5	You’ll create bookmarks for guided navigation
Lab 5	You’ll design a mobile layout for executive access

Note: The M365Marketing dataset lets you explore similar questions about channel performance, creative effectiveness, and audience targeting. You’ll build a dashboard that helps answer: *What’s working?*

Additional Resources

- Power BI Mobile App
- Smart Narratives Documentation
- Marketing Analytics Best Practices
- Storytelling with Data by Cole Nussbaumer Knaflic

Case materials based on real Microsoft marketing operations. Details modified for educational purposes.