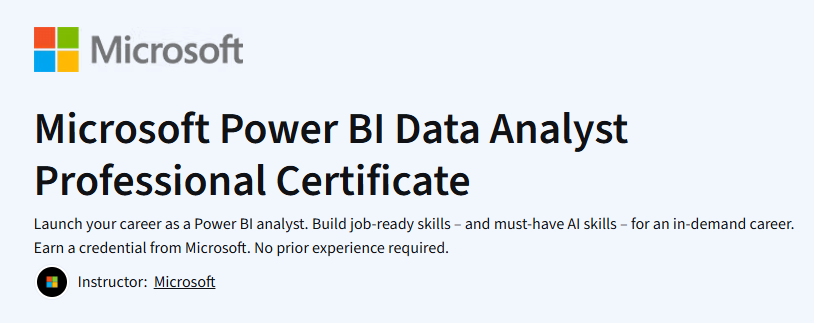
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Course 2 : Harnessing the Power of Data with Power BI

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**Case study**



**Case Study: Adventure Works – Stakeholder Experience**

To help boost sales, **Adio**, a data analyst at Adventure Works, is assigned to investigate sales, marketing, and customer data. His task is to create and share a data report with visualizations based on the insights, patterns, and trends found in his analysis.

Adio understands that creating visualizations tailored to stakeholder experience meaning the needs, preferences, and expectations of his audience is key to improving understanding and decision-making. So, he follows a six-step process to ensure his visualizations match the requirements of his stakeholders:

**Step 1: Identifying Stakeholders**

Adio first identifies the key groups who will use the analysis:

* Executives
* Marketing Team
* Product Managers

**Step 2: Defining Stakeholder Goals**

Adio meets with each group to learn their goals:

* **Executives** want high-level insights to drive strategy, such as understanding competitor trends and customer behavior.
* **The marketing team** needs data on campaign performance and ways to improve the changes from marketing channels.
* **Product managers** want insights into customer preferences, product popularity, and profitability by customer segment.

**Step 3: Choosing the Right Visualization Type**

Adio selects visuals based on each group’s needs:

|  |  |
| --- | --- |
| **Stakeholder** | **Visualization Type** |
| Executives | Dashboard with KPIs (e.g., revenue, profit margin) |
| Marketing Team | Conversion funnel, Bar chart (marketing channels comparison) |
| Product Managers | Map (to show customer segment distribution) |

**Step 4: Designing with Stakeholder Experience in Mind**

Adio designs visualizations to match the expectations of each group:

* **Executives** prefer **clear, concise visuals** with quick takeaways.
* **The marketing team** wants visuals to **spot patterns and opportunities**.
* **Product managers** need insights into **product performance and gaps**.

**Step 5: Making Visualizations Interactive**

Using **Power BI**, Adio adds interactive elements like:

* **Slicers** for filtering by product category or region
* **Hover explanations**
* **Drill-throughs** for more detail

This helps stakeholders explore the data relevant to them.

**Step 6: Testing and Iterating**

Before finalizing the report, Adio tests his visualizations with a small group of users from each stakeholder team. He gathers feedback and **refines** the design to ensure it is effective and user-friendly

**Instructions**

**Create a document**

Create a new Word document called *Stakeholder experience*. Use this document to record your answers to the exercise questions.

**Answering questions about stakeholder experience**

1. What is the primary goal of data visualization in the data analysis process?
2. Briefly define stakeholder experience in the context of data analysis and visualization.
3. Explain two reasons why stakeholder experience is important when creating data visualizations.
4. List the six steps in the stakeholder experience process.
5. How can you identify the goals and preferences of different stakeholder groups when designing visualizations?
6. What is one challenge you think Adio may face in designing data visualizations that meet the needs of the different stakeholders?
7. Briefly discuss what you need to consider when choosing the right visualization type for stakeholders.
8. What is the purpose of making visualizations interactive?
9. A focus group finds a visualization Adio designed difficult to understand. Adio adds more interactive features and updates the design. Which step in the process is Adio engaging in?
10. In no more than two sentences, discuss how you think stakeholder experience can contribute to improving business outcomes through data-driven decision-making.

**My Answer :**

**1.What is the primary goal of data visualization in the data analysis process?**

Based on my understanding, I think the main goal of data visualization is to simplify complex data and present it in a way that is easy for stakeholders to understand. This helps them identify trends, patterns, and insights that support better business decisions.

For example, if stakeholders want to know how many users purchased a specific product like shoes, the analyst (like Adio) would first ask questions to understand the business problem. Then, they would create visuals such as:

* A **sales dashboard** showing total sales per day over different years, with tools like **slicers** to filter by product or year.
* A second page with customer details, showing which days they purchased, their locations (using **Azure Map**), and a **table or matrix** to break it down by region or customer group.

This type of visualization helps stakeholders not only see the numbers but also understand what’s really happening in the business.

**2. Briefly define stakeholder experience in the context of data analysis and visualization.**

Based on my understanding, I think stakeholder experience means understanding and designing visuals based on what each type of stakeholder needs, prefers, and expects. It’s about making sure the visuals are useful, easy to understand, and help them make better decisions. Here’s how it applies to different groups:

* **Executives prefer clear and concise visuals with quick takeaways.**  
  They want dashboards that are easy to read and work for everyone, including people with disabilities. For example, a Power BI report might use **slicers and filters** to show how many customers the company has and display **customer location data** on a **map**. But if slicers are not user-friendly (like not showing all city names), non-technical users might get confused. So, the report should be made clear with **listed options** for easy selection, like "Atlanta" or "New York."
* **b. The marketing team wants visuals to spot patterns and opportunities.**  
  They are interested in customer behavior and want to know which products sell the most and to whom. For example, they might want to know which **shoe sizes** are most popular, such as size 43 or 39. A dashboard can show **sales by size** using bar charts and **total sales** using a **card**. A **5-year trend** can also be shown to analyze long-term performance.
* **c. Product managers need insights into product performance and gaps.**  
  They focus on comparing different products, like Nike vs. Puma, to find out which one performs better. They also want to identify **gaps**, for example, if one product is missing from the top-selling list. Charts and comparisons can help them see which products are underperforming or need improvement.

**3. Explain two reasons why stakeholder experience is important when creating data visualizations.**

Based on my understanding, I think stakeholder experience is important for two key reasons:

|  |  |
| --- | --- |
| **Reason** | **Explanation** |
| **1. It saves time and effort** | If you understand what the stakeholder wants before creating a dashboard, you avoid working on unnecessary or unrelated visuals. This helps you focus only on what matters, saving time and energy. As one quote says, *"If you know your audience, 90% of your job is already done."* Knowing the stakeholder needs helps you make smarter design choices right from the beginning. |
| **2. It increases clarity and impact** | When visualizations are made with the stakeholder in mind, the message becomes clearer and more powerful. Stakeholders can quickly find what they need and act based on the insights. This makes your work more valuable and helps improve decision-making in the organization. |

**4. List the six steps in the stakeholder experience process:**

|  |  |
| --- | --- |
| **Step** | **Description** |
| 1. Identifying stakeholders | Determine who will use and benefit from the visualizations. |
| 2. Defining stakeholder goals | Understand what each stakeholder group wants and needs from the data. |
| 3. Choosing the right visualization type | Select visualization types that best communicate insights to each group. |
| 4. Designing with stakeholder experience in mind | Create visuals that are clear, appealing, and tailored to each group’s preferences. |
| 5. Making visualizations interactive | Add interactive features like filters, sorting, and tooltips to enhance usability. |
| 6. Testing and iterating | Share with a sample audience, gather feedback, and improve the visualizations accordingly. |

**5. How to identify the goals and preferences of stakeholders:**

* **Conduct interviews or surveys:** This is one of the best methods to gather useful data from all relevant areas. It helps you understand the key problems and what stakeholders really want, making it a critical first step in researching and gathering information.
* **Hold meetings to discuss needs and expectations:** Clear communication is essential. Without it, projects can go off track or be less useful. Regular meetings help ensure everyone understands the goals and can align their efforts accordingly.
* **Review past reports and feedback:** Studying previous reports and feedback can reveal why earlier data analyses may have fallen short. Understanding history helps avoid repeating mistakes and improves the effectiveness of new analyses.
* **Collaborate with team leaders or department heads:** These individuals have a good overview of their team’s needs and can provide valuable insights into what stakeholders want and require daily.

**6. What is one challenge Adio may face in designing data visualizations that meet the needs of different stakeholders?**

|  |  |
| --- | --- |
| **Challenge** | **Explanation** |
| Balancing diverse stakeholder needs | Adio may face difficulty creating one report that meets both high-level needs and detailed analysis. For example, executives might want a simple KPI dashboard, while product managers want to see which shoe sizes (e.g., size 43 vs. 39) are selling more across regions. Meeting both needs without cluttering the visual design is a challenge. |

**7. What to consider when choosing the right visualization type for stakeholders:**

|  |  |
| --- | --- |
| **Consideration** | **Explanation** |
| **Audience technical skill** | Executives prefer simple visuals like cards and pie charts, while product managers might prefer matrix tables showing shoe sales by size and location. |
| **Type of data** | Use bar charts to compare shoe size sales, maps to visualize regional demand, and line charts to show monthly trends. |
| **Purpose of insight** | For example, if stakeholders want to know which shoe size sells best over 5 years, use a line chart or card visual showing total sold units. |
| **Stakeholder goals** | The marketing team might want to identify the top-selling shoe sizes and campaign conversion by region to boost targeted sales. |

**8. What is the purpose of making visualizations interactive?**

* Interactive visuals help stakeholders explore data such as filtering by **shoe size**, **region**, or **sales period**.
* For example, a **slicer** in Power BI allows the marketing team to select shoe sizes like 43 or 39 and instantly see performance across years or locations.

**Power BI Tool Example:** *Slicer* – lets users explore shoe sales by size, customer segment, or region**9. A focus group finds a visualization Adio designed difficult to understand. Adio adds more interactive features and updates the design. Which step in the process is Adio engaging in?**

|  |  |
| --- | --- |
| **Step** | **Explanation** |
| **Step 6: Testing and Iterating** | Adio is collecting stakeholder feedback (e.g., confusion about exploring shoe size data), improving clarity by adding slicers or tooltips, and updating visuals accordingly. |

**10. In no more than two sentences, discuss how stakeholder experience can contribute to improving business outcomes through data-driven decision-making.**

When visualizations reflect stakeholder needs, like showing popular shoe sizes by region and sales trends, decisions become faster and more effective. This targeted insight enables better inventory planning, marketing focus, and customer satisfaction, ultimately boosting business performance.

**Stakeholder Experience Summary Using the Shoe Product Example**

|  |  |
| --- | --- |
| **Question** | **Summary Answer (With Shoe Example)** |
| **1. What is the primary goal of data visualization?** | To present complex data (e.g., sales of different shoe sizes like 43 or 39) in a clear way so stakeholders can understand trends, patterns, and make better decisions. |
| **2. Define stakeholder experience.** | Understanding what each group (executives, marketing, product managers) wants. For example, executives need quick takeaways; marketers want to know which shoe size sells best; product managers track which brand (Nike vs. Puma) performs better. |
| **3. Why is stakeholder experience important?** | (1) **Saves time**: By knowing what size or brand matters, we avoid unnecessary visuals. (2) **Clarity and impact**: We focus on what helps decisions, like which shoes are most in demand. |
| **4. Six steps in the stakeholder experience process** | 1. Identify stakeholders (e.g., marketing team)  2. Define goals (e.g., find best-selling shoe size)  3. Choose visuals (bar charts for shoe size sales)  4. Design with users in mind (easy filters)  5. Make interactive (slicers for size, region)  6. Test and update (get feedback and improve). |
| **5. How to identify stakeholder goals?** | Talk with them, hold meetings, review past reports, and collaborate with team leaders. For example, ask the marketing team what size customers buy most often. |
| **6. One challenge Adio may face?** | Creating one dashboard that works for both executives and product managers. For example, executives want quick stats, while product teams want deep insights into shoe size sales across regions. |
| **7. What to consider when choosing visualization types?** | Think about audience skills, data type, and goals. For example, use a **line chart** for 5-year shoe sales trends, a **bar chart** for comparing sizes, and a **map** for region-based sales. |
| **8. Purpose of interactive visuals?** | To let users explore details, like filtering to see only size 43 shoes sold in Atlanta. **Use Power BI slicers and filters.** |
| **9. Which step when Adio updates the visuals after feedback?** | Step 6: Testing and Iterating. He’s improving clarity by making the shoe sales visual more user-friendly. |
| **10. How does stakeholder experience help business outcomes?** | It helps teams make fast, accurate decisions—like increasing stock of top-selling shoe sizes or focusing marketing on high-demand regions. This leads to better sales and efficiency. |