**Empathy Map**

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| **Date** | 16-06-2025 |
| **Team ID** | LTVIP2025TMID48265 |
| **Project Name** | Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau Visualization |
| **Maximum Marks** | 2 Marks |

The **Empathy Map Canvas** serves as a powerful tool to step into the shoes of the end-users or stakeholders of our **Strategic Product Placement Analysis** project. It allows us to understand not only what the users require explicitly, but also what they feel, struggle with, and expect — helping us design a data-driven solution that delivers real business impact.

**Who are we empathizing with?**

Our primary users and stakeholders are:

**• Retail Business Analysts and Sales Managers:**

These users are tasked with optimizing product positioning strategies, identifying sales trends, and aligning product display decisions with customer behaviour. They are data-savvy but often lack real-time visual tools to analyse cross-variable relationships quickly. Their focus is on revenue growth, product performance, and campaign ROI.

**• Marketing Teams and Store Planners:**

They need to understand how different demographics interact with product placement, how foot traffic affects purchases, and which promotions are most effective. These users benefit from intuitive, visual storytelling that helps them communicate insights to management and act on trends faster.

**User Says (What the user verbalizes)**

**• “We need to know which placements drive the most sales.”**

**Implication:**  
This shows a desire for clear correlation between physical (or digital) product positioning and actual revenue performance. Users need granular insights (e.g., shelf vs endcap vs aisle), not vague summaries.

**• “We can’t figure out if promotions are actually helping.”**

**Implication:**  
This signals a lack of clarity around promotional effectiveness. They need better comparison tools — possibly visualization of sales *with* and *without* promotion — to justify marketing budget usage.

**User Thinks (What the user is pondering, but not necessarily verbalizing)**

**• “Customer behaviour probably shifts by season or demographic, but we don’t have proof.”**

**Implication:**  
There’s an awareness of deeper patterns (seasonality, demographic shifts) that aren't currently being explored due to data complexity or lack of visualization tools. This points to the need for flexible filtering and multi-dimensional analysis.

**• “A dashboard could simplify our decisions.”**

**Implication:**  
They see dashboards not just as visuals, but decision-making accelerators. They imagine a real-time, interactive summary of foot traffic, customer type, product position, and revenue – all in one place.

**User Does (What actions the user takes)**

**• Manually compares Excel sheets for trends**

**Implication:**  
A time-consuming and error-prone approach. The user is spending valuable hours switching between data formats, combining metrics manually, and trying to spot trends rather than acting on them. This reinforces the need for automated data integration and visualization.

**• Runs A/B tests on product placement without reliable analytics**

**Implication:**  
They’re trying to test positioning strategies, but lack concrete, fast feedback. They need visualization tools to validate experiments and visualize impact dynamically — not weeks later through manual reports.

**User Feels (What emotions the user experiences)**

**• Frustrated by delay in gaining insights**

**Implication:**  
Manual processes and disconnected tools delay important decisions. This frustration comes from knowing better strategies exist but lacking the infrastructure to reach them.

**• Confident when they see clear trends**

**Implication:**  
When trends are presented clearly through charts or dashboards (e.g., sales spike after product moved to endcap), they feel empowered and reassured. This highlights the emotional value of good data storytelling.

**Insights Gained**

**1. Strong Need for Centralized Visualization Tools**

**Insight:**  
Users currently switch between Excel, sales tools, and ad hoc reports. This disjointed workflow hampers insights and slows decision-making. A centralized Tableau dashboard consolidating product position, price, demographic data, and sales metrics would drastically improve efficiency.

**Solution Impact:**  
Justifies building a Tableau dashboard that includes key metrics like Sales Volume, Foot Traffic, Product Category, Competitor Pricing, and Demographics in one view — with filters to drill into specific insights.

**2. Demand for Granular, Dynamic Filtering**

**Insight:**  
Users want to explore data at multiple levels (e.g., by season, store layout, or customer segment). Their current tools don’t support flexible exploration, limiting their ability to run “what-if” scenarios.

**Solution Impact:**  
Supports including dynamic filters in the dashboard for:

* Product Category
* Customer Demographic
* Product Position
* Season
* Promotion

This allows users to isolate and test specific hypotheses quickly.

**3. Automated, Data-Driven Storytelling Is a Game-Changer**

**Insight:**  
Users want more than static charts — they need evolving stories that adapt to new data and provide actionable narratives. Visualizing the journey of a product’s performance based on where it’s placed, how it’s priced, and who buys it makes analysis more engaging and valuable.

**Solution Impact:**  
Leads to the creation of a Tableau Story with multiple scenes:

* Scene 1: Product Position vs Sales
* Scene 2: Demographic Trends
* Scene 3: Seasonal vs Promotional Impacts

**4. Web Integration Makes Insights Accessible to All**

**Insight:**  
Key stakeholders — especially marketing heads or executives — may not use Tableau directly. They want quick, clean access to dashboards without technical barriers.

**Solution Impact:**  
Supports embedding Tableau Dashboards and Stories into a Flask-based UI for easier access, wider usability, and better presentation in review meetings or team discussions.

**5. Comparative Analysis of Internal vs Competitor Metrics**

**Insight:**  
Users often rely on guesswork when adjusting pricing or placement against competitors. There’s no clear visual tool for internal vs external benchmarking.

**Solution Impact:**  
Drives the inclusion of a **Competitor Price vs Own Price** comparison chart in Tableau, helping businesses identify pricing misalignments and adjust strategies in real-time.

**Customer Problem Statements: Strategic Product Placement Analysis Using Tableau**

Problem statements are fundamental to the success of any data-driven analytics project. They clearly articulate the real-world challenges faced by users or decision-makers and guide analysts in focusing their efforts toward uncovering meaningful, actionable insights. By identifying what the user is struggling with, understanding why it's happening, and outlining the negative consequences of these challenges, a well-crafted problem statement acts as both a starting point and a north star throughout the analytics lifecycle. For our project, **"Strategic Product Placement Analysis: Unveiling Sales Impact with Tableau Visualization,"** defining precise problem statements was essential to build an analysis pipeline that delivers real value to business stakeholders.

To maintain clarity and structure in defining these problems, we used the following template:

**Problem Statement Template:**  
*We believe that [Customer Type] is struggling with [Core Problem] because of [Root Cause 1] and [Root Cause 2, etc.]. This causes [Negative Impact 1] and [Negative Impact 2, etc.].*

**Problem Statement 1: Lack of Visibility Into Product Placement Effectiveness Across Channels**

We believe that **retail business analysts and sales managers** are struggling to understand how product placement strategies (e.g., shelf, endcap, aisle) influence sales outcomes because of **fragmented sales data** and **lack of real-time visual analytical tools**. This causes **inefficient merchandising decisions**, **missed revenue opportunities**, and **difficulty in aligning marketing strategies with consumer behavior.**

**Elaboration:**  
This problem encapsulates the core analytical challenge that retail stakeholders face when trying to evaluate their in-store or online merchandising performance. Despite having access to raw sales data, these users struggle to extract clear insights from it due to the way it is structured, scattered across systems, or not linked to positioning metadata.

* **Customer Type:** Retail business analysts, store planners, and decision-makers in sales and merchandising teams.
* **Core Problem:** They cannot effectively evaluate the impact of physical or digital product placement on consumer purchasing patterns.
* **Root Causes:**
  + *Fragmented Data:* Sales data, customer demographics, promotional activity logs, and placement metadata are often stored in separate systems or formats, making correlation difficult.
  + *Lack of Visualization Tools:* Without tools like Tableau, users rely on spreadsheets or basic reports, which do not allow for dynamic, multi-dimensional exploration of relationships between variables.
* **Negative Impacts:**
  + *Inefficient Merchandising Decisions:* Product placements that aren't driving conversions remain unchanged due to the lack of feedback, and high-performing placements aren't leveraged further.
  + *Missed Revenue Opportunities:* Poor product positioning leads to underperformance, while better placements could have increased visibility and sales.
  + *Strategic Misalignment:* Marketing campaigns may not align with real consumer behavior trends due to lack of empirical placement insights.

This problem statement drives the need for a robust data pipeline that can extract, transform, and load sales and placement data into Tableau, where it can be visualized dynamically. By addressing this gap, stakeholders will gain visibility into which placements correlate with increased sales volume, segmented by product category and customer demographics.

**Problem Statement 2: Inability to Identify Customer Segment Responses to Product Positioning**

We believe that **marketing teams and customer insights analysts** are struggling to evaluate how different demographic segments respond to product placements because of **the absence of integrated behavioral data** and **limited demographic filtering capabilities in current reports**. This results in **ineffective targeting strategies**, **generalized promotions**, and **reduced customer engagement.**

**Elaboration:**  
One of the most powerful levers for driving sales is understanding customer behavior — not just what was bought, but who bought it, when, and in what context. Unfortunately, this level of segmentation is typically missing from standard retail analytics.

* **Customer Type:** Customer experience and marketing teams who focus on campaign design, product targeting, and demographic analysis.
* **Core Problem:** These users cannot correlate demographic traits (e.g., age group, lifestyle segment) with their response to specific product placements.
* **Root Causes:**
  + *Lack of Behavioral Integration:* Sales data does not often include or connect cleanly to demographic profiles, especially in offline retail settings.
  + *Insufficient Filtering Options:* Existing BI tools or static reports do not provide the flexible, multi-dimensional filters needed to explore such relationships.
* **Negative Impacts:**
  + *Ineffective Promotions:* Marketing campaigns are often designed without insight into which placements appeal to certain demographics, resulting in low conversion rates.
  + *Generic Messaging:* Lack of insight leads to uniform messaging rather than customized engagement per segment.
  + *Customer Disengagement:* Without personalized placement and promotions, the customer experience feels irrelevant and unengaging.

This problem statement supports the case for integrating demographic datasets with placement and sales data in Tableau, enabling analysts to filter, compare, and contrast performance by customer segments like "College Students" vs "Seniors" or "Families". Visualizations such as heat maps and bar charts grouped by demographic profiles will make these insights immediately accessible and actionable.

**Problem Statement 3: Difficulty Measuring Promotional Impact in Context of Placement**

We believe that **advertising teams and retail strategists** are struggling to assess how promotional campaigns interact with product placement to influence sales because of **lack of controlled comparison environments** and **absence of promotional context within standard sales data.** This causes **misallocation of advertising budget**, **poor campaign ROI**, and **uncertainty about what drives conversions.**

**Elaboration:**  
Promotions and placement strategies are often executed simultaneously — discounts on an item that’s also moved to a prominent endcap, for instance — but companies lack the tools to isolate and measure which variable had more impact.

* **Customer Type:** Advertising professionals, retail marketers, and brand managers responsible for campaign performance.
* **Core Problem:** They cannot determine whether sales lift is due to better placement, a discount, or both.
* **Root Causes:**
  + *Lack of Controlled Variables:* Without tools for filtering or comparing pre- and post-promotion data across placements, promotional impact becomes difficult to quantify.
  + *Missing Promotion Tags:* In many cases, sales data lacks clear indicators about whether an item was part of a promotion or bundled offer.
* **Negative Impacts:**
  + *Misallocated Budget:* Marketing teams continue investing in ineffective promotional channels or combinations.
  + *Wasted Placement Opportunities:* Products that respond well to positioning during promotions are not tested outside promotional contexts, losing long-term insights.
  + *Inaccurate ROI Estimates:* Without isolating placement effects, it becomes hard to justify marketing spends or negotiate future placement terms.

To resolve this, the Tableau dashboard can incorporate filters for promotion flags, price changes, and competitor pricing alongside placement data, allowing users to segment sales performance visually and understand the true drivers behind increased revenue.

**Problem Statement 4: Inaccessibility of Data Insights for Non-Technical Stakeholders**

We believe that **executives, regional managers, and store owners** are struggling to gain timely insights into product performance and placement strategy because of **dependency on analysts to generate reports** and **non-intuitive tools for self-service analysis.** This causes **delays in decision-making**, **lack of agility in merchandising changes**, and **missed chances to capitalize on emerging trends.**

**Elaboration:**  
Not all decision-makers are data analysts. Many rely on others to provide them with understandable reports and summaries. Without easy access to live dashboards, they may be working from outdated or static reports.

* **Customer Type:** Non-technical business stakeholders who drive strategy but don’t work hands-on with analytics tools.
* **Core Problem:** Insights are not readily accessible to those who need them most.
* **Root Causes:**
  + *Technical Complexity of Existing Tools:* Dashboards may be difficult to interpret without training, or reports may require coding/querying.
  + *Analyst Bottleneck:* All data requests must go through limited analyst bandwidth, creating lags.
* **Negative Impacts:**
  + *Slow Decisions:* By the time a report is requested, generated, and understood, the opportunity window may have closed.
  + *Trend Blindness:* Emerging shifts in customer behaviour or product performance are missed due to lack of real-time access.

This problem justifies embedding the Tableau dashboard and story into a **Flask-based web interface**, providing easy access with secure role-based permissions, simple navigation, and interactive filtering. This empowers leaders to act faster and with more confidence.

**Conclusion**

The problem statements outlined above have helped us define the goals, scope, and technical requirements of our Tableau-based data analytics solution. Whether it's a lack of visibility into product placement impact, demographic behaviour insight, promotional ROI clarity, or executive dashboard accessibility — each problem reinforces the need for a modern, integrated, visual, and interactive analytics platform. Solving these challenges not only improves internal operations but also enhances strategic agility and customer experience in the retail domain.