

## Customer Satisfaction WBR Documentation

After basic exploratory analysis of the provided data, I decided to build out a Customer Satisfaction WBR, using the field [Rating]. I built out a high-level dashboard that can be used as a jumping-off point for deeper analyses and to identify weekly data trends.

I've documented my work in 3 sections:

1. Filter Interactions, which can be used by end-users or by technical users to determine the relationships between filters and sheets on the dashboard
2. User Walkthroughs, which is split into two personas and shows how a branch manager and a buyer might use this dashboard
3. Dataset Definitions, which defines the datasets and their relationships, documents parameters, and includes definitions and calculations for every field included in this workbook.

Filter Interactions

The **City** filter and the dynamic parameter filter **Show Ratings By:** affect the following sheets on the dashboard:

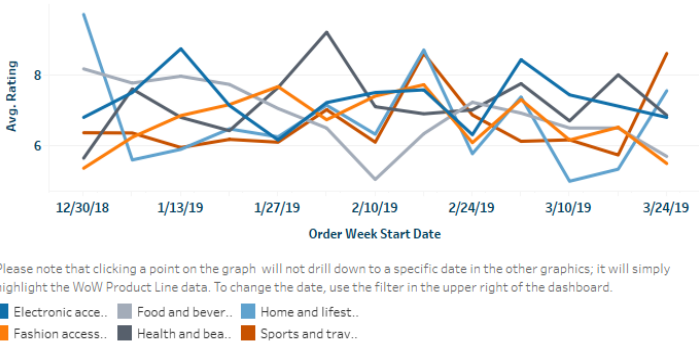
Customer Satisfaction WBR



Rating Shifts WoW

|                                      |         |
|--------------------------------------|---------|
| Product Line: Sports and travel      | ▲ 31.7% |
| Product Line: Fashion accessories    | ▼ 25.2% |
| Product Line: Food and beverages     | ▼ 15.1% |
| Gender: Female                       | ▲ 11.4% |
| Product Line: Electronic accessories | ▲ 9.1%  |
| Product Line: Home and lifestyle     | ▲ 6.6%  |
| Gender: Male                         | ▼ 5.6%  |
| Payment: Credit card                 | ▲ 4.7%  |
| Customer Type: Normal                | ▲ 3.9%  |
| Product Line: Health and beauty      | ▼ 3.0%  |
| Payment: Ewallet                     | ▲ 1.7%  |
| Payment: Cash                        | ▼ 1.4%  |
| Customer Type: Member                | ▼ 0.3%  |

Rating Shifts WoW: Product Line



Sales Metrics By Product Line, Broken Out By Gender

Break Out By: Gender

|                        |        | Rating | Rating WoW | Orders | Orders Wo.. | Income | Income Wo.. | AOV  | AOV WoW | ASP    | ASP WoW |
|------------------------|--------|--------|------------|--------|-------------|--------|-------------|------|---------|--------|---------|
| Electronic accessories | Female | 7.70   | 23.5%      | 1      | -92%        | \$7    | -97%        | \$7  | -0.4%   | \$2.29 | 0.0%    |
|                        | Male   | 6.35   | 1.9%       | 2      | -83%        | \$16   | -92%        | \$8  | -0.4%   | \$2.69 | 0.0%    |
| Fashion accessories    | Female | 5.50   | -25.2%     | 2      | -86%        | \$22   | -90%        | \$11 | -0.1%   | \$2.46 | 0.0%    |
|                        | Male   | 7.30   | 8.8%       | 1      | -90%        | \$4    | -95%        | \$4  | -0.5%   | \$1.46 | 0.0%    |
| Food and beverages     | Female | 4.90   | -27.0%     | 2      | -80%        | \$14   | -85%        | \$7  | -0.3%   | \$2.84 | 0.0%    |
|                        | Male   | 6.60   | -6.6%      | 1      | -67%        | \$21   | -55%        | \$21 | 4.0%    | \$4.14 | 0.2%    |
| Health and beauty      | Female | 6.90   | -2.4%      | 6      | 100%        | \$171  | 273%        | \$28 | 9.6%    | \$3.88 | 0.2%    |
|                        | Male   |        |            |        |             |        |             |      |         |        |         |

AOV = Average Order Value (Income/Orders); ASP = Average Sale Price (Income/Units)

The **Order Week Start Date** filter affects the following sheets on the dashboard:

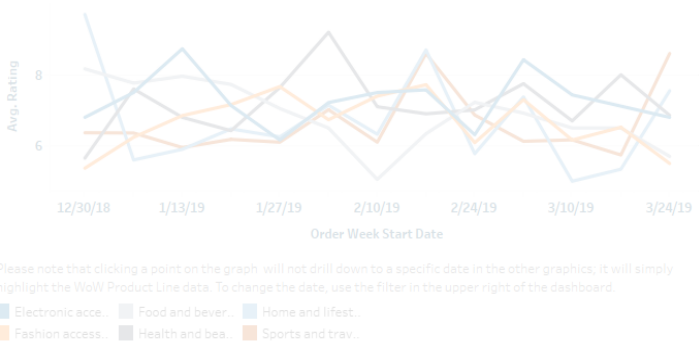
Customer Satisfaction WBR



Rating Shifts WoW

|                                      |         |
|--------------------------------------|---------|
| Product Line: Sports and travel      | ▲ 31.7% |
| Product Line: Fashion accessories    | ▼ 25.2% |
| Product Line: Food and beverages     | ▼ 15.1% |
| Gender: Female                       | ▲ 11.4% |
| Product Line: Electronic accessories | ▲ 9.1%  |
| Product Line: Home and lifestyle     | ▲ 6.6%  |
| Gender: Male                         | ▼ 5.6%  |
| Payment: Credit card                 | ▲ 4.7%  |
| Customer Type: Normal                | ▲ 3.9%  |
| Product Line: Health and beauty      | ▼ 3.0%  |
| Payment: Ewallet                     | ▲ 1.7%  |
| Payment: Cash                        | ▼ 1.4%  |
| Customer Type: Member                | ▼ 0.3%  |

Rating Shifts WoW: Product Line



Sales Metrics By Product Line, Broken Out By Gender

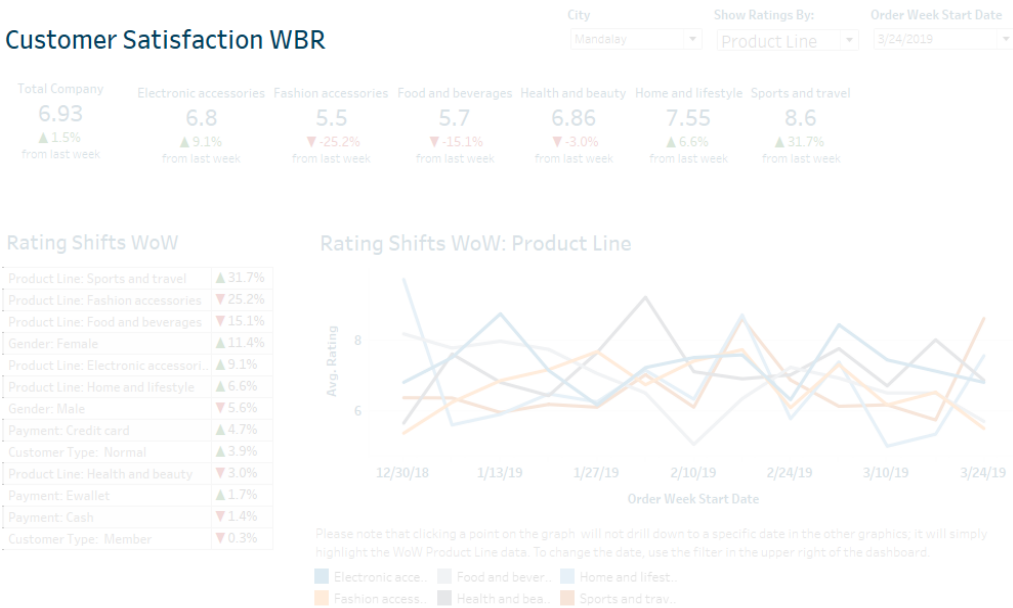
Break Out By: Gender

|                        |        | Rating | Rating WoW | Orders | Orders Wo.. | Income | Income Wo.. | AOV  | AOV WoW | ASP    | ASP WoW |
|------------------------|--------|--------|------------|--------|-------------|--------|-------------|------|---------|--------|---------|
| Electronic accessories | Female | 7.70   | 23.5%      | 1      | -92%        | \$7    | -97%        | \$7  | -0.4%   | \$2.29 | 0.0%    |
|                        | Male   | 6.35   | 1.9%       | 2      | -83%        | \$16   | -92%        | \$8  | -0.4%   | \$2.69 | 0.0%    |
| Fashion accessories    | Female | 5.50   | -25.2%     | 2      | -86%        | \$22   | -90%        | \$11 | -0.1%   | \$2.46 | 0.0%    |
|                        | Male   | 7.30   | 8.8%       | 1      | -90%        | \$4    | -95%        | \$4  | -0.5%   | \$1.46 | 0.0%    |
| Food and beverages     | Female | 4.90   | -27.0%     | 2      | -80%        | \$14   | -85%        | \$7  | -0.3%   | \$2.84 | 0.0%    |
|                        | Male   | 6.60   | -6.6%      | 1      | -67%        | \$21   | -55%        | \$21 | 4.0%    | \$4.14 | 0.2%    |
| Health and beauty      | Female | 6.90   | -2.4%      | 6      | 100%        | \$171  | 273%        | \$28 | 9.6%    | \$3.88 | 0.2%    |
|                        | Male   |        |            |        |             |        |             |      |         |        |         |

AOV = Average Order Value (Income/Orders); ASP = Average Sale Price (Income/Units)

The dynamic parameter filter **Break Out By:** affects only the second column in the Sales Metrics sheet:

Customer Satisfaction WBR



Sales Metrics By Product Line, Broken Out By Gender

Break Out By:

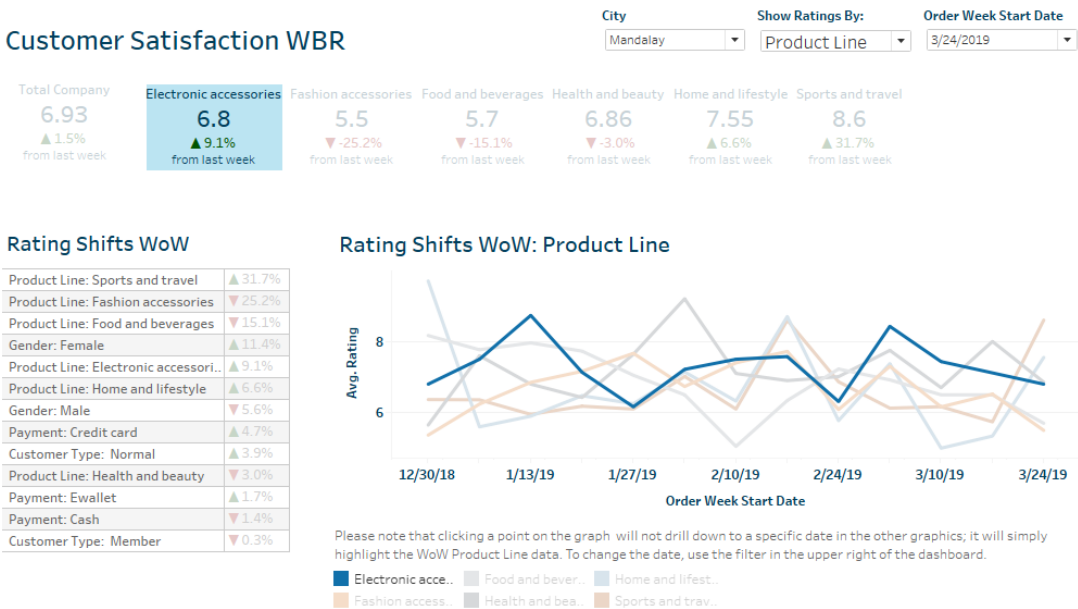
Gender

|                        |        | Rating | Rating WoW | Orders | Orders Wo.. | Income | Income Wo.. | AOV  | AOV WoW | ASP    | ASP WoW |
|------------------------|--------|--------|------------|--------|-------------|--------|-------------|------|---------|--------|---------|
| Electronic accessories | Female | 7.70   | 23.5%      | 1      | -92%        | \$7    | -97%        | \$7  | -0.4%   | \$2.29 | 0.0%    |
|                        | Male   | 6.35   | 1.9%       | 2      | -83%        | \$16   | -92%        | \$8  | -0.4%   | \$2.69 | 0.0%    |
| Fashion accessories    | Female | 5.50   | -25.2%     | 2      | -86%        | \$22   | -90%        | \$11 | -0.1%   | \$2.46 | 0.0%    |
|                        | Male   | 7.30   | 8.8%       | 1      | -90%        | \$4    | -95%        | \$4  | -0.5%   | \$1.46 | 0.0%    |
| Food and beverages     | Female | 4.90   | -27.0%     | 2      | -80%        | \$14   | -85%        | \$7  | -0.3%   | \$2.84 | 0.0%    |
|                        | Male   | 6.60   | -6.6%      | 1      | -67%        | \$21   | -55%        | \$21 | 4.0%    | \$4.14 | 0.2%    |
| Health and beauty      | Female | 6.90   | -2.4%      | 6      | 100%        | \$171  | 273%        | \$28 | 9.6%    | \$3.88 | 0.2%    |
|                        | Male   |        |            |        |             |        |             |      |         |        |         |

AOV = Average Order Value (Income/Orders); ASP = Average Sale Price (Income/Units)

Selecting any of the values populated by the dynamic parameter filter **Show Ratings By:** will highlight values on all sheets except Rating Shifts WoW and the Total Company tile:

Customer Satisfaction WBR



Sales Metrics By Product Line, Broken Out By Gender

Break Out By:

Gender

|                        |        | Rating | Rating WoW | Orders | Orders Wo.. | Income | Income Wo.. | AOV  | AOV WoW | ASP    | ASP WoW |
|------------------------|--------|--------|------------|--------|-------------|--------|-------------|------|---------|--------|---------|
| Electronic accessories | Female | 7.70   | 23.5%      | 1      | -92%        | \$7    | -97%        | \$7  | -0.4%   | \$2.29 | 0.0%    |
|                        | Male   | 6.35   | 1.9%       | 2      | -83%        | \$16   | -92%        | \$8  | -0.4%   | \$2.69 | 0.0%    |
| Fashion accessories    | Female | 5.50   | -25.2%     | 2      | -86%        | \$22   | -90%        | \$11 | -0.1%   | \$2.46 | 0.0%    |
|                        | Male   | 7.30   | 8.8%       | 1      | -90%        | \$4    | -95%        | \$4  | -0.5%   | \$1.46 | 0.0%    |
| Food and beverages     | Female | 4.90   | -27.0%     | 2      | -80%        | \$14   | -85%        | \$7  | -0.3%   | \$2.84 | 0.0%    |
|                        | Male   | 6.60   | -6.6%      | 1      | -67%        | \$21   | -55%        | \$21 | 4.0%    | \$4.14 | 0.2%    |
| Health and beauty      | Female | 6.90   | -2.4%      | 6      | 100%        | \$171  | 273%        | \$28 | 9.6%    | \$3.88 | 0.2%    |
|                        | Male   |        |            |        |             |        |             |      |         |        |         |

AOV = Average Order Value (Income/Orders); ASP = Average Sale Price (Income/Units)

## User Walkthroughs

This dashboard is general enough that it could be used by multiple personas at the company. I've created walkthroughs for two of those personas: a branch manager and a product buyer.

### Persona 1: Branch Manager, Mandalay

#### Use Case

As the manager of the Mandalay branch, I need to monitor weekly customer satisfaction trends to ensure that I am delivering the best experience to my customers. I want to be able to compare my branch to the other branches as well as to the total company. I also want to be able to drill down to specific customer behavior and order attributes within my store.

#### Walkthrough

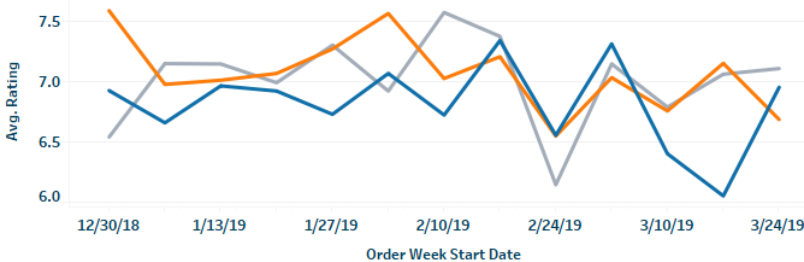
##### First Filter Set: All Cities, Show Ratings By City, Default Order Week Start Date.

On opening the dashboard, I can see the most recent week's customer satisfaction ratings, split out by city:



I can see that my branch has had a large improvement from last week and is trending above the company average. By checking the WoW graph, I can see how my branch has been performing when compared to the other two branches:

#### Rating Shifts WoW: City



Please note that clicking a point on the graph will not drill down to a specific date in the other graphics; it will simply highlight the WoW City data. To change the date, use the filter in the upper right of the dashboard.

I can also see the biggest contributors to the WoW rating shift, both positive and negative, for the entire company:

#### Rating Shifts WoW

|                                       |         |
|---------------------------------------|---------|
| Product Line: Sports and travel       | ▲ 31.1% |
| Gender: Female                        | ▲ 14.5% |
| Product Line: Fashion accessories     | ▼ 9.5%  |
| Gender: Male                          | ▼ 9.2%  |
| Customer Type: Normal                 | ▲ 8.9%  |
| Product Line: Food and beverages      | ▲ 8.0%  |
| Product Line: Health and beauty       | ▼ 7.9%  |
| Payment: Credit card                  | ▲ 6.7%  |
| Product Line: Home and lifestyle      | ▲ 5.1%  |
| Customer Type: Member                 | ▼ 4.7%  |
| Payment: Cash                         | ▼ 1.2%  |
| Product Line: Electronic accessori... | ▼ 1.2%  |
| Payment: Ewallet                      | ▲ 0.4%  |

I now know how my branch is comparing to the other branches and to the total company, both this week and this year, and the biggest contributors to rating shifts across the total company.

Second Filter Set: Mandalay Only, Show Ratings By Product Line, Default Order Week Start Date.

Since the biggest contributor at the company level was a Product Line, I’m going to narrow the filters down to only my branch and see how the various Product Lines performed WoW in Mandalay:



At a glance, I can see how the customer satisfaction ratings for each Product Line at my branch shifted since last week.

I can also see that, in contrast to the total company, the three biggest contributors to WoW rating changes in my branch were all Product Lines: Sports and Travel with a large increase, and Fashion Accessories and Food and Beverages with large decreases:

Rating Shifts WoW

|                                      |         |
|--------------------------------------|---------|
| Product Line: Sports and travel      | ▲ 31.7% |
| Product Line: Fashion accessories    | ▼ 25.2% |
| Product Line: Food and beverages     | ▼ 15.1% |
| Gender: Female                       | ▲ 11.4% |
| Product Line: Electronic accessori.. | ▲ 9.1%  |
| Product Line: Home and lifestyle     | ▲ 6.6%  |
| Gender: Male                         | ▼ 5.6%  |
| Payment: Credit card                 | ▲ 4.7%  |
| Customer Type: Normal                | ▲ 3.9%  |
| Product Line: Health and beauty      | ▼ 3.0%  |
| Payment: Ewallet                     | ▲ 1.7%  |
| Payment: Cash                        | ▼ 1.4%  |
| Customer Type: Member                | ▼ 0.3%  |

In the Sales Metrics table at the bottom of the dashboard, I can look at important sales metrics WoW for each of these Product Lines. I can see not only Rating, but also Transaction count, Total Income, and Income per Transaction. This allows me to quickly assess outliers or important trends:

Sales Metrics By Product Line, Broken Out By Total

Break Out By: Total

|                        | Rating | Rating<br>WoW | Orders | Orders<br>WoW | Income | Income<br>WoW | AOV  | AOV<br>WoW | ASP    | ASP<br>WoW |
|------------------------|--------|---------------|--------|---------------|--------|---------------|------|------------|--------|------------|
| Electronic accessories | 6.80   | 9.1%          | 3      | -75%          | \$23   | -89%          | \$8  | -0.4%      | \$2.56 | 0.0%       |
| Fashion accessories    | 5.50   | -25.2%        | 2      | -86%          | \$22   | -90%          | \$11 | -0.1%      | \$2.46 | 0.0%       |
| Food and beverages     | 5.70   | -15.1%        | 3      | -70%          | \$19   | -80%          | \$6  | -0.3%      | \$2.32 | 0.0%       |
| Health and beauty      | 6.86   | -3.0%         | 7      | 133%          | \$192  | 318%          | \$27 | 8.8%       | \$3.91 | 0.2%       |
| Home and lifestyle     | 7.55   | 6.6%          | 2      | -89%          | \$36   | -87%          | \$18 | 0.0%       | \$2.37 | 0.0%       |
| Sports and travel      | 8.60   | 31.7%         | 4      | -71%          | \$45   | -84%          | \$11 | -0.2%      | \$3.25 | 0.0%       |

In addition to this view, I can choose a further dimension to dig deeper into the data. Since I know from the Rating Shifts chart that the 4<sup>th</sup> biggest shift WoW came from female shoppers, I can break out Product Line sales data by Gender:

Sales Metrics By Product Line, Broken Out By Gender

Break Out By: Gender

|                        |        | Rating | Rating<br>WoW | Orders | Orders<br>WoW | Income | Income<br>WoW | AOV  | AOV<br>WoW | ASP    | ASP<br>WoW |
|------------------------|--------|--------|---------------|--------|---------------|--------|---------------|------|------------|--------|------------|
| Electronic accessories | Female | 7.70   | 23.5%         | 1      | -92%          | \$7    | -97%          | \$7  | -0.4%      | \$2.29 | 0.0%       |
|                        | Male   | 6.35   | 1.9%          | 2      | -83%          | \$16   | -92%          | \$8  | -0.4%      | \$2.69 | 0.0%       |
| Fashion accessories    | Female | 5.50   | -25.2%        | 2      | -86%          | \$22   | -90%          | \$11 | -0.1%      | \$2.46 | 0.0%       |
| Food and beverages     | Female | 7.30   | 8.8%          | 1      | -90%          | \$4    | -95%          | \$4  | -0.5%      | \$1.46 | 0.0%       |
|                        | Male   | 4.90   | -27.0%        | 2      | -80%          | \$14   | -85%          | \$7  | -0.3%      | \$2.84 | 0.0%       |
| Health and beauty      | Female | 6.60   | -6.6%         | 1      | -67%          | \$21   | -55%          | \$21 | 4.0%       | \$4.14 | 0.2%       |
|                        | Male   | 6.90   | -2.4%         | 6      | 100%          | \$171  | 273%          | \$28 | 9.6%       | \$3.88 | 0.2%       |

This gives me further insight not only into where the Rating shifts came from but also into more general demographic information. For example, 6 out of the 7 Health and Beauty customers at my branch this past week were male. Perhaps we could create a marketing campaign or discounts either to continue to encourage male customers to purchase from that category or to try to attract more female customers.

In addition to Product Line and Gender, I can also break out data by Customer Type (are members or non-members rating us better?) and Payment Type (maybe we had an issue with our card reader, and all our bad ratings are coming from credit card users). All these metrics can be combined in any order, and I can add back in the other branches and compare between them if needed.

Finally, if I notice strange or potentially interesting behavior in past weeks on the graph, I can change the Order Week Start Date filter and look at all metrics from that week, compared to the week before.

## Persona 2: Buyer, Sports and Travel

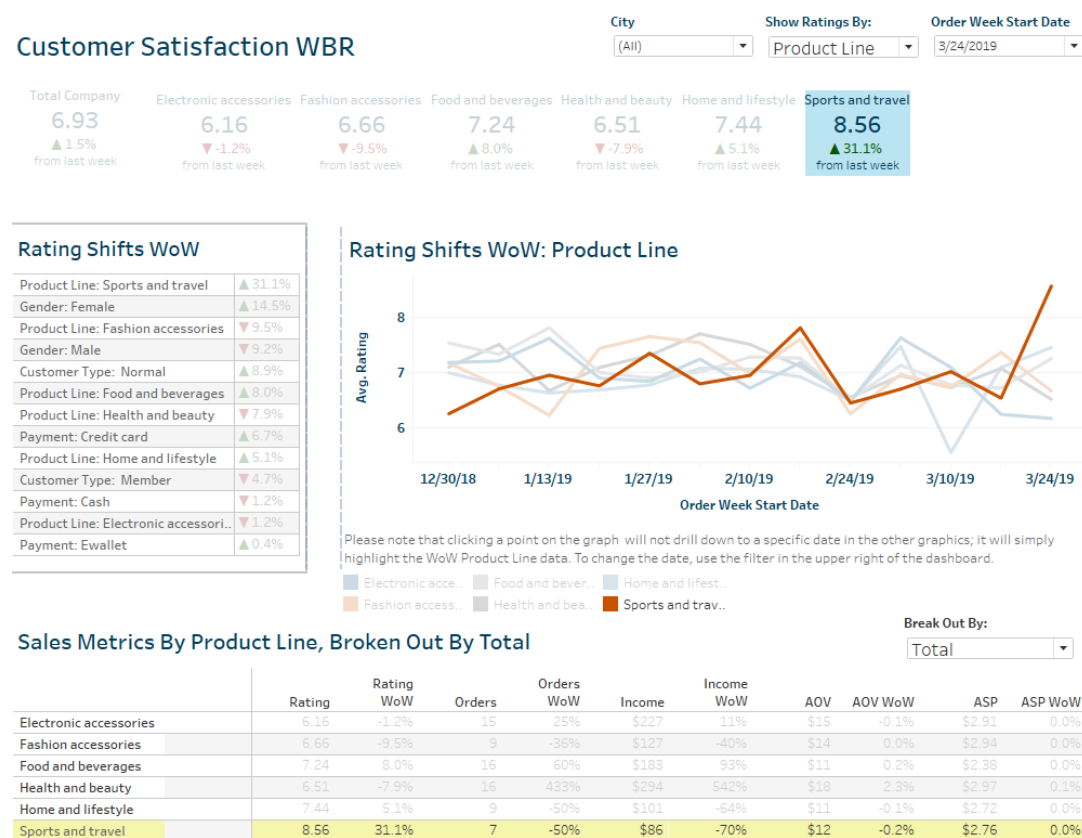
### Use Case

As a buyer on the Sports and Travel team, I need to monitor weekly customer satisfaction trends to ensure that I am delivering the best experience to my customers. I want to be able to compare my Product Line to the others and to the total company. I also want to be able to see how Sports and Travel are being rated at different branches and across different customer demographics.

### Walkthrough

**Filter Set: All Cities, Show Ratings By Product Line, Default Order Week Start Date.**

On opening the dashboard, I first click on the Sports and Travel tile at the top of the screen to highlight only the data that is relevant to my Product Line:



I can see that Sports and Travel has the highest Rating by far from this past week, above the company average and up over 30% WoW. Looking at the WoW graph, I can see that Sports and Travel had the lowest Rating at the beginning of the year but has otherwise been on-par with the other Product Lines.

When I look at the Sales Metrics table, I can see that Orders across the total company were down WoW, as was Income. AOV and ASP both remained steady WoW, so this rating spike wasn't caused by cheaper items or customers buying a different number of items.

I can add in a City breakout to make see if this shift was consistent across branches:

Sales Metrics By Product Line, Broken Out By City

Break Out By:  
City

|                    |           | Rating | Rating WoW | Orders | Orders WoW | Income | Income Wo.. | AOV  | AOV WoW | ASP    | ASP WoW |
|--------------------|-----------|--------|------------|--------|------------|--------|-------------|------|---------|--------|---------|
| Health and beauty  | Naypyitaw | 6.15   | -13.0%     | 2      | -33%       | \$25   | -44%        | \$13 | -1.9%   | \$3.18 | 0.1%    |
|                    | Yangon    | 6.26   | -11.5%     | 7      | 133%       | \$77   | 68%         | \$11 | -3.1%   | \$1.83 | -0.1%   |
| Home and lifestyle | Mandalay  | 7.55   | 6.6%       | 2      | -89%       | \$36   | -87%        | \$18 | 0.0%    | \$2.37 | 0.0%    |
|                    | Naypyitaw | 7.40   | 4.5%       | 2      | -89%       | \$19   | -93%        | \$10 | -0.1%   | \$3.88 | 0.0%    |
|                    | Yangon    | 7.42   | 4.8%       | 5      | -72%       | \$46   | -84%        | \$9  | -0.1%   | \$2.70 | 0.0%    |
| Sports and travel  | Mandalay  | 8.60   | 31.7%      | 4      | -71%       | \$45   | -84%        | \$11 | -0.2%   | \$3.25 | 0.0%    |
|                    | Naypyitaw | 8.50   | 30.2%      | 1      | -93%       | \$4    | -99%        | \$4  | -0.4%   | \$0.73 | 0.0%    |
|                    | Yangon    | 8.50   | 30.2%      | 2      | -86%       | \$36   | -87%        | \$18 | -0.1%   | \$3.04 | 0.0%    |

Since it was, I can switch between the other breakout dimensions to see which demographic caused this shift. If it hadn't been, I could filter down to a single city and take a closer look at the data that way.

Just like the Branch Manager, if I notice strange or potentially interesting behavior in past weeks on the graph, I can change the Order Week Start Date filter and look at all metrics from that week, compared to the week before.

## Dataset Definitions

### supermarket\_sales\_sample\_dataset

Main dataset. Contains sales information at the Transaction ID level. Used in all sheets except Contribution Table. Joined to comp\_dataset\_wow on Week Start Date Comp.

| Field                        | Definition  | Calculation  |
|------------------------------|---|--|
| Choose Dimension Calc        | Allows for dynamic dimension selection for most of the dashboard (City, Customer type, Gender, Payment, Product line)   | CASE [Parameters].[Choose Dimension]<br>WHEN 'City' THEN [City]<br>WHEN 'Customer Type' THEN [Customer type]<br>WHEN 'Gender' THEN [Gender]<br>WHEN 'Payment Type' THEN [Payment]<br>WHEN 'Product Line' THEN [Product line]<br>WHEN 'Total' THEN NULL<br>END        |
| Choose Second Dimension Calc | Allows for dynamic dimension selection for the nested field in the Sales Metrics table (City, Customer type, Gender, Payment, Product line)                   | CASE [Parameters].[Choose Second Dimension]<br>WHEN 'City' THEN [City]<br>WHEN 'Customer Type' THEN [Customer type]<br>WHEN 'Gender' THEN [Gender]<br>WHEN 'Payment Type' THEN [Payment]<br>WHEN 'Product Line' THEN [Product line]<br>WHEN 'Total' THEN NULL<br>END |
| City                         | City where store is located (Mandalay, Naypyitaw, Yangon)   |  |
| Customer type                | Customer type of customer who made the purchase (Member, Normal)  |  |
| Date                         | Date of transaction   |  |
| Gender                       | Gender of customer (Female, Male)   |  |
| Payment                      | Payment type for transaction (Cash, Credit card, Ewallet)   |  |
| Product line                 | Product line for the transaction ( Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel) |  |
| Week Start Date              | Start week of transaction date  | DATETRUNC('week',[Date])   |
| Week Start Date Comp         | Start week of transaction date (used to join to comp_dataset_wow dataset)   | DATE(DATETRUNC('day',DATEADD('day',0,[Week Start Date])))  |
| AOV                          | Average order value   | SUM([Gross Income])/COUNT([Orders])  |



|                                     |  |   |
|-------------------------------------|--|---|
| AOV Comp Field                      | WoW comp for AOV field   | ((SUM([Gross Income])/COUNT([Orders]))-(SUM([comp_dataset_wow].[Gross Income])/COUNT([comp_dataset_wow].[Invoice ID])))/SUM([comp_dataset_wow].[Gross Income])/COUNT([comp_dataset_wow].[Invoice ID]) |
| ASP                                 | Average sale price   | SUM([Gross Income])/SUM([Quantity])   |
| ASP Comp Field                      | WoW comp for ASP field   | ((SUM([Gross Income])/SUM([Quantity]))-(SUM([comp_dataset_wow].[Gross Income])/SUM([comp_dataset_wow].[Quantity])))/SUM([comp_dataset_wow].[Gross Income])/SUM([comp_dataset_wow].[Quantity])         |
| Gross Income                        | Income after COGS are subtracted from transaction total                                      |   |
| Gross Income Comp Field             | WoW comp for Gross Income field  | (SUM([Gross Income])-SUM([comp_dataset_wow].[Gross Income]))/SUM([comp_dataset_wow].[Gross Income])   |
| Orders (Count(Distinct))            | Order count  |   |
| Orders Comp Field                   | WoW comp for Orders field  | (COUNT([Orders])-COUNT([comp_dataset_wow].[Invoice ID]))/COUNT([comp_dataset_wow].[Invoice ID])   |
| Rating                              | Customer satisfaction rating   |   |
| Rating Comp Field                   | WoW comp for Rating field  | (AVG([Rating])-AVG([comp_dataset_wow].[Rating]))/AVG([comp_dataset_wow].[Rating])   |
| Rating Comp Field (Negative Arrow)  | Down arrow for visualizations, based on value of Rating field                                | IIF(AVG([Rating]) < AVG([comp_dataset_wow].[Rating]), '▼', NULL)  |
| Rating Comp Field (Negative Change) | Negative WoW comp for Rating field (split out like this for color-coding in visualizations)  | IIF(AVG([Rating]) < AVG([comp_dataset_wow].[Rating]), (avg([Rating])-avg([comp_dataset_wow].[Rating]))/avg([comp_dataset_wow].[Rating]), NULL)  |
| Rating Comp Field (No Change)       | No change WoW comp for Rating field (split out like this for color-coding in visualizations) | IIF(AVG([Rating]) = AVG([comp_dataset_wow].[Rating]), (avg([Rating])-avg([comp_dataset_wow].[Rating]))/avg([comp_dataset_wow].[Rating]), NULL)  |
| Rating Comp Field (Positive Arrow)  | Up arrow for visualizations, based on value of Rating field                                  | IIF(AVG([Rating]) > AVG([comp_dataset_wow].[Rating]), '▲', NULL)  |
| Rating Comp Field (Positive Change) | Positive WoW comp for Rating field (split out like this for color-coding in visualizations)  | IIF(AVG([Rating]) > AVG([comp_dataset_wow].[Rating]), (avg([Rating])-avg([comp_dataset_wow].[Rating]))/avg([comp_dataset_wow].[Rating]), NULL)  |

### comp\_dataset\_wow

Comp dataset for supermarket\_sales\_sample\_dataset. Contains a calculated field Week Start Date Comp that is one week less than the Week Start Date Comp field in the main dataset. Used in all sheets except Contribution Table. Joined to supermarket\_sales\_sample\_dataset on Week Start Date Comp.

| Field                 | Definition  | Calculation   |
|-----------------------|---|---|
| Choose Dimension Calc | Allows for dynamic dimension selection for most of the dashboard (City, Customer type, Gender, Payment, Product line)   | CASE [Parameters].[Choose Dimension]<br>WHEN 'City' THEN [City]<br>WHEN 'Customer Type' THEN [Customer type]<br>WHEN 'Gender' THEN [Gender]<br>WHEN 'Payment Type' THEN [Payment]<br>WHEN 'Product Line' THEN [Product line]<br>WHEN 'Total' THEN NULL<br>END |
| City                  | City where store is located (Mandalay, Naypyitaw, Yangon)   |   |
| Customer type         | Customer type of customer who made the purchase (Member, Normal)  |   |
| Date                  | Date of transaction   |   |
| Gender                | Gender of customer (Female, Male)   |   |
| Invoice ID            | ID of invoice   |   |
| Payment               | Payment type for transaction (Cash, Credit card, Ewallet)   |   |
| Product line          | Product line for the transaction ( Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel) |   |
| Week Start Date       | Start week of transaction date  | DATETRUNC('week',[Date])  |
| Week Start Date Comp  | Start week of transaction date -7 days (used to join to supermarket_sales_sample_dataset to allow WoW comps)  | DATE(DATETRUNC('day',DATEADD('day',7,[Week Start Date])))   |
| Gross Income          | Income after COGS are subtracted from transaction total   |   |
| Quantity              | Number of items in transaction  |   |
| Rating                | Customer satisfaction rating  |   |

### pivoted\_dataset

Pivoted dataset based on supermarket\_sales\_sample\_dataset. Pivoted on the fields Product Line, Gender, Payment, and Customer Type to allow for ranking of the shifts in Rating WoW, agnostic of product/customer attribute. Used only in Contribution Table sheet. Joined to comp\_pivoted\_wow on Pivot Field Names, Pivot Field Values, and Week Start Date Comp.

| Field | Definition  | Calculation |
|-------|---|-------------|
| City  | City where store is located (Mandalay, Naypyitaw, Yangon) |             |
| Date  | Date of transaction                                       |             |

|                                    |   |  |
|------------------------------------|---|--|
| Pivot Field Names                  | Names of pivoted fields (Customer Type, Gender, Payment, Product Line)                            |  |
| Pivot Field Values                 | All values of the 4 pivoted fields.   |  |
| Week Start Date                    | Start week of transaction date  | DATETRUNC('week',[Date])   |
| Week Start Date Comp               | Start week of transaction date (used to join to comp_pivoted_wow)                                 | DATE(DATETRUNC('day',DATEADD('day',7,[Week Start Date])))                              |
| Rating                             | Customer satisfaction rating  |  |
| Rating Comp Field (ABS Change)     | Absolute value of WoW Rating comp   | ABS((AVG([Rating])-AVG([comp_pivoted_wow].[Rating]))/AVG([comp_pivoted_wow].[Rating])) |
| Rating Comp Field (Negative Arrow) | Down arrow for visualizations, based on value of Rating field                                     | IIF(AVG([Rating]) < AVG([comp_dataset_wow].[Rating]), '▼', NULL)                       |
| Rating Comp Field (Positive Arrow) | Up arrow for visualizations, based on value of Rating field                                       | IIF(AVG([Rating]) > AVG([comp_dataset_wow].[Rating]), '▲', NULL)                       |
| Rating Comp Field Sort (ABS)       | Allows Rating Shifts WoW table to sort dynamically based on the absolute value of the Rating comp | [Parameters].[Sort By] * [Rating Comp Field (ABS Change)]                              |

### comp\_pivoted\_wow

Comp dataset for pivoted\_dataset. Contains a calculated field Week Start Date Comp that is one week less than the Week Start Date Comp field in pivoted\_dataset. Used only in Contribution Table sheet. Joined to pivoted\_dataset on Pivot Field Names, Pivot Field Values, and Week Start Date Comp.

| Field              | Definition   | Calculation |
|--------------------|--|-------------|
| City               | City where store is located (Mandalay, Naypyitaw, Yangon)              |             |
| Date               | Date of transaction  |             |
| Pivot Field Names  | Names of pivoted fields (Customer Type, Gender, Payment, Product Line) |             |
| Pivot Field Values | All values of the 4 pivoted fields.                                    |             |

|                      |   |   |
|----------------------|---|---|
| Week Start Date      | Start week of transaction date                                    | DATETRUNC('week',[Date])                                  |
| Week Start Date Comp | Start week of transaction date (used to join to comp_pivoted_wow) | DATE(DATETRUNC('day',DATEADD('day',7,[Week Start Date]))) |
| Rating               | Customer satisfaction rating                                      |   |

## Parameters

There are three parameters in this workbook: Choose Dimension, Choose Second Dimension, and Sort By.

Choose Dimension and Choose Second Dimension are identical; both allow the user to select which dimensions to display on the dashboard. The values for each parameter are City, Customer Type, Gender, Payment Type, Product Line, and Total.

Choose Dimension is labeled **Show Ratings By:** on the dashboard and controls all but one of the dynamic fields. Choose Second Dimension is labeled **Break Out By:** on the dashboard and controls only the second column in the Sales Metrics sheet (see the Filter Interactions section above).

The Sort By parameter contains two values, -1 and 1, and allows for dynamic sorting on the Contribution Table sheet. Its value is passed through to the calculated field **Rating Comp Field Sort (ABS)** as documented above, and that field is then hidden in the visualization. This functionality allows for dynamic sorting either ascending or descending; due to the low number of records included in this data, I set the sort to descending and didn't allow the user to change the sort.