Analysis of Urban Edge Apparel

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Introduction

This report analyzes the sale patterns and shipment data of Urban Edge Apparel, a wholesale fashion apparel manufacturer. With over 90,000 rows of detailed transactional information starting from 2013, the dataset provided insights into various aspects of the business, including order trends, customer behavior, and product performance. The focus of this analysis is to identify and highlight the potential issues and strengths of this business, such as high return rates or high product order frequency. By using Tableau for visual analytics and analysis, we uncovered patterns and trends that can help the business make strategic decisions and drive improvements in product availability and customer satisfaction. Through this data-driven approach, Urban Edge Apparel can improve its operational efficiency and strengthen its market position.

Exploratory Data Analysis

After we performed the data pre-preprocessing, we spent time looking at the specific patterns appearing in the data set. In this analysis, we answered the following questions:

Question 1: Were there any significant changes in purchasing habits of the customers over the years?

This line graph depicts the average product quantity purchased per year from 2013 to 2024. A trendline is shown on the graph to illustrate the general trend over the years. This format is chosen because it effectively shows changes and trends over some time, making it easier to observe fluctuations and patterns in customer purchasing habits.

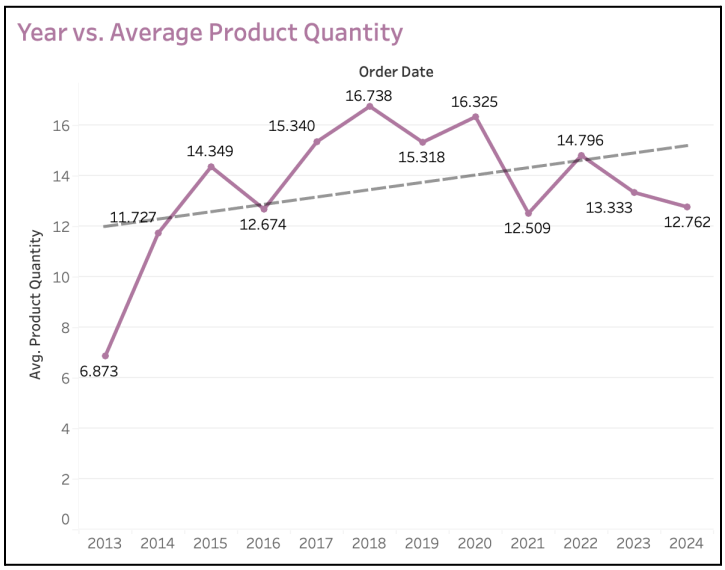

Figure: The average quantity of products sold over the years 2013 to 2024

The graph shows an initial increase in the average product quantity from 2013 to 2014, followed by fluctuations with a notable peak in 2017 (16.738). After 2017, the average product quantity fluctuated, with another peak in 2019 (16.325) and a downward trend from 2022 to 2024. The overall trend, as indicated by the trendline, shows a slight upward movement, suggesting a gradual increase in the average quantity of products purchased over the years despite the fluctuations. This implies that, generally, customers have been purchasing more products per order over time, though there are periods of decline.

The following bar graph shows the distinct count of Order IDs per year from 2012 to 2024. The use of a bar chart is appropriate here because it allows for an easy comparison of the number of orders placed each year, highlighting the volume of transactions over time.

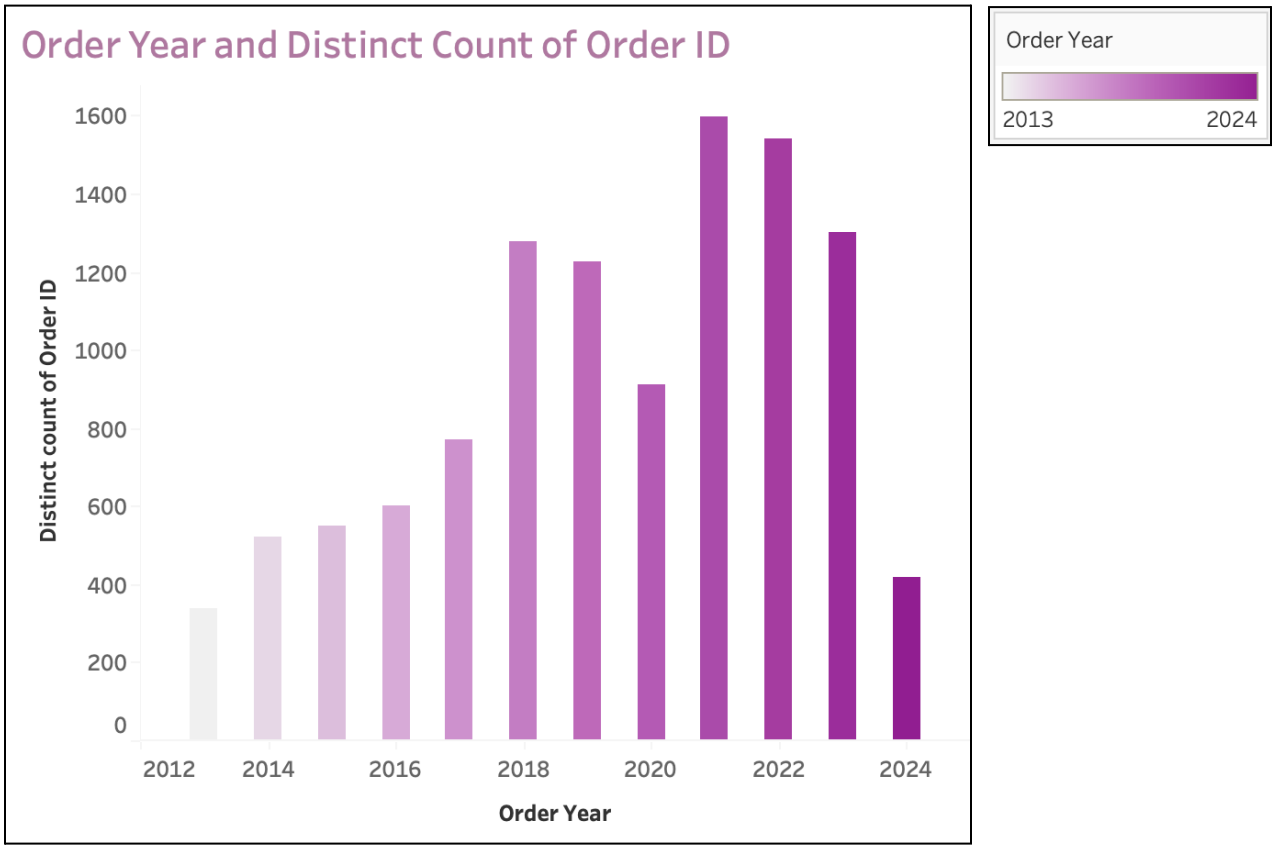

Figure: The Distinct Count of Order IDs over the years.

The graph indicates a steady increase in the number of orders from 2012, reaching a peak around 2021 and 2022. The number of orders significantly rises from 2015 onwards, showing a clear upward trend. However, there is a noticeable drop in the number of orders in 2024 compared to the previous years. This trend suggests that while the company experienced growth in order volume over the years, there might be recent challenges or market conditions affecting the number of orders in the latest year.

Overall, the analysis of both graphs indicates that there have indeed been significant changes in customer purchasing habits over the years. The average quantity of products purchased per order has generally increased, as seen from the trendline in the first graph, though with notable fluctuations. Additionally, the distinct count of orders has shown a consistent upward trend until a peak around 2021-2022, followed by a recent decline. These trends imply that while

customers have been buying more products on average per order, the total number of orders has seen both growth and recent decline. This information is crucial for Urban Edge Apparel to understand customer behavior and make informed decisions on inventory and marketing strategies.

Question 2: Is there any seasonality in purchases for certain products?

The graph below is a heat map that shows the demand for different products across each month of the year. The intensity of the color represents the quantity sold, with darker shades indicating higher demand. This format is chosen because it effectively visualizes patterns and variations in product demand every month, making it easy to identify seasonal trends.

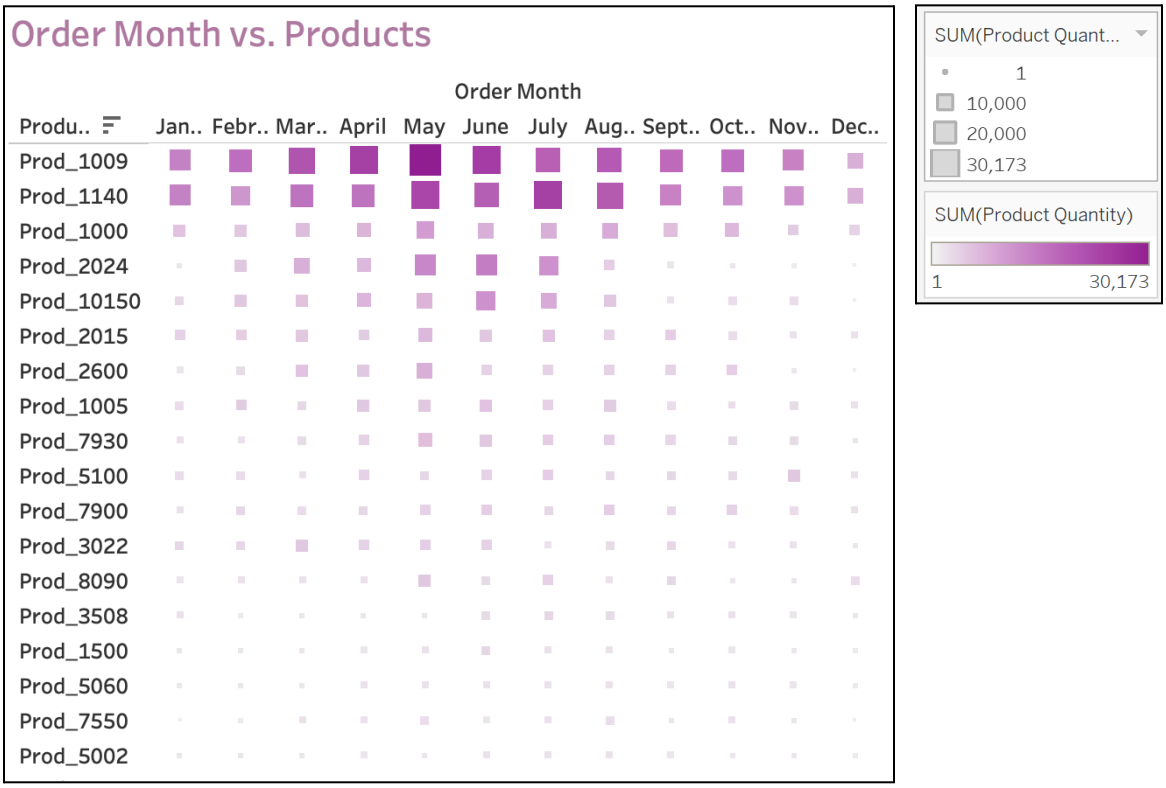

Figure: Heat map of different products and their demand every month throughout the years.

The heat map reveals that certain products have higher demand in specific months. For example, Prod_1009 and Prod_1140 show significant sales throughout the year, but with peaks in May and June. Other products like Prod_1000 and Prod_2024 have more occasional demand, with some months showing little to no sales. This variation indicates that while some products are consistently popular, others experience higher demand during specific months, suggesting seasonality in their purchases.

The following table with heat map-like coloring indicating the quantity of certain products sold each year from 2013 to 2024. The intensity of the color corresponds to the sum of the product quantity sold, providing a visual cue for high and low-demand periods. This format is suitable for detecting long-term trends and patterns in product sales over the years.

Is there any seasonality in purchases for certain products?

SUM(Product Quantity)
269 46,270

Product ID	Order Date 2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Prod_1000	1,755	5,625	6,824	5,178	5,516	10,510	7,208	3,740	7,083	9,934	7,269	1,890
Prod_1009	2,447	8,984	10,925	13,302	28,010	46,270	29,276	15,952	15,865	24,427	16,908	5,826
Prod_1140	1,845	5,122	5,508	12,323	17,418	35,247	32,123	17,483	19,237	17,882	12,624	5,278
Prod_2024	1,309	6,079	4,960	2,110	4,808	6,017	10,563	7,115	6,332	9,381	3,208	518
Prod_10150	269	2,044	3,189	2,345	3,936	5,804	6,052	5,406	7,840	9,655	6,414	1,834

Figure: Table showing the peak purchasing seasons (in terms of years) from 2013 to 2024

The table shows distinct seasonal trends for several products. Prod_1009, for example, had high sales in 2017, 2018, and 2019, with a peak in 2018. Prod_1140 also shows significant sales in the same years. The data suggests that these products have peak periods followed by fluctuations. Prod_2024 and Prod_10150 have more stable sales with occasional peaks.

The analysis of both graphs confirms that there is indeed seasonality in the purchases of certain products. Prod_1009 is a key product with significant seasonality in its purchases. Prod_1009 shows high demand particularly in May and June, with substantial sales peaks during 2017, 2018, and 2019, reaching its highest in 2018 with 46,270 units sold. The heat map indicates that some products experience higher demand during specific months, while the yearly table shows trends where certain products have peak sales years followed by periods of decline or stability. These insights are valuable for Urban Edge Apparel to strategize inventory management and marketing efforts, aligning them with the seasonal demand patterns of their products.

Question 3: Which products have seen a significant increase or decrease in quantity ordered over the years?

Below is an area graph showing the running sum of product quantities ordered from 2013 to 2024 for the top 10 products. The different shades represent different products, with the cumulative quantity increasing over time. This format is chosen to visualize the growth in product orders over time, highlighting which products have seen significant increases or decreases in quantity ordered.

Prod_1009 and Prod_1140 have seen the most significant increases in quantity ordered over the years, indicating a high and growing demand for these products. Prod_1000 and Prod_10150 also show substantial growth, while the other products have experienced more moderate increases. These trends suggest that Urban Edge Apparel should focus on maintaining and enhancing the supply and marketing efforts for these high-growth products to capitalize on their increasing demand.

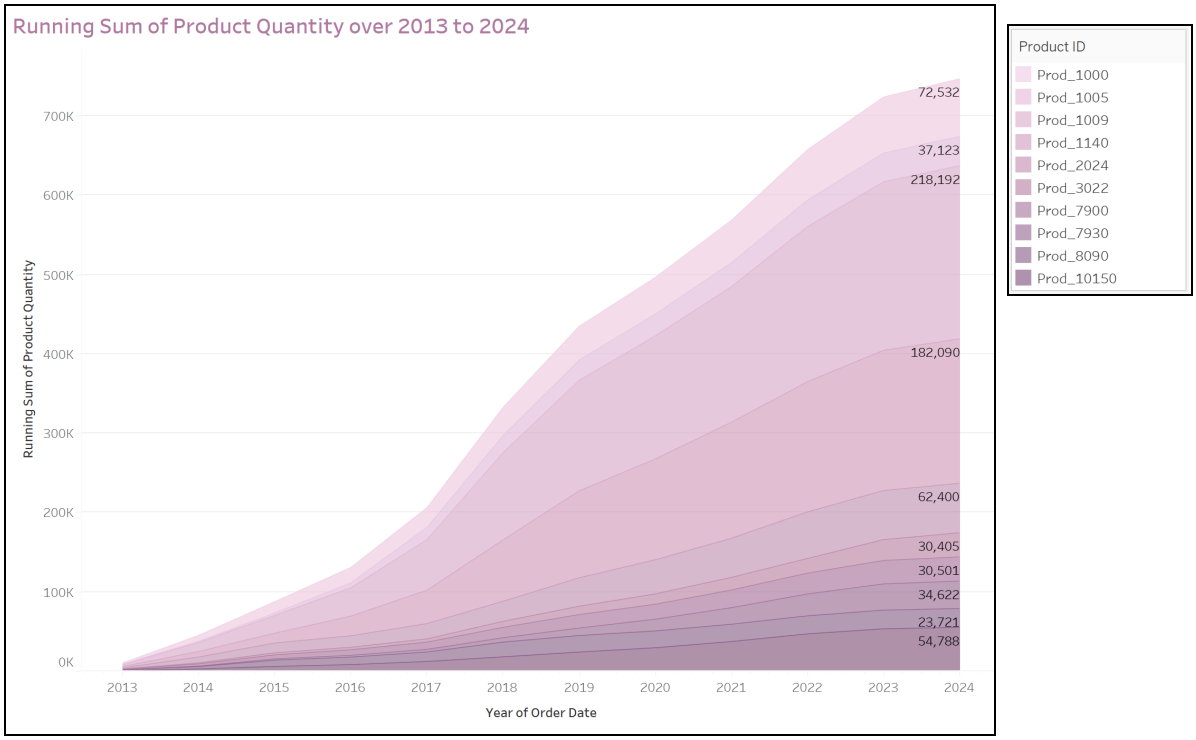

Figure: Area graph that visualizes the trend in product quantity ordered for the top 10 products

Question 4: What trends do you notice for the store with respect to time?

For this question, we generated a line chart. This line chart depicts the store trends in terms of total selling price from 2013 to 2024. This format effectively shows changes and trends over time, making it easy to observe fluctuations and patterns in sales performance.

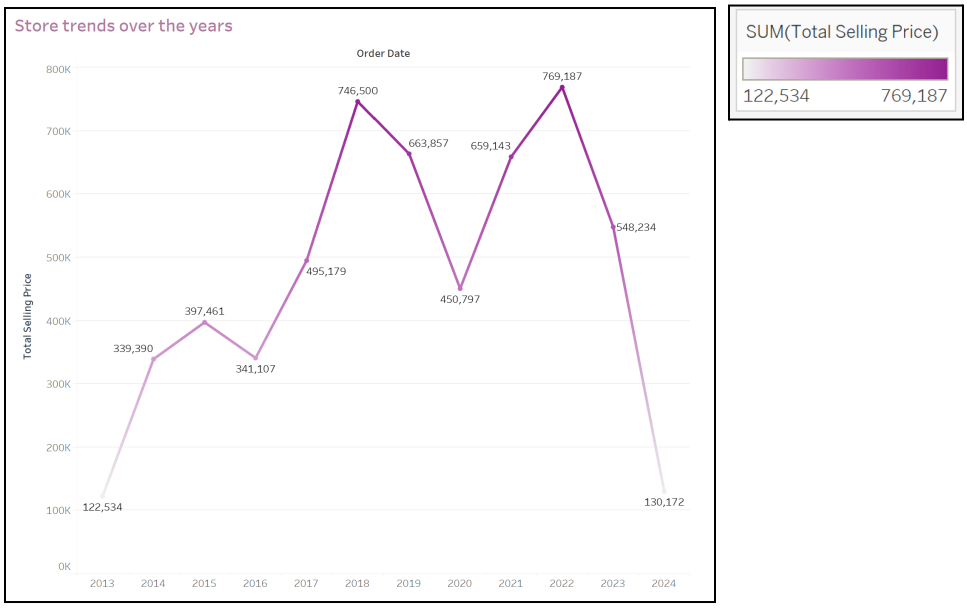

Figure: Line chart that visualizes store trends from 2013 to 2024

The line chart indicates that the store has experienced several fluctuations in total selling price over the years. There are periods of strong growth, particularly in 2013-2015, 2016-2018, and 2020-2022, marked by substantial increases in sales. However, these growth periods are interrupted by sharp declines in 2015-2016, 2018-2020, and a dramatic drop from 2022-2024. These trends suggest that while the store has had successful periods, it also faces significant challenges, likely influenced by external market conditions, internal changes, or other factors. Understanding these trends can help Urban Edge Apparel identify periods of strength and areas for improvement, guiding strategic decisions to stabilize and enhance future sales performance.

Question 5: What are the peak sales periods?

This is a grouped bar graph showing the total selling price for each month from 2019 to 2023. The bars are grouped by year, allowing for a comparison of monthly sales across different years. This format is used to identify and visualize peak sales periods within each year, highlighting when the store experienced the highest sales.

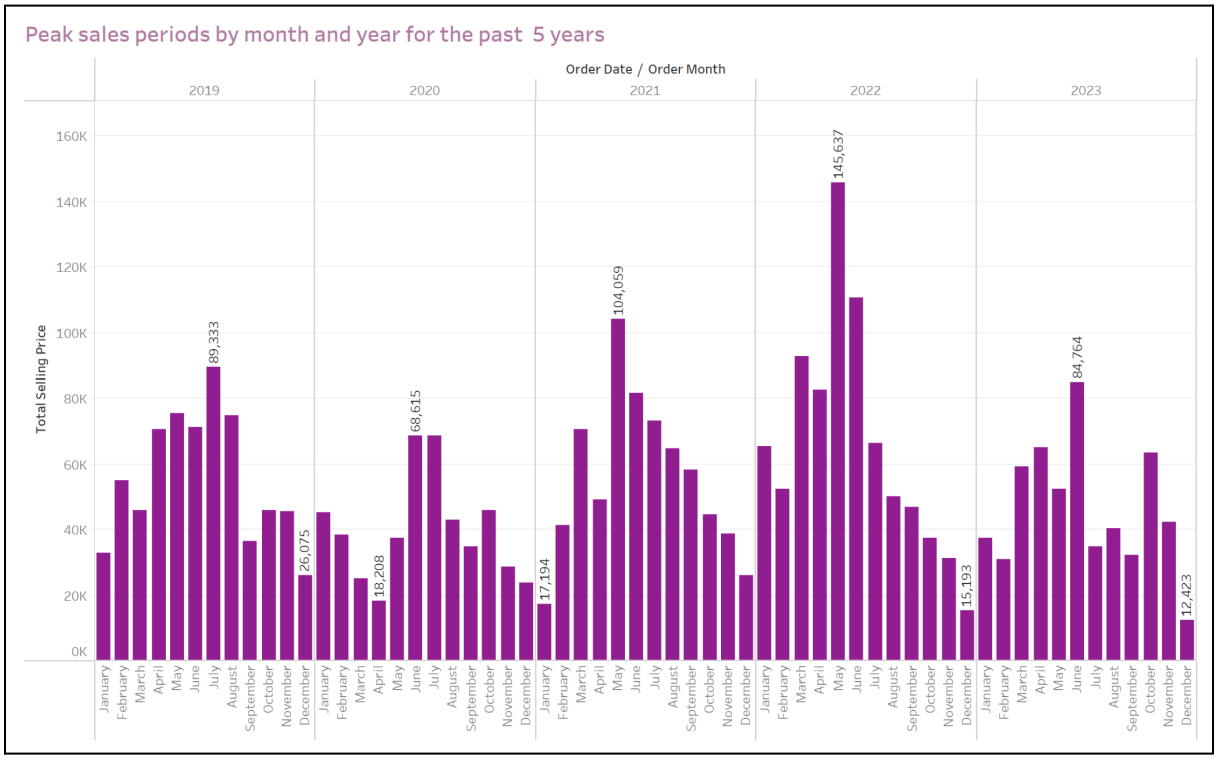

Figure: A grouped bar graph that reveals the peak sales periods by month and year for the past 5 years

In 2019, May stands out with a peak total selling price of $89,393, with other notable months being March, June, and September. Similarly, in 2020, May again peaks at $68,615, alongside high sales in March and October. In 2021, April reached the highest total selling price of $104,059, with additional peaks in July and September. The trend continues in 2022, where May shows the highest sales at $145,637, with March and August also performing well. For 2023, April has the highest sales at $81,754, with significant sales in February and June.

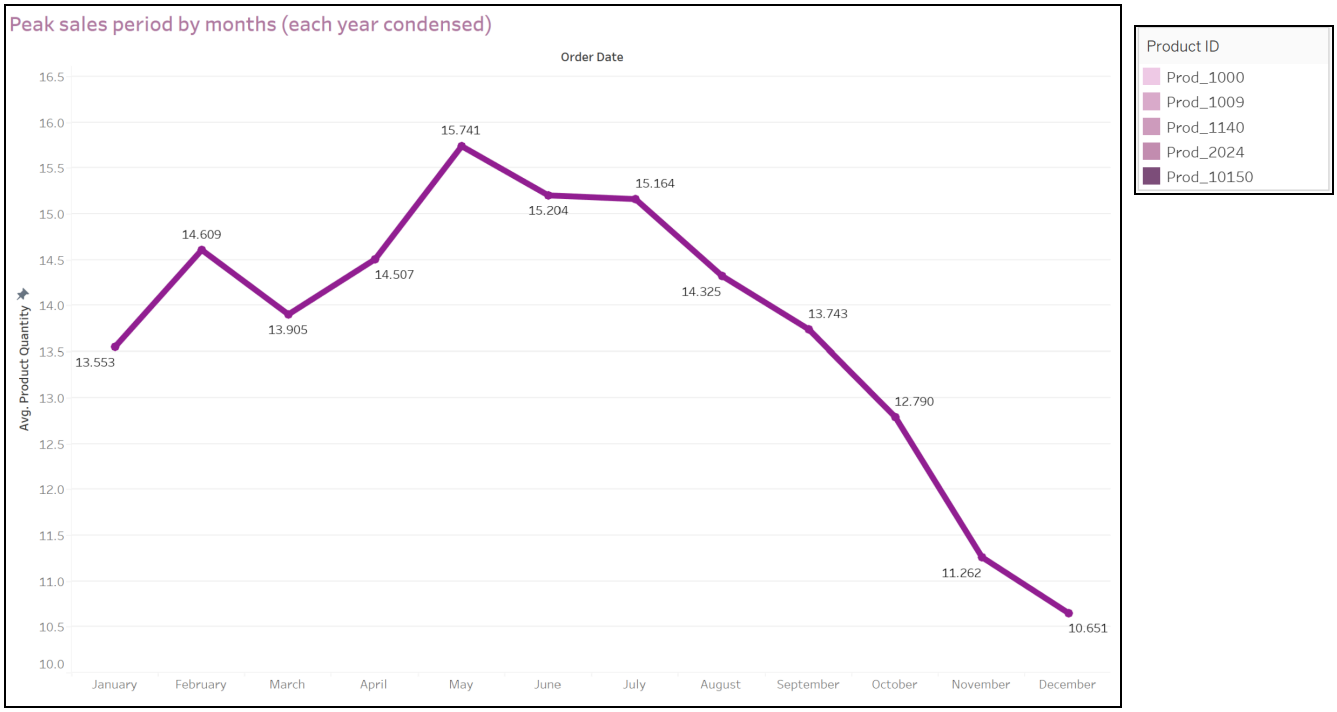

Figure: Line plot of peak sales periods by data from each year's months condensed

The line plot shows the average product quantity sold per month across all years, condensed into a single yearly cycle. This format is chosen to visualize the general seasonal trends in product sales.

The peak sales period is in May, with the highest average product quantity sold at 15.741 units. April and June also show significant sales, with average quantities of 15.204 and 15.164 units, respectively. After June, there is a gradual decline in sales, with December showing the lowest average quantity at 10.651 units. This indicates a strong sales season in the spring and early summer, tapering off towards the end of the year.

The combined analysis of both graphs reveals that the peak sales periods for Urban Edge Apparel are consistently in April and May, with May often showing the highest sales figures. These months have the highest average product quantities sold and the most significant total selling prices, indicating strong seasonal demand during these periods. Urban Edge Apparel should leverage this information to optimize its inventory and marketing strategies to maximize sales during these peak times.

Question 6: The highest-selling products by month and category

The stacked bar graph below visualizes the trends for the top 5 highest-selling products by month. Each bar represents a month, and within each bar, the different shades indicate the distinct count of orders, product quantity, and total selling price. This format is chosen to provide a comprehensive view of the sales performance of top products, highlighting the volume of orders, quantity sold, and revenue generated.

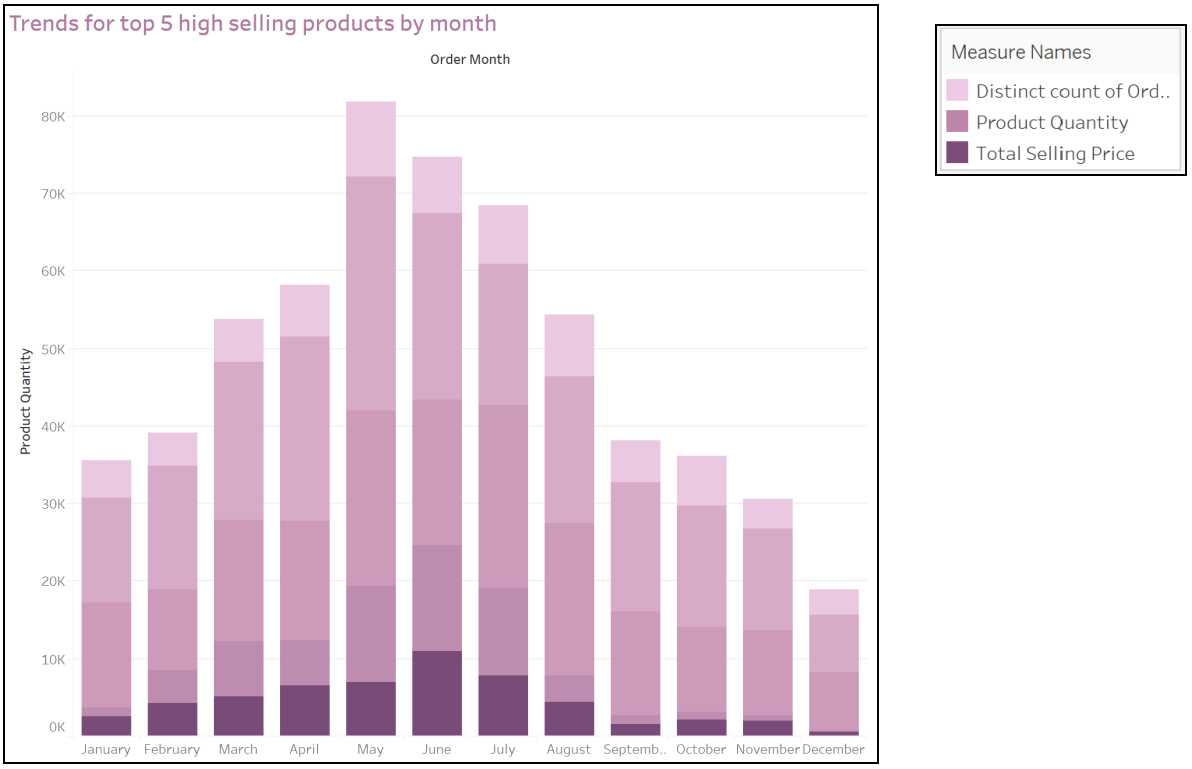

Figure: Stacked bar graph about the 5 highest selling products by month

The graph highlights that May is the peak sales month for the highest-selling products, with the total product quantity exceeding 80K and strong performance across all metrics: distinct count of orders, product quantity, and total selling price. Following May, April and June also show significant sales, each with total product quantities around 70K and 60K, respectively. March and July are consistent performers, each with product quantities around 50K and relatively high order counts and total selling prices. February and August show moderate sales performance, with product quantities ranging from 40K to 50K. The last quarter of the year, from September to December, generally exhibits lower sales, with total product quantities between 30K and 40K, and December being the lowest at just above 20K. These insights suggest that Urban Edge Apparel should focus its inventory and marketing efforts on the spring and early summer months to maximize sales during these peak periods.

Question 7: Orders, Revenue, Quantity by Month

These combined bar graphs present data on the number of orders, revenue, and product quantity by month. This format allows for a comprehensive comparison across the three metrics (Order volume, Revenue, and Quality) by Month to identify trends and peak periods.

The combined analysis of orders, revenue, and product quantity by month highlights that May is the peak month across all metrics, with the highest number of orders (1,292), revenue ($763,649.28), and product quantity sold (162,543). This indicates a strong sales season in May, likely driven by increased customer demand. April and June also show significant performance across all three metrics, making them important months for Urban Edge Apparel. On the other hand, December, November, and January consistently show the lowest performance in orders, revenue, and product quantity, indicating these months as the slower sales

periods. These insights can help Urban Edge Apparel focus its marketing and inventory efforts on the peak months to maximize sales and strategically plan for slower periods.

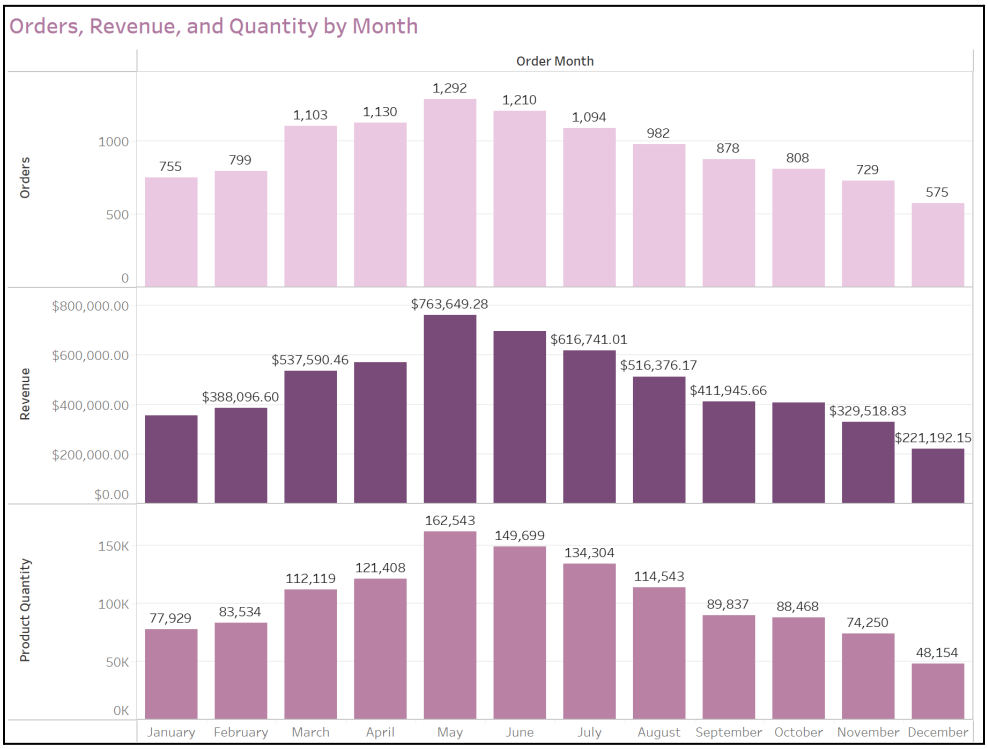

Figure: Combined bar graphs for product orders, product revenue, and product quantity by months

Question 8: Distribution of sales across different cities, states, and countries.

To look at the distribution of sales geographically we created a map dashboard that provides a geographical breakdown of sales distribution across different cities, states, and countries. The map format, using varying sizes of circles and color intensities, effectively visualizes the volume and concentration of sales in specific locations.

The map dashboard analysis reveals that Urban Edge Apparel has its highest sales concentrations in major U.S. cities, with significant contributions from states like California, New York, and Texas. Internationally, cities like Tokyo and Toronto show notable sales volumes, indicating strong markets outside the U.S. The overall distribution suggests a large presence in the United States, combined with strategic international markets. These insights can help Urban Edge Apparel focus its marketing and distribution efforts on key cities and states within the U.S. while continuing to expand its reach in the total addressable market through high-potential international markets.

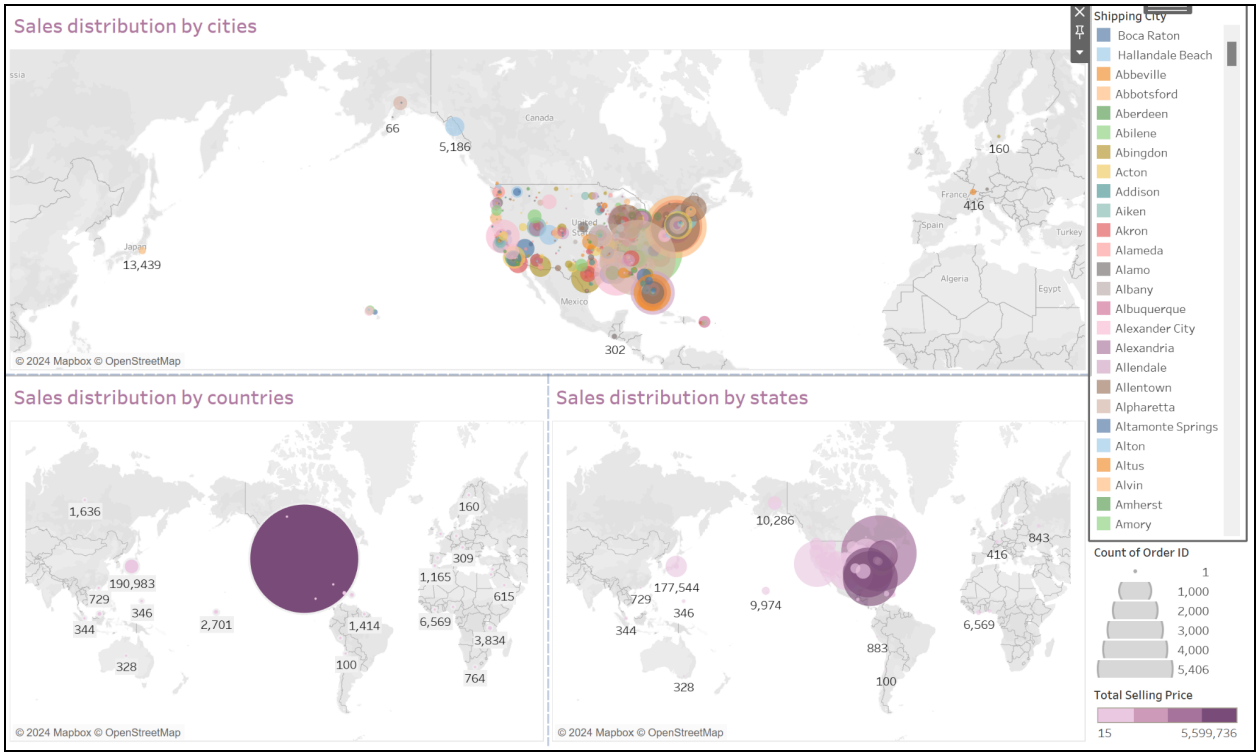

Figure: Map dashboard featuring sales distribution breakdown by countries, states, and cities

Ranking Metric Analysis

Overview

The primary goal of the final ranking indicator was to develop a metric to rank the performance of Urban Edge Apparel's products. This ranking indicator would enable the company to understand its products' health and make informed decisions about which products to focus on.

To construct the metric, we did the following:

1. Conducted data cleaning & preprocessing by filtering relevant data and aggregating features
2. Defined key performance indicators
3. Created new calculated fields for each indicator
4. Created normalized calculated fields corresponding with each key indicator
5. Assigned weights to each indicator
6. Constructed the final ranking indicator using the weighted sum of each normalized indicator
7. Ranked the products in descending order

Data Cleaning & Preprocessing

To work with this data, we first removed any irrelevant data such as the order date or time and shipment details. We also didn't consider product variant ID when comparing the products. After this, we checked if any of the columns of interest had empty values that we needed to clean up and found none. Then we compiled a list of variables that we would need to aggregate to better understand the data. We did this by

generating the counts, sums, or averages of certain dimensions (further explained in the Calculated Fields section).

Key Performance Indicators

Additionally, before building the metric, we began by defining what product performance meant. To do this, we came up with potential key indicators that we could use to judge overall performance ranking. Choosing the right indicators was important to ensure that we accurately evaluate the product. The indicators we selected reveal different aspects of product success and include sales volume, total revenue, order frequency, customer refund rate, and customer return rate.

1. Sales volume indicates the total quantity of each product sold. It's a direct measure of the product's popularity and market demand. Higher sales volumes generally indicate higher product acceptance and market penetration.
2. Total revenue generated per product was also selected as it reflects the financial success of a product. This indicator shines the light on the revenue contribution of each product to the overall business, highlighting the most profitable items.
3. Order frequency represents the number of orders placed for each product. It indicates how often a product is purchased, hinting at customer purchasing behavior and product demand over time.
4. The customer refund rate is a proportion of how many orders were canceled or refunded. It can act as a measure of customer satisfaction and product quality. A high return rate likely implies issues with the product that need to be addressed, making it an essential metric for product performance assessment.
5. Lastly, the customer repeat rate is the amount of repeat purchases for a product. This metric shows customer loyalty and satisfaction. Products with a large value for repeat purchase rates are likely to have better customer acceptance and long-term viability.

Calculated Fields

After deciding on the performance indicators we wanted to focus on, we created calculated fields for each of the 5 indicators as so:

- Key Indicators Calculated Fields Created
    - Sales Volume - total quantity sold per product
        - The sum of product quantity for each unique product ID
    - Total Revenue - total revenue generated per product
        - The sum of the total selling price for each unique product id
    - Order Frequency - number of orders per product
        - Count of unique order IDs
    - Customer Refund Rate - percentage of orders that were canceled or refunded
        - The ratio of canceled orders to total orders for each product id
        - Additional Calculated Fields that were needed: Canceled Orders, Total Canceled Orders, Order Frequency
    - Customer Repeat Rate - frequency of repeat purchases for a product

        - The ratio of repeat customers to unique customers for each product ID
        - Additional Calculated Fields that were needed: Repeat Customers, Total Repeat Customers, Unique Customers.
- Additional Calculated Fields Created
    - Repeat Customers - number of customers who placed more than one order for each product.
        - Assigning 1 if they have more than 1 order, 0 if they don't
    - Total Repeat Customers - total number of repeat customers for each product
        - The sum of repeat customers
    - Unique Customers - number of unique customers for each product
        - Count of unique customer IDs
    - Canceled Orders - Flags all the orders that were canceled for each product
        - Assigning 1 if they have more than 1 order, 0 if they don't
    - Total Canceled Orders - Takes the sum of all the canceled orders for each product; Gives the number of orders that were canceled in total.
        - The sum of canceled orders

Normalized Calculated Fields

We then created normalized calculated fields for each of the key indicators to obtain comparability across different types of dimensions. The normalized indicators were created by using a min-max normalization method. For each indicator, we subtracted the minimum indicator value from the indicator value for each specific product and divided it by the max indicator value minus the min indicator value. This allowed us to scale the values to fall between 0 and 1. This process was repeated for each indicator. For Customer Refund Rate it was a little different – we inverted the normalized value to give us the number of customers who did not return the product, because a lower return rate would be considered better.

This was the general formula in Tableau that we used to normalize each calculated field:

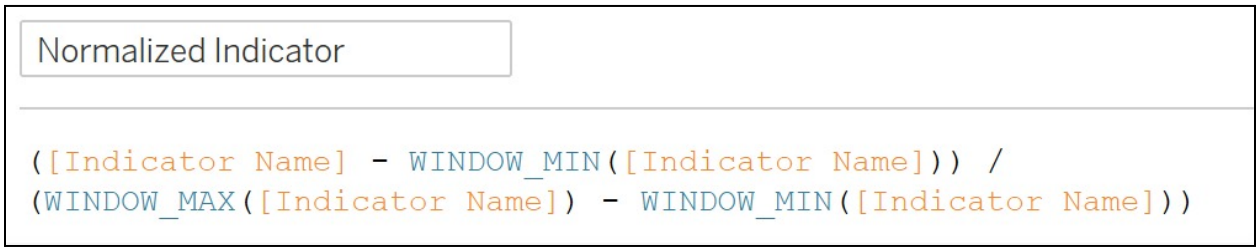

Figure: General tableau formula for a normalized indicator

Weights

Each metric was then assigned a weight based on their importance. All together, the 5 weights summed up to 1. We assigned the weights as shown below:

- Sales Volume = 0.167

- Total Revenue = 0.167
- Order Frequency = 0.167
- Customer Refund Rate = 0.222
- Customer Repeat Rate = 0.222

Sales Volume, Total Revenue, and Order Frequency are weighed less heavily (0.167) because, while they provide insights into a product's market demand and sales contribution, they do not directly capture customer satisfaction and loyalty – which are critical for sustainable long-term success. On the other hand, Customer Refund Rate and Customer Repeat Rate are weighed more heavily (0.222) as they reflect customer satisfaction and loyalty, which we felt were more important for long-term growth and business sustainability. We tried using this balanced approach to ensure that while high-selling products are acknowledged, Urban Edge Apparel doesn't forget to prioritize the customer experience to maintain and grow its customer base over time.

Final Ranking Indicator

Finally, we calculated a composite score – the final ranking indicator. This dimension combines all the normalized indicators, weighted appropriately, to provide a single score for understanding the overall performance of each product.

We used the following formula to construct the final ranking indicator:

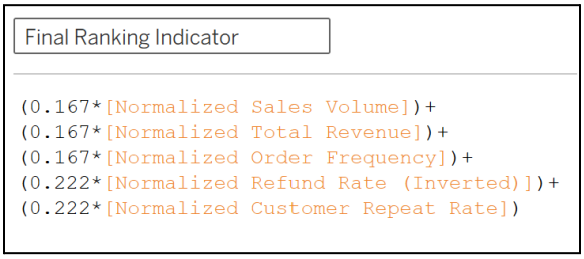

Figure: Tableau formula for the final ranking indicator

Ranking Visualizations

After generating the performance ranking for each product, we sorted them in a table by descending the final ranking indicator value. This table (this figure is a shortened version) displays the values of different normalized indicators as well as the final ranking indicator for each unique product.

Product Performance Ranking

Product ID	Normalized Sales Volume ..	Normalized Total Revenue ..	Normalized Order Frequen..	Normalized Refund Rate (I..	Normalized Customer Rep..	Final Ranking Indicator alo..
Prod_1009	1.000	1.000	1.000	0.974	0.537	0.836
Prod_1140	0.835	0.915	0.759	0.975	0.665	0.783
Prod_1000	0.332	0.468	0.744	0.976	0.853	0.664
Prod_2015	0.191	0.800	0.405	0.952	0.754	0.612
Prod_2024	0.286	0.467	0.359	0.986	0.790	0.580
Prod_5060	0.067	0.193	0.491	0.987	0.985	0.563
Prod_2600	0.171	0.343	0.415	0.963	0.827	0.553
Prod_7900	0.140	0.179	0.525	0.982	0.679	0.510
Prod_5100	0.144	0.125	0.360	0.989	0.808	0.504
Prod_3508	0.079	0.168	0.343	0.967	0.816	0.494
Prod_7930	0.159	0.350	0.473	0.961	0.485	0.485
Prod_7820	0.034	0.135	0.233	0.990	0.884	0.483
Prod_3500	0.029	0.121	0.300	0.977	0.856	0.482
Prod_5002	0.061	0.053	0.221	0.976	0.868	0.465
Prod_7550	0.067	0.121	0.143	0.973	0.832	0.456
Prod_1005	0.170	0.242	0.377	0.977	0.446	0.448
Prod_5240	0.004	0.002	0.005	1.000	1.000	0.446
Prod_3013	0.001	0.001	0.003	1.000	1.000	0.445
Prod_9431	0.000	0.000	0.002	1.000	1.000	0.444
Prod_5310	0.000	0.000	0.002	1.000	1.000	0.444
Prod_53102	0.000	0.000	0.002	1.000	1.000	0.444
Prod_6008	0.000	0.000	0.002	1.000	1.000	0.444
Prod_73112	0.000	0.000	0.000	1.000	1.000	0.444
Prod_73910	0.000	0.000	0.000	1.000	1.000	0.444
Prod_86312	0.000	0.000	0.000	1.000	1.000	0.444
Prod_5830	0.000	0.000	0.000	1.000	1.000	0.444

Figure: Condensed version of the performance ranking for each product

In this next table, we've filtered the table to only show the top 10 products with the highest ranking value. As you can see, Prod_1009 has the highest performance ranking with its normalized sales volume, normalized total revenue, and normalized order frequency all having a value of exactly 1. This indicates that this product has consistently been achieving the highest market demand out of all of Urban Edge Apparel's products. It also reveals that it has been contributing the most to the company's revenue compared to other products. Additionally, a high normalized customer refund rate of 0.9743 indicates that customers generally don't return or cancel their order for this product compared to other products which suggests high customer satisfaction. Therefore, Urban Edge Apparel should focus on maintaining the high performance of Prod_1009 and consider leveraging its popularity and customer satisfaction levels to maximize overall business growth.

Product Performance Ranking: Top 10

Product ID	Normalized Sales Volume along Table (Down)	Normalized Total Revenue along Table (Down)	Normalized Order Frequency along Table (Down)	Normalized Refund Rate (Inverted) along Table (Dow..	Normalized Customer Repeat Rate along Table (Down)	Final Ranking Indicator along Table (Down)
Prod_1009	1.0000	1.0000	1.0000	0.9743	0.5368	0.8365
Prod_1140	0.8345	0.9154	0.7585	0.9746	0.6652	0.7829
Prod_1000	0.3324	0.4679	0.7444	0.9764	0.8525	0.6640
Prod_2015	0.1908	0.8003	0.4049	0.9519	0.7536	0.6118
Prod_2024	0.2860	0.4667	0.3592	0.9856	0.7898	0.5798
Prod_5060	0.0673	0.1928	0.4914	0.9872	0.9846	0.5633
Prod_2600	0.1713	0.3433	0.4150	0.9633	0.8268	0.5526
Prod_7900	0.1398	0.1794	0.5252	0.9819	0.6795	0.5099
Prod_5100	0.1441	0.1249	0.3602	0.9893	0.8077	0.5040
Prod_3508	0.0787	0.1685	0.3433	0.9668	0.8162	0.4944

Figure: Top 10 products with the highest final ranking indicator value

We also filtered the table to show the 10 products with the lowest final ranking indicator value. As you can see, Prod)9801 was the product with the lowest final ranking value of 0.201. A very low normalized sales volume of 0 and normalized total revenue of 0.001 indicates that the company doesn't make much profit

from this item. Additionally, a normalized repeat rate of 0.125 indicates customers usually don't buy this product again. As you can see, generally the lowest-ranking products have a similar ranking indicator. Overall, 32 products had a final ranking value of lower than 0.225 which shines light on which products the company could potentially drop or try to market better.

Product Performance Ranking: Worst 10

Product ID	Normalized Sales Volume along Table (Down)	Normalized Total Revenue along Table (Down)	Normalized Order Frequency along Table (D..	Normalized Refund Rate (Inverted) along Table (D..	Normalized Customer Repeat Rate along Table ..	Final Ranking Indicator along Table (Down)
Prod_9801	0.000	0.001	0.003	0.778	0.125	0.201
Prod_53518	0.000	0.003	0.001	0.158	0.750	0.202
Prod_7902	0.000	0.000	0.004	0.867	0.077	0.210
Prod_74012	0.001	0.004	0.002	0.538	0.429	0.216
Prod_1087	0.000	0.001	0.005	0.778	0.214	0.221
Prod_131	0.000	0.000	0.000	1.000	0.000	0.222
Prod_113	0.000	0.000	0.000	1.000	0.000	0.222
Prod_105	0.000	0.000	0.000	1.000	0.000	0.222
Prod_136	0.000	0.000	0.000	1.000	0.000	0.222
Prod_132	0.000	0.000	0.000	1.000	0.000	0.222

Figure: Top 10 products with the lowest final ranking indicator value

Recommendations

Based on our analysis, we suggest the following recommendations for Urban Edge Apparel:

1. Focus on maintaining and enhancing the supply of high-growth products such as Prod_1009 and Prod_1140. These products have shown significant increases in quantity ordered and are responsible for a substantial portion of revenue.
2. Develop targeted marketing campaigns around the peak sales periods identified in the analysis, particularly focusing on the strong demand in April, May, and June. And highlight products like Prod_1009 which show significant seasonality, especially in May and June.
3. Consider reducing the inventory levels of products with consistently low sales and performance, such as Prod_9801. Redirect these resources to better-performing products to improve overall profitability.
4. Promote products with high customer satisfaction and low return rates by considering the normalized scores. These products should be highlighted in marketing materials and featured prominently on the website and in promotional campaigns.
5. Given the high sales concentrations in major U.S. cities and notable international markets like Tokyo and Toronto, Urban Edge Apparel should consider expanding its presence in these regions. Tailor marketing strategies to the preferences of these high-potential markets.
6. Increase prices for high-volume, low-margin products to improve profit margins. Products that consistently sell well, like those with high order frequencies, can bear slight price increases without significantly affecting demand.
7. To counteract the slower sales periods in the last quarter of the year (September to December), introduce discount campaigns or bundle offers. This can help stimulate sales during typically low-performing months.
8. Develop and promote loyalty programs to encourage repeat purchases, especially for products with high customer repeat rates. Possibly offering incentives for repeat purchases can help retain customers and drive consistent sales.

9. Focus marketing efforts and resources on peak sales months identified (April, May, and June). Utilize promotional events, special discounts, and targeted advertising to maximize sales during these high-demand periods.

Appendix

Our GitHub Repo: https://github.com/littlefr0ggy/datathon2024
Dataset Used: https://drive.google.com/drive/folders/1jqyR-eVbCxFtmCvH6WphugvABs4yYN9C