1. **Sales Overview Report:**
   * Use the "SHOP\_FACTS" table to create a report showing the total quantity sold, amount sold, and margin for each shop.
   * Include a slicer for selecting different weeks or months.
2. **Product Performance Report:**
   * Utilize the "SHOP\_FACTS" and "ARTICLE\_LOOKUP" tables to analyze the performance of different articles in terms of quantity sold and revenue.
   * Include visuals like bar charts and tables to display the top-selling products.
3. **Promotion Analysis Report:**
   * Combine data from the "product promotion facts" and "promotion lookup" tables to analyze the impact of promotions on sales and costs.
   * Create visuals showing the performance of promoted vs. non-promoted products.
4. **Geographical Analysis Report:**
   * Use the "Outlet lookup" table to create a report showing the distribution of outlets across different cities and states.
   * Include maps and charts to visualize sales and other metrics geographically.
5. **Time-Based Analysis Report:**
   * Utilize the "Calender lookup" table to create time-based reports, such as monthly or quarterly sales trends.
   * Include line charts and trend analysis for better insights.
6. **Article Details Report:**
   * Combine information from the "article lookup" and "ARTICLE\_LOOKUP" tables to create a detailed report on articles, including their labels, categories, and sale prices.

Product\_cost = (SHOP\_FACTS[AMOUNT\_SOLD]-SHOP\_FACTS[MARGIN])/SHOP\_FACTS[QUANTITY\_SOLD]

total\_product\_cost = SHOP\_FACTS[Product\_cost] \* SHOP\_FACTS[QUANTITY\_SOLD]

Profit = SHOP\_FACTS[AMOUNT\_SOLD] - SHOP\_FACTS[total\_product\_cost]

**Sales Overview Report:**

**Total Sales:**

* **DAX Measure:** **Total Sales = SUM('SHOP\_FACTS'[AMOUNT\_SOLD])**
* **Visual:** Card visualization to display the total sales.

**2. Average Margin Percentage:**

* **DAX Measure:** **Average Margin % = AVERAGE('SHOP\_FACTS'[MARGIN])**
* **Visual:** Card visualization to display the average margin percentage.

**3. Quantity Sold:**

* **DAX Measure:** **Quantity Sold = SUM('SHOP\_FACTS'[QUANTITY\_SOLD])**
* **Visual:** Card visualization to display the total quantity sold.

**4. Top Selling Products:**

* **DAX Measure:** Create a measure to identify top-selling products based on quantity or revenue.
* **Visual:** Bar chart or table to display the top-selling products.

**5. Sales by Shop:**

* **DAX Measure:** **Sales by Shop = SUMMARIZE('SHOP\_FACTS', 'SHOP\_FACTS'[SHOP\_NAME], "Total Sales", SUM('SHOP\_FACTS'[AMOUNT\_SOLD]))**
* **Visual:** Stacked bar chart or table to display sales by each shop.

**6. Monthly Sales Trend:**

* **DAX Measure:** **Monthly Sales = SUM('SHOP\_FACTS'[AMOUNT\_SOLD])**
* **Visual:** Line chart to show the monthly sales trend over time using the 'Calender lookup' table.

**7. Sales vs. Target:**

* **DAX Measure:** Define a target value, and create a measure to calculate the variance.
* **Visual:** Line chart or gauge to compare actual sales with the target.

**8. YoY (Year over Year) Growth:**

* **DAX Measure:** **YoY Growth = (Total Sales - CALCULATE(SUM('SHOP\_FACTS'[AMOUNT\_SOLD]), DATEADD('Calender lookup'[DATE], -1, YEAR))) / CALCULATE(SUM('SHOP\_FACTS'[AMOUNT\_SOLD]), DATEADD('Calender lookup'[DATE], -1, YEAR))**
* **Visual:** Line chart or card to display YoY growth.

**Product Performance Report**

**Total Revenue:**

* **DAX Measure:** **Total Revenue = SUM('SHOP\_FACTS'[AMOUNT\_SOLD])**
* **Visual:** Card visualization to display the total revenue.

**2. Average Price:**

* **DAX Measure:** **Average Price = DIVIDE([Total Revenue], [Quantity Sold])**
* **Visual:** Card visualization to display the average price.

**3. Quantity Sold:**

* **DAX Measure:** **Quantity Sold = SUM('SHOP\_FACTS'[QUANTITY\_SOLD])**
* **Visual:** Card visualization to display the total quantity sold.

**4. Top Selling Products:**

* **DAX Measure:** Create a measure to identify top-selling products based on quantity or revenue.
* **Visual:** Bar chart or table to display the top-selling products.

**5. Product Margin:**

* **DAX Measure:** **Product Margin = SUM('SHOP\_FACTS'[MARGIN])**
* **Visual:** Card visualization to display the total margin for products.

**6. Sales Distribution by Category:**

* **DAX Measure:** **Sales Distribution = CALCULATE([Total Revenue], ALL('ARTICLE\_LABEL'[CATEGORY]))**
* **Visual:** Pie chart or stacked bar chart to show sales distribution by product category.

**7. Product Performance Index:**

* **DAX Measure:** **Performance Index = [Total Revenue] / [Total Revenue for All Products]**
* **Visual:** Gauge or card visualization to show the product's performance relative to all products.

**8. Price Range Analysis:**

* **DAX Measure:** Categorize products into price ranges, e.g., low, medium, high.
* **Visual:** Stacked bar chart or table to analyze sales performance within each price range.

**9. Sales Contribution by Product:**

* **DAX Measure:** **Sales Contribution = [Total Revenue] / CALCULATE([Total Revenue], ALL('ARTICLE\_LABEL'))**
* **Visual:** Stacked bar chart or table to show the contribution of each product to total sales.

Promotion Analysis Report

**. Promotion Effectiveness:**

* **DAX Measure:** **Promotion Effectiveness = [Total Sales with Promotion] / [Total Sales without Promotion]**
* **Visual:** Card visualization to display the promotion effectiveness percentage.

**2. Incremental Sales due to Promotion:**

* **DAX Measure:** **Incremental Sales = [Total Sales with Promotion] - [Total Sales without Promotion]**
* **Visual:** Card visualization to display the incremental sales during promotions.

**3. Average Promotion Cost:**

* **DAX Measure:** **Average Promotion Cost = AVERAGE('product promotion facts'[PROMOTION\_COST])**
* **Visual:** Card visualization to display the average cost of promotions.

**4. Promoted vs. Non-Promoted Sales:**

* **DAX Measure:**

DAXCopy code

Promoted Sales = CALCULATE([Total Sales], 'product promotion facts'[PROMOTION\_ID] > 0) Non-Promoted Sales = CALCULATE([Total Sales], 'product promotion facts'[PROMOTION\_ID] = 0)

* **Visual:** Stacked bar chart or table to compare sales during promotions and regular sales.

**5. Promotion ROI (Return on Investment):**

* **DAX Measure:** **Promotion ROI = ([Total Sales with Promotion] - [Total Sales without Promotion]) / [Total Promotion Cost]**
* **Visual:** Card visualization or gauge to display the promotion ROI.

**6. Promotion Duration Analysis:**

* **DAX Measure:** Calculate the average and maximum duration of promotions.
* **Visual:** Card visualization or line chart to show the duration trends.

**7. Product Performance during Promotion:**

* **DAX Measure:** Calculate sales and quantity sold during promotion periods for each product.
* **Visual:** Bar chart or table to display the performance of products during promotions.

**8. Channel-wise Promotion Impact:**

* **DAX Measure:** Calculate sales impact on different channels during promotions.
* **Visual:** Stacked bar chart or table to compare promotion impact across channels.

**9. Promotions Trend over Time:**

* **DAX Measure:** Calculate the number of promotions over time.
* **Visual:** Line chart to show trends in the frequency of promotions.

**Geographical Analysis Report:**

**Total Sales by City:**

* **DAX Measure:** **Total Sales by City = CALCULATE([Total Sales], ALLEXCEPT('Outlet lookup', 'Outlet lookup'[CITY]))**
* **Visual:** Bar chart or map to display total sales for each city.

**2. Average Sales per Outlet:**

* **DAX Measure:** **Average Sales per Outlet = [Total Sales] / COUNTROWS(VALUES('Outlet lookup'[SHOP\_ID]))**
* **Visual:** Card visualization to display the average sales per outlet.

**3. Sales Distribution by State:**

* **DAX Measure:** **Sales Distribution by State = CALCULATE([Total Sales], ALLEXCEPT('Outlet lookup', 'Outlet lookup'[STATE]))**
* **Visual:** Map or stacked bar chart to show sales distribution by state.

**4. Outlet Count by City:**

* **DAX Measure:** **Outlet Count by City = COUNTROWS(VALUES('Outlet lookup'[SHOP\_ID]))**
* **Visual:** Card visualization or bar chart to display the number of outlets in each city.

**5. Top Performing Outlets:**

* **DAX Measure:** Create a measure to identify top-performing outlets based on sales.
* **Visual:** Bar chart or table to display the top-performing outlets.

**6. Sales Heatmap:**

* **DAX Measure:** Use conditional formatting to create a heatmap based on sales.
* **Visual:** Map or matrix to show sales intensity across different cities and states.

**7. Sales Growth by City:**

* **DAX Measure:** **Sales Growth by City = ([Total Sales] - CALCULATE([Total Sales], DATEADD('Calender lookup'[DATE], -1, YEAR))) / CALCULATE([Total Sales], DATEADD('Calender lookup'[DATE], -1, YEAR))**
* **Visual:** Line chart or card to display sales growth for each city.

**8. Outlet Ownership Analysis:**

* **DAX Measure:** Calculate the count of owned outright and non-owned outright outlets.
* **Visual:** Stacked bar chart or pie chart to show the distribution of outlet ownership.

**9. Sales Concentration by ZIP Code:**

* **DAX Measure:** Calculate sales concentration by ZIP code.
* **Visual:** Map or bar chart to show sales concentration in different ZIP codes.

**Time-Based Analysis Report,**

**Total Sales Over Time:**

* **DAX Measure:** **Total Sales = SUM('SHOP\_FACTS'[AMOUNT\_SOLD])**
* **Visual:** Line chart or area chart to show the trend in total sales over time.

**2. Monthly Sales Growth:**

* **DAX Measure:** **Monthly Sales Growth = ( [Total Sales] - CALCULATE( [Total Sales], PREVIOUSMONTH('Calender lookup'[DATE]) ) ) / CALCULATE( [Total Sales], PREVIOUSMONTH('Calender lookup'[DATE]) )**
* **Visual:** Line chart or card to display month-over-month sales growth.

**3. Quarterly Sales Distribution:**

* **DAX Measure:** **Quarterly Sales = CALCULATE([Total Sales], DATESQTD('Calender lookup'[DATE]))**
* **Visual:** Stacked area chart or table to show sales distribution by quarter.

**4. Yearly Sales Comparison:**

* **DAX Measure:** **Yearly Sales = CALCULATE([Total Sales], ALL('Calender lookup'[YEAR]))**
* **Visual:** Line chart or bar chart to compare yearly sales.

**5. Average Sales per Day:**

* **DAX Measure:** **Average Sales per Day = [Total Sales] / COUNTROWS(VALUES('Calender lookup'[DATE]))**
* **Visual:** Card visualization to display the average sales per day.

**6. Sales by Day of the Week:**

* **DAX Measure:** Calculate sales for each day of the week.
* **Visual:** Bar chart or table to show the distribution of sales by day.

**7. Monthly Sales Forecast:**

* **DAX Measure:** Implement a forecasting algorithm or use moving averages to predict future sales.
* **Visual:** Line chart to display historical sales alongside the forecast.

**8. Seasonal Sales Analysis:**

* **DAX Measure:** Identify and analyze seasonality patterns in sales.
* **Visual:** Line chart or heatmap to show how sales vary throughout the year.

**9. Sales Velocity:**

* **DAX Measure:** Calculate the rate of change in sales over time.
* **Visual:** Line chart or area chart to visualize the velocity of sales.

**Article Details Report**

**1. Total Sales by Article:**

* **DAX Measure:** **Total Sales by Article = SUM('SHOP\_FACTS'[AMOUNT\_SOLD])**
* **Visual:** Bar chart or table to display the total sales for each article.

**2. Quantity Sold:**

* **DAX Measure:** **Quantity Sold = SUM('SHOP\_FACTS'[QUANTITY\_SOLD])**
* **Visual:** Card visualization to display the total quantity sold.

**3. Average Price per Article:**

* **DAX Measure:** **Average Price = DIVIDE([Total Sales by Article], [Quantity Sold])**
* **Visual:** Card visualization to display the average price per article.

**4. Top Selling Articles:**

* **DAX Measure:** Create a measure to identify top-selling articles based on quantity or revenue.
* **Visual:** Bar chart or table to display the top-selling articles.

**5. Sales Distribution by Category:**

* **DAX Measure:** **Sales Distribution = CALCULATE([Total Sales by Article], ALLEXCEPT('ARTICLE\_LABEL', 'ARTICLE\_LABEL'[CATEGORY]))**
* **Visual:** Pie chart or stacked bar chart to show sales distribution by article category.

**6. Profit Margin:**

* **DAX Measure:** **Profit Margin = SUM('SHOP\_FACTS'[MARGIN]) / [Total Sales by Article]**
* **Visual:** Card visualization or gauge to display the profit margin.

**7. Sales Contribution by Article:**

* **DAX Measure:** **Sales Contribution = [Total Sales by Article] / CALCULATE([Total Sales by Article], ALL('ARTICLE\_LABEL'))**
* **Visual:** Stacked bar chart or table to show the contribution of each article to total sales.

**8. Price Range Analysis:**

* **DAX Measure:** Categorize articles into price ranges, e.g., low, medium, high.
* **Visual:** Stacked bar chart or table to analyze sales performance within each price range.

**9. Sales Trends Over Time:**

* **DAX Measure:** Calculate the trend of sales for each article over time.
* **Visual:** Line chart or area chart to show how sales of individual articles evolve.