**AdventureWorksProject**

Adventure Works is a global manufacturing company that produces cycling equipment and accessories. With the initial raw data as a folder of CSV files containing information about transactions, products, customers, returns and territories I started this project and created a report.

Main Objectives are to:

1. Track KPIs (sales, revenue, profit, returns)
2. Compare Regional Performance
3. Analyze Product-Level Trends
4. Identify High-Value Customers

The 3 key questions that I answered are

* 1. What type of data I will be working on?
     + Time Series, Categorical, Geospatial
  2. What do I want to communicate?
     + **Comparison** and **Composition** of different products and customer purchase trends.
  3. Who my end user is?
     + In my case Managers are my end users & they main objective is to know how their company is performing.

Based on the analysis that I made I have created following pages with different visuals:

1. Executive dashboard page is created to depict KPIs.
2. To compare regional performance, I have used a Map visual.
3. Created a Product Detail Page to analyze product level trends.
4. To display customer insights, I have created a Customer Detail Page.
5. Apart from that I have tried out Decomposition Tree to analyze return rates of products.

The steps involved were as follows:

1. **Connecting and Shaping Data**
   * Extracted the data from raw CSV files into the Power Query Editor
   * Modified data types and cleaned null values/duplicates.
   * Added new columns wherever it seemed necessary (like full\_name, has\_children, extracted columns using Text tools, Numeric Tools) and merged few queries.
   * Verified some metrics through Data Profiling options.

The above is done using Query Editor in the back end.

1. **Data Modeling**
   * After ETL, now at the front-end I created a data model utilizing star and snowflake schemas, including one-to-many relationships.
   * Cardinality is checked.
   * Active & Inactive relationships were taken care of.
   * Followed Downstream flow.
   * Created a few hierarchies which were later utilized in visuals.
2. **Data Processing**
   * Calculated columns and Explicit Measures were created using DAX.
3. **Visualizing Data with Reports**
   * Developed a fully interactive dashboard with different pages.
   * Various visuals such as gauges, KPI cards, and matrices, line charts, donut chart were used.
   * Custom page navigation buttons were added,
   * Bookmarks were created and buttons were created with actions.

**Insights**:

* North America has generated the highest revenue with $17.5M of total revenue $24.9M.
* The return rate stands this way: Accessories with 1.95%, Clothing with 2.16%, Bikes with 3.08%. So, more focus needs to be given to the Bike category.
* Clothing is the lowest-performing category generating $365.4K in revenue.
* High Income customers accounted for 8.7% of total orders but created an average revenue of $2042, whereas the overall average revenue for 17.4k unique customers stands at $1431.