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ECOM CASE STUDY

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Business Objective

Optimize profitability & efficiency by answering key questions

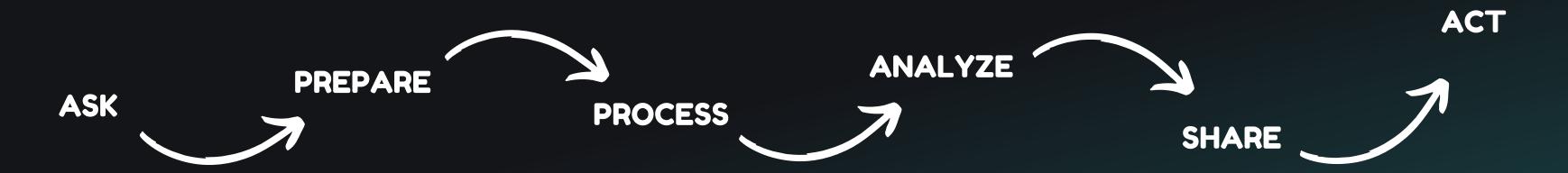
Ask

Before diving into data, Let's define the problem to be solved and fully understand **stakeholders' expectations**.

Defining the problem involves **Gap analysis**, where we look at the current state and identify its difference from the ideal state.

WHY FOLLOW THE DATA ANALYST PROCESS?

- Provides structure, minimizes **bottlenecks**.
- Ensures **clarity** and efficiency in analysis.



Export Transform Load

End-to-end **ETL pipelines** developed for data extraction, transformation, and loading. Dimensional data model built for business-friendly reporting on sales, customers, and products.

Exploratory Data Analysis

Using SQL to uncover insights from an e-commerce dataset. Key steps include: **Magnitude analysis** compargin metrics across dimensions, **Ranking** to identify top/bottom performers.

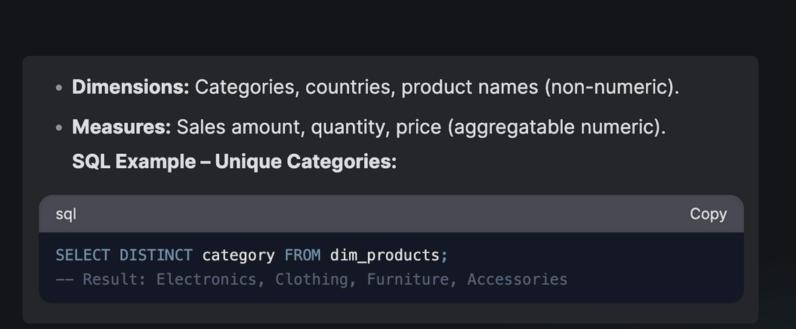
Advanced Analytics & Reporting

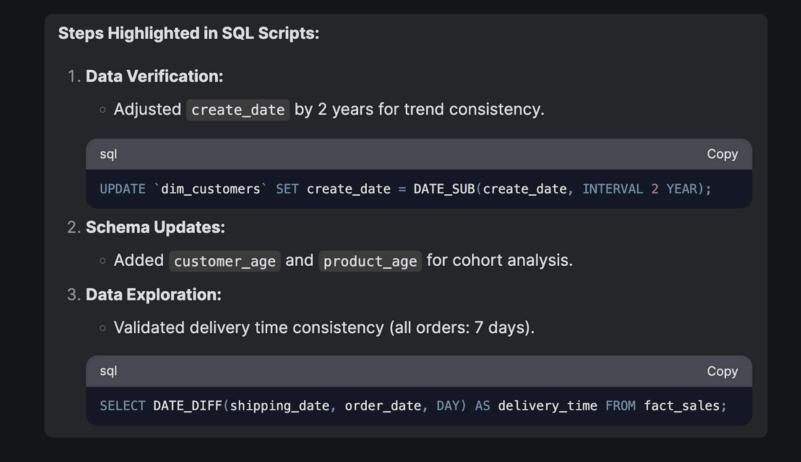
Performing more advanced analysis on data, including part-to-whole analysis and data segmentation. Additionally, we will create a Customer 360* report and a Product Performance report that combine all key metrics and KPIs to create interactive dashboards.

Analyze

Explore & Profile the Data

- Add columns like *customer_age*, *product_age*, and *last order_date* to **enhance insights** into retention, product lifecycle, and customer segmentation.
- **Identify anomalies** and perform required transformations as done with the *create_date* attribute.





Segment Key Dimensions & Measures

- Segment columns in key groups as Dimensions & Measures, **Streamlining the process** of selecting the same for further analysis.
- Exploring options of creating new Dimensions from the latter.

Dashboard

Share

Which Products/categories generate highest revenue & why?

High-end Bike models generate the highest revenue of about \$1.2M with 336 orders in the year 2024 alone. This is way higher than other two categories all thanks to their huge price difference & populariy that they have gained over the years.

How different Customer segments are impacting sales?

VIP customers lead in total sales and AOV. Bike products align with this segment's AOV, suggesting dominance in bike sales.

Older customers (60+) prefer premium touring bikes like the Touring-1000, averaging \$2.4k, contributing to steady revenue.

What are the trends in sales over time?

Recency of **4-6 months** for customers suggests a recent influx of New customers, possibly driving sales of mid-range or newer bike models like the **Mountain-500**, **avg. price \$540**

Gather Detailed Customer-Product Data

- Implement an efficient tracking system, linking purchases with customer segments (e.g., VIP, Regular, New) and product categories for a more robust Analysis.
- This will reveal buying patterns, enabling better targeted marketing and inventory optimization.

Prioritize High-Revenue Products and VIP Customers

- Shift marketing, inventory, and sales efforts toward high-end bikes (e.g., Road-150, Mountain-200) and VIP customers, who drive the most revenue.
- Introduce loyalty programs and campaigns that encourage customers to increase their AOV by upselling products. This strategy aims to boost the company's margin segment.