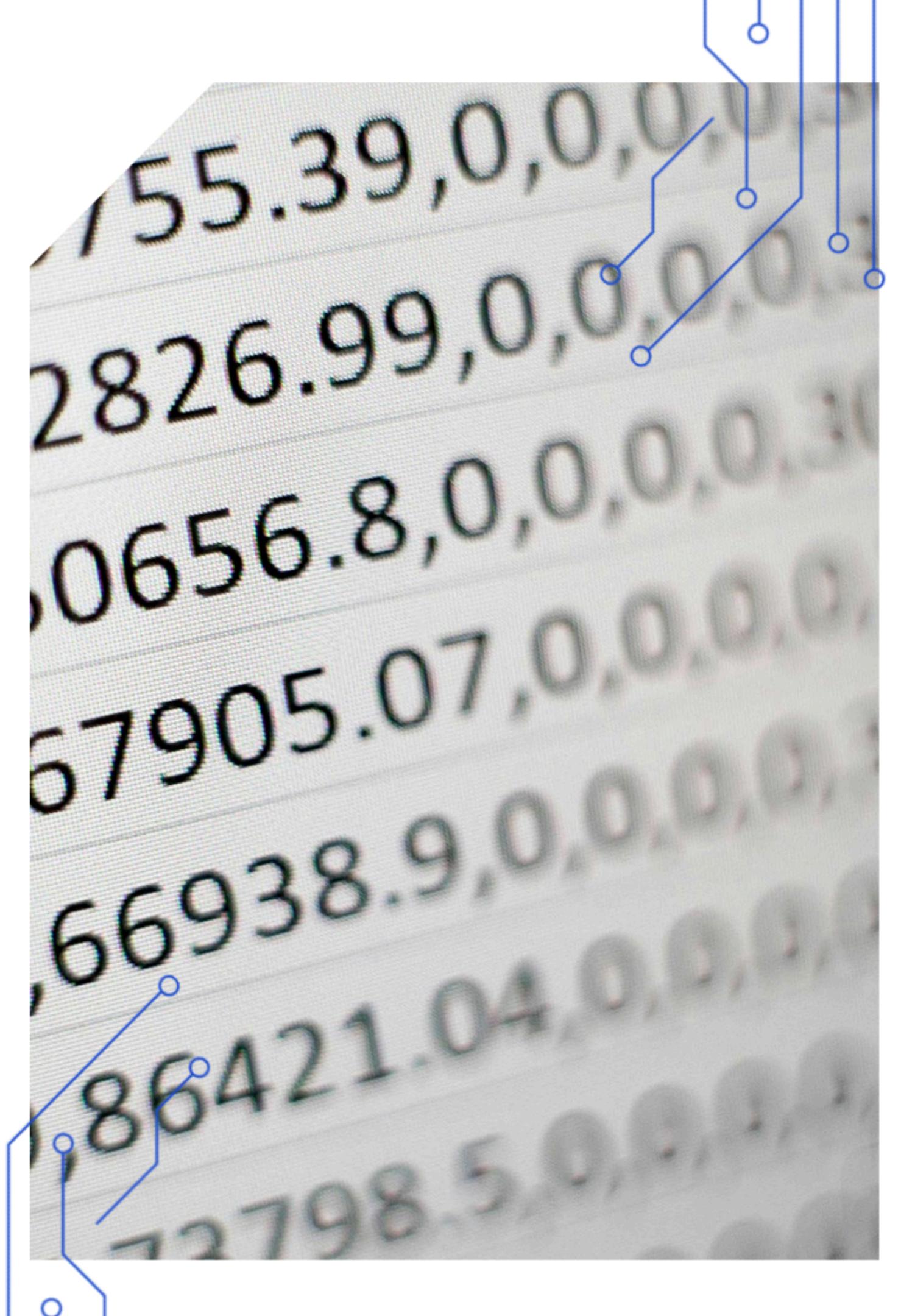
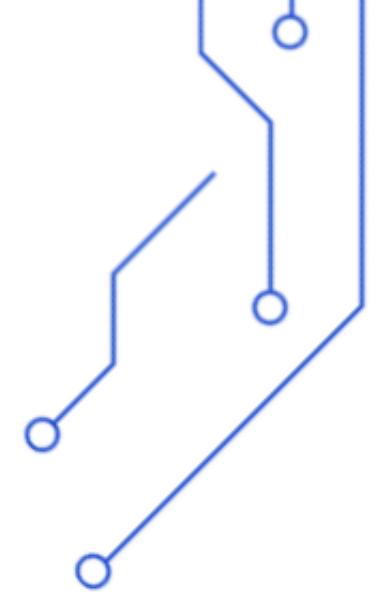


COMPREHENSIVE ANALYSIS OF BIKESTORE DATABASE

Exploring SQL queries to derive actionable insights for enhanced business decision-making and performance.

ABDULRAHMAN ELBANNA

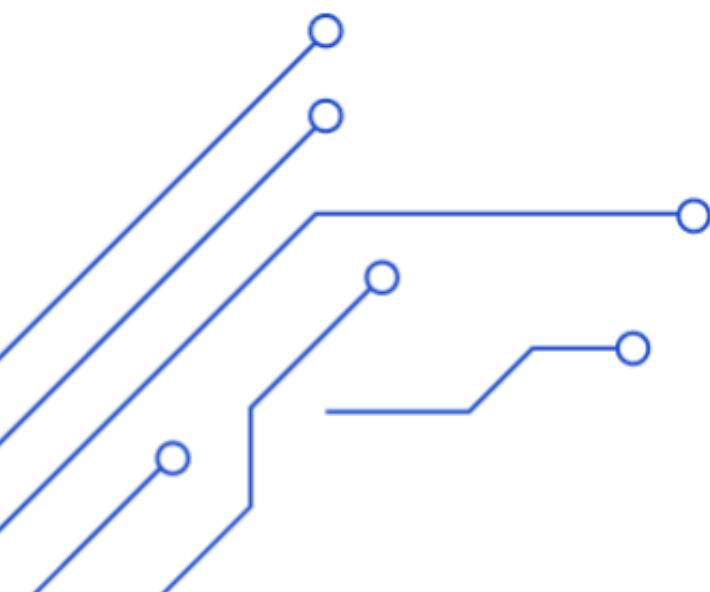




| DATA ANALYSIS |

NTI PROJECT ANALYSIS - BIKESTORE DATABASE

A comprehensive examination of the BikeStore database, showcasing key insights and data trends for informed decision-making.



PROJECT OVERVIEW

Detailed Insights from the BikeStore Database



OBJECTIVE

To analyze the BikeStore database to extract meaningful insights that can inform business decisions and strategies.



QUERY EXPLORATION

Engage in querying various database tables to uncover valuable data patterns and relationships.



BUSINESS QUESTIONS

Utilize SQL to answer specific business-related questions that will guide strategic initiatives.



ACTIONABLE RECOMMENDATIONS

Based on the analysis, provide actionable recommendations that can enhance operational efficiency and profitability.

DATABASE STRUCTURE

Overview of Main Tables and Schema

01

CUSTOMERS TABLE

Contains customer information such as ID, name, email, and address.



02

PRODUCTS TABLE

Stores product details including ID, name, category, and price.



03

ORDERS TABLE

Records order transactions with key columns like order ID, customer ID, and product ID.



04

STORES TABLE

Details about store locations with columns for store ID, name, and address.



05

RELATIONSHIPS

Illustrates how tables are interconnected, showing foreign keys linking orders to customers and products.





OBJECTIVE

Display and understand the data in each table to derive actionable insights.



TOTAL RECORDS

Assess the total number of records in each table to gauge the dataset's completeness and reliability.



INTERESTING FIELDS

Highlight fields such as Order Status and Discount to identify patterns and trends that can inform business decisions.

DATA EXPLORATION

Understanding and Analyzing Data Tables



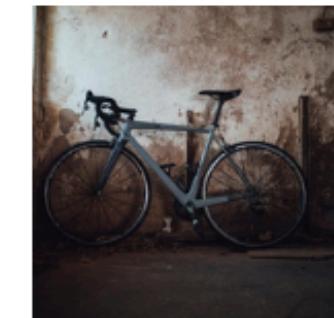
ANALYSIS RESULTS - PRODUCT INSIGHTS

Insights into the Most Expensive and Least Sold Bikes



Q1: MOST EXPENSIVE BIKE AND ITS MOTIVE.

The most expensive bike is (Trek Domane SLR 9 Disc - 2018) priced at 11999.99. This high cost can be attributed to factors such as premium branding, the use of high-end materials, or a focus on a niche market.



Q8: LEAST SOLD BIKE.

The bike with the least sales figures is identified as (Electra Townie Go! 8i - 2017/2018). This may suggest limited market appeal or other influencing factors.

CUSTOMER INSIGHTS

An overview of customer data and purchasing details



TOTAL CUSTOMERS

In Q2, we recorded a total of 1445 customers, indicating a growth trend in our customer base. This metric is crucial for understanding market reach.



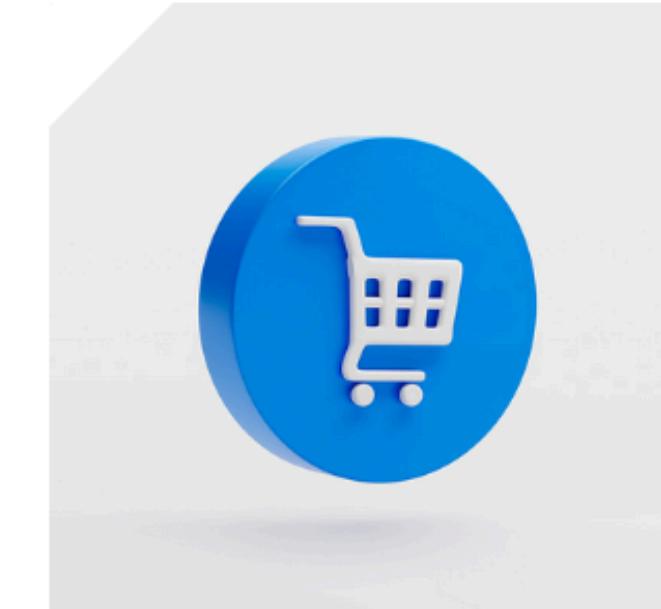
ORDER STATUS EXPLANATION

The explanation for order status 3 indicates that these orders are in a processing phase, requiring further action to complete fulfillment. This is vital for operational efficiency.



CUSTOMER ID 259 DETAILS

For Customer ID 259, the recorded name is Johnathan Velazquez. This highlights the importance of individualized tracking for customer relationships.



PURCHASE INFORMATION

This customer made a purchase of (Electra Townie Original 7D EQ - Women's - 2016) and 2016-01-01 . Understanding individual purchases helps tailor future marketing strategies.



CURRENT ORDER STATUS

The order status for this transaction is 4. Keeping track of this ensures timely updates and enhances customer satisfaction.

Total Stores: 3

Average Revenue per Store:
2,859,662.96

Baldwin Bikes-
Most Products of
Most-Liked Brand

TOTAL NUMBER OF STORES PROVIDES INSIGHT INTO MARKET PRESENCE.

A higher number of stores indicates a broader market reach and the potential for increased sales across various locations.

REVENUE METRICS HIGHLIGHT PERFORMANCE EFFICIENCY.

Analyzing the sales/revenue per store allows for benchmarking against previous periods and identifying high-performing locations.

IDENTIFYING KEY PRODUCT ASSOCIATIONS CAN DRIVE STRATEGY.

The store with the most products of the most-liked brand reflects consumer preferences and can guide inventory decisions and marketing strategies.

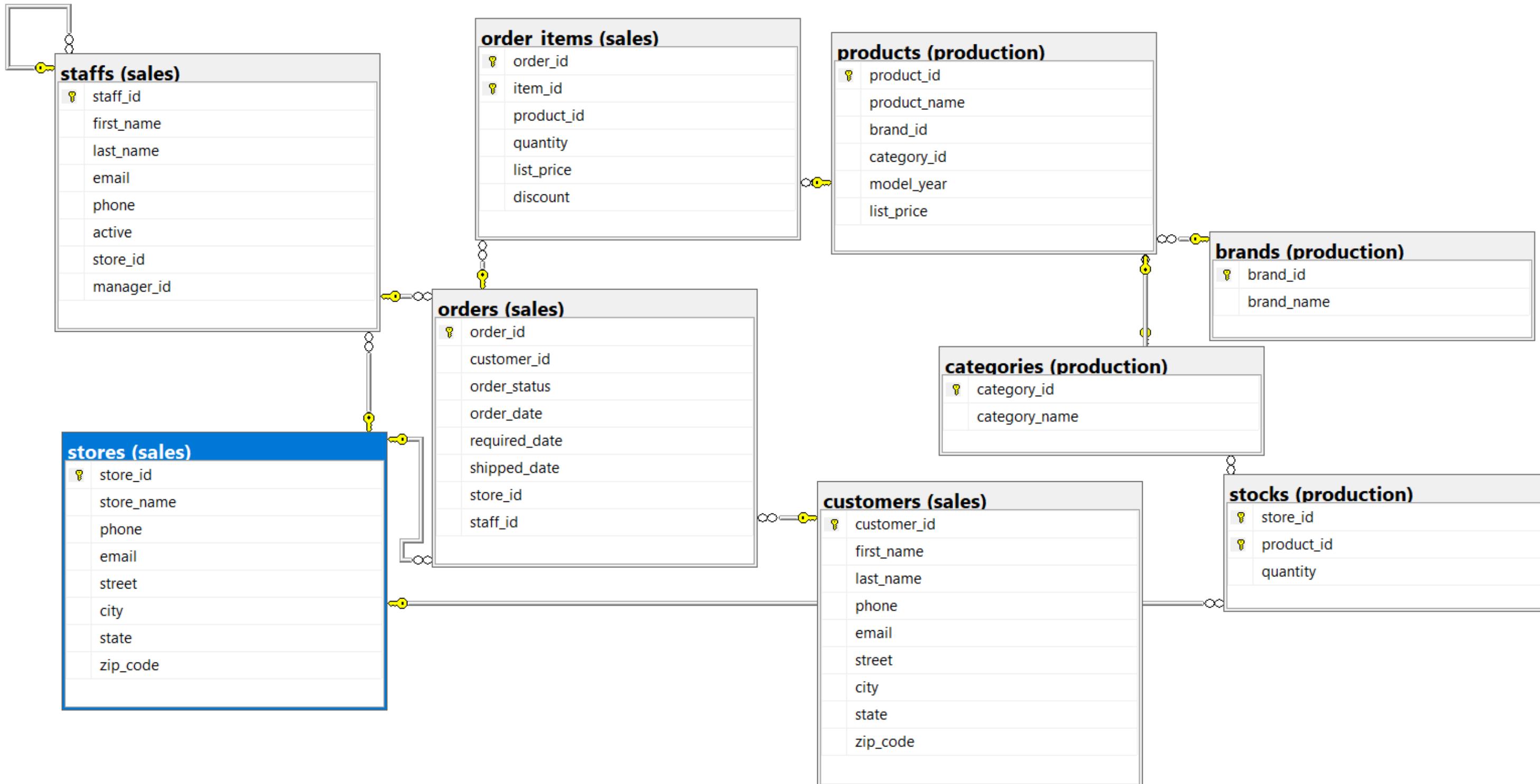
STORE INSIGHTS

Overview of Store Performance

More Analysis Using SQL



DB Diagram



Total Customers in BikeStore

```
SELECT COUNT(DISTINCT customer_id) AS total_customers  
FROM sales.customers
```

	total_customers
1	1445

Which brand is the most liked?

```
SELECT TOP 1
    b.brand_name,
    SUM(oi.list_price * oi.quantity * (1 - oi.discount)) AS total_revenue
FROM
    sales.order_items oi
JOIN
    production.products p ON oi.product_id = p.product_id
JOIN
    production.brands b ON p.brand_id = b.brand_id
GROUP BY
    b.brand_id, b.brand_name
ORDER BY
    total_revenue DESC
```

	brand_name	total_revenue
1	Trek	4602754.3509

How many states does BikeStore operate in?

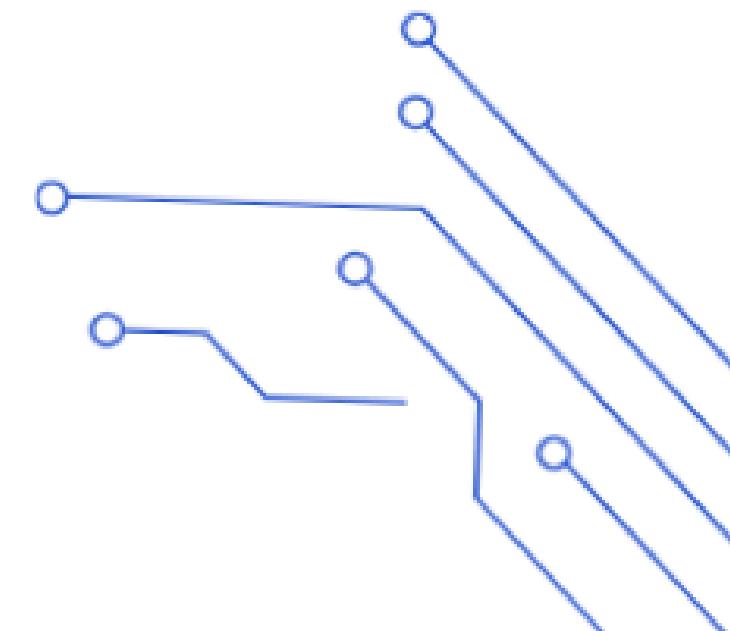
```
SELECT  
    COUNT(DISTINCT state) AS total_states  
FROM  
    sales.stores
```

PUBLIC HAVING

total_states

1

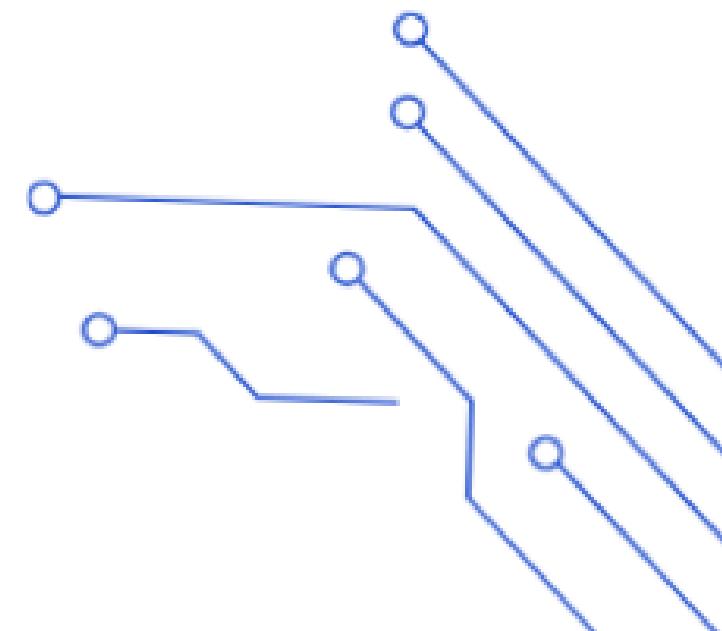
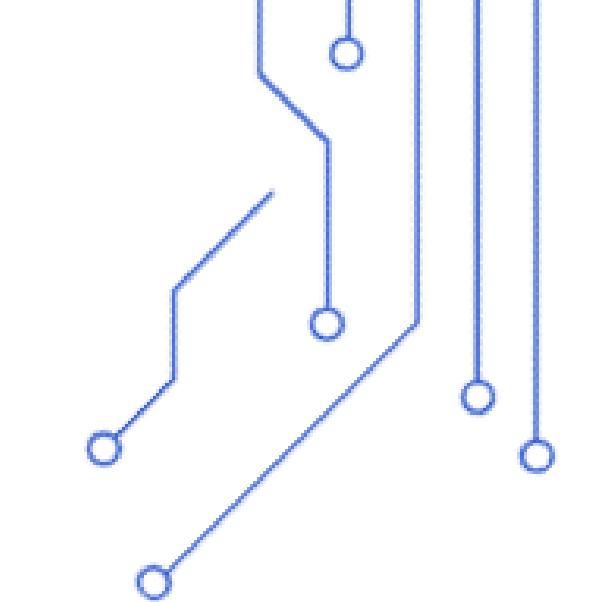
3



How many orders are still pending?

```
SELECT  
    COUNT(*) AS pending_orders  
FROM  
    sales.orders  
WHERE  
    shipped_date is null
```

	pending_orders
1	170



Which bike is the least sold?

```
SELECT TOP 1
    p.product_name,
    SUM(oi.quantity) AS total_quantity_sold
FROM
    sales.order_items oi
JOIN
    production.products p ON oi.product_id = p.product_id
GROUP BY
    p.product_id, p.product_name
ORDER BY
    total_quantity_sold ASC
```

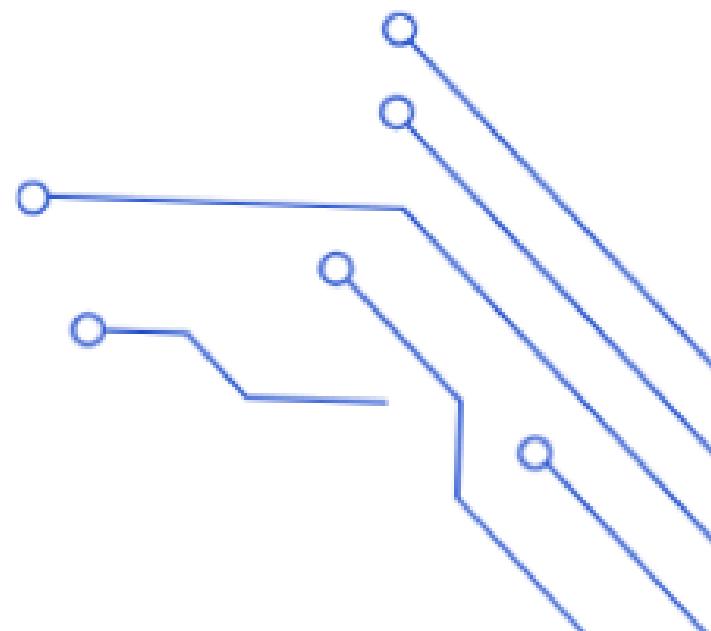
	product_name	total_quantity_sold
1	Electra Townie Go! 8i - 2017/2018	1

How many stores does BikeStore have?

```
- SELECT COUNT(*) AS total_stores  
  FROM sales.stores;
```

WIP: BikeStore

	total_stores
1	3



What's the sales/revenue per store?

```
-SELECT
    s.store_name,
    SUM(oi.list_price * oi.quantity * (1 - oi.discount)) AS total_revenue
FROM
    sales.order_items oi
JOIN
    sales.orders o ON oi.order_id = o.order_id
JOIN
    sales.stores s ON o.store_id = s.store_id
GROUP BY
    s.store_id, s.store_name
ORDER BY
    total_revenue DESC;
```

	store_name	total_revenue
1	Baldwin Bikes	5215751.2775
2	Santa Cruz Bikes	1605823.0365
3	Rowlett Bikes	867542.2436

What's the sales/revenue per store?

```
-SELECT
    s.store_name,
    SUM(oi.list_price * oi.quantity * (1 - oi.discount)) AS total_revenue
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    sales.order_items oi
JOIN
    sales.orders o ON oi.order_id = o.order_id
JOIN
    sales.stores s ON o.store_id = s.store_id
GROUP BY
    s.store_id, s.store_name
ORDER BY
    total_revenue DESC;
```

	store_name	total_revenue
1	Baldwin Bikes	5215751.2775
2	Santa Cruz Bikes	1605823.0365
3	Rowlett Bikes	867542.2436

KEY INSIGHTS FROM ANALYSIS

A comprehensive overview of our findings

01

MOST EXPENSIVE BIKE

Trek Domane SLR 9 Disc - 2018 priced at \$11,999.99, reflecting its premium materials, advanced technology, and high-end branding.

02

TOTAL CUSTOMERS

1,445 unique customers recorded; however, those with Order Status 3 (Rejected) may indicate inactive buyers in the market.

03

NUMBER OF STORES

We operate 3 stores in distinct locations, allowing us to cater to diverse customer bases effectively.

04

LEAST SOLD BIKE

Electra Townie Go 8i - 2017/2018 sold only 1 unit, indicating limited demand potentially due to its niche market or

05

MOST LIKED BRAND

Trek leads with \$4,602,754.35 in revenue, driven by its strong reputation, quality, and extensive product range.

06

STATES OF OPERATION

We operate in 3 distinct states, which enhances our regional presence and allows for targeted customer engagement strategies.

07

PENDING ORDERS

Currently, there are 170 pending orders, highlighting potential areas for improvement in our logistics or order fulfillment processes.

MOST PROFITABLE CATEGORIES AND BRANDS IDENTIFIED

Analysis revealed top-performing categories and brands, enabling focused marketing efforts to maximize profits.

OPPORTUNITIES IN UNDERPERFORMING CATEGORIES

Identified potential areas for growth where performance is lacking, suggesting targeted strategies for improvement.

IMPROVEMENT AREAS IN OPERATIONS

Key operational processes such as order processing and staff efficiency require enhancements to boost overall performance.



01 -
02
03
04
05

Q&A

Invite questions from the audience to foster an interactive discussion and deepen understanding of the presentation topics.