

Sales, Customer & Operations Analysis for JENSON

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Project Description

This project focuses on analyzing transactional, product, customer, staff, and store-level data of JENSON USA , a company operating multiple bikes and bicycles stores. Using advanced MySQL queries the project derives actionable insights related to sales performance, customer purchasing behavior, inventory movement, and staff efficiency to support data-driven business decisions.



Challenges

These issues directly impact revenue growth, operational efficiency, and customer satisfaction.

Uneven Sales

Performance varies significantly across store locations

Limited Visibility

Difficulty tracking top-selling and underperforming products

Customer Insights

Challenges identifying high-value customer segments

Inventory Issues

Overstocking slow movers while facing stock-outs on demand items

Objectives



01

Sales Performance

Measure store-wise and product-wise sales metrics

02

Customer Analysis

Identify top customers and high-revenue products

03

Trend Tracking

Monitor cumulative product sales over time

04

Staff Evaluation

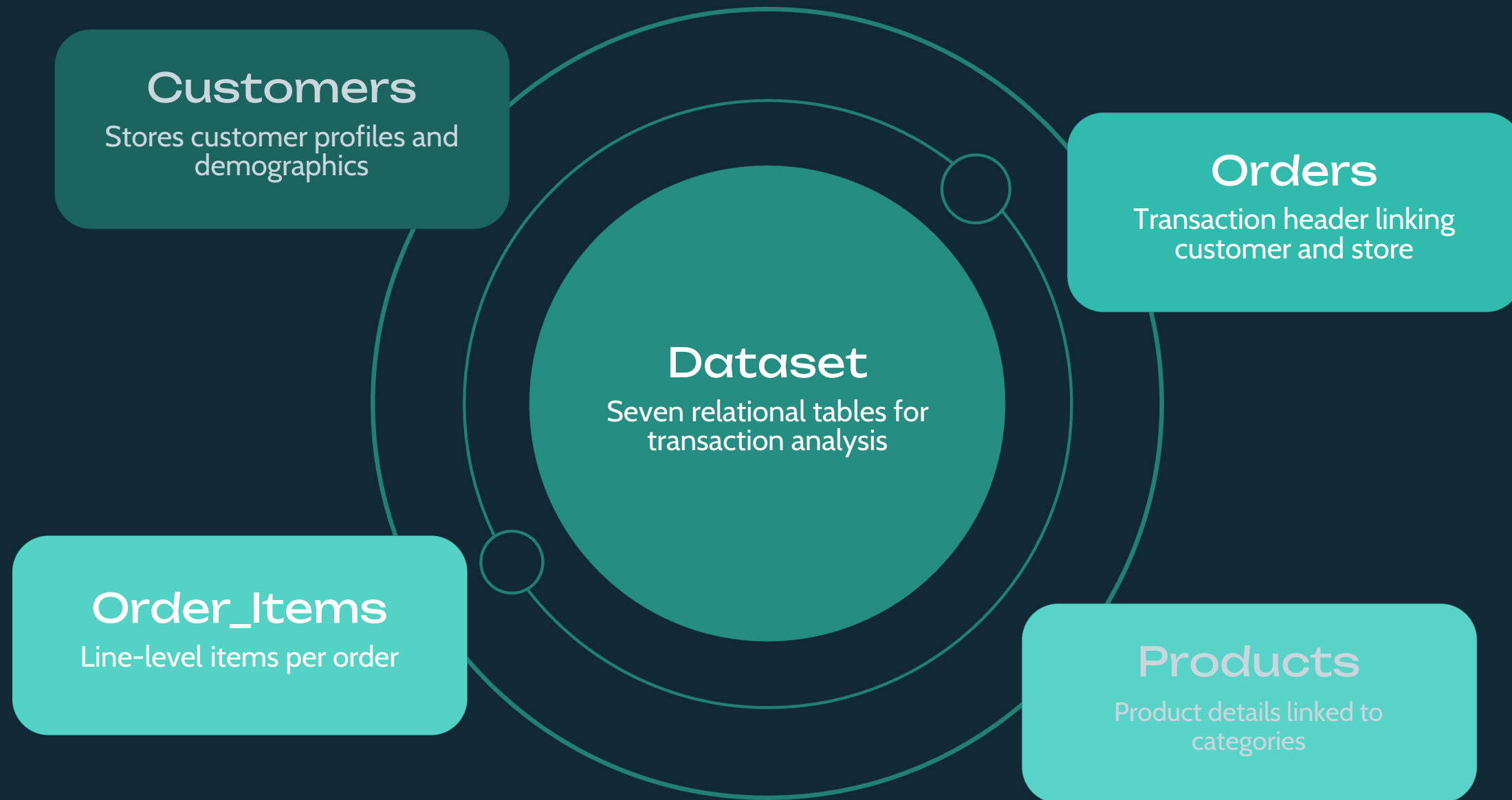
Assess employee contribution to total sales

05

Optimization

Support inventory and workforce decisions

Dataset Architecture



Real-world retail operations dataset spanning 2016-2018 with thousands of transaction-level records enabling granular analysis across multiple dimensions.

Data Components



Customers

Demographics and
customer identifiers



Orders & Items

Transaction data
with quantity and
pricing details



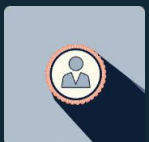
Products

Product information,
pricing, and
categorization



Stores

Store-level
operational details



Staff

Employee sales
responsibility
tracking

Tools & Techniques

Tools Used

- MySQL database engine
- MySQL Workbench for query development
- MS Excel for output validation

Advanced SQL Techniques

- INNER JOIN and LEFT JOIN operations
- Aggregate functions (SUM, COUNT, AVG)
- Window functions (CUMULATIVE SUM, RANK)
- Subqueries and correlated subqueries
- EXISTS and NOT EXISTS clauses
- GROUP BY and HAVING for segmentation

Key Formulas

Total Sales

Quantity × Price

Cumulative Quantity

SUM(quantity) OVER
(PARTITION BY product
ORDER BY date)

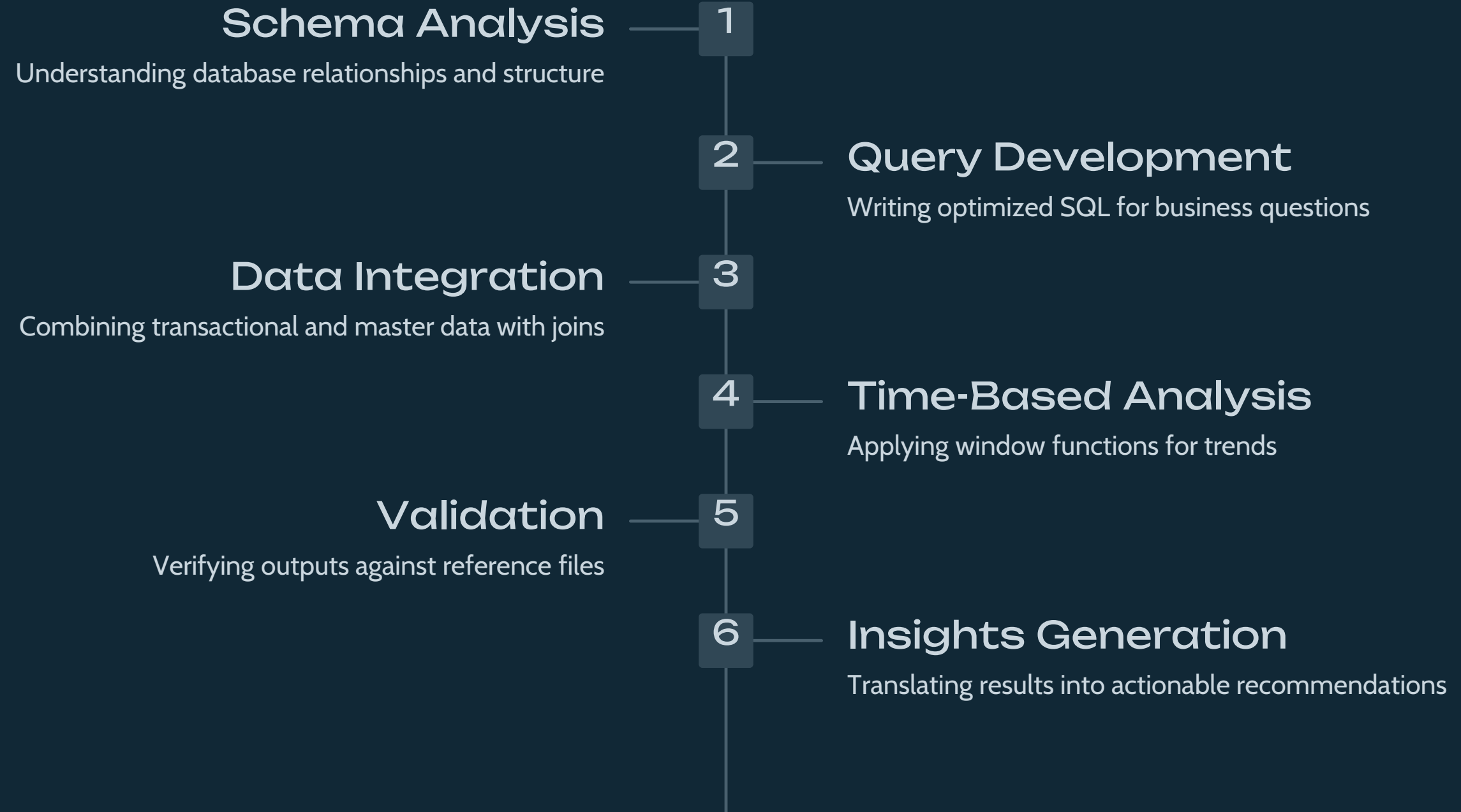
Average Staff Sales

Total Sales / Number of
Staff

Median Price

Middle value of ordered
price list

Methodology





GitHub.com



LinkedIn.com

Project Performance Analysis (Video Format)



Also available on
LinkedIn
GitHub
Google Drive
Click on Link or
given site

<http://drive.google.com/drive/folders/1fUoQYF7mmskZbdfSOvMNuWYKEsphw65->

Store Performance Analysis



Baldwin Bikes vs. Santa Cruz Bikes

Baldwin Bikes significantly outperformed with 4,779 products sold compared to Santa Cruz Bikes' 1,516 units. This 3:1 ratio reflects Baldwin's larger customer base and higher transaction frequency.

Key driver: Increased foot traffic and established market presence enable Baldwin to maintain consistent sales velocity across multiple product categories.

Product Sales Trends & Customer Demand



Steady Growth Pattern

Ritchey Frameset (2016) demonstrated cumulative growth from 2 to 6 units, indicating consistent niche demand rather than seasonal spikes.



Top 3 Products Dominate

The top-selling products captured the highest total quantities, reflecting strong repeat demand in popular categories with proven market fit.



High-Value Customer Impact

One customer emerged as the top spender, contributing maximum sales value through repeat purchases and higher average order values.

Staff Performance Disparities

Unequal Sales Distribution

Analysis reveals significant performance gaps: some staff members recorded zero sales while others exceeded average benchmarks by substantial margins.



Root Causes

- Unequal customer footfall allocation
- Experience level differences
- Varying product knowledge depth

Impact

Performance inconsistencies directly affect revenue potential and customer experience quality across store locations.

Inventory Gaps & Non-Moving Products



SQL analysis identified multiple products with zero orders, revealing critical inventory inefficiencies and capital tied up in non-performing stock.

Why Products Don't Move

- **Poor product-market fit:** Items don't align with customer preferences or local demand patterns
- **Lack of visibility:** Products poorly positioned or inadequately promoted in-store
- **Pricing misalignment:** Cost structure doesn't match perceived customer value

Key Accomplishments

Revenue Driver Identification

Pinpointed top products and highest-value customers contributing disproportionately to total revenue, enabling targeted retention strategies.

Performance Inefficiencies

Highlighted staff sales disparities and operational bottlenecks that directly impact store profitability and customer satisfaction.

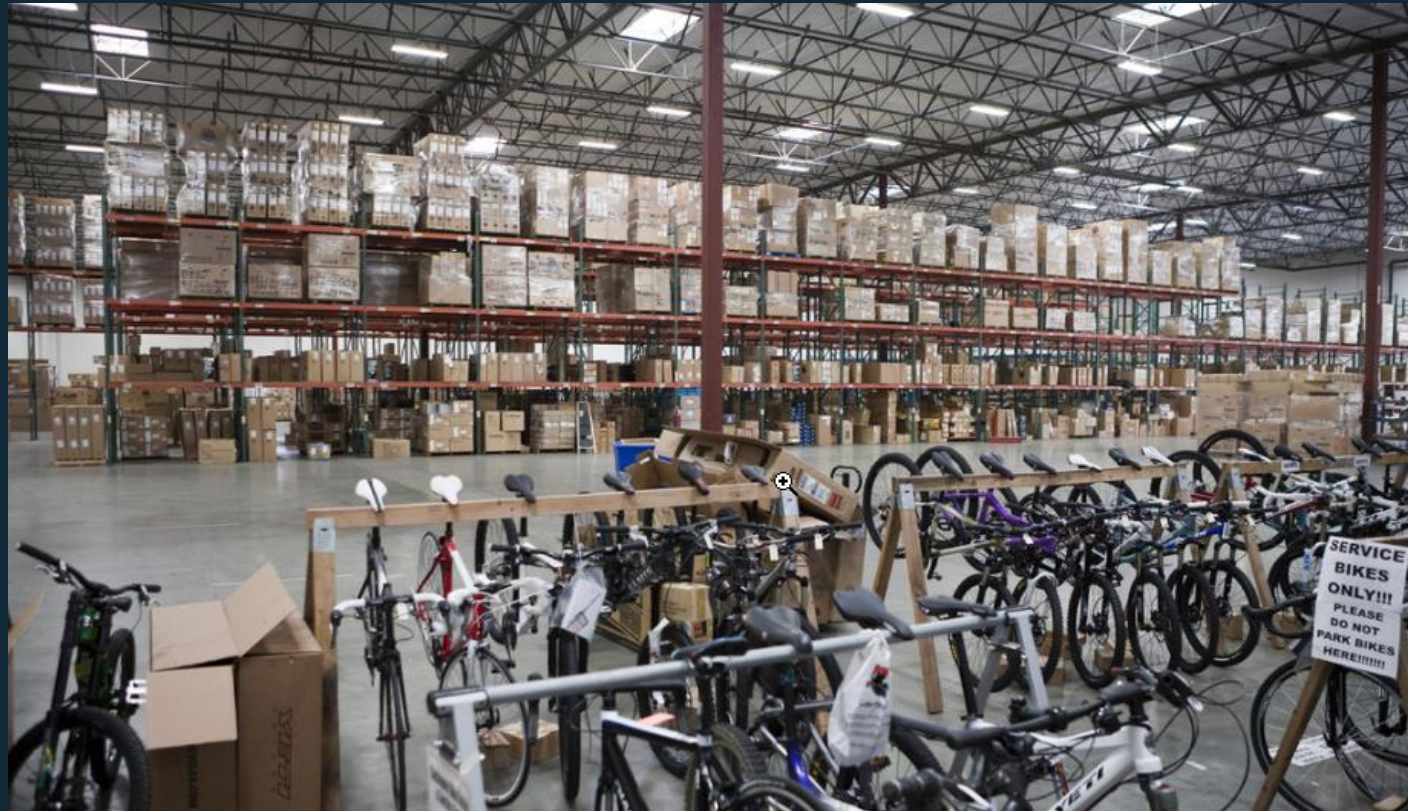
Inventory Optimization

Detected non-moving inventory items, providing clear direction for clearance strategies and future purchasing decisions.

Reusable Analytics Framework

Built scalable SQL queries for ongoing business reporting, transforming raw data into actionable, decision-ready insights.

Analysis Limitations



Data Constraints

While our SQL analysis provides valuable insights, several factors limit comprehensive business understanding:

- **Historical focus only:** Analysis relies exclusively on past transactional data without real-time inputs
- **Seasonal blindspots:** Promotional impacts and cyclical demand patterns remain uncaptured
- **Missing customer context:** No feedback data, demographic information, or satisfaction metrics included
- **Inventory visibility gap:** Current stock levels and real-time availability data unavailable



Future Opportunities



Customer Segmentation

Integrate demographics for deeper behavioral analysis and targeted marketing



Demand Forecasting

Add inventory stock data to predict future demand and optimize purchasing



Seasonal Analysis

Perform month-wise trend analysis to capture cyclical patterns



Predictive Models

Apply machine learning for sales forecasting and inventory planning

Strategic Recommendations



Focus Marketing

Concentrate efforts on top 20% revenue-generating customers through personalized campaigns and loyalty programs



Reward Excellence

Implement performance-based incentives for high-performing staff to maintain motivation and retention



Optimize Stock

Align inventory levels with actual demand trends to reduce carrying costs and maximize profitability



Inventory Action

Discontinue or deeply discount non-performing products to free capital and improve inventory turnover rates



Training Investment

Provide comprehensive sales training to low-performing staff, focusing on product knowledge and customer engagement



Replicate Success

Transfer best practices from Baldwin Bikes to underperforming locations for consistent operational excellence

Conclusion

This MySQL-based data analytics project successfully demonstrates how structured query analysis can uncover hidden patterns, inefficiencies, and growth opportunities in retail operations. Influence by SQL, Jenson USA can enhance profitability, streamline operations, and make informed strategic decisions. The project proves that data driven decision-making is critical for scalable success.

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