



Introduction to Relational Databases and PostgreSQL

 Relational databases organize data into tables, allowing for efficient querying. PostgreSQL is an open-source, powerful database system that supports SQL querying.

OPC Data Overview

 The dataset consists of 2,600 transactions of boutique mountain bike sales over 20 years, encompassing various attributes about products and customers.

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BASIC SQL Coding Principles

SQL is used to manipulate and query data.
 Key commands include SELECT, FROM,
 WHERE, GROUP BY, and JOIN.

Building the Database

 Data was cleaned and structured in PostgreSQL, allowing for better management and analysis.

Working with Data in PostgreSQL

 PostgreSQL offers various functionalities to handle data efficiently, including data integrity checks and transaction management.

Intermediate SQL Functions

 Functions such as JOIN, GROUP BY, and aggregations help in performing complex queries on the dataset.



Advanced SQL Functions

 Advanced functions include window functions, subqueries, and CTEs for more sophisticated data analysis. Query Optimization Optimizing queries improves performance. Techniques include indexing, efficient use of JOINs, and proper data types.

Key Findings

 Sales performance indicates a significant contribution from mountain bikes, with total sales of \$5.6 million and 1,177 orders from 2010-2018.

Sales Performance

 Mountain bike sales reached \$778,747.60, with 220 units sold, highlighting a key revenue stream for OPC.



Warehouse Utilization

 Analysis shows that existing warehouses can meet anticipated demand based on current sales data.

Product Demand Analysis

 Top models identified include Occam, Troy, and Process 153, guiding potential future offerings from Ord Cycles.

Lessons Learned

 Understanding the data structure and SQL querying is essential for effective data analysis. Identifying key trends and patterns in sales data is crucial.

Recommendations

 Proceed with the acquisition of Ord Cycles, focusing on aligning product offerings with customer preferences.



Acquisition Strategy

 Develop a phased integration plan for Ord Cycles to ensure a smooth transition and alignment with market demands.

Data Utilization

 Leverage advanced analytics and reporting tools in PostgreSQL for ongoing monitoring and strategy adjustment.

Sources

Data sourced from internal OPC records and SQL queries conducted throughout the analysis.