

Project Report



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Introduction

Customers have purchasing transactions that we shall be monitoring to get intuition behind each customer behavior to target the customers in the most efficient and proactive way, to increase sales/revenue , improve customer retention and decrease churn. You will be given a dataset and required to answer using SQL Analytical functions you have learnt in the course.

Data Cleaning

Check there's not duplications or missed types

```
/* Check for duplication */  
SELECT *  
FROM tableRetail  
WHERE ROWID NOT IN (  
    SELECT MIN(ROWID)  
    FROM tableRetail  
    GROUP BY invoice,Stockcode,Quantity,Price,Customer_ID,INVOICEDATE,Country  
);
```

Data explorations

-Top customers by total spending

Calculates the total spending for each customer and ranks them in descending order to identify the top customers by the total spending. This can help identify the most valuable customers and their purchasing behaviour.

iii	CUSTOMER_ID	TOTAL_SPENDING
►	12931	42055.96
	12748	33719.73
	12901	17654.54
	12921	16587.09
	12939	11581.8
	12830	6814.64
	12839	5591.42
	12971	5190.74
	12955	4757.16
	12747	4196.01
	12949	4167.22
	12749	4090.88
	12867	4036.82
	12841	4022.35
	12957	4017.54
	12910	3075.04
	12916	3006.15
	12906	2919.81
	12840	2726.77
	12836	2612.86

Data explorations (Con't)

-Monthly revenue growth rate

Calculates the monthly revenue growth rate by dividing the current month's total revenue by the previous month's total revenue and subtracting 1. This can help identify revenue growth trends over time and identify areas for improvement.

MONTH	REVENUE
2010-12	13422.96
2011-01	9541.29
2011-02	13336.84
2011-03	17038.01
2011-04	10980.51
2011-05	19496.18
2011-06	13517.01
2011-07	15664.54
2011-08	38374.64
2011-09	27853.82
2011-10	19735.07
2011-11	45633.38
2011-12	11124.13



Data explorations (Con't)

-Top 10 customers with the highest average order value

Identify the most valuable customers in terms of revenue generation and can be used to create targeted marketing campaigns or loyalty programs for these customers.

-Find the percentage of revenue generated by the top 10 products

Identify the most important products in terms of revenue generation and can be used to make informed decisions about inventory management, product pricing, and marketing strategies.



Data explorations (Con't)

The most popular products by quantity sold

This query can help identify the most popular products and can be used to make informed decisions about inventory management, product pricing, and marketing strategies.

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Data Analysis

Analyze customer data and calculate Recency, Frequency, and Monetary (RFM) scores for each customer.

RFM analysis is a marketing technique used to identify the most valuable customers by examining how recently a customer has made a purchase (Recency), how often they make purchases (Frequency), and how much they spend (Monetary).

The output can be used to identify which customers are most valuable to the business and target them with specific marketing campaigns.



Data Analysis (Con't)

Show how many consecutive days each customer has made transactions.

This information can be useful for identifying customers who are loyal to your business and for understanding how often customers make purchases.

Calculate how long it takes for a customer to make a transaction of at least 250 after their first transaction.

The result is an average of this time period across all customers who have made such transactions.

