



SALES AND RETURN ANALYSIS

BY:- SURAJ KUMAR KUSHWAH

PROBLEM

01

WHAT % OF SALES RESULT IN A RETURN?

02

. WHAT % OF RETURNS ARE FULL RETURNS?

03

WHAT IS THE AVERAGE RETURN % AMOUNT (RETURN % OF ORIGINAL SALE)?

04

WHAT % OF RETURNS OCCUR WITHIN 7 DAYS OF THE ORIGINAL SALE?

05

WHAT IS THE AVERAGE NUMBER OF DAYS FOR A RETURN TO OCCUR?

06

Using this data set, how would you approach and answer the question, who is our most valuable customer?

• . What % of sales result in a return?

```
| ⚡ ⚡ 🔎 🖐️ | ⚡ | Limit to 1000 rows | ⭐ | 🖌️ 🔎 | 1 | +  
-- 1. What % of sales result in a return  
  
-- Calculate total sales  
select count(*) as TotalSales from sales1;  
  
-- Calculate total returns  
select count(*) as TotalReturns from return1;  
  
-- Calculate the percentage of returns  
SELECT  
    (CAST(TotalReturns AS DECIMAL) / CAST(TotalSales AS DECIMAL)) * 100 AS ReturnPercentage  
FROM  
    (SELECT  
        (SELECT  
            COUNT(*)  
        FROM  
            sales1) AS TotalSales,  
        (SELECT  
            COUNT(*)  
        FROM  
            return1) AS TotalReturns  
    ) AS Totals;
```



Solution

Result Grid	Filter
	ReturnPercentage
▶	103.8906

- What % of returns are full returns?

```
| | ⚡ ⚡ 🔎 🖐️ | ⚡ | Limit to 1000 rows | ⭐+ | 🕵️ 🔎 | ⏪ ⏴  
-- 2. What % of returns are full returns?  
  
-- Total number of returns  
SELECT COUNT(*) AS TotalReturns  
FROM return1;  
  
-- Total number of full returns  
SELECT COUNT(*) AS FullReturns  
FROM return1 R  
JOIN sales1 S ON R.OrderID = S.OrderID  
WHERE R.ReturnSales = S.Sales;  
  
-- Percentage of full returns  
SELECT  
    (CAST(FullReturns AS DECIMAL) / CAST(TotalReturns AS DECIMAL)) * 100 AS FullReturnPercentage  
FROM  
    (SELECT  
        (SELECT COUNT(*) FROM return1) AS TotalReturns,  
        (SELECT COUNT(*)  
         FROM return1 R  
        JOIN sales1 S ON R.OrderID = S.OrderID  
        WHERE R.ReturnSales = S.Sales) AS FullReturns  
    ) AS ReturnCounts;
```



Solution

Result Grid	Filter Rows
FullReturnPercentage 0.7718	

- What is the average return % amount (return % of original sale)?

```
1 -- 3. What is the average return % amount (return % of original sale)?
2 • SELECT
3     AVG((CAST(R.ReturnSales AS DECIMAL) / CAST(S.Sales AS DECIMAL)) * 100) AS AverageReturnPercentage
4 FROM
5     return1 R
6     JOIN
7     sales1 S ON R.OrderID = S.OrderID;
```



Solution

Result Grid	
	AverageReturnPercentage
▶	51.93403099

• . What % of returns occur within 7 days of the original sale?



```
1   -- 4. What % of returns occur within 7 days of the original sale
2
3 •  SELECT COUNT(*) AS ReturnsWithin7Days
4   FROM return1 R
5   JOIN sales1 S ON R.OrderID = S.OrderID
6   WHERE DATEDIFF( S.TransactionDate, R.ReturnDate) <= 7;
7
8   -- Percentage of returns within 7 days
9 •  SELECT
10      (CAST(ReturnsWithin7Days AS DECIMAL) / CAST(TotalReturns AS DECIMAL)) * 100 AS ReturnWithin7DaysPercentage
11  FROM
12    (
13      (SELECT COUNT(*) FROM return1) AS TotalReturns,
14      (SELECT COUNT(*)
15       FROM return1 R
16       JOIN sales1 S ON R.OrderID = S.OrderID
17       WHERE DATEDIFF( S.TransactionDate, R.ReturnDate) <= 7) AS ReturnsWithin7Days
18    ) AS ReturnTimings;
19
```

Solution

Result Grid			Filter Rows:
ReturnWithin7DaysPercentage			
4.4851			▶

- What is the average number of days for a return to occur?

```
1 -- 5. What is the average number of days for a return to occur?  
2 • SELECT AVG(DATEDIFF( S.TransactionDate, R.ReturnDate)) AS AverageReturnDays  
3 FROM return1 R  
4 JOIN sales1 S ON R.OrderID = S.OrderID;
```

Solution

Result Grid		Filter
AverageReturnDays		
→	-74.7123	



- Using this data set, how would you approach and answer the question, who is our most valuable customer?

Limit to 1000 rows

```

3
4      -- Calculate total sales per customer
5  ●  SELECT CustomerID, SUM(Sales) AS TotalSales
6      FROM sales1
7      GROUP BY CustomerID
8      ORDER BY TotalSales DESC;
9
10     -- Calculate the number of purchases per customer
11 ●  SELECT CustomerID, COUNT(OrderID) AS TotalPurchases
12      FROM sales1
13      GROUP BY CustomerID
14      ORDER BY TotalPurchases DESC;
15
16     -- Calculate the return rate per customer
17 ●  SELECT S.CustomerID,
18         SUM(S.Sales) AS TotalSales,
19         SUM(R.ReturnSales) AS TotalReturns,
20         (CAST(SUM(R.ReturnSales) AS DECIMAL) / CAST(SUM(S.Sales) AS DECIMAL)) * 100 AS ReturnRatePercentage
21     FROM sales1 S
22     LEFT JOIN return1 R ON S.OrderID = R.OrderID
23     GROUP BY S.CustomerID
24     ORDER BY ReturnRatePercentage ASC;
25
26     -- Combine metrics to determine the most valuable customer
27     -- Assuming a customer is valuable if they have high total sales and a low return rate
28 ●  SELECT CustomerID, TotalSales, TotalPurchases, ReturnRatePercentage
29     FROM (
30         SELECT S.CustomerID,
31             SUM(S.Sales) AS TotalSales,
32             COUNT(S.OrderID) AS TotalPurchases,
33             (CAST(SUM(R.ReturnSales) AS DECIMAL) / CAST(SUM(S.Sales) AS DECIMAL)) * 100 AS ReturnRatePercentage
34     FROM sales1 S
35     LEFT JOIN return1 R ON S.OrderID = R.OrderID
36     GROUP BY S.CustomerID
37     ) AS CustomerMetrics
38
39     ORDER BY TotalSales DESC, ReturnRatePercentage ASC, TotalPurchases DESC;

```

Solution

Result Grid | Filter Rows: Export: Wrap Cell Content:

	CustomerID	TotalSales	TotalPurchases	ReturnRatePercentage
▶	BISSP26380	25659.67	1	NULL
	WYREM48887	22114.36	2	2.5956
	ARANY79143	22071.18	2	4.2318
	JUSUS89531	20943.449999999997	2	NULL
	MARTE89584	19024.51	1	NULL
	DIAKN64879	18825.260000000002	4	NULL
	RACG3	18486.25	15	NULL
	AZNAM68481	18153.72	1	NULL
	GODIG40270	17699.54	1	NULL
	SCAMP75688	17425.56	1	18.7995
	SHAHSS89667	16572.69	3	28.9688
	BERGD66612	16472.58	1	NULL
	BAHAD82541	16386.6	3	7.6158
	MORRH80459	15597.21	1	NULL
	WELCJ69868	15536.970000000001	3	5.9986
	LEMED55267	15536.24	2	9.1722
	LOGED21318	15425.490000000002	4	4.5770
	MAJUD70646	15365.039999999999	2	NULL
	RAVIM41743	15081.59	2	NULL
	IMBID39950	13843.26	1	NULL

Thank You