## 



Mobile Manufacturer Data Analysis\_ATM

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Your Name

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# Overview

Business Scenario: The database “Cellphones Information” contains details on cell phone sales or transactions.

# DATA ANALYSIS

1 . List all the states in which we have customers who have bought cellphones from 2005 till today.

→SELECT State FROM DIM\_LOCATION AS DL

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDLocation = DL.IDLocation

JOIN DIM\_CUSTOMER AS DC ON DC.IDCustomer = FT.IDCustomer

WHERE DATE >= '2005-01-01'

GROUP BY State

2 . What state in the US is buying the most 'Samsung' cell phones?

→SELECT TOP 1 State FROM DIM\_LOCATION AS DL

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDLocation = DL.IDLocation

JOIN DIM\_MODEL AS DMO ON DMO.IDModel = FT.IDModel

JOIN DIM\_MANUFACTURER AS DM ON DM.IDManufacturer = DMO.IDManufacturer

WHERE Country = 'US' AND Manufacturer\_Name LIKE 'S%'

GROUP BY State

3 . Show the number of transactions for each model per zip code per state.

→SELECT ZipCode, State, FT.IDModel, Model\_Name, COUNT(FT.IDModel) AS CNT FROM DIM\_LOCATION AS DL

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDLocation = DL.IDLocation

JOIN DIM\_MODEL AS DMO ON DMO.IDModel = FT.IDModel

GROUP BY ZipCode, State, FT.IDModel, Model\_Name

4 . Show the cheapest cellphone (Output should contain the price also)

→SELECT TOP 1 DM.IDManufacturer, Manufacturer\_Name, IDModel, Model\_Name, Unit\_price FROM DIM\_MODEL AS DMO

JOIN DIM\_MANUFACTURER AS DM ON DM.IDManufacturer = DMO.IDManufacturer

ORDER BY Unit\_price

5 . Find out the average price for each model in the top5 manufacturers in terms of sales quantity and order by average price.

→CREATE FUNCTION MULTIPLY(@TOTALPRICE FLOAT, @UNITPRICE FLOAT)

RETURNS FLOAT

BEGIN

RETURN (@TOTALPRICE\*@UNITPRICE)

END

WITH TEMP (Manufacturer\_Name)

AS (

SELECT TOP 5 DM.Manufacturer\_Name FROM DIM\_MANUFACTURER AS DM

JOIN DIM\_MODEL AS DMO ON DMO.IDManufacturer = DM.IDManufacturer

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDModel = DMO.IDModel

GROUP BY DM.Manufacturer\_Name

ORDER BY SUM([dbo].[MULTIPLY](TotalPrice,Unit\_price)) DESC

)

SELECT FT.IDModel, AVG(TotalPrice) AS AVG\_

FROM FACT\_TRANSACTIONS AS FT

JOIN DIM\_MODEL AS DMO ON DMO.IDModel = FT.IDModel

JOIN DIM\_MANUFACTURER AS DM ON DMO.IDManufacturer = DM.IDManufacturer

WHERE DM.Manufacturer\_Name IN (

SELECT Manufacturer\_Name FROM TEMP

)

GROUP BY FT.IDModel

ORDER BY AVG\_

6 . List the names of the customers and the average amount spent in 2009, where the average is higher than 500

→SELECT DIM\_CUSTOMER.\*

FROM DIM\_CUSTOMER

JOIN

(

SELECT IDCustomer, AVG(TotalPrice) AS AVG\_ FROM FACT\_TRANSACTIONS

WHERE YEAR(DATE) = 2009

GROUP BY IDCustomer

HAVING AVG(TotalPrice) > 500

) AS T

ON T.IDCustomer = DIM\_CUSTOMER.IDCustomer

7 . List if there is any model that was in the top 5 in terms of quantity, simultaneously in 2008, 2009 and 2010

→WITH TEMP AS

(

SELECT IDModel, YEAR(DATE) AS YEAR\_, SUM(Quantity) AS OVERALL\_QTY, DENSE\_RANK() OVER (PARTITION BY YEAR(DATE)

ORDER BY SUM(Quantity) DESC) AS RANK\_

FROM FACT\_TRANSACTIONS

WHERE YEAR(DATE) IN (2008, 2009, 2010)

GROUP BY IDModel, YEAR(DATE)

)

SELECT IDModel FROM TEMP

WHERE

(YEAR\_ = 2008 AND RANK\_ <= 5)

OR (YEAR\_ = 2009 AND RANK\_ <= 5)

OR (YEAR\_ = 2010 AND RANK\_ <= 5)

GROUP BY IDModel

HAVING COUNT(\*) =3

8 . Show the manufacturer with the 2nd top sales in the year of 2009 and the manufacturer with the 2nd top sales in the year of 2010.

→WITH TEMP AS

(

SELECT Manufacturer\_Name, YEAR(DATE) AS YEAR\_, SUM(TotalPrice) AS TOTAL\_SALES, DENSE\_RANK() OVER (PARTITION BY YEAR(DATE)

ORDER BY SUM(TotalPrice) DESC) AS SALES

FROM DIM\_MANUFACTURER AS DM

JOIN DIM\_MODEL AS DMO ON DMO.IDManufacturer = DM.IDManufacturer

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDModel = DMO.IDModel

WHERE YEAR(DATE) IN (2009, 2010)

GROUP BY Manufacturer\_Name, YEAR(DATE)

)

SELECT Manufacturer\_Name, YEAR\_, TOTAL\_SALES FROM TEMP

WHERE SALES = 2

9 . Show the manufacturers that sold cellphones in 2010 but did not in 2009.

→SELECT TOP 1 Manufacturer\_Name

FROM DIM\_MANUFACTURER AS DM

JOIN DIM\_MODEL AS DMO ON DMO.IDManufacturer = DM.IDManufacturer

JOIN FACT\_TRANSACTIONS AS FT ON FT.IDModel = DMO.IDModel

WHERE YEAR(DATE) IN (2009, 2010)

GROUP BY Manufacturer\_Name

ORDER BY COUNT(Manufacturer\_Name) OVER (PARTITION BY Manufacturer\_Name)

10 . Find top 10 customers and their average spend, average quantity by each year. Also find the percentage of change in their spend.

→SELECT \* , ((AVG\_SPEND - LAG\_PRICE)/LAG\_PRICE) AS CHANGE\_PERCENTAGE FROM (

SELECT \*, LAG(AVG\_SPEND,1) OVER (PARTITION BY IDCUSTOMER ORDER BY YEAR\_) AS LAG\_PRICE FROM

(

SELECT IDCustomer, YEAR(DATE) AS YEAR\_, AVG(TotalPrice) AS AVG\_SPEND, AVG(Quantity) AS QTY

FROM FACT\_TRANSACTIONS

WHERE IDCustomer IN (

SELECT TOP 10 IDCustomer FROM FACT\_TRANSACTIONS

GROUP BY IDCustomer

ORDER BY AVG(TotalPrice) DESC

)

GROUP BY IDCustomer, YEAR(DATE)

) AS A

) AS B