**Case Study 2: Kultra Mega Stores Inventory**

**Case Scenario I**

1. Which product category had the highest sales?

*SELECT [Product\_Category], SUM(Sales) AS TotalSales*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY [Product\_Category]*

*ORDER BY TotalSales DESC*

*SELECT TOP 1*

|  |  |
| --- | --- |
| **Product\_Category** | **TotalSales** |
| Technology | 5984248 |
| Furniture | 5178591 |
| Office Supplies | 3752762 |

1. What are the Top 3 and Bottom 3 regions in terms of sales?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Region** | **TotalSales** | **RankType** | **Region2** | **TotalSales3** | **RankType4** |
| West | 3597549 | Top | Nunavut | 116376 | Bottom |
| Ontario | 3063212 | Top | Northwest Territories | 800847 | Bottom |
| Prarie | 2837305 | Top | Yukon | 975867 | Bottom |

*--------Question 2-----------*

*-- Top 3*

*SELECT TOP 3 Region, SUM(Sales) AS TotalSales, 'Top' AS RankType*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY Region*

*ORDER BY TotalSales DESC*

*------BOTTOM 3------*

*SELECT TOP 3 Region, SUM(Sales) AS TotalSales, 'Bottom' AS RankType*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY Region*

*ORDER BY TotalSales ASC;*

1. **What were the total sales of appliances in Ontario?**

|  |
| --- |
| **Total\_Sales** |
| 202346.8396 |

*SELECT SUM ([Sales]) AS [Total\_Sales]*

*FROM [KMS Sql Case Study(2)]*

*WHERE [Region] = 'Ontario'*

*AND [Product\_Sub\_Category] = 'Appliances'*

1. **Advise the management of KMS on what to do to increase the revenue from the bottom 10 customers**

Identify Bottom 10 Customers (SQL)

*SELECT TOP 10 [Customer\_Name], SUM(Sales) AS TotalSales*

*FROM KMS data*

*GROUP BY [Customer\_Name]*

*ORDER BY TotalSales ASC;*

**Analyze Their Behavior**

* What products do they typically buy?
* How often do they place orders?

SELECT [customer\_name], [Product\_Category], COUNT(\*) AS OrderCount, SUM(Sales) AS TotalSpent

FROM [KMS Sql Case Study(2)]

WHERE [Customer\_Name] IN (

SELECT TOP 10 [Customer\_Name]

FROM [KMS Sql Case Study(2)]

GROUP BY [Customer\_Name]

ORDER BY SUM(Sales) ASC

)

GROUP BY [Customer\_Name], [Product\_Category];

|  |  |  |  |
| --- | --- | --- | --- |
| **customer\_name** | **Product\_Category** | **OrderCount** | **TotalSpent** |
| Chris McAfee | Furniture | 1 | 321.6300049 |
| Christine Kargatis | Furniture | 1 | 244.8500061 |
| Rick Huthwaite | Furniture | 1 | 275.1099854 |
| Chris McAfee | Office Supplies | 1 | 28.54999924 |
| Christine Kargatis | Office Supplies | 1 | 48.36999893 |
| Dorothy Dickinson | Office Supplies | 1 | 198.0800018 |
| Eric Murdock | Office Supplies | 3 | 282.2299995 |
| Jeremy Farry | Office Supplies | 2 | 85.72000217 |
| Katrina Edelman | Office Supplies | 2 | 180.760006 |
| Mark Hamilton | Office Supplies | 1 | 364.6900024 |
| Natalie DeCherney | Office Supplies | 1 | 125.9000015 |
| Nicole Fjeld | Office Supplies | 2 | 153.0300064 |
| Rick Huthwaite | Office Supplies | 2 | 140.7099953 |
| Eric Murdock | Technology | 1 | 61.09799957 |
| Mark Hamilton | Technology | 1 | 86.30000305 |

KMS should:

1. Engage Them with Personalized Promotions

* Offer discounts or bundled offers based on what they already buy.

2. Upsell or Cross-Sell Products

* If they only buy low-cost items (e.g., accessories), suggest related high-value items (e.g., appliances or electronics).

3. Loyalty Rewards Offer

* Give incentives for ordering frequently (e.g., free shipping after X orders).

6. Survey or Contact Them for Feedback

* Ask why they don’t buy more. Feedback can reveal hidden barriers (e.g., website experience, delivery issues, unclear product specs).

1. **KMS incurred the most shipping cost using which shipping method?**

*SELECT TOP 1 [Ship\_Mode], SUM([Shipping\_Cost]) AS TotalShippingCost*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY [Ship\_Mode]*

*ORDER BY TotalShippingCost DESC;*

|  |  |
| --- | --- |
| **Ship\_Mode** | **TotalShippingCost** |
| Delivery Truck | 51972 |

**Case Scenario II**

1. **. Who are the most valuable customers, and what products or services do they typically purchase?**

*SELECT [Customer\_Name], [Product\_Category], SUM(Sales) AS CategorySales*

*FROM [KMS Sql Case Study(2)]*

*WHERE [Customer\_Name] IN (*

*SELECT TOP 3 [Customer\_Name]*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY [Customer\_Name]*

*ORDER BY SUM(Sales) DESC*

*)*

*GROUP BY [Customer\_Name], [Product\_Category]*

*ORDER BY [Customer\_Name], CategorySales DESC;*

|  |  |  |
| --- | --- | --- |
| **Customer\_Name** | **Product\_Category** | **CategorySales** |
| Deborah Brumfield | Technology | 76795.79 |
| Deborah Brumfield | Furniture | 12809.62 |
| Deborah Brumfield | Office Supplies | 7827.72 |
| Emily Phan | Technology | 110481.97 |
| Emily Phan | Furniture | 4011.65 |
| Emily Phan | Office Supplies | 2630.82 |
| Roy Skaria | Furniture | 50177.24 |
| Roy Skaria | Technology | 30349.39 |
| Roy Skaria | Office Supplies | 12015.52 |

1. **Which small business customer had the highest sales?**

*SELECT TOP 1 [Customer\_Name], SUM(Sales) AS TotalSales*

*FROM [KMS Sql Case Study(2)]*

*WHERE [Customer\_Segment] = 'Small Business'*

*GROUP BY [Customer\_Name]*

*ORDER BY TotalSales DESC;*

|  |  |
| --- | --- |
| **Customer\_Name** | **TotalSales** |
| Dennis Kane | 75968 |

**8. Which Corporate Customer placed the most number of orders in 2009 – 2012?**

*SELECT TOP 1 [Customer\_Name], COUNT(DISTINCT [Order\_ID]) AS OrderCount*

*FROM [KMS Sql Case Study(2)]*

*WHERE [Customer\_Segment] = 'Corporate'*

*AND YEAR([Order\_Date]) BETWEEN 2009 AND 2012*

*GROUP BY [Customer\_Name]*

*ORDER BY OrderCount DESC;*

|  |  |
| --- | --- |
| **Customer\_Name** | **OrderCount** |
| Adam Hart | 18 |

**9. Which consumer customer was the most profitable one?**

*SELECT TOP 1 [Customer\_Name], SUM(Profit) AS TotalProfit*

*FROM [KMS Sql Case Study(2)]*

*WHERE [Customer\_Segment] = 'Consumer'*

*GROUP BY [Customer\_Name]*

*ORDER BY TotalProfit DESC;*

|  |  |
| --- | --- |
| **Customer\_Name** | **TotalProfit** |
| Emily Phan | 34005 |

**10. Which customer returned items, and what segment do they belong to? (Answers limited to top 10)**

*SELECT top 10 KM.[Customer\_Name], KM.[Customer\_Segment]*

*FROM [KMS Sql Case Study(2)] KM*

*JOIN [Order\_Status(2)] os ON KM.[Order\_ID] = os.[Order\_ID]*

*WHERE os.Status = 'Returned';*

|  |  |
| --- | --- |
| **Customer\_Name** | **Customer\_Segment** |
| Dorothy Badders | Home Office |
| Grant Carroll | Corporate |
| Grant Carroll | Corporate |
| Grant Carroll | Corporate |
| Edward Hooks | Consumer |
| Michelle Lonsdale | Home Office |
| Michelle Lonsdale | Home Office |
| Carlos Soltero | Small Business |
| Carlos Soltero | Small Business |
| Dorothy Badders | Home Office |

**11. If the delivery truck is the most economical but the slowest shipping method and Express Air is the fastest but the most expensive one, do you think the company appropriately spent shipping costs based on the Order Priority? Explain your answer**

*SELECT*

*[Order\_Priority],*

*[Ship\_Mode],*

*COUNT([Order\_ID]) AS NumberOfOrders,*

*SUM([Shipping\_Cost]) AS TotalShippingCost,*

*AVG([Shipping\_Cost]) AS AvgShippingCost*

*FROM [KMS Sql Case Study(2)]*

*GROUP BY [Order\_Priority], [Ship\_Mode]*

*ORDER BY [Order\_Priority], [Ship\_Mode];*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Order\_Priority** | **Ship\_Mode** | **NumberOfOrders** | **TotalShippingCost** | **AvgShippingCost** | **Explanation** |
| Critical | Delivery Truck | 228 | 10783.82 | 47.30 | not appropriate |
| Critical | Express Air | 200 | 1742.10 | 8.71 | Appropriate |
| Critical | Regular Air | 1180 | 8586.76 | 7.28 | Apropriate |
| High | Delivery Truck | 248 | 11206.88 | 45.19 | overbilled |
| High | Express Air | 212 | 1453.53 | 6.86 | Appropriate |
| High | Regular Air | 1308 | 10005.01 | 7.65 | Appropriate |
| Low | Delivery Truck | 250 | 11131.61 | 44.53 | Appropriate |
| Low | Express Air | 190 | 1551.63 | 8.17 | Not appropriate |
| Low | Regular Air | 1280 | 10263.62 | 8.02 | not appropriate |
| Medium | Delivery Truck | 205 | 9461.62 | 46.15 | Appropriate |
| Medium | Express Air | 201 | 1633.59 | 8.13 | not appropriate |
| Medium | Regular Air | 1225 | 9418.72 | 7.69 | not appropriate |
| Not Specified | Delivery Truck | 215 | 9388.01 | 43.67 | Appropriate |
| Not Specified | Express Air | 180 | 1470.06 | 8.17 | not appropriate |
| Not Specified | Regular Air | 1277 | 9734.08 | 7.62 | not appropriate |

|  |  |
| --- | --- |
| Critical and High Priority Orders:   * Expected Shipping Method: Express Air (fastest) * Observation: Most Critical and High orders were shipped with Delivery Truck and Regular Air, which are slower. Misalignment between urgency and shipping method.   low and Not Specified Priority Orders:   * Expected Shipping Method: Delivery Truck (slow and cheap) * Observation: Many Low and Not Specified orders used Express Air or Regular Air, which are more expensive. Overuse of expensive shipping on non-urgent orders.   The company did not always spend shipping costs appropriately based on order priority. |  |