Tomato Sales Data Analysis

Question 1: Calculate total sales per year and identify growth or decline trends.

Syntax

```
Select
DATEPART (YEAR, Date) AS No_of_Year,
FORMAT(SUM(Total_Sales_Value_NGN), 'N0', 'en-US') AS Total_Sales,-- for getting Comma in Numbers
SUM (Total_Sales_Value_NGN) - LAG(SUM(Total_Sales_Value_NGN)) OVER (ORDER By DATEPART(YEAR, Date)) AS Year_on_Year_Sales,
CASE
WHEN SUM(Total_Sales_Value_NGN) - LAG(SUM(Total_Sales_Value_NGN)) OVER (ORDER BY DATEPART(YEAR, Date)) > 0 THEN 'Growth'
WHEN SUM(Total_Sales_Value_NGN) - LAG(SUM(Total_Sales_Value_NGN)) OVER (ORDER BY DATEPART(YEAR, Date)) < 0 THEN 'Decline'
ELSE 'No Change'
END AS Trend
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
Group by DATEPART (YEAR, Date)
ORDER by No_of_Year Asc;
```

Output

Results | Messages

	No_of_Year	Total_Sales	Year_on_Year_Sales	Trend
1	2009	10,306,450	NULL	No Change
2	2010	10,983,141	676691	Growth
3	2011	11,845,563	862422	Growth
4	2012	12,517,778	672215	Growth
5	2013	13,023,895	506117	Growth
6	2014	14,007,583	983688	Growth
7	2015	14,447,276	439693	Growth
8	2016	15,378,284	931008	Growth
9	2017	15,653,716	275432	Growth
10	2018	16,580,470	926754	Growth
11	2019	17,316,105	735635	Growth
12	2020	17,839,344	523239	Growth
13	2021	18,982,793	1143449	Growth
14	2022	15,541,655	-3441138	Decline

Analysis :

- Analyzing the data from 2009 to 2022 reveals a consistent upward trend in sales until 2021, noticeable decline in 2022.

Question 2: --Find the year with the maximum total sales value.

Syntax

```
Select
Top 1
DATEPART(YEAR,Date) AS Year,
FORMAT (MAX (Total_Sales_Value_NGN),'N0','en-US') As Maximum_Sales
FROM [Tomato_Data].[dbo].[Tomato_Retail_Data]
GROUP By DATEPART(YEAR,Date)
ORDER by Year Desc ;
```

Output

Results | Messages

	Year	Maximum_Sales
1	2022	91,592

Analysis :

- In 2022, we observed the highest spending across all years.

Question 3: Find the quantity sold (kg) year on year and identify changes

Syntax

```
SELECT
    DATEPART(YEAR, Date) AS Year,
    FORMAT(SUM(Quantity_Sold_kg), 'N0', 'en-US') AS Total_Quantity,
    SUM(Quantity_Sold_kg) - LAG(SUM(Quantity_Sold_kg)) OVER (ORDER BY DATEPART(YEAR, Date)) AS Year
FROM [Tomato_Data].[dbo].[Tomato_Retail_Data]
GROUP BY DATEPART(YEAR, Date)
ORDER BY Year;
```

Output

Results | Messages

	Year	Total_Quantity	Year_On_Year_Change
1	2009	63,099	NULL
2	2010	63,666	567
3	2011	64,554	888
4	2012	63,939	-615
5	2013	63,340	-599
6	2014	64,714	1374
7	2015	64,339	-375
8	2016	64,133	-206
9	2017	63,063	-1070
10	2018	63,982	919
11	2019	63,980	-2
12	2020	63,887	-93
13	2021	64,538	651
14	2022	50,463	-14075

Analysis :

- The year-on-year data, it is observed that the quantity sold turned negative in the years **2012, 2013, 2015, 2016, 2017, 2019, 2020, and 2022.** This indicates a higher volume of returns compared to the quantities sold during these periods.

Question 4.: Compare opening vs closing stock levels over the years to see trends.

Syntax

```
SELECT
    DATEPART(YEAR, Date) AS Year_on_Year,
    SUM(Opening_Stock_kg) AS Opening_Stock,
    SUM(Closing_Stock_kg) AS Closing_Stock,
    SUM(Opening_Stock_kg) - LAG(SUM(Closing_Stock_kg)) OVER (ORDER BY DATEPART(YEAR, Date)) AS Year_On_Year_Change
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP BY DATEPART(YEAR, Date)
ORDER BY Year_on_Year;
```

Output

Results | Messages

	Year_on_Year	Opening_Stock	Closing_Stock	Year_On_Year_Change
1	2009	72873	27192	NULL
2	2010	74958	29637	47766
3	2011	73816	28089	44179
4	2012	73247	26665	45158
5	2013	73473	28982	46808
6	2014	72570	25757	43588
7	2015	71875	25499	46118
8	2016	72754	26897	47255
9	2017	71875	26693	44978
10	2018	72917	26939	46224
11	2019	73089	27238	46150
12	2020	72673	27430	45435
13	2021	74208	27334	46778
14	2022	60481	24340	33147

Analysis :

- As per comparing opening and closing stock. we observe a consistent trend of stock moving moderate level in year over year

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Question 5: Find the year with the minimum total sales value.

Syntax

```
Select
Top 1
DATEPART (YEAR,Date) AS Years,
MIN(Total_Sales_Value_NGN) As Minimum_Total_Sale
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP by DATEPART (YEAR,Date);
```

Output

Results | Messages

	Years	Minimum_Total_Sale
1	2010	10568

Analysis :

- In 2010, the recorded sales value reached its lowest point, amounting to **10,568**

Question 6: How many each supplier's contributes total sales and average units sold.

Syntax

```
SELECT
Supplier_Name,
FORMAT (SUM(Total_Sales_Value_NGN),'N0','en-US') AS Total_Sales,
AVG(Unit_Price_NGN) AS Average_Unit_Price
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP BY Supplier_Name
ORDER BY Total_Sales Desc;
```

Output

Results | Messages

	Supplier_Name	Total_Sales	Average_Unit_Price
1	Kaduna Suppliers	52,578,167	240
2	Local Farmer	50,911,345	240
3	Jigawa Farm	50,588,692	238
4	Ogun Growers	50,345,849	238

Analysis :

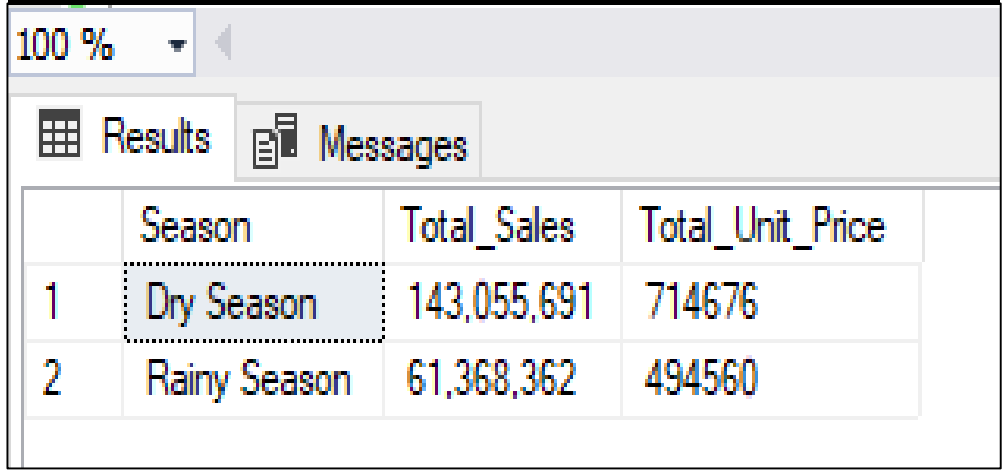
- There are four suppliers, **Kaduna** consistently contributed the highest in both total sales and average unit price.

Question 7:Group sales and quantity data by season to analyse if certain seasons

Syntax

```
SELECT
Season,
FORMAT (SUM(Total_Sales_Value_NGN),'N0','en-US') AS Total_Sales,
Sum(Unit_Price_NGN) AS Total_Unit_Price
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP by Season
ORDER by Total_Sales,Total_Unit_Price Desc;
```

Output



	Season	Total_Sales	Total_Unit_Price
1	Dry Season	143,055,691	714676
2	Rainy Season	61,368,362	494560

Analysis :

- During the dry season, tomato sales and total units sold highests. In rainy season exhibits moderate sales and unit volumes.it indicating slower progress lower in demand.

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Question Analyze the year-on-year trend of unit prices, calculating the annual change to highlight fluctuations over time.

Syntax

```
SELECT
DATEPART(YEAR, Date) AS Year,
AVG(Unit_Price_NGN) AS Average_Unit_Price,
AVG(Unit_Price_NGN) - LAG(AVG(Unit_Price_NGN)) OVER (ORDER BY DATEPART(YEAR, Date)) AS Yearly_Change
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP BY DATEPART(YEAR, Date)
ORDER BY Year;
```

Syntax

Results | Messages

	Year	Average_Unit_Price	Yearly_Change
1	2009	168	NULL
2	2010	177	9
3	2011	189	12
4	2012	201	12
5	2013	211	10
6	2014	223	12
7	2015	232	9
8	2016	246	14
9	2017	257	11
10	2018	267	10
11	2019	278	11
12	2020	289	11
13	2021	302	13
14	2022	317	15

Analysis :

- Year-over-year analysis reveals a consistent and positive increase in the average units solds

Question 9. Analyze the total restocked quantities, how they vary across different seasons and track the year-on-year changes

Syntax

```
Select
DATEPART (YEAR,Date) As Years,
Season,
SUM (Restocked_Quantity_kg) AS Total_Restocked
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
Group by DATEPART (YEAR,Date),Season
ORDER by Years Asc, Total_Restocked Desc;
```

Output

Results | Messages

	Years	Season	Total_Restocked
1	2009	Dry Season	36564
2	2009	Rainy Season	9235
3	2010	Dry Season	36019
4	2010	Rainy Season	9507
5	2011	Dry Season	36529
6	2011	Rainy Season	9360
7	2012	Dry Season	36741
8	2012	Rainy Season	9996
9	2013	Dry Season	34984
10	2013	Rainy Season	9669
11	2014	Dry Season	37465
12	2014	Rainy Season	9515
13	2015	Dry Season	36634
14	2015	Rainy Season	9967
15	2016	Dry Season	37071
16	2016	Rainy Season	8892
17	2017	Dry Season	37006
18	2017	Rainy Season	8234
19	2018	Dry Season	36760
20	2018	Rainy Season	9312
21	2019	Dry Season	37363
22	2019	Rainy Season	8736
23	2020	Dry Season	36997
24	2020	Rainy Season	8368

Analysis :

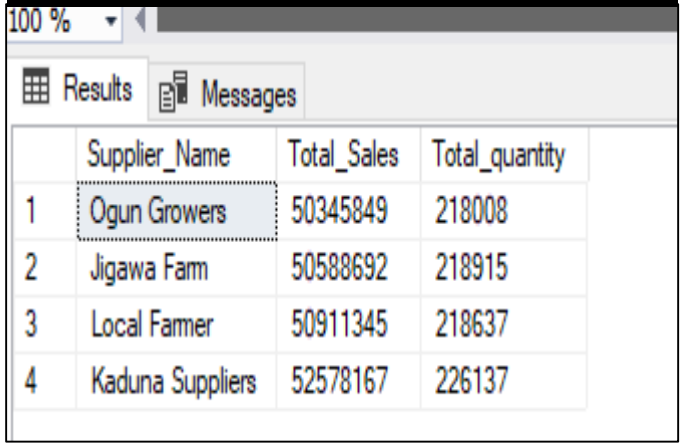
- Year-on-year analysis reveals that stock restocking levels are consistently higher during the dry season compared to the rainy season.

Question 10. Measure each supplier’s contribution to the overall sales value or quantity sold.

Syntax

```
SELECT
Supplier_Name,
SUM (Total_Sales_Value_NGN) AS Total_Sales,
SUM (quantity_Sold_kg) AS Total_quantity
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP by Supplier_Name
ORDER by Total_Sales,Total_quantity DESC;
```

Output



	Supplier_Name	Total_Sales	Total_quantity
1	Ogun Growers	50345849	218008
2	Jigawa Farm	50588692	218915
3	Local Farmer	50911345	218637
4	Kaduna Suppliers	52578167	226137

Analysis :

- The “**Ogun Growers**” is highest suppliers which sold Highest sales and quantity throught years.

Question 11. Identify the top 10 performing store locations year-on-year based on sales, quantity sold, and units sold.

Syntax

Results | Messages

	Years	Store_Location	Total_units	Total_quantity	Total_Sales
1	2009	Ibadan	10335	9584	1609683
2	2011	Lagos, Yaba	10173	10292	1829540
3	2009	Lagos, Yaba	11681	11671	1886755
4	2009	Port Harcourt	11200	12394	1998783
5	2010	Kano, Sabon Gari	12717	11937	2108555
6	2010	Ibadan	12474	12364	2143853
7	2012	Kano, Sabon Gari	12177	10887	2148386
8	2010	Lagos, Yaba	12851	12588	2187655
9	2011	Port Harcourt	13141	12157	2198742
10	2010	Port Harcourt	12904	13211	2222265

Syntax

Results | Messages

	Years	Store_Location	Total_units	Total_quantity	Total_Sales
1	2009	Ibadan	10335	9584	1609683
2	2011	Lagos, Yaba	10173	10292	1829540
3	2009	Lagos, Yaba	11681	11671	1886755
4	2009	Port Harcourt	11200	12394	1998783
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6	2010	Ibadan	12474	12364	2143853
7	2012	Kano, Sabon Gari	12177	10887	2148386
8	2010	Lagos, Yaba	12851	12588	2187655
9	2011	Port Harcourt	13141	12157	2198742
10	2010	Port Harcourt	12904	13211	2222265

Analysis :

- Based on the analysis, "Lagos Yaba" and "Port Harcourt" are the top two store locations, consistently recording the highest units sold, quantity, and sales.

Question 11. Investigate how changes in transport costs affect product pricing and overall sales value.

Syntax

```
Select
Transport_Cost_NGN,
AVG (Unit_Price_NGN) AS Total_Product,
SUM (Total_Sales_Value_NGN) AS Total_Sales
FROM [Tomato_Retail_Data].[dbo].[Tomato_Retail_Data]
GROUP by  Transport_Cost_NGN
ORDER by  Transport_Cost_NGN Desc;
```

Output

	Transport_Cost_NGN	Total_Product	Total_Sales
1	9996	335	67684
2	9994	320	79329
3	9991	202	41317
4	9990	336	24179
5	9988	182	42046
6	9987	242	60725
7	9985	297	70477
8	9984	215	59877
9	9978	149	21936
10	9977	225	66016
11	9975	191	80797
12	9970	141	39462
13	9969	281	57869
14	9968	198	111885
15	9967	172	40689
16	9965	220	45783
17	9964	241	17078
18	9962	216	84420

Analysis :

- As per checking transport cost the product pricing with sales showing the impact of transportation expenses on profitability.