AD-HOC INSIGHTS

DOMAIN: CONSUMER GOODS

FUNCTION: EXECUTIVE MANAGEMENT

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AGENDA

ABOUT

OBJECTIVE

RESULTS

ABOUT

- **Atliq Hardwares** (imaginary Company) with a significant presence not only in India but also in other countries.

- The management realized they **lack enough information** to quickly and smartly use data for decisions.

- **Tony Sharma**, their data analytics director conducted a **SQL challenge** on 10 ad-hoc insights.

OBJECTIVE

- There are 10 ad hoc requests for which the business needs insights.

TASK - RUN SQL QUERY TO ANSWER THESE REQUESTS.

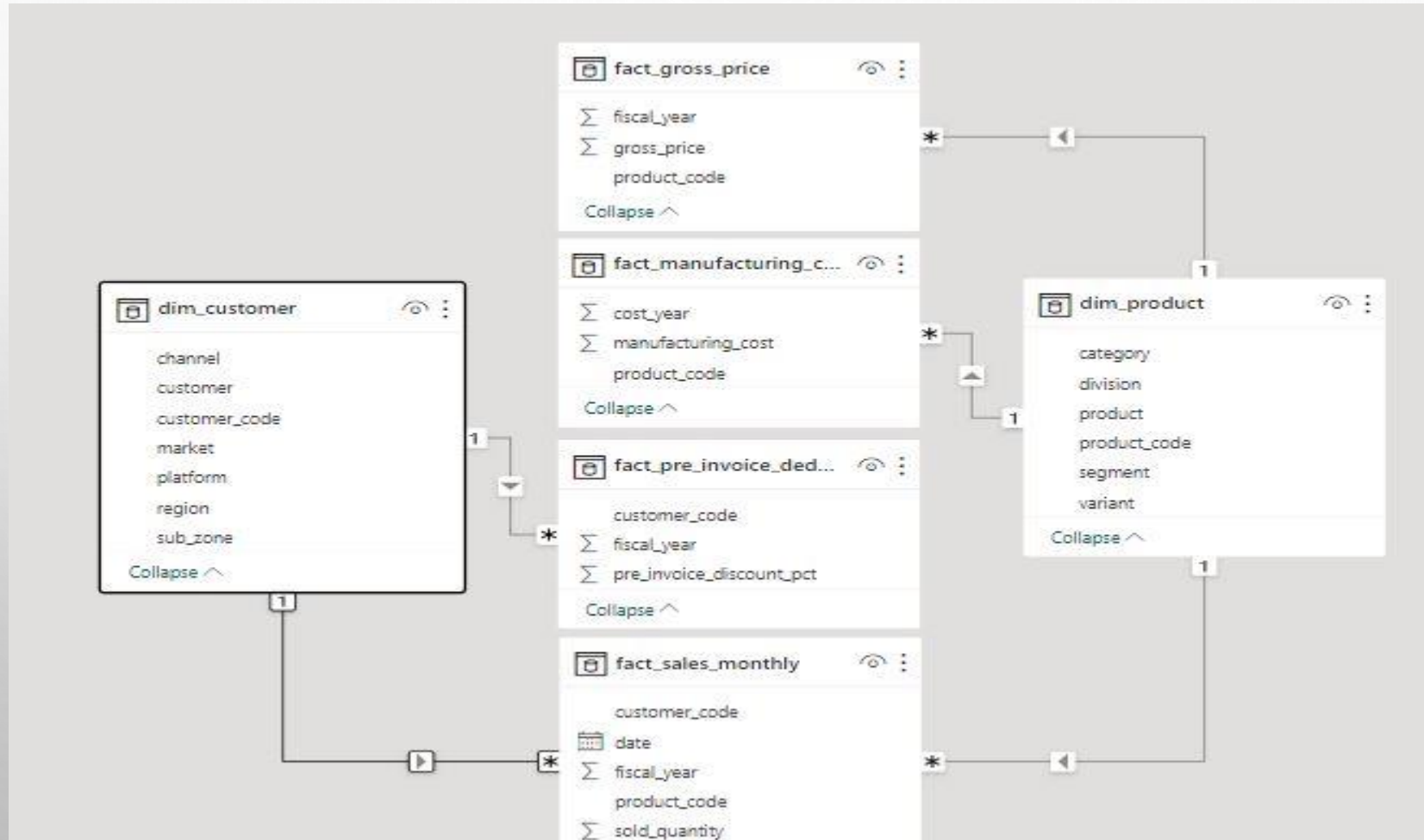**TOOLS USED** – MY SQL, POWER BI

PROBLEM STATEMENTS

Codebasics SQL Challenge

Requests:

1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

2. What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields,
   - unique_products_2020
   - unique_products_2021
   - percentage_chg

3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,
   - segment
   - product_count

4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields,
   - segment
   - product_count_2020
   - product_count_2021
   - difference

5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
   - product_code
   - product
   - manufacturing_cost

6. Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields,
   - customer_code
   - customer
   - average_discount_percentage

7. Get the complete report of the Gross sales amount for the customer **"Atliq Exclusive"** for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions.
   The final report contains these columns:
   - Month
   - Year
   - Gross sales Amount

8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
   - Quarter
   - total_sold_quantity

9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,
   - channel
   - gross_sales_mln
   - percentage

10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,
    - division
    - product_code
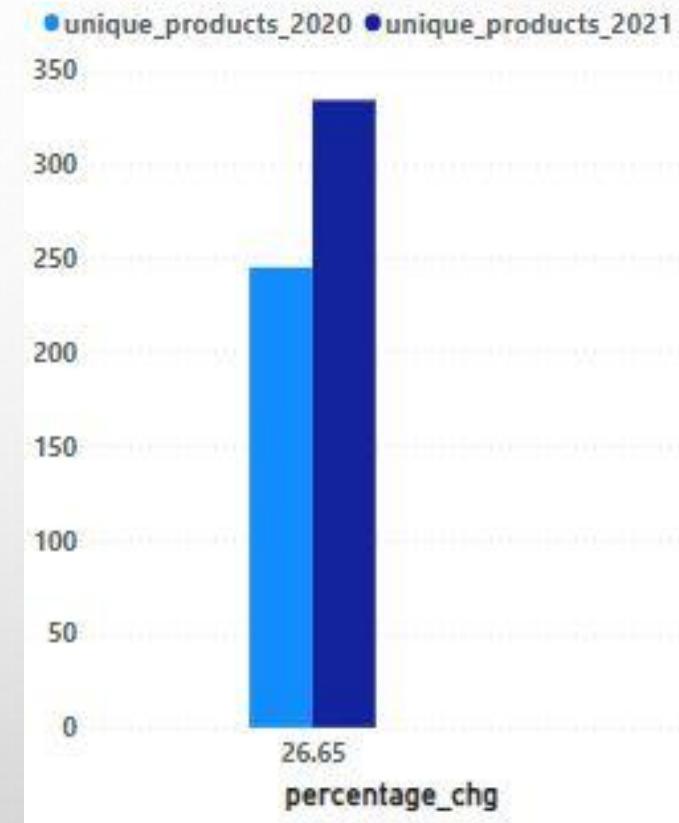
DATASET

Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

What is the percentage of unique product increase in 2021 vs. 2020?

| unique_products_2020	unique_products_2021	percentage_chg
245	334	26.65

INSIGHTS:
- The %age change suggests a potential growth or innovation in the product offerings during that time period.
- There can be a shift in the variety and diversity of products offered or introduced in 2021 as compared to the preceding year.

FISCAL YEAR- 2020 & 2021

Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

segment	product_count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

product_count by segment
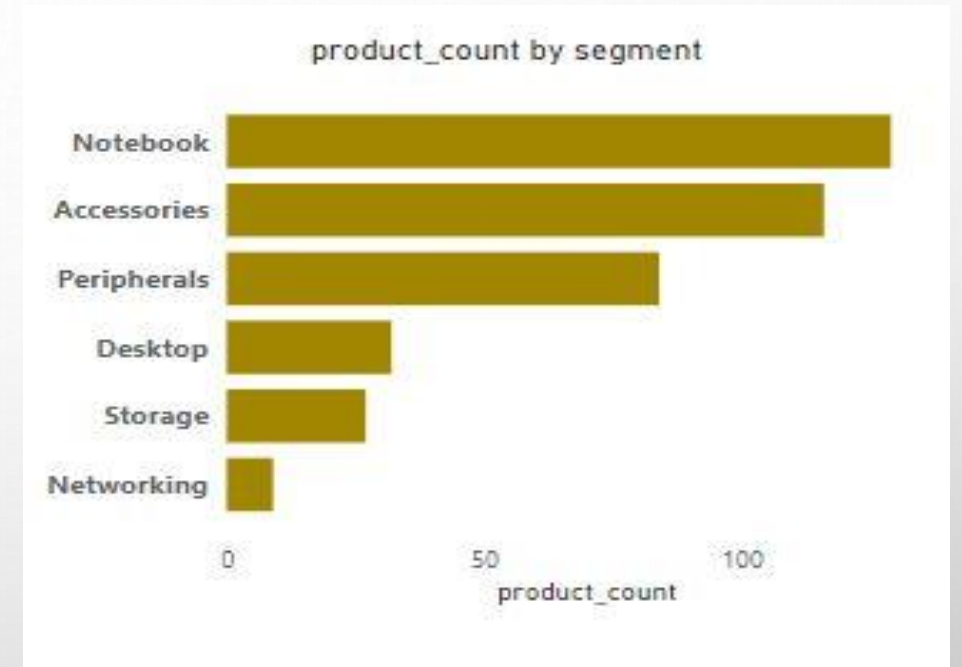
INSIGHTS:
- The allocation of product counts across segments could reflect the company's alignment with current market trends.
- Higher count in the "Notebooks" segment could indicate the growing popularity of laptops for work and personal use.

Which segment had the most increase in unique products in 2021 vs 2020?

SEGMENT	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5

INSIGHTS:
- Accessories have larger increase in 2021
- Conservative growth in networking and storage might signify a focus on stability.
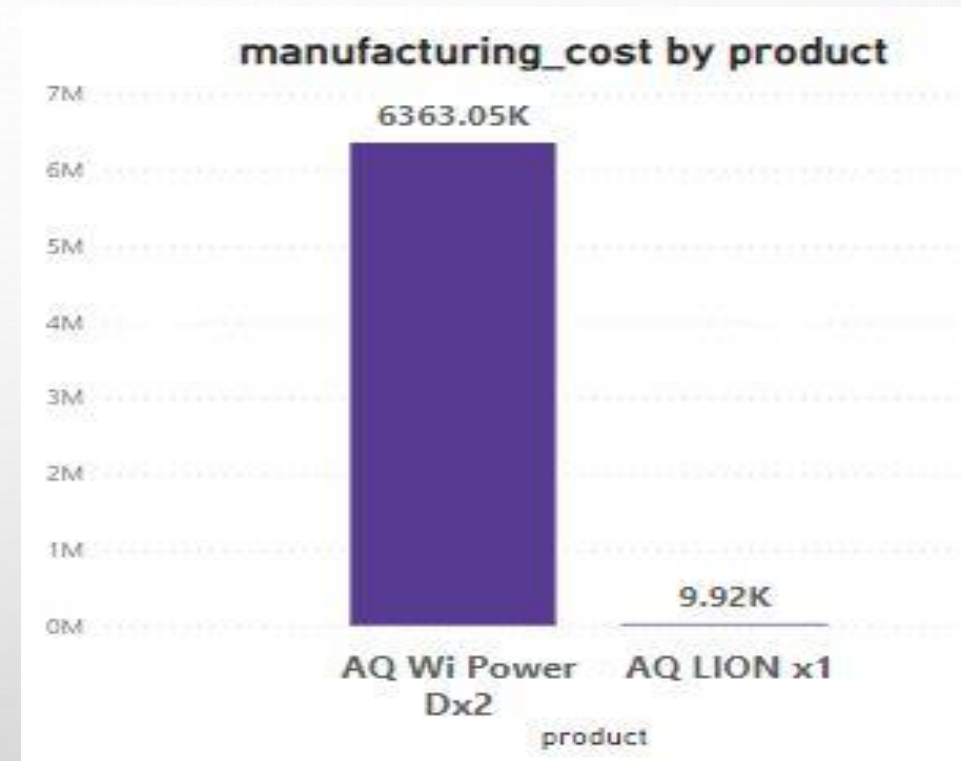

● Product_count_2021 ● Product_count_2020 ● Difference
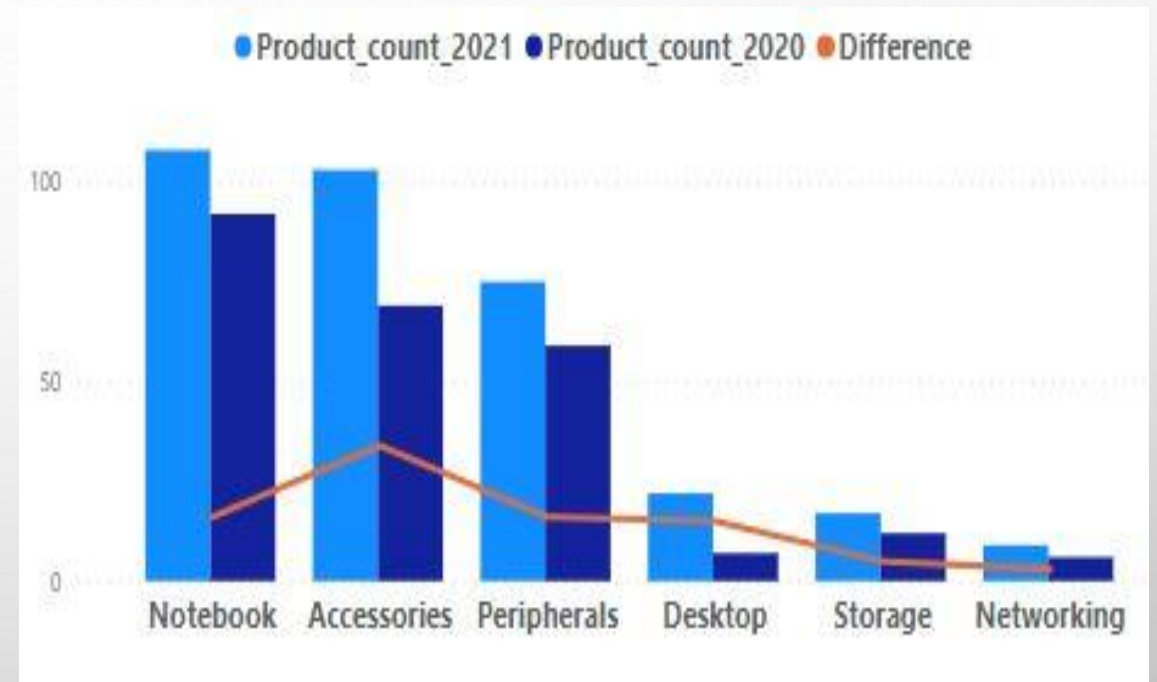
Get the products that have the highest and lowest manufacturing costs.

| product_code	product	manufacturing_cost
A7220160203	AQ Wi Power Dx2	6363052.29
A3718150104	AQ LION x1	9922.91

INSIGHTS:

- Product "AQ Wi Power Dx2" have high manufacturing cost whereas product "AQ LION X1" have least manufacturing cost.

manufacturing_cost by product

Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market.

| customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

average_discount_percentage by customer
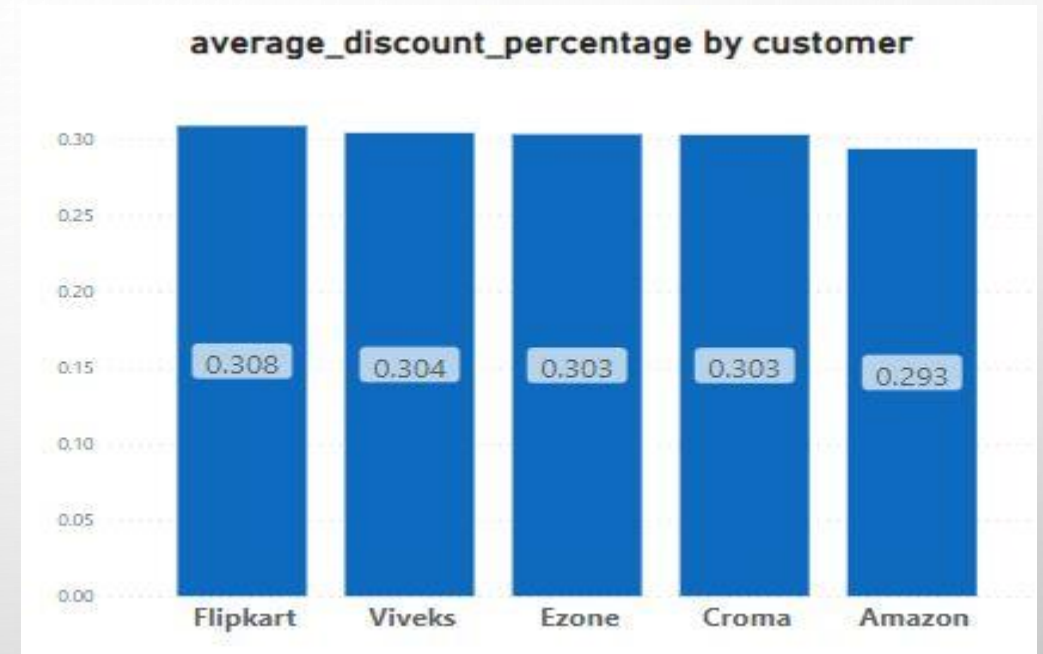
INSIGHTS:

- Flipkart having the highest average_discount_pct
- Amazon having the least average_discount_pct among top 5 customers.

Get the complete report of the gross sales amount for the customer "Atliq exclusive" for each month. This analysis helps to get an idea of low and high-performing months

| month	fiscal_year	gross_sales_amount
September(2019)	2020	9092670.34
October(2019)	2020	10378637.60
November(2019)	2020	15231894.97
December(2019)	2020	9755795.06
January(2020)	2020	9584951.94
February(2020)	2020	8083995.55
March(2020)	2020	766976.45
April(2020)	2020	800071.95
May(2020)	2020	1586964.48
June(2020)	2020	3429736.57
July(2020)	2020	5151815.40
August(2020)	2020	5638281.83
September(2020)	2021	19530271.30
October(2020)	2021	21016218.21
November(2020)	2021	32247289.79
December(2020)	2021	20409063.18
January(2021)	2021	19570701.71
February(2021)	2021	15986603.89
March(2021)	2021	19149624.92
April(2021)	2021	11483530.30
May(2021)	2021	19204309.41
June(2021)	2021	15457579.66
July(2021)	2021	19044968.82
August(2021)	2021	11324548.34

gross_sales_amount
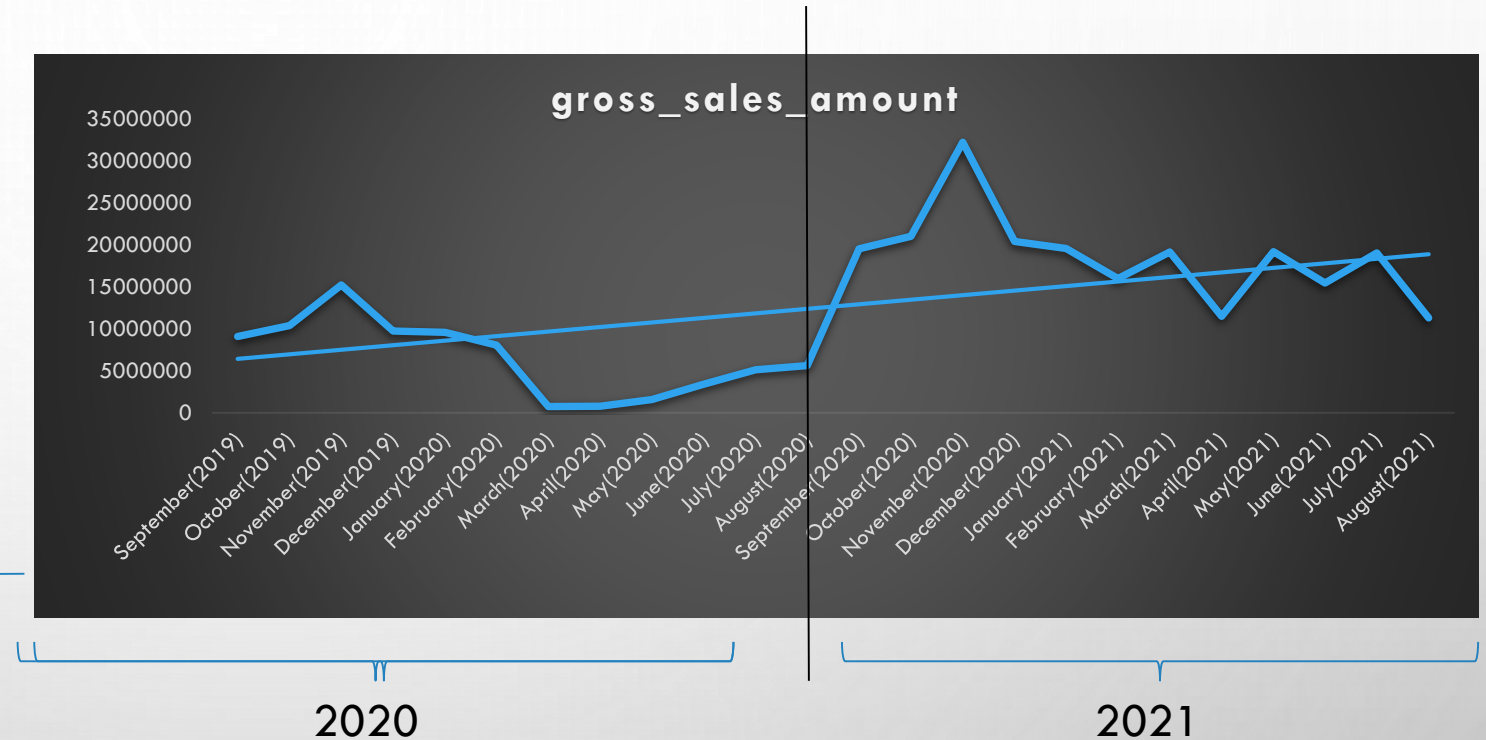
2020   2021

INSIGHTS:
- Gross Sales is increasing in the year 2021 as compare to 2020.

In which quarter of 2020, got the maximum total_sold_quantity?

quarters	month	total_sold_quantity
Q1	September	1764002
Q1	October	2190792
Q1	November	3050825
Q2	December	3184205
Q2	January	1762652
Q2	February	1702785
Q3	March	238961
Q3	April	819956
Q3	May	1016170
Q4	June	1559773
Q4	July	1692575
Q4	August	1790193
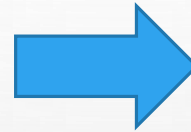
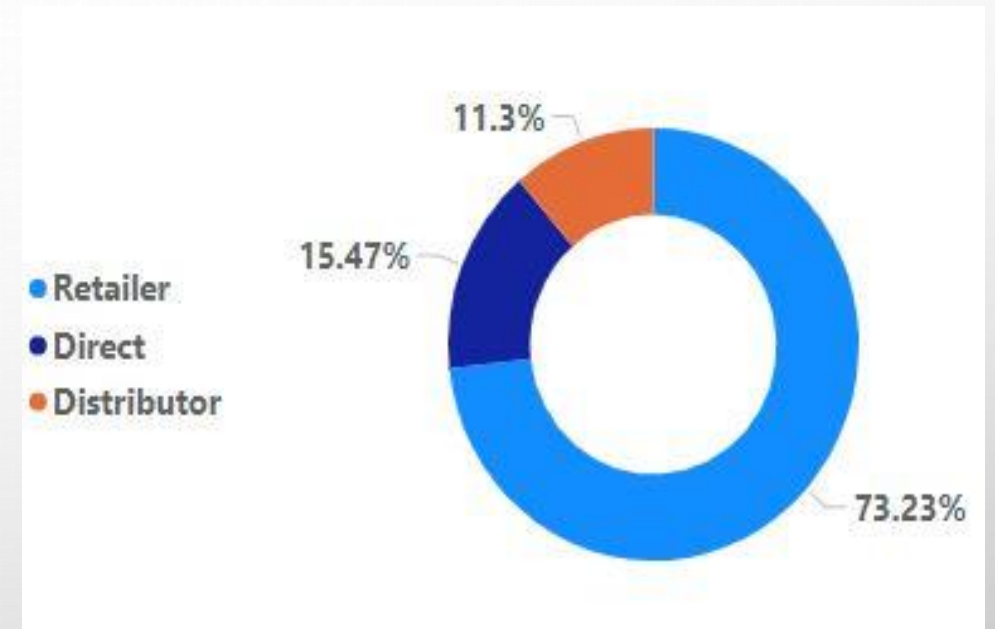| quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087
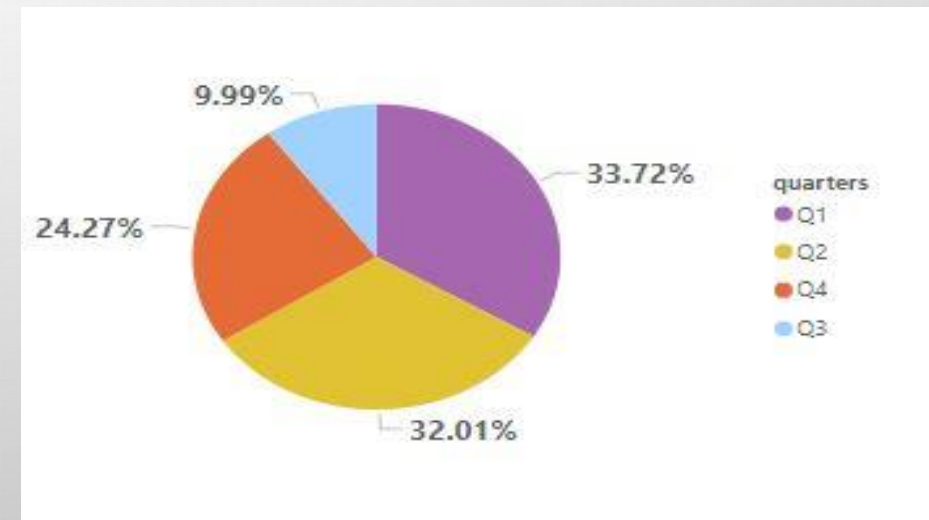
INSIGHTS:
- In Quarter 1, the highest aggregate sales volume has achieved with an overall percent of 33.72.
- While quarter 3 have the least sales volume.

Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

channel	gross_sales_mln	percentage
Distributor	188.03	11.30
Direct	257.53	15.47
Retailer	1219.08	73.23

INSIGHTS:
- Retailer channel is producing maximum gross sales of 73.23%.
- Customer Preferences & Marketing can be major factors in producing max gross sales.

Get the top 3 products in each division that have a high total_sold_quantity in the fiscal year 2021?

division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

INSIGHTS:

- Identifying the top-selling products in each division indicates which products are most popular among customers.
- N & S division producing products having highest sales volume.

KEY FINDINGS

- Unique product count

- Manufacturing cost

- Average discount percent

- Gross sales amount

- Total quantities sold

Thanks
to the
CODEBASICS TEAM!