



Consumer Goods

Ad-hoc Insights

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Context

- **Atliq Hardwares (imaginary company), is a leading computer hardware manufacturers in India and has a significant presence in various international markets.**
- **The management observed that they lack sufficient insights to make rapid and well-informed decisions based on data.**
- **Plan to grow the data analytics team by hiring junior data analysts. The Data Analytics Director, Tony Sharma, plans to conduct a SQL challenge to assess candidates and evaluate their technical and soft skills.**
- **There are 10 ad-hoc requests for which the company needs insights.**
- **The approach involves executing a SQL query to address these requests, transforming the results into visualizations, and presenting the insights to top-level management.**

Understanding the data

The screenshot displays five fact tables and one dimension table:

- gdb023 dim_product**:
 - product_code
 - category
 - division
 - product
 - segment
 - variant
- gdb023 fact_manufacturing**:
 - product_code
 - Σ cost_year
 - Σ manufacturing_cost
- gdb023 fact_sales_monthly**:
 - customer_code
 - date
 - product_code
 - Σ fiscal_year
 - Month
- gdb023 fact_gross_price**:
 - product_code
 - Σ fiscal_year
 - Σ gross_price
- gdb023 fact_pre_invoice_de...**:
 - customer_code
 - Σ fiscal_year
 - Σ pre_invoice_discount_pct

The input data consists of monthly sales data for FY 2020 and FY 2021, along with additional dimension tables that provide details about customers and products.

Tools Used :



MySQL



Power BI

Consumer Goods Ad-hoc Insights

Fiscal Year

All

Customer

All

Market

All

Region

All

Channel

All

Platform

All

Products

All

Segment

All

Division

All

Category

All

73

Products

27

Market

3

Division

14

Category

74

Customers

4

Region

6

Segment

3

Channel

245

Unique Products 2020

334

Unique Products 2021

3,711.7M

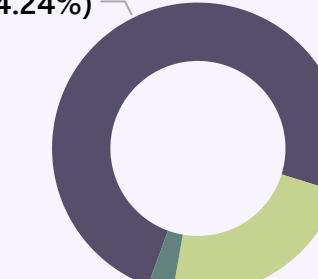
GrossSales

70.94

Quantity Sold (Million)

Total Sold Quantity by division

52661K (74.24%)



1979K (2.79%)

16297K (22.97%)

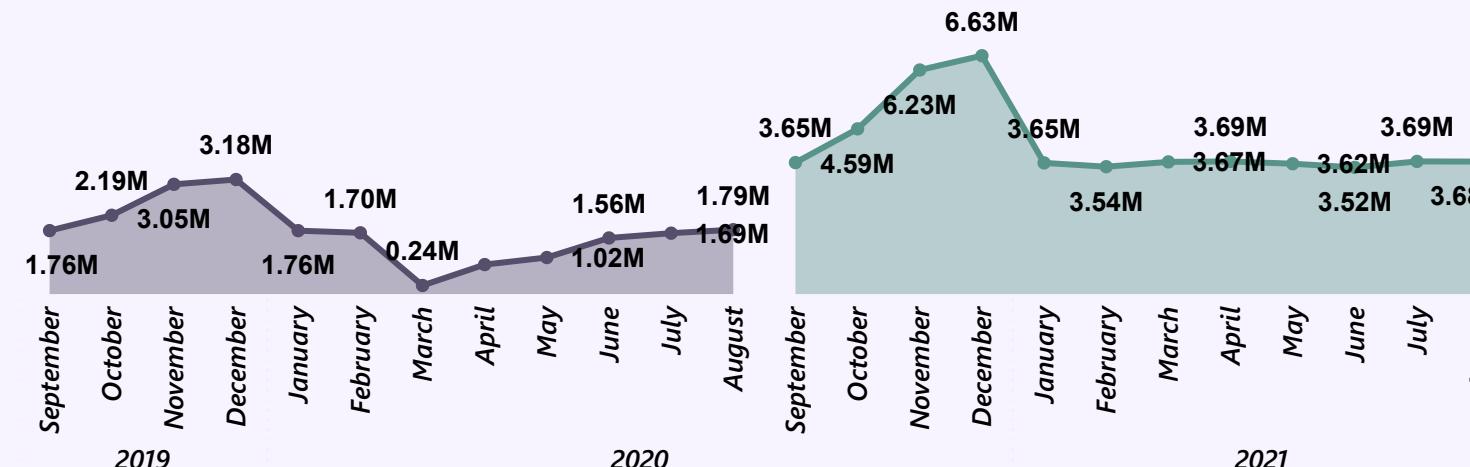
division

● *P & A*

● *N & S*

● *PC*

Total Sold Quantity



Sum of sold quantity by segment

Accessories

44527K

Storage

12053K

Peripherals

8134K

Networking

4244K

Notebook

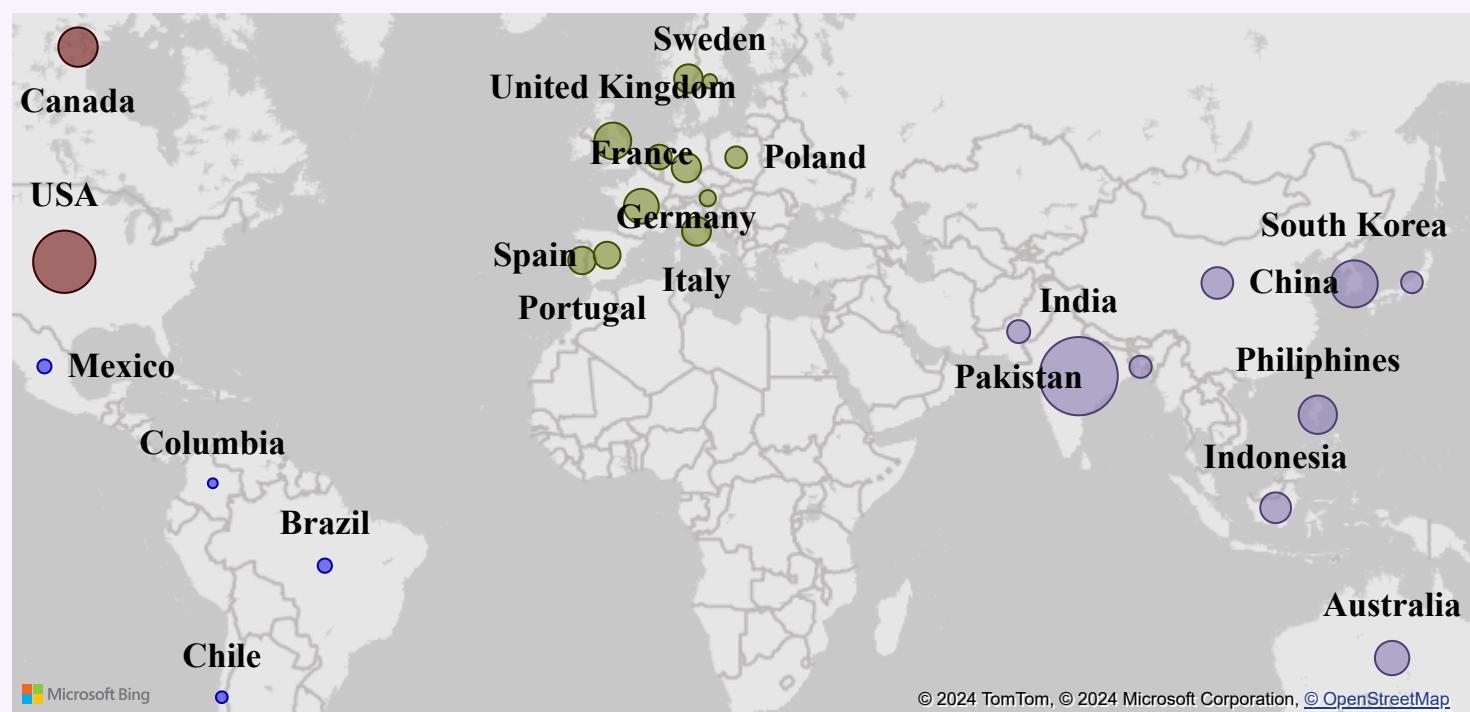
1848K

Desktop

131K

Atliq's Market

Region ● APAC ● EU ● LATAM ● NA



Division

Product
Code
Count

Quantity
Sold

Gross Sales
Million

■ P & A

200

52.66

1,795.68

⊕ Accessorie

116

44.53

991.73

⊕ Peripherals

84

8.13

803.94

■ PC

161

1.98

1,368.13

⊕ Notebook

129

1.85

1,258.63

⊕ Desktop

32

0.13

109.50

■ N & S

36

16.30

547.91

⊕ Storage

27

12.05

297.05

⊕ Networking

9

4.24

250.86

Total

397

70.94

3,711.72

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

➤ *Atliq Exclusive, operates its business in 8 markets in APAC region.*

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh



Request 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

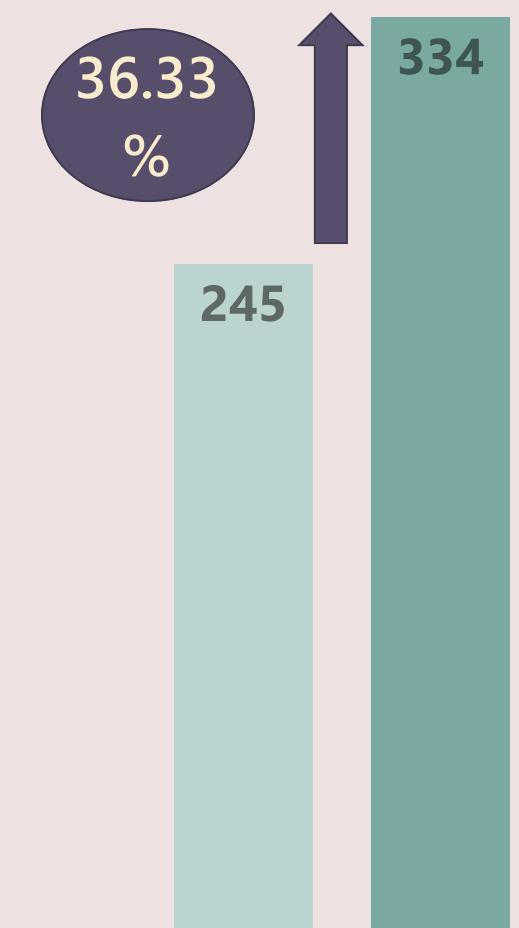
	unique_products_2020	unique_products_2021	pct_change
▶	245	334	36.33

Insights:

▶ *In FY 2020, we had 245 products, which increased to 334 in FY 2021, representing a total growth of 36.33%*

▶ *The increase in the number of products suggests that the company expanded its range to meet growing demand and better align with customer needs.*

Count of unique products

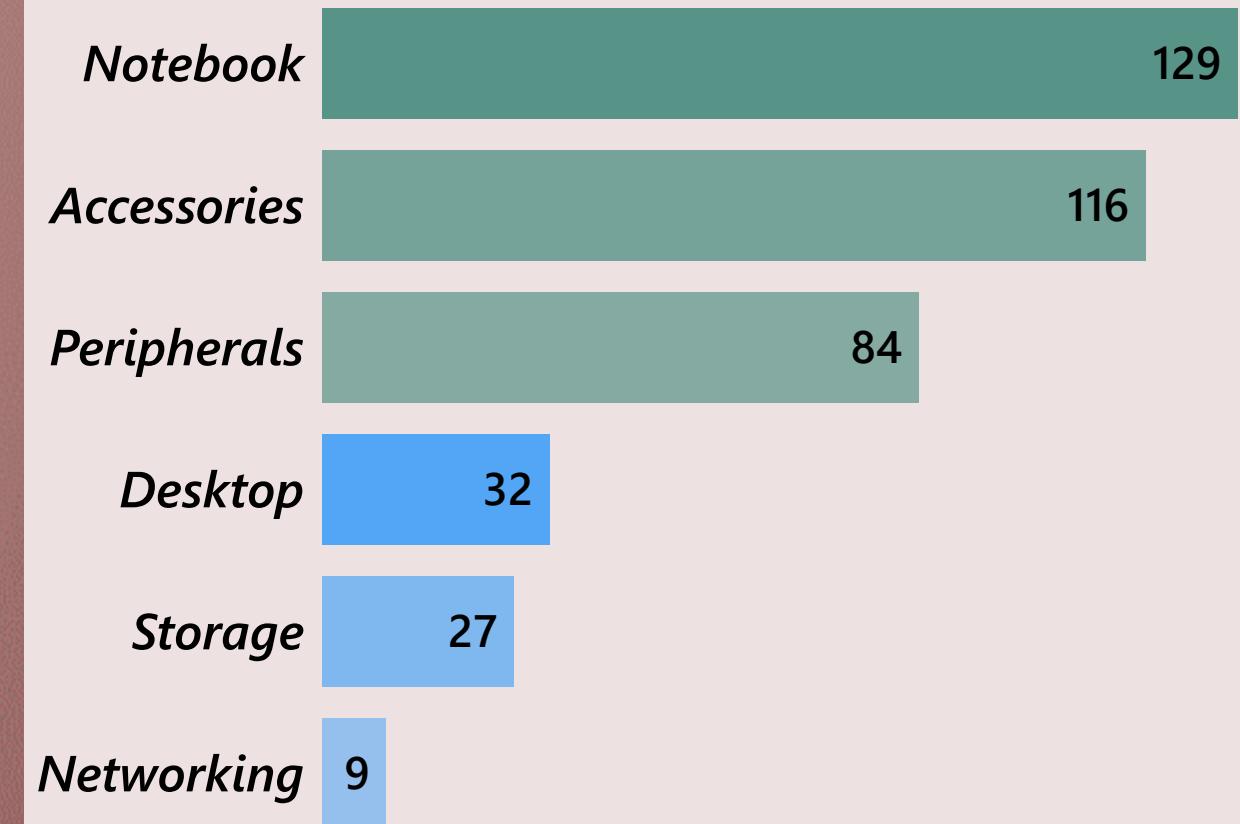


● products_2020 ● products_2021

#Request 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

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

Count of Products by segment



Insights:

- ▶ *Product range for the notebook, accessories, and peripherals segments is notably higher compared to the desktop, networking, and storage segments.*
- ▶ *This is probably due to growing consumer demand for portable and versatile products.*

Suggestions:

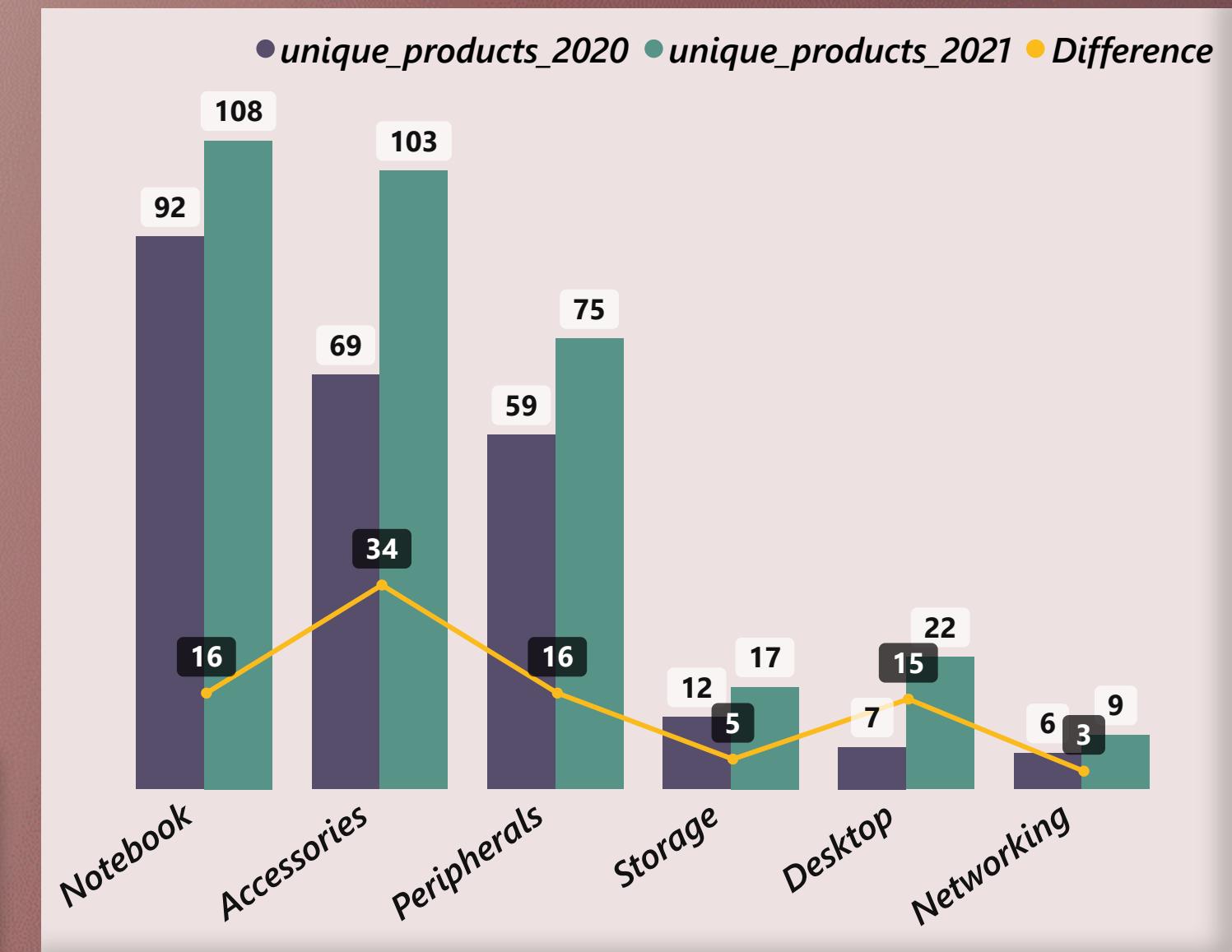
- ▶ *Expand the product range by introducing new technologies and features*
- ▶ *Conduct Market research*

Request 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

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

Insights:

➤ **Accessories segment has the largest increase in production compare to storage and networking segments.**



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

240.54

High MC



Personal Desktop

A6120110206
AQ HOME Allin1 Gen 2
(Variant: Plus 3)



0.89

Low MC

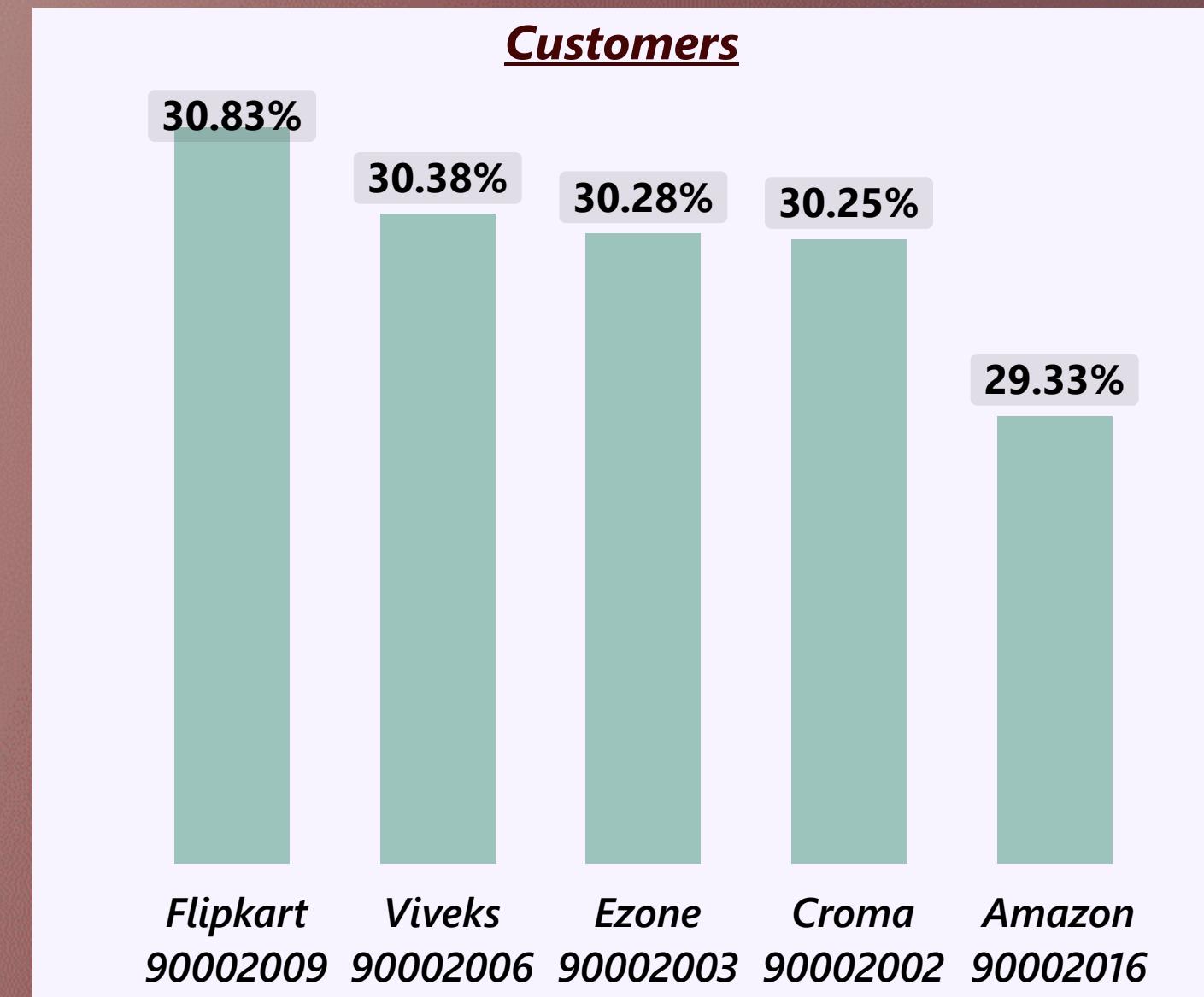
Mouse

A2118150101
AQ Master wired x1 Ms
(Variant: Standard 1)

product_code	product	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920

Request 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

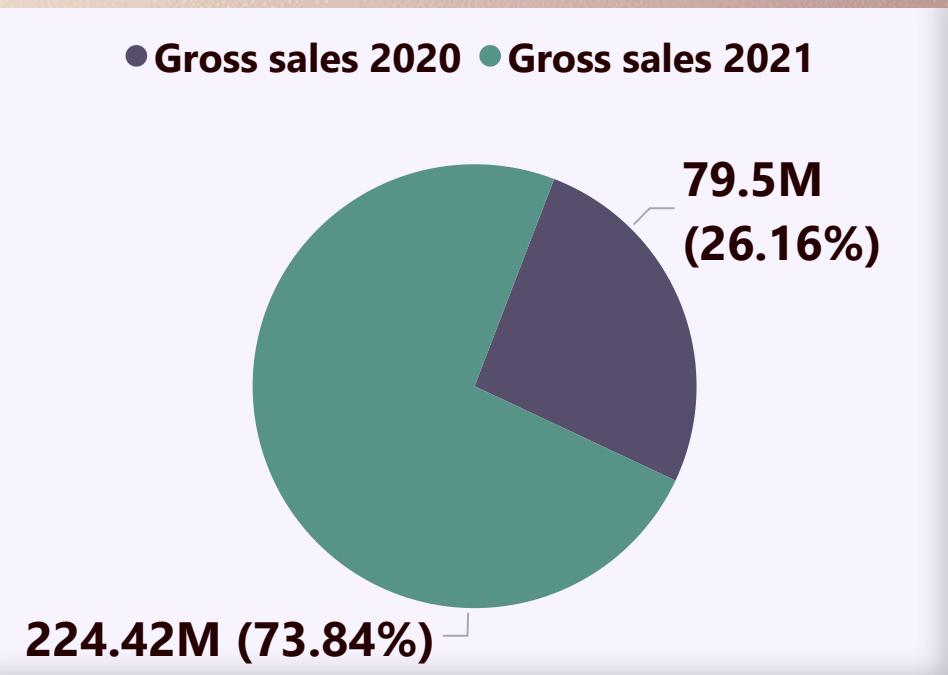
customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933



Insights:

- **The highest average pre-invoice discount was given to Flipkart and lowest pre-invoice discount given to Amazon among the top 5 customers in Indian Market.**

Request 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.

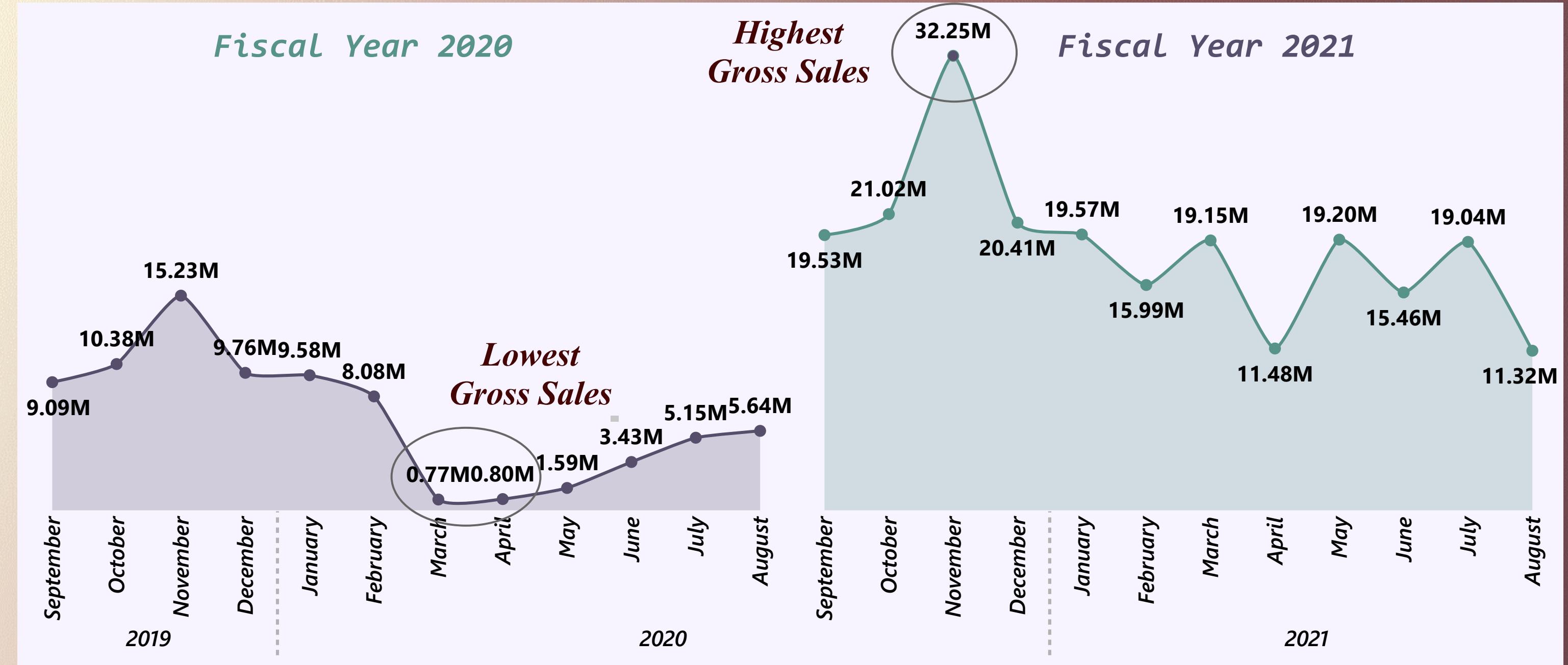


Insights:

- **March 2020 recorded the lowest gross sales likely due to seasonal trends, the onset of the COVID-19 pandemic, and end-of-fiscal-year budget constraints.**
- **Among the both fiscal years , November 2020 has the highest gross sales likely due to holiday shopping, Black Friday and Cyber Monday events, and end-of-year budget spending.**
- **FY 2021 recorded the highest overall gross sales of about 73.84 %**

month	fiscal_year	gross_sales
September-2019	2020	9092670.3392
October-2019	2020	10378637.5961
November-2019	2020	15231894.9669
December-2019	2020	9755795.0577
January-2020	2020	9584951.9393
February-2020	2020	8083995.5479
March-2020	2020	766976.4531
April-2020	2020	800071.9543
May-2020	2020	1586964.4768
June-2020	2020	3429736.5712
July-2020	2020	5151815.4020
August-2020	2020	5638281.8287
September-2020	2021	19530271.3028
October-2020	2021	21016218.2095
November-2020	2021	32247289.7946
December-2020	2021	20409063.1769
January-2021	2021	19570701.7102
February-2021	2021	15986603.8883
March-2021	2021	19149624.9239
April-2021	2021	11483530.3032
May-2021	2021	19204309.4095
June-2021	2021	15457579.6626
July-2021	2021	19044968.8164
August-2021	2021	11324548.3409

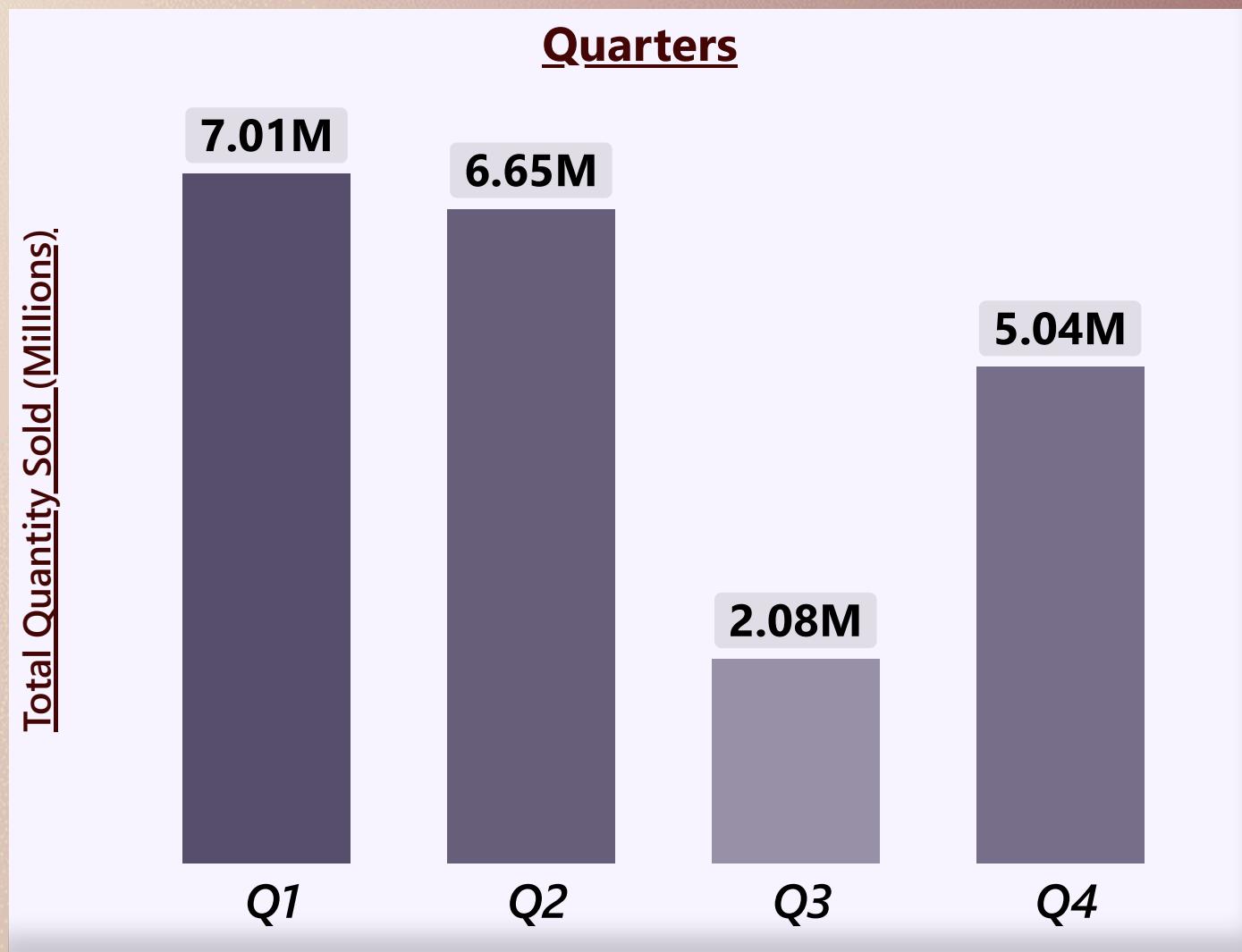
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Request 8 : In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity: Quarter, total_sold_quantity.

Insights:

- **Quarter 1 experienced the highest product sales volume, whereas Quarter 3 recorded the lowest.**



quarter	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

Month	Quarter	Total Quantity Sold(M)
September	Q1	1.76
October	Q1	2.19
November	Q1	3.05
January	Q2	1.76
February	Q2	1.70
December	Q2	3.18
March	Q3	0.24
April	Q3	0.82
May	Q3	1.02
June	Q4	1.56
July	Q4	1.69
August	Q4	1.79

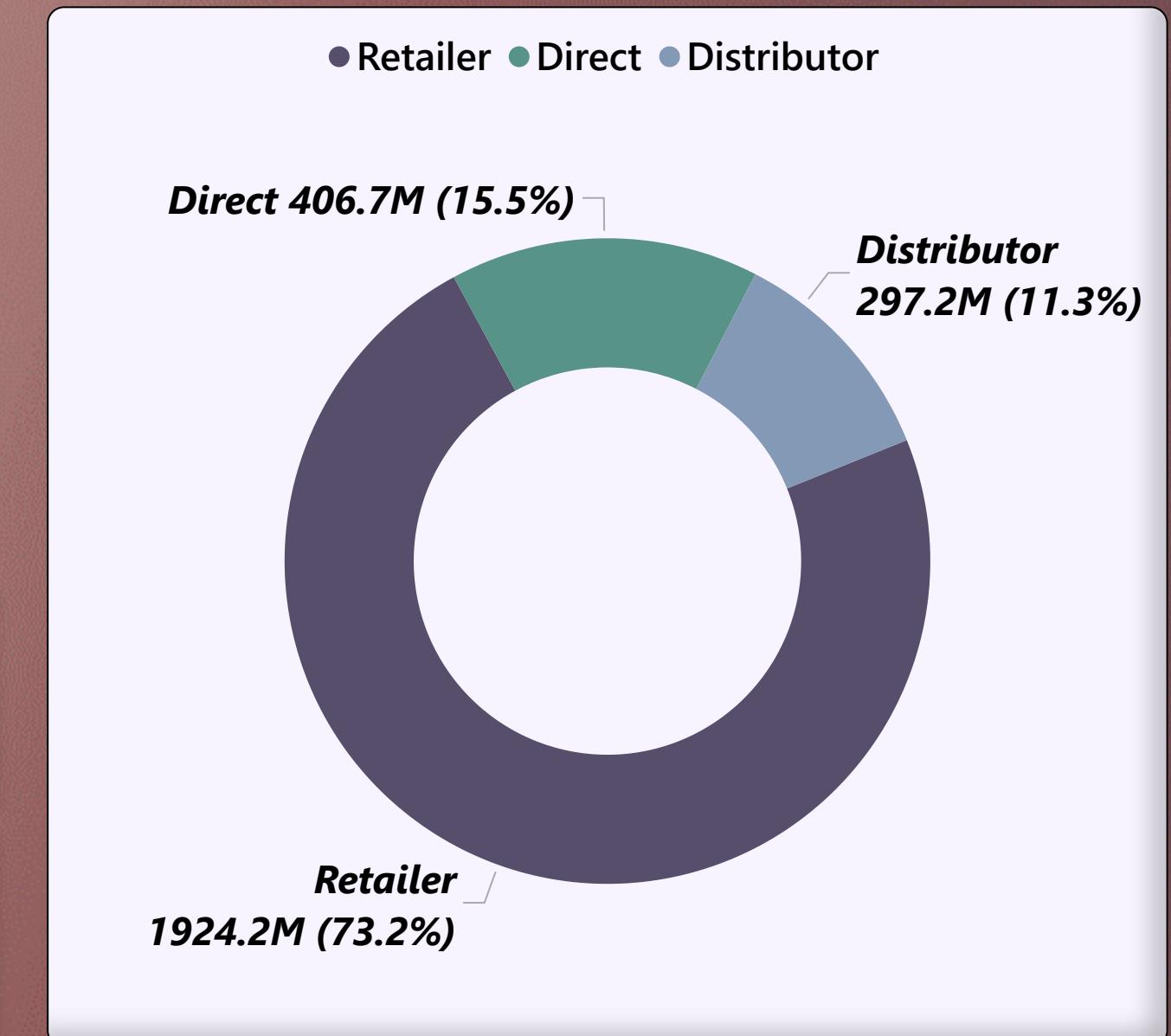
Request 9 : Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields: channel, gross_sales_mln,percentage.

channel	gross_sales_mln	percentage_contribution
Retailer	1924.17	73.22%
Direct	406.69	15.48%
Distributor	297.18	11.31%

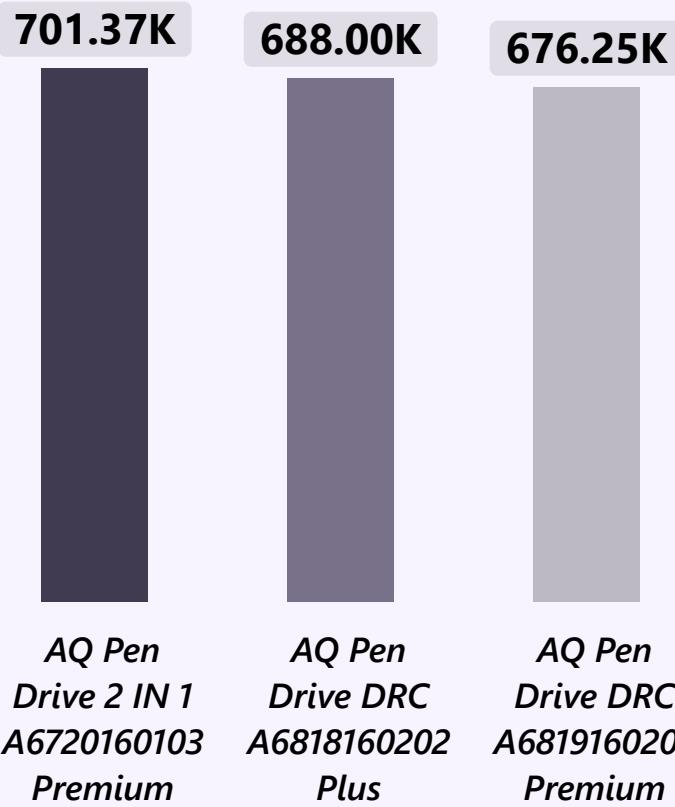
Insights:

➤ **Retailer channel has the highest contribution in bringing more gross sales.**

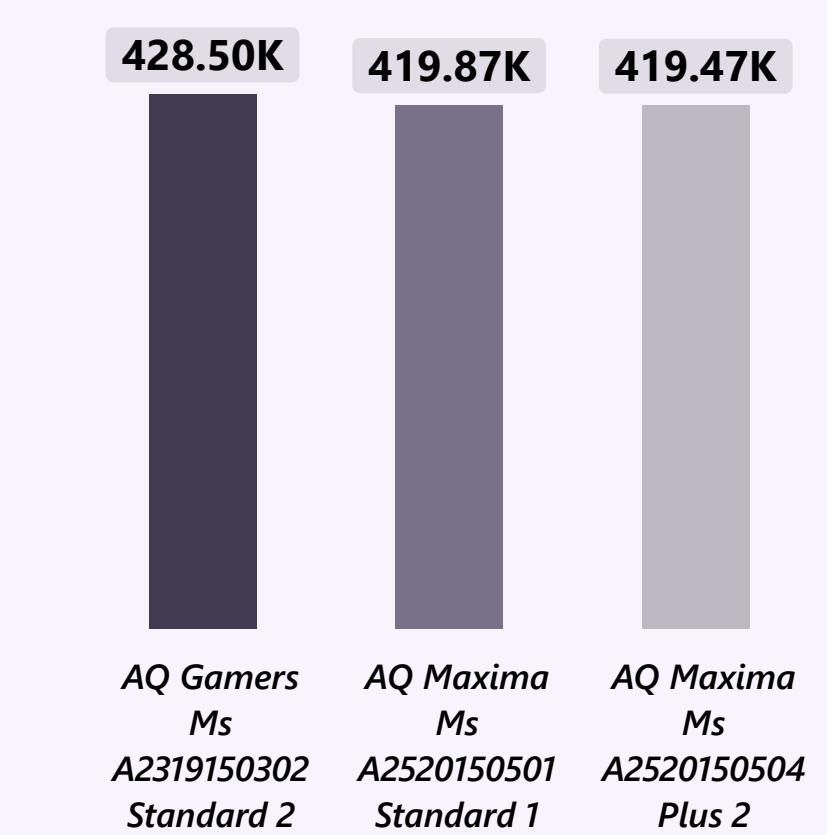
➤ **Direct and Distributor Channels contributes very less in overall gross sales.**



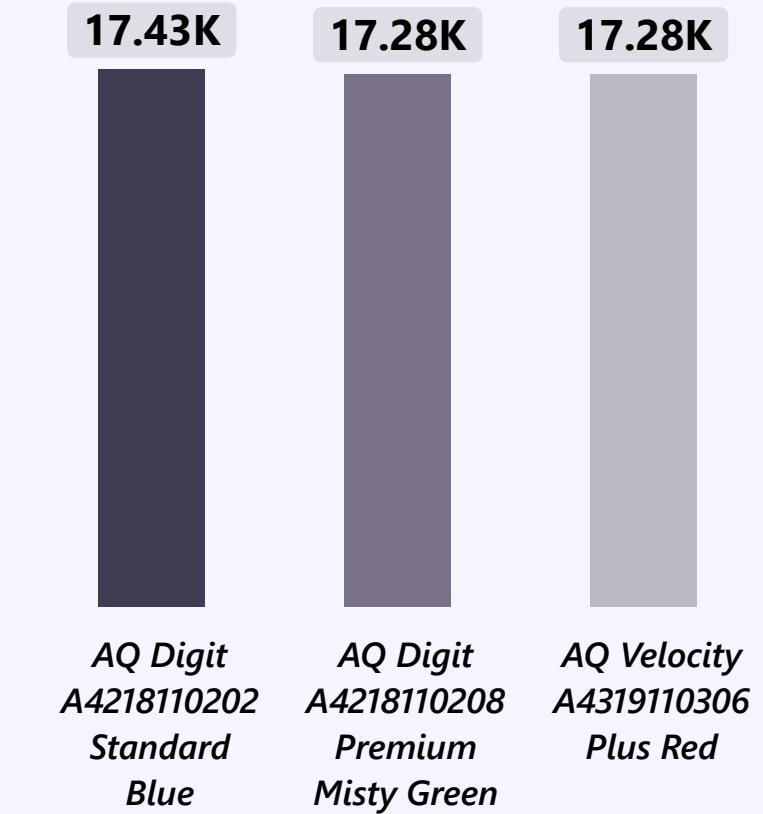
Request 10 : Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields: division,product_code, product,total_sold_quantity, rank_order



Division: N&S



Division: P&A



Division: PC

division	product_code	product	total_sold_quantity	rnk
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 Standard 2	428498	1
P & A	A2520150501	AQ Maxima Ms Standard 1	419865	2
P & A	A2520150504	AQ Maxima Ms Plus 2	419471	3
PC	A4218110202	AQ Digit Standard Blue	17434	1
PC	A4319110306	AQ Velocity Plus Red	17280	2
PC	A4218110208	AQ Digit Premium Misty Green	17275	3

THANK YOU !