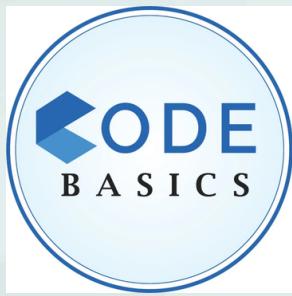


ATLIQ HARDWARE



CONSUMER GOOS AD-HOC ANALYSIS

PRESENTED BY ANISH CHAKRAVORTY



AGENDA

Consumer Goods Ad-hoc analysis



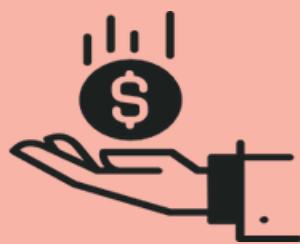
Objective



Problem Statement



Dataset Overview



Ad-hoc requests



Objective

Atliq Hardware (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too. specializes in selling computers and accessories across regions spanning APAC, LATAM, NA, and EU.

Problem Statement

AtliQ Hardware's management has identified a gap in actionable insights, which is hindering their ability to make quick and data-informed decisions. To address this, they are planning to expand their data analytics team by hiring talented junior data analysts.

Tony Sharma, the Director of Data Analytics, aims to find candidates with a strong combination of technical expertise and soft skills. To achieve this, he has designed an SQL challenge to evaluate the problem-solving abilities and efficiency of potential candidates.

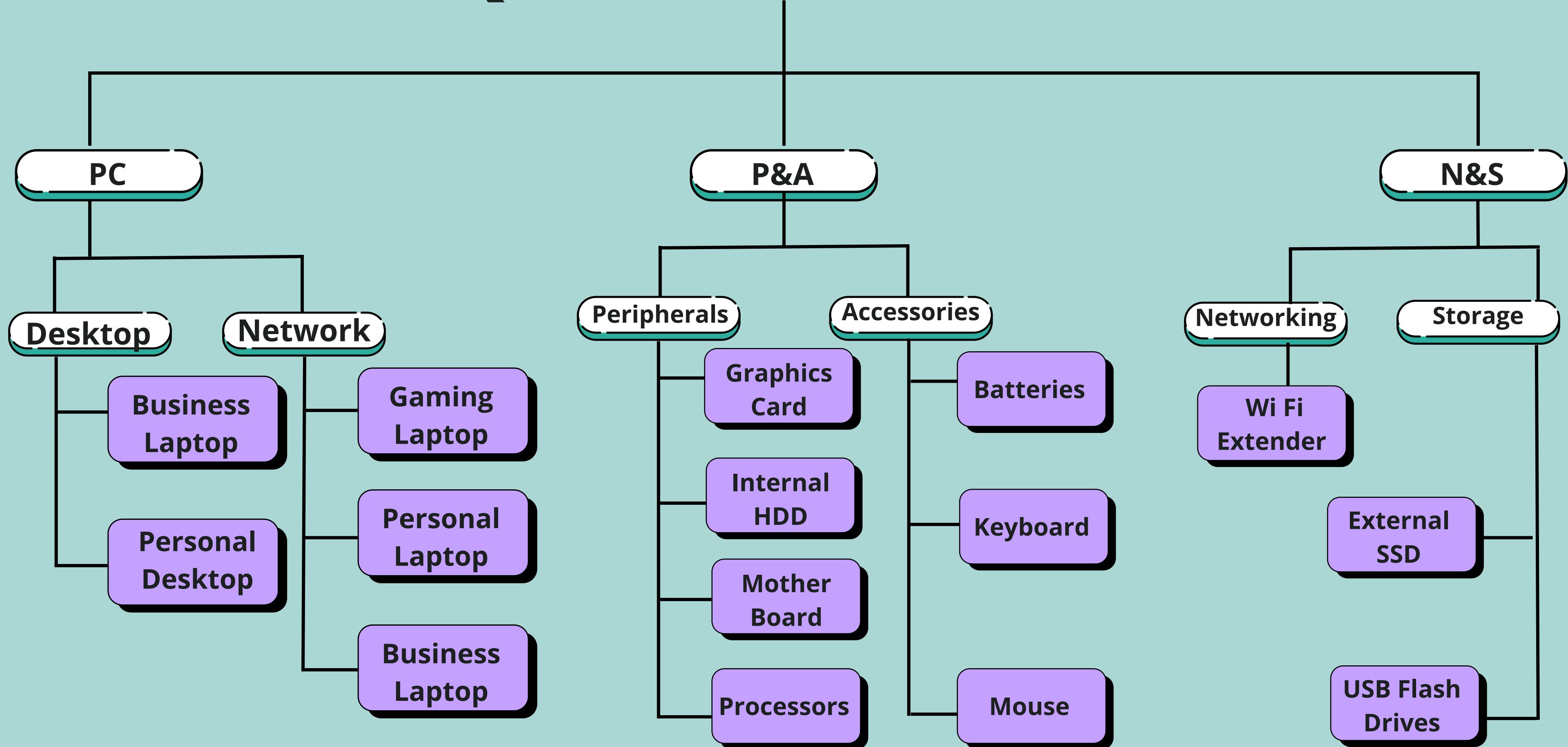
My Objective: To excel in the SQL challenge by writing optimized and effective queries for the given ad-hoc requests, showcasing my technical proficiency and logical thinking. Success in this challenge will enable me to secure a place on the data analytics team at AtliQ Hardware.



ATLIQ'S BUSINESS MODEL



AtliQ's Product Divisions



ATLIQ's DATA MODEL

dim_customer: contains customer related data

dim_product: contains product related data

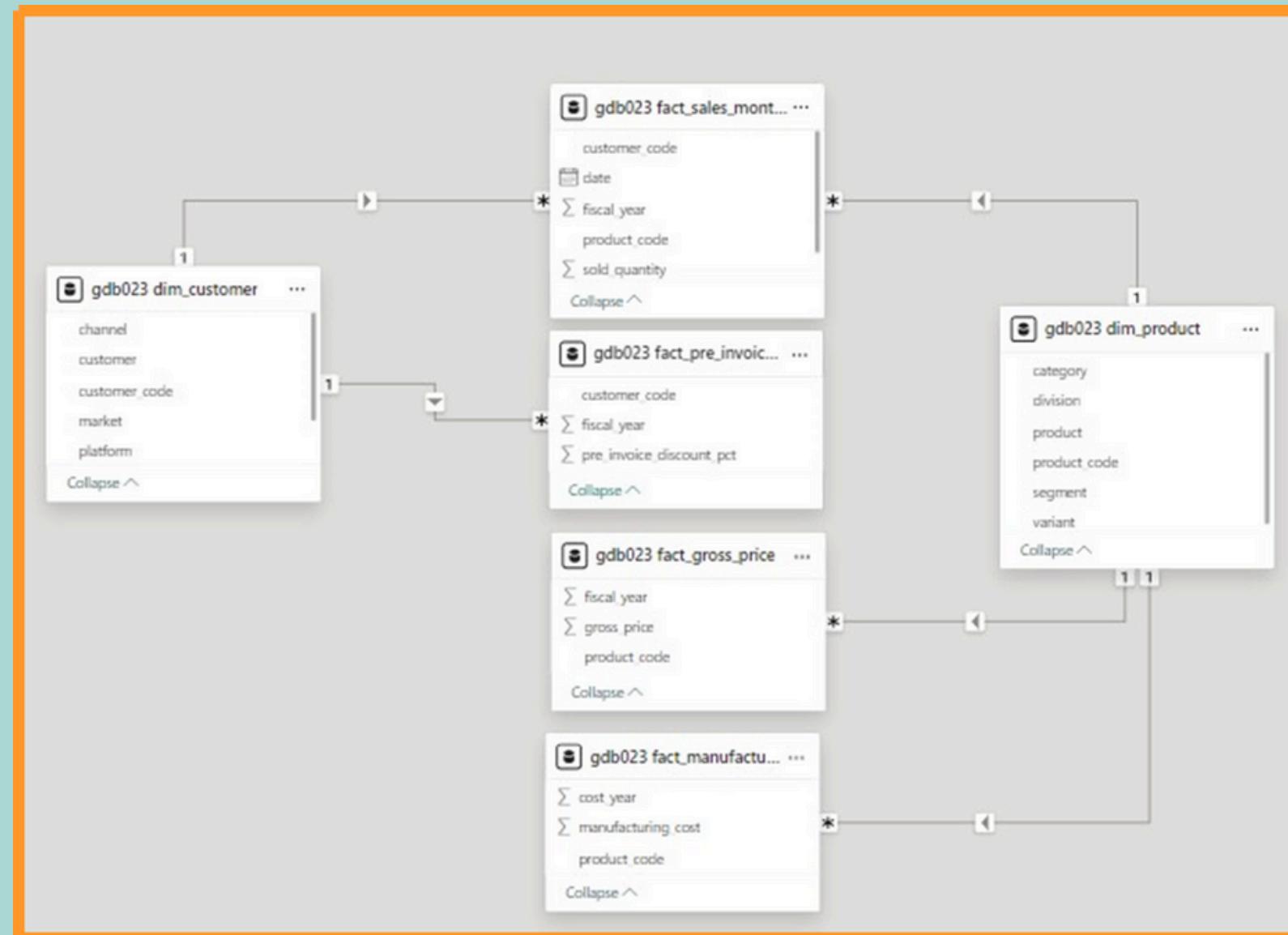
fact_gross_price: contains gross price information for each product

fact_manufacturing_cost: contains the production cost of each product

fact_preinvoice_deductions: contains preinvoice deductions information for each product

fact_sales_monthly: contains monthly sales data for each product

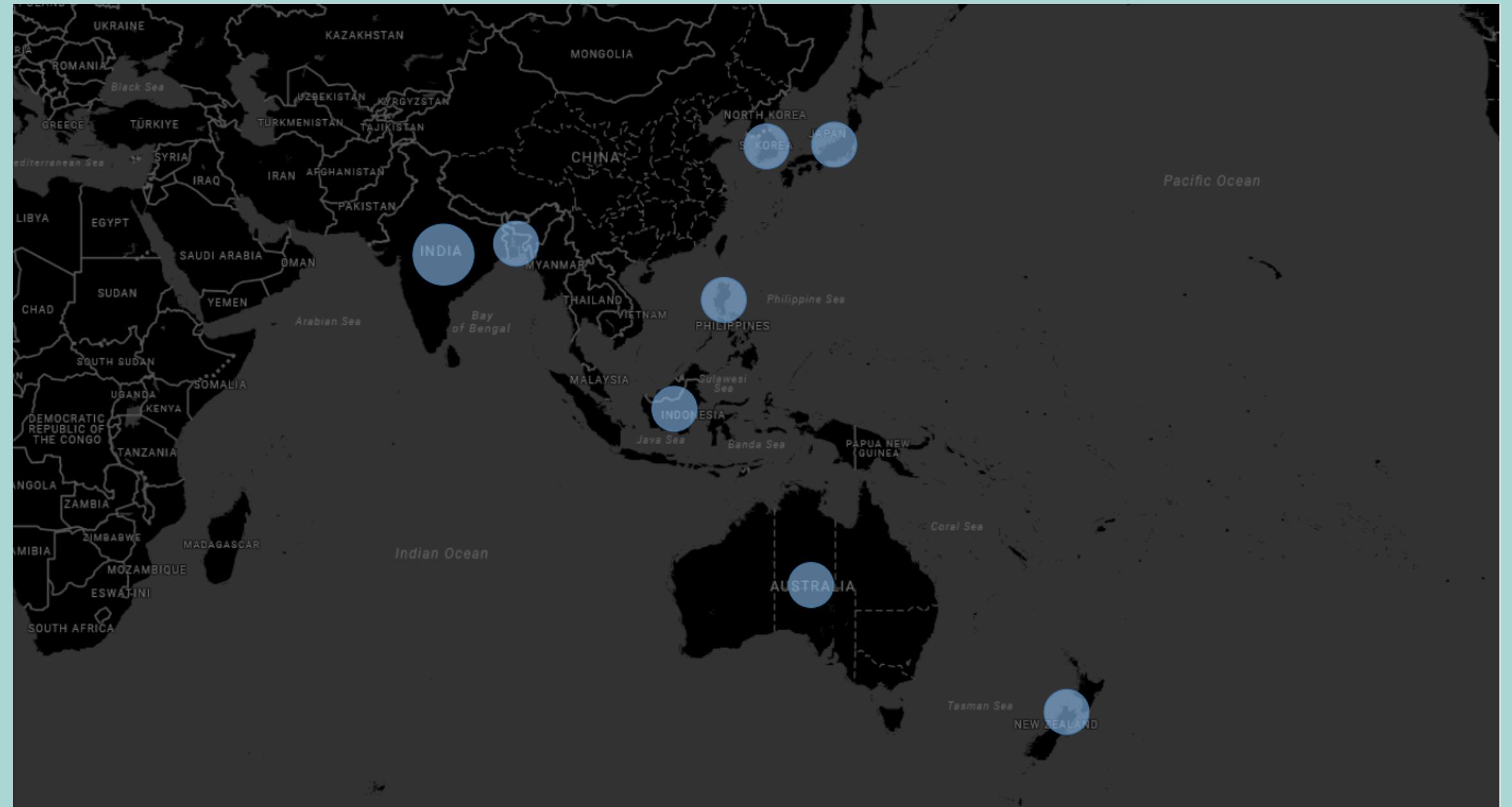
Ad-Hoc Requests and Modeling



- 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? The final output contains these fields,
unique_products_2020
unique_products_2021
percentage_chg
- 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
- 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
- Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
product_code
product
manufacturing_cost
- 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
- 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
- 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
- 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
- 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

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

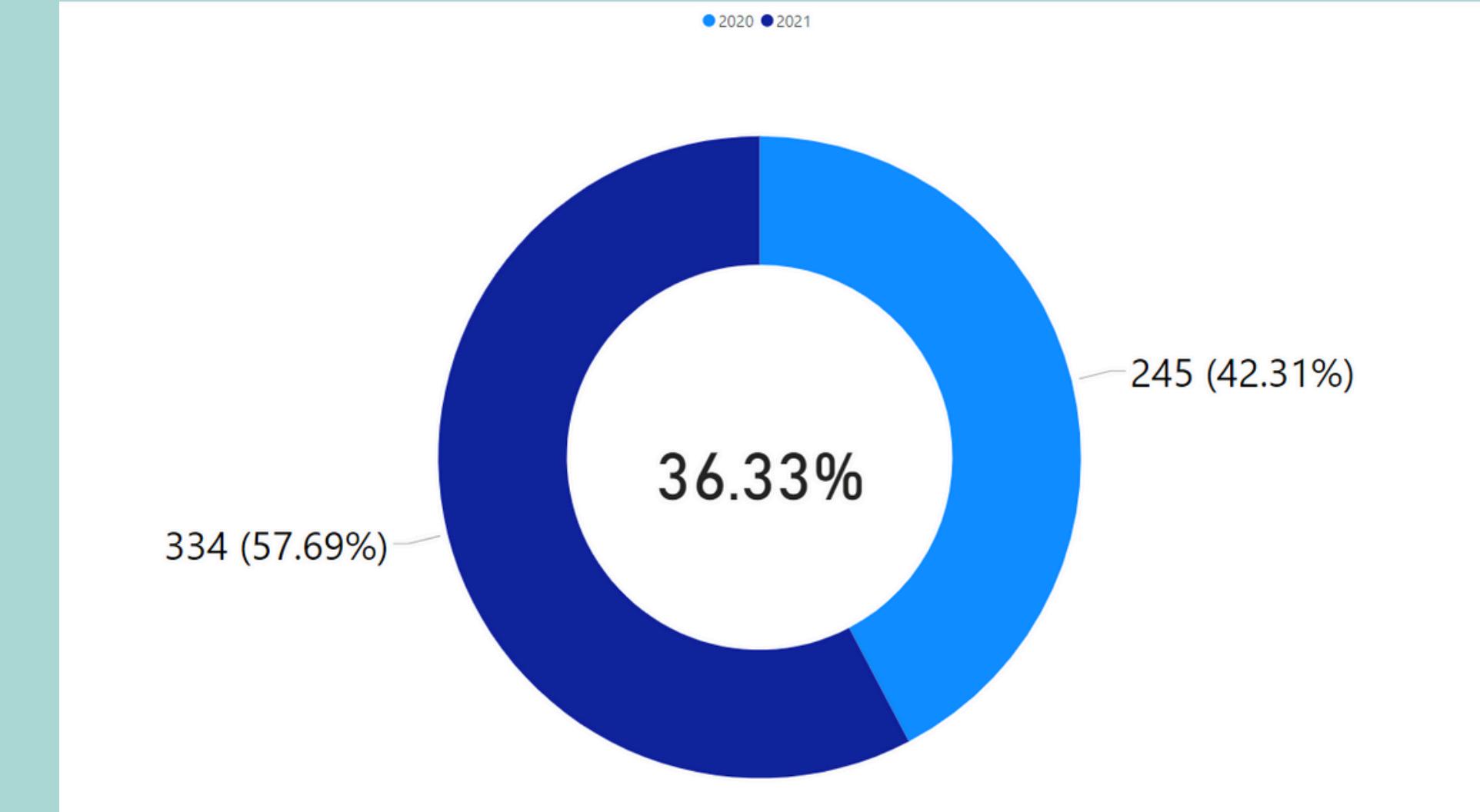
MARKET
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh



Insight: AtliQ Exclusive has established a strong market presence across eightcountries 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

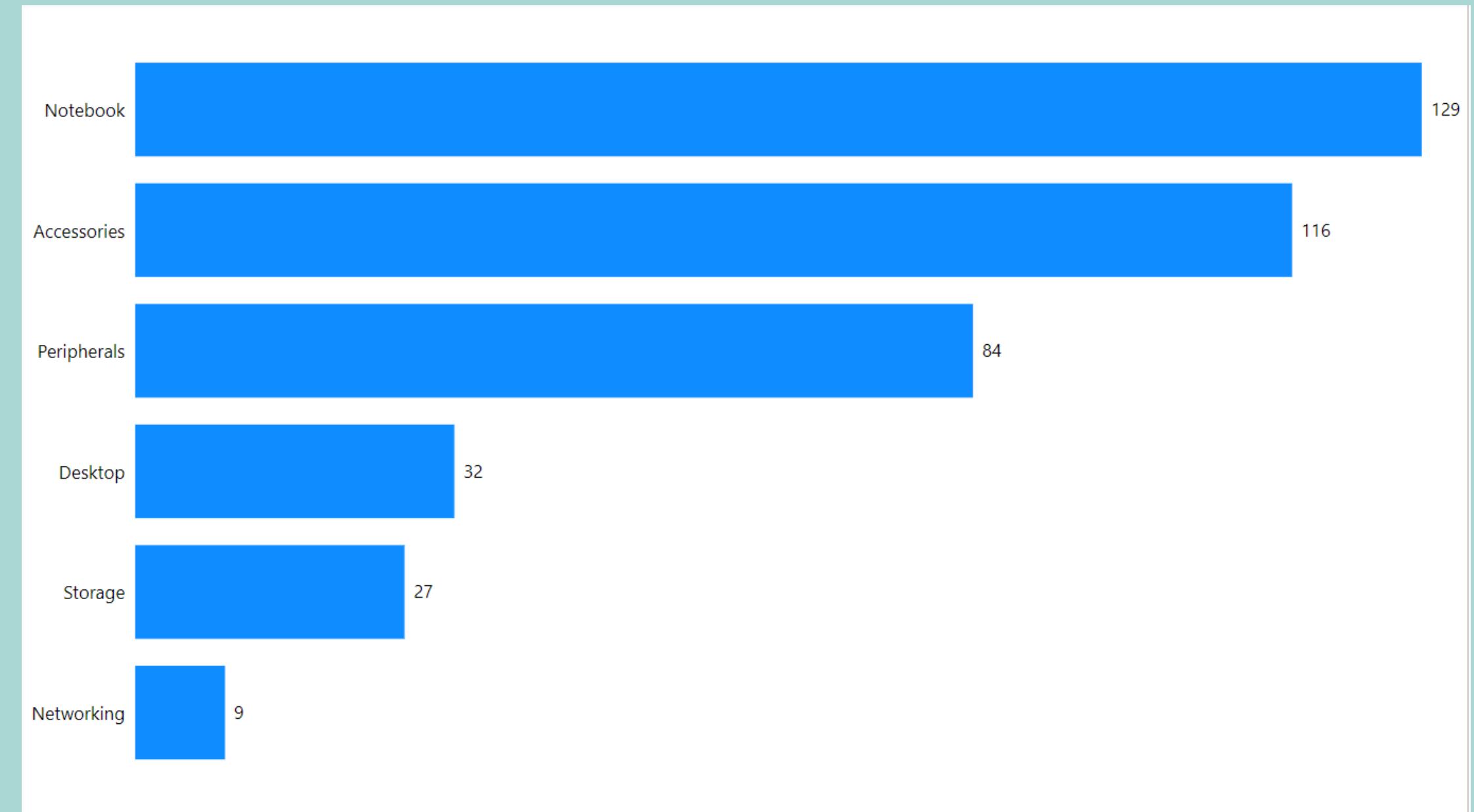
2020_UNIQUE_PRODUCTS	2021_UNIQUE_PRODUCTS	PCT_CHG
245	334	36.33%



Insight: The Increase was 36.33%, So we can say that the demand and production both increased in the Fiscal Year 2021

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

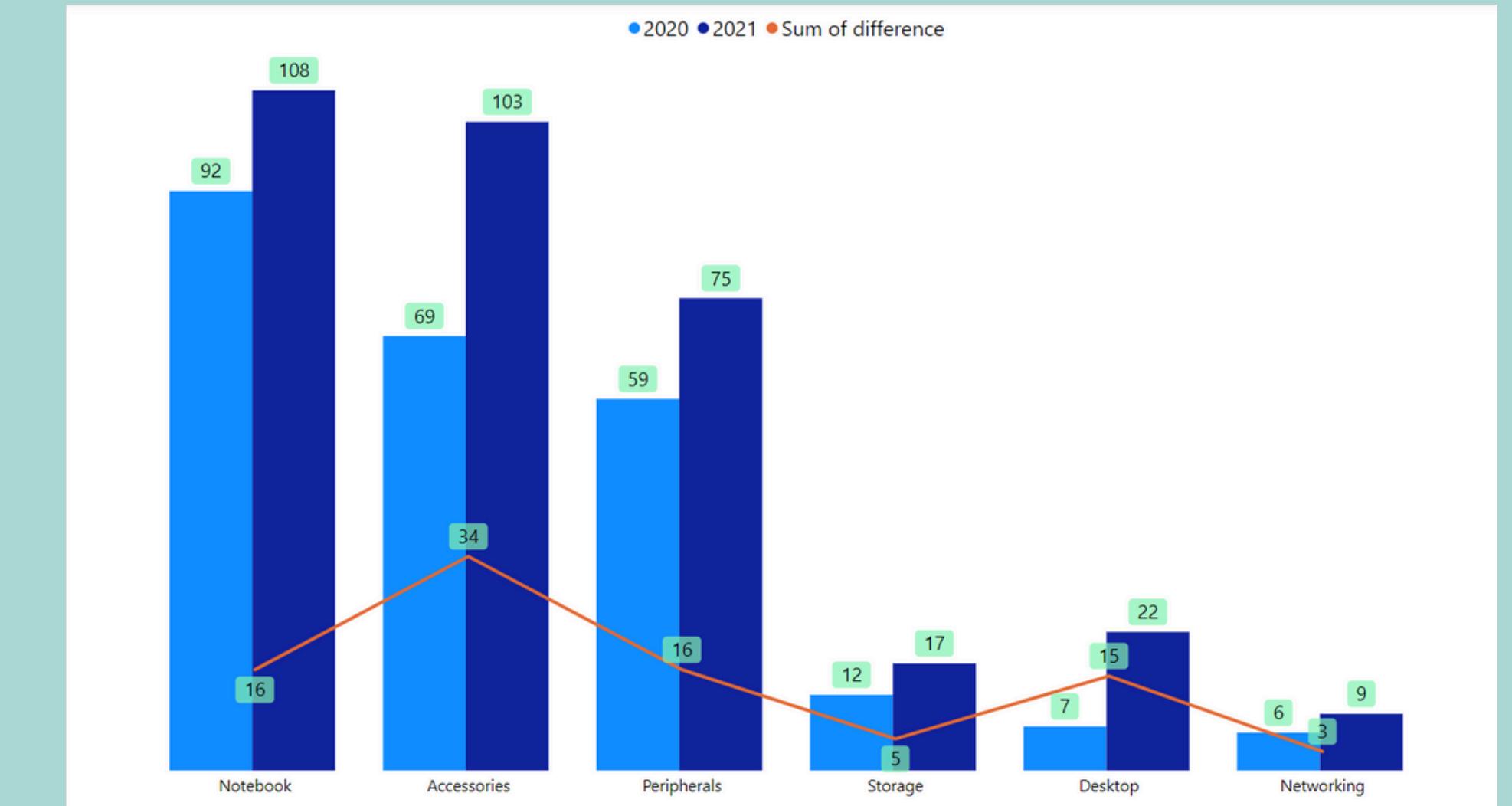
SEGMENT	PRODUCT_CNT
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9



Insight: AtliQ excels in the Notebooks, Accessories, and Peripherals segment, which makes up Product count like 129, 116 & 84 which makes up an impressive 82.87%. Meanwhile, Desktops, Storage, and Networking contribute a smallerportion, accounting for just 17.13% of AtliQ's overall product range.

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_CNT_FOR_20	PRODUCT_CNT_FOR_21	DIFF
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

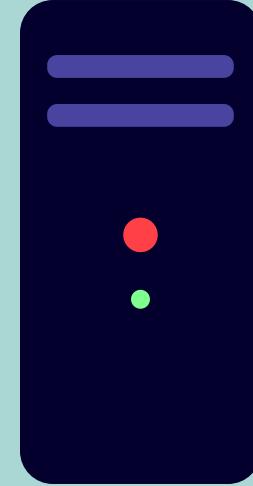
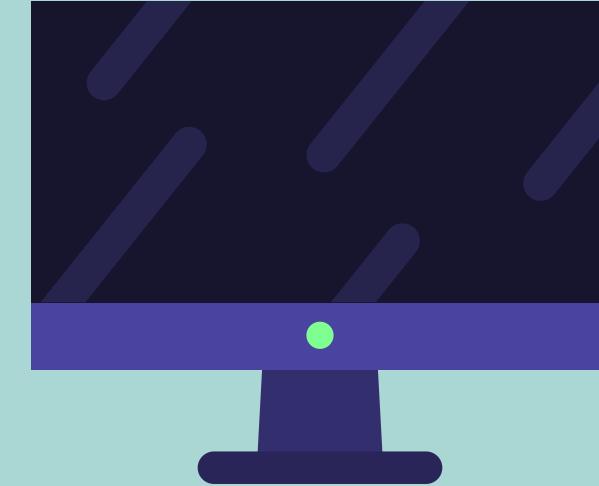


Insight: Production and Demand both increased for the Segments of Accessories and Notebook while the Storage and Networking didn't show any effective growth.

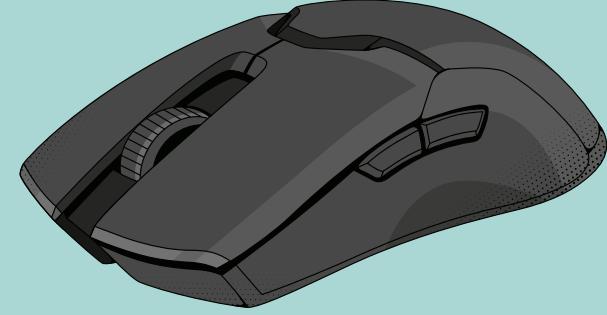
5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, **product_code**, **product**, **manufacturing_cost**

PRODUCT_CODE	PRODUCT	CATEGORY	MANUFACTURING_COST
A6120110206	AQ HOME Allin1 Gen 2	Personal Desktop	240.5364
A2118150101	AQ Master wired x1 Ms	Mouse	0.8920

\$240.54



\$0.89



Insight: Personal Desktop: AQ Home Allin1 Gen2 (Variant: Plus3) has the highest manufacturing cost while the AQMaster wired x1 Ms(Variant: Standard1) has the lowest manufacturing cost.

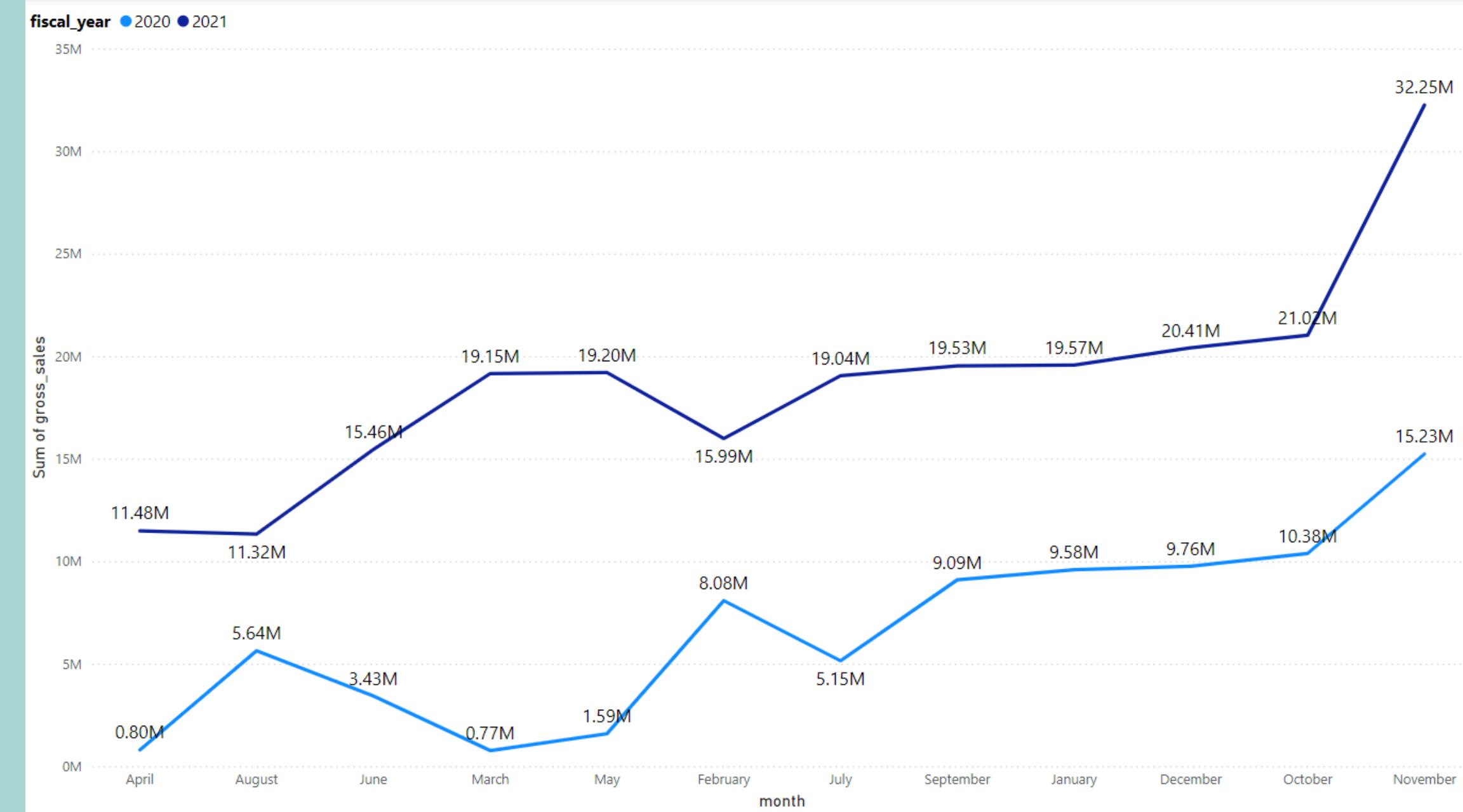
6. Generate a report that contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields, customer_code, customer, average_discount_percentage

CUSTOMER	CUSTOMER_CODE	AVERAGE_DISCOUNT_PERCENTAGE
Flipkart	90002009	30.83%
Viveks	90002006	30.38%
Ezone	90002003	30.28%
Croma	90002002	30.25%
Amazon	90002016	29.33%

Insight: Flipkart leads the rankings with the highest average discount rate of 30.83%. AtliQ, meanwhile, has maintained fairly consistent discount rates for its top five customers, with percentages ranging narrowly from 29.33% to 30.83%.

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 make strategic decisions. The final report contains these columns: Month, Year, Gross sales Amount

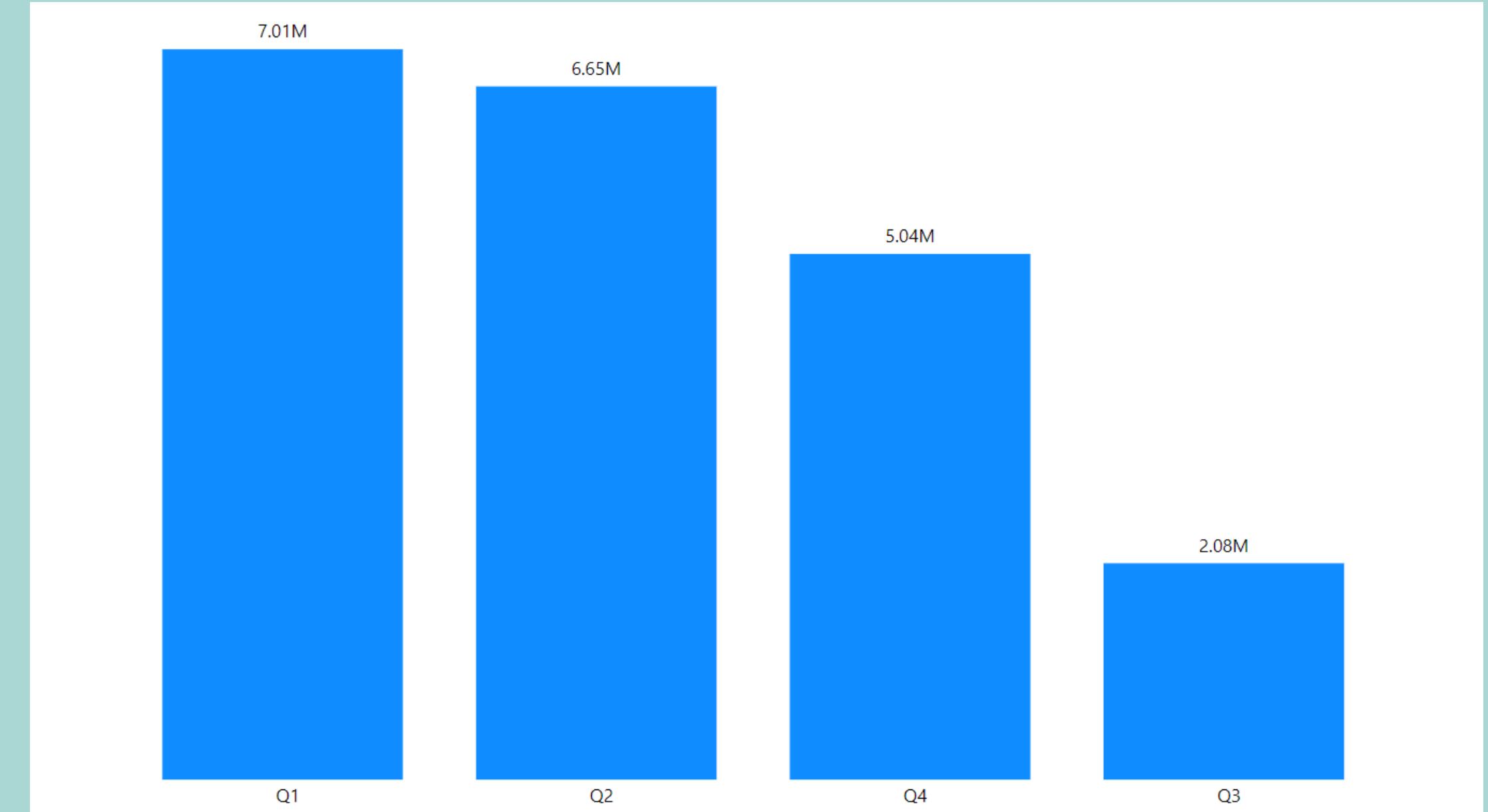
month	fiscal_year	gross_sales
September	2020	9.09 M
October	2020	10.38 M
November	2020	15.23 M
December	2020	9.76 M
January	2020	9.58 M
February	2020	8.08 M
March	2020	0.77 M
April	2020	0.80 M
May	2020	1.59 M
June	2020	3.43 M
July	2020	5.15 M
August	2020	5.64 M
September	2021	19.53 M
October	2021	21.02 M
November	2021	32.25 M
December	2021	20.41 M
January	2021	19.57 M
February	2021	15.99 M
March	2021	19.15 M
April	2021	11.48 M
May	2021	19.20 M
June	2021	15.46 M
July	2021	19.04 M
August	2021	11.32 M



Insight: Sales were lowest in March-May 2020 due to COVID-19 but rebounded after June, peaking at 15.23M in November. In 2021, sales grew significantly, with August at 11.32M (lowest) and November at 32.25M (highest).

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

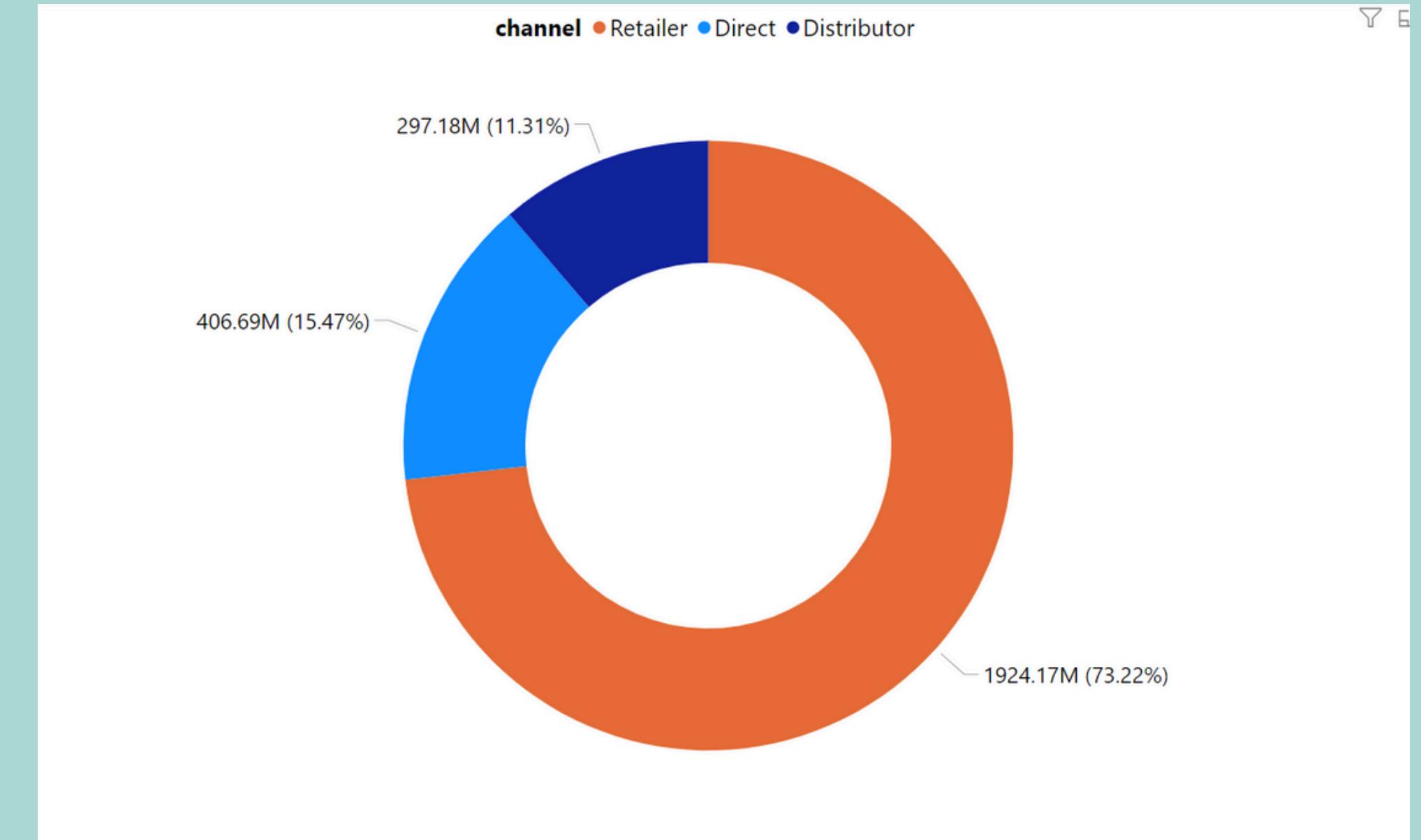
quarters	total_sold_quantity
Q1	7.01M
Q2	6.65M
Q4	5.04M
Q3	2.08M



Insight: In Q1 2020, AtliQ peaked at 7M units, showcasing strong performance. Sales dropped significantly in Q3 (March-May) due to COVID-19, reflecting challenging market conditions and shifting consumer behavior.

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	pct
Retailer	1924.17	73.22%
Direct	406.69	15.48%
Distributor	297.18	11.31%



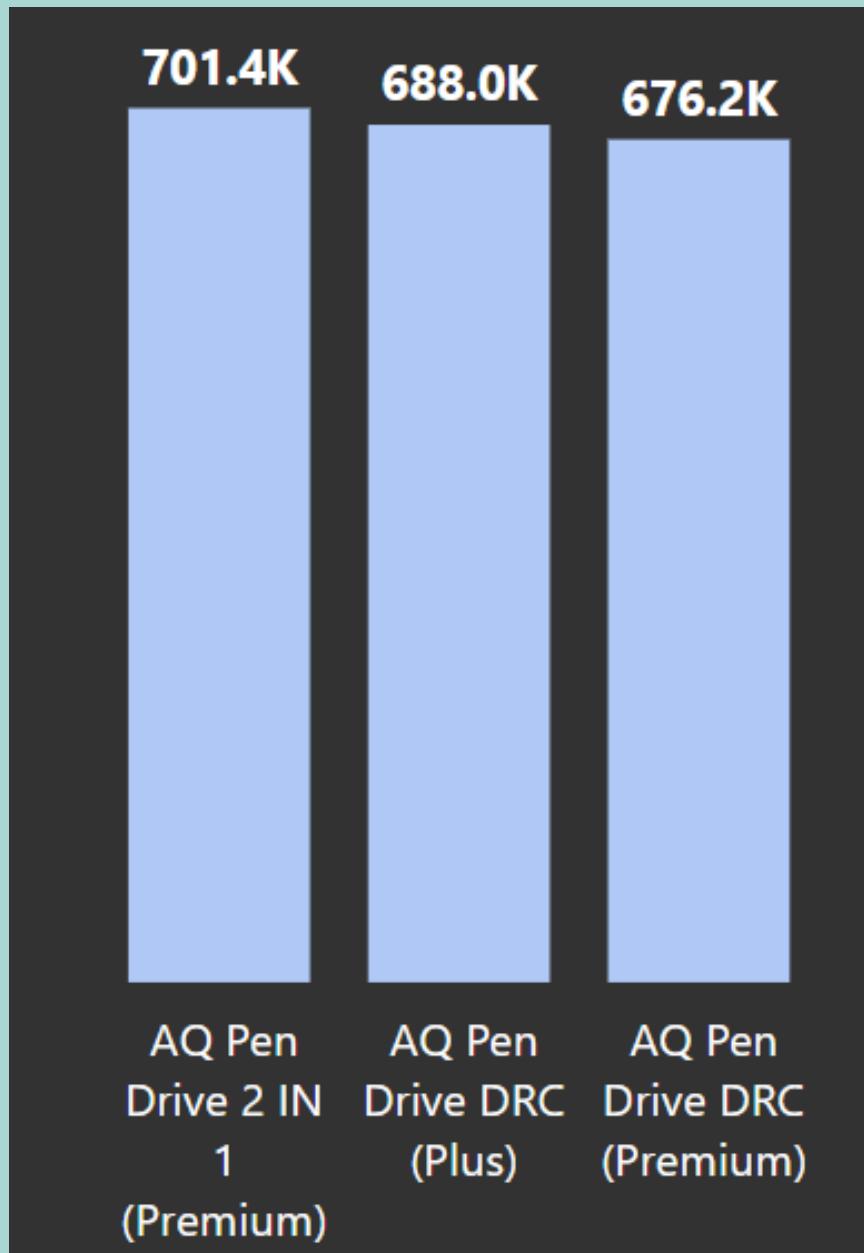
Insight: Maximum Gross sales are coming from “Retailer” which is 73.22% of the Total Sales followed by the “Direct” Channel (15.47%).

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

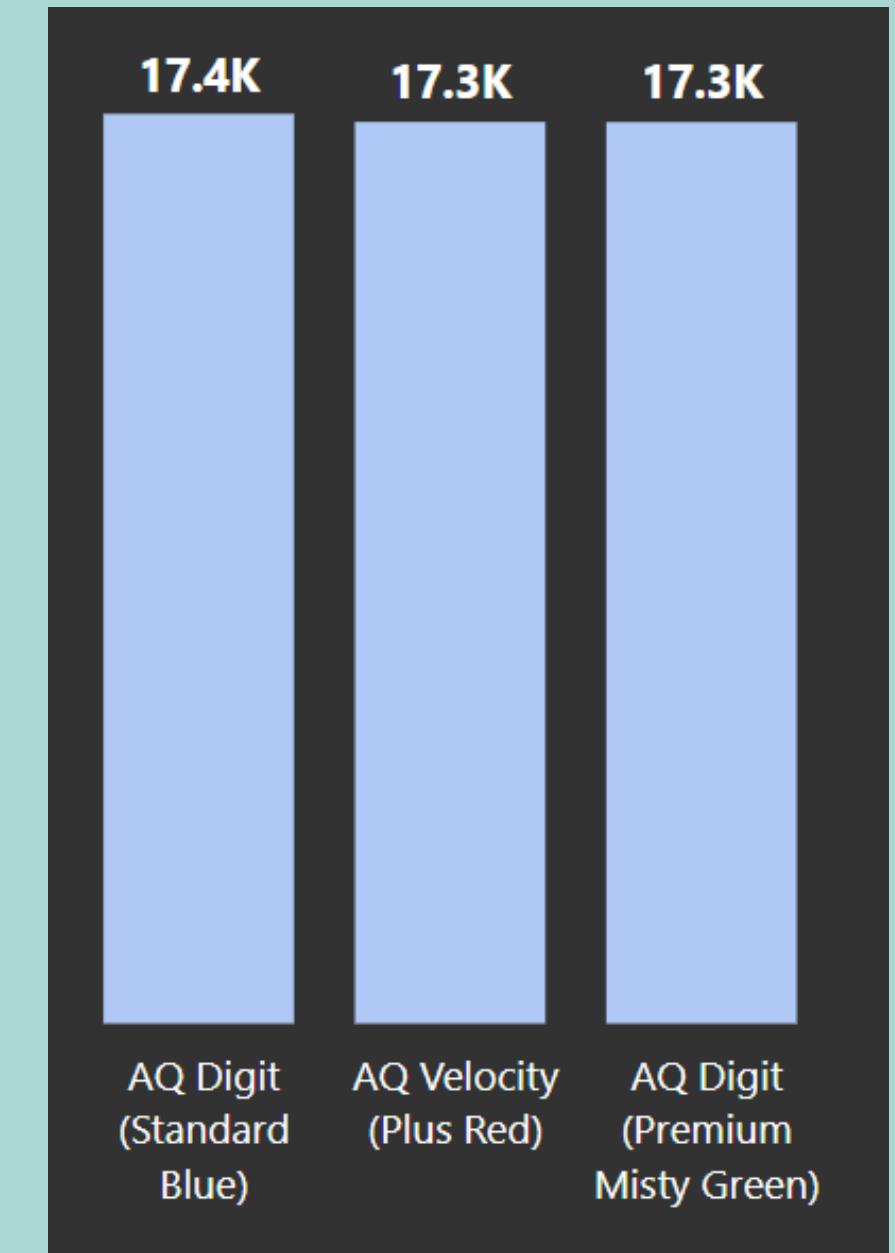
division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima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

Insight: Every division has a product with different variants that appears twice in the top three products by division list.

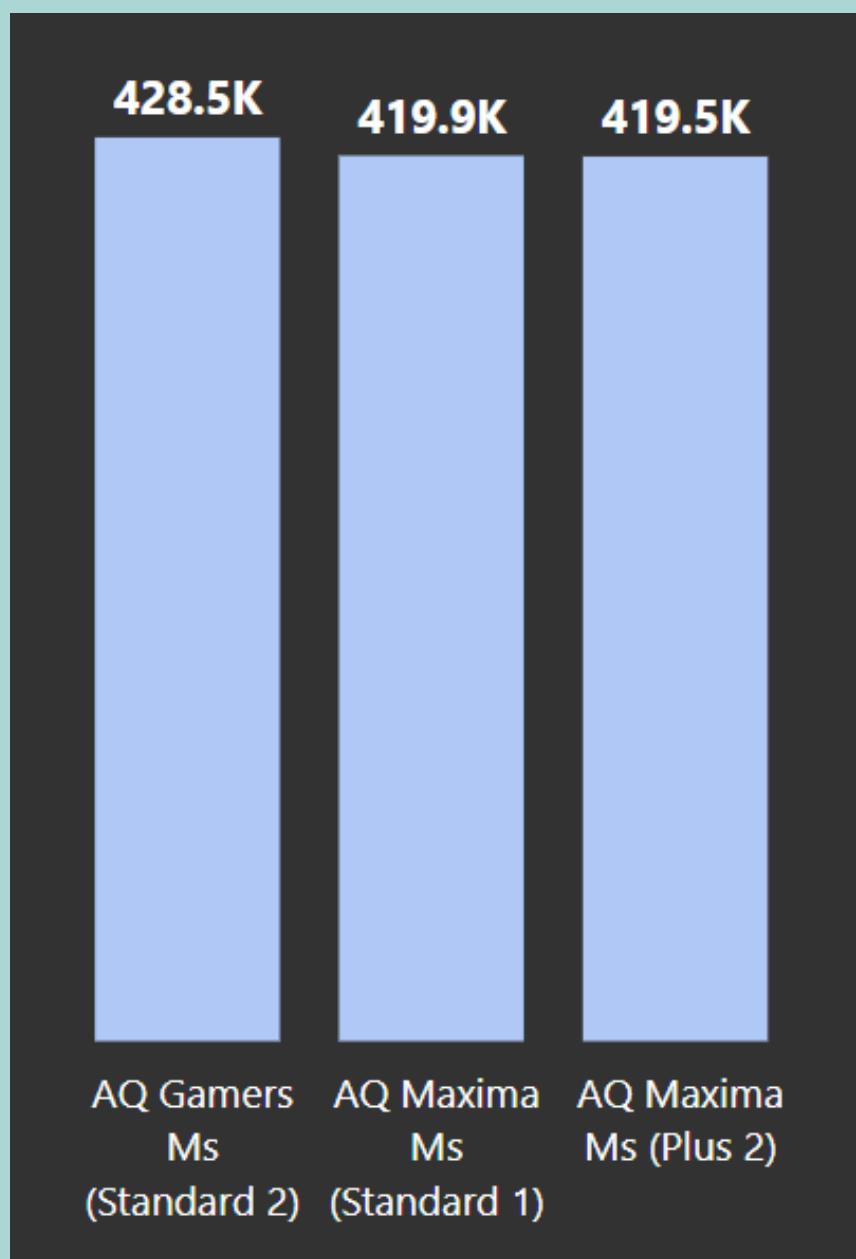
Division - N & S



Division - PC



Division - P & A





Thank you

