

Ad-hoc Insights- Consumer Goods Domain

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Agenda



Company
Overview



Problem
Statement



Project
Objective



Dataset



Tools & Skills
Used

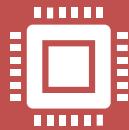


Requests &
Insights



Conclusion

Company Overview



AtliQ Hardwares is an **imaginary leading computer hardware manufacturer** based in India and has expanded well in other countries too.



AtliQ Hardwares serves around 200 customers including Amazon,Croma,Ebay etc.

- AtliQ Hardware manufactures products across

3 major divisions:

- Peripherals and Accessories
- Personal Computers
- Networking & Storage



Problem Statement

- The management noticed that they do not get enough insights to make quick and smart data-informed decisions.
 - Leadership wants to:
 - Improve **strategic decision-making**
 - Understand **sales, cost, and product performance**
- To strengthen the analytics team, the company planned a **SQL challenge**

The challenge tests:

-Technical skills
(SQL)

-Business
understanding

-Presentation skills

Project Objective



Analyze business data using **SQL queries**



Answer **10 ad-hoc business questions** requested by management



Generate **meaningful insights** from raw data

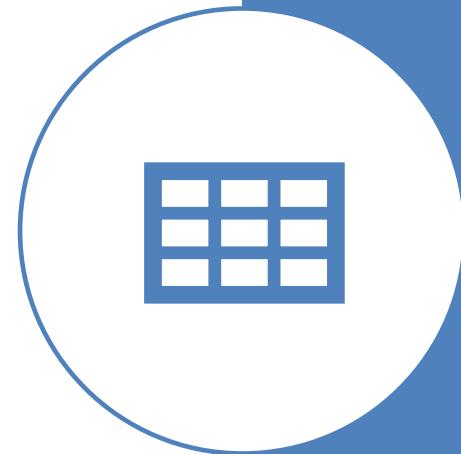
Dataset

The analysis is based on 6 key tables:



Tools & Skills Used

- SQL
 - Joins
 - Aggregation
 - CTE
 - Window Function
- Power BI
 - Visualization
- Business Skills
 - Translating data into insights
 - Presenting results to management



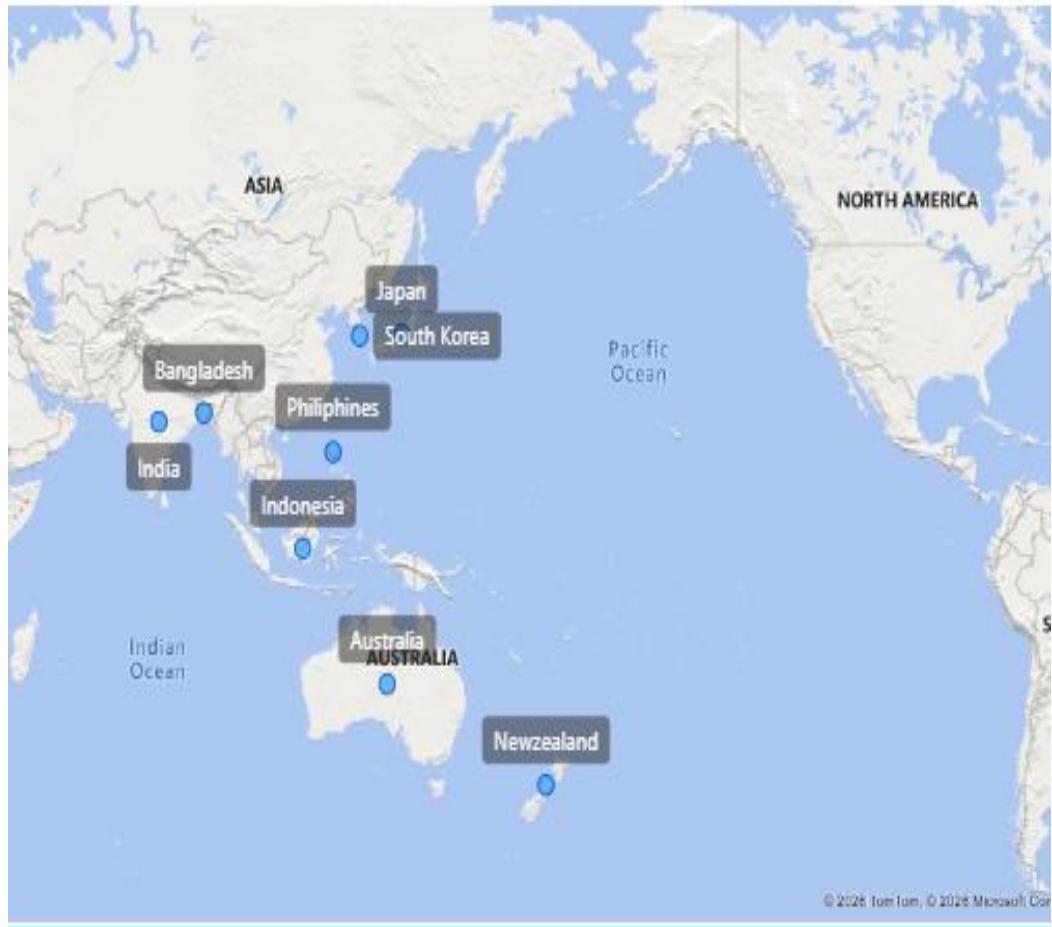
Request-1

- 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

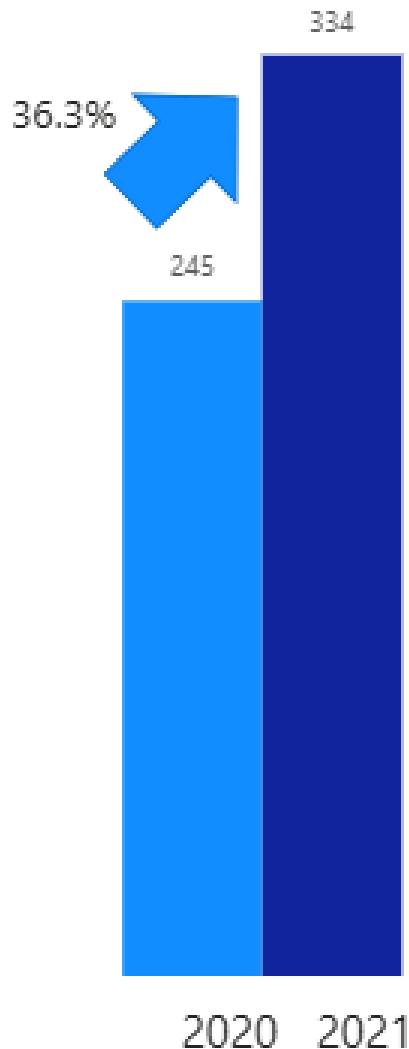
- Atliq Exclusive has a strong APAC presence, operating across multiple key markets including India, Japan, South Korea, Australia, and Southeast Asian countries.



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	percentage_change
▶	245	334	36.3



Insight

- The product portfolio expanded significantly in 2021, with unique products increasing by 36.3% compared to 2020

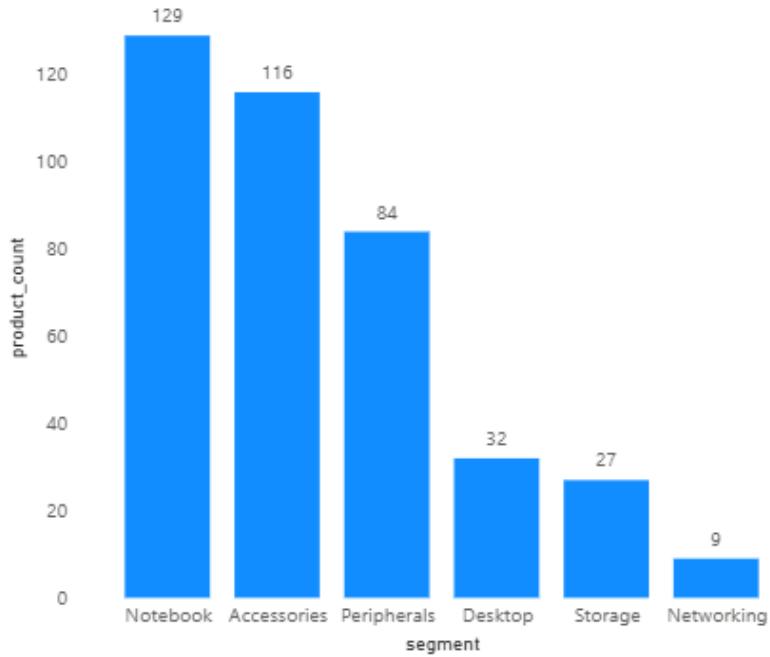
Request-3

- 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

Insight

- The Notebook segment has the highest number of unique products, followed by Accessories, while Networking has the lowest product count.



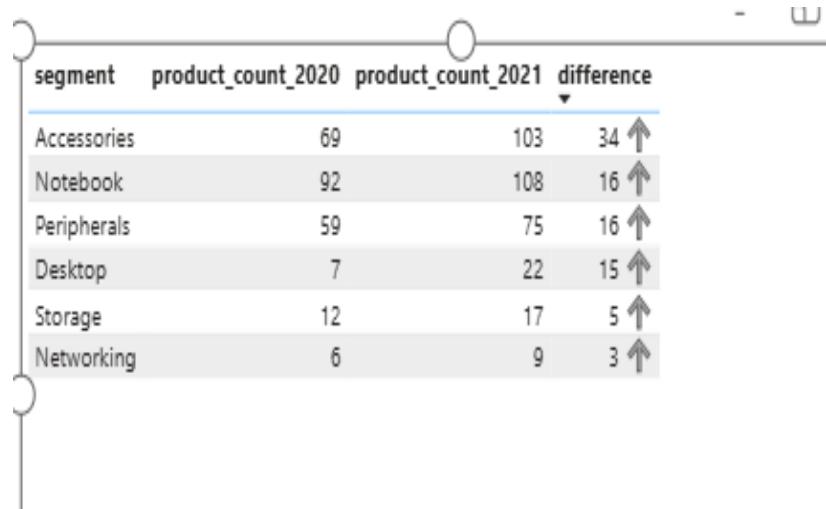
Request-4

- 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

Insight

- Accessories showed the highest increase in unique products in 2021, adding 34 more products compared to 2020.
- Among all segments, Accessories experienced the largest year-over-year growth in unique products in 2021.



A screenshot of a Microsoft Power BI report interface. At the top right, there are three small icons: a minus sign, a plus sign, and a refresh symbol. Below the header, there is a horizontal line with two circular endpoints. To the left of the table, there is a vertical line with a circular endpoint at the top, which is connected to the horizontal line. The table itself has a light gray background with alternating row colors. It has four columns: 'segment', 'product_count_2020', 'product_count_2021', and 'difference'. The 'difference' column contains numerical values and small upward-pointing arrows indicating growth. The data rows are: Accessories (69, 103, 34), Notebook (92, 108, 16), Peripherals (59, 75, 16), Desktop (7, 22, 15), Storage (12, 17, 5), and Networking (6, 9, 3).

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 ↑

Request-5

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

product_code	product	manufacturing_cost
A2118150101	AQ Master wired x1 Ms	0.8654
A6121110208	AQ HOME Allin1 Gen 2	263.4207

Insight

A6121110208

Product

AQ HOME Allin1 Gen 2

manufacturing_cost

263.4207



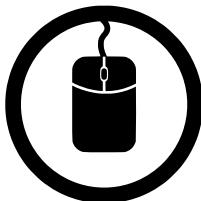
A2118150101

Product

AQ Master wired x1 Ms

manufacturing_cost

0.8654



- Manufacturing costs vary widely across products, with AQ HOME Allin1 Gen 2(Personal desktop) having the highest cost and AQ Master wired x1 Ms(Mouse) the lowest.”

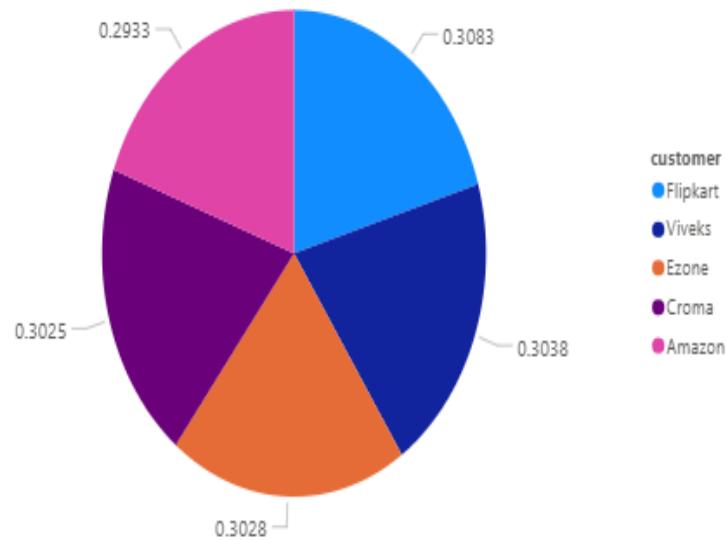
Request-6

- 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

Result Grid			
	customer_code	customer	avg_discount_pct
▶	90002009	Flipkart	0.3083
	90002006	Viveks	0.3038
	90002003	Ezone	0.3028
	90002002	Croma	0.3025
	90002016	Amazon	0.2933

Insight

- In the Indian market during FY 2021, the top 5 customers received very similar average pre-invoice discounts,
- The small variation across customers implies controlled pricing governance, helping AtliQ Hardwares balance competitiveness while protecting margins..



Request-7

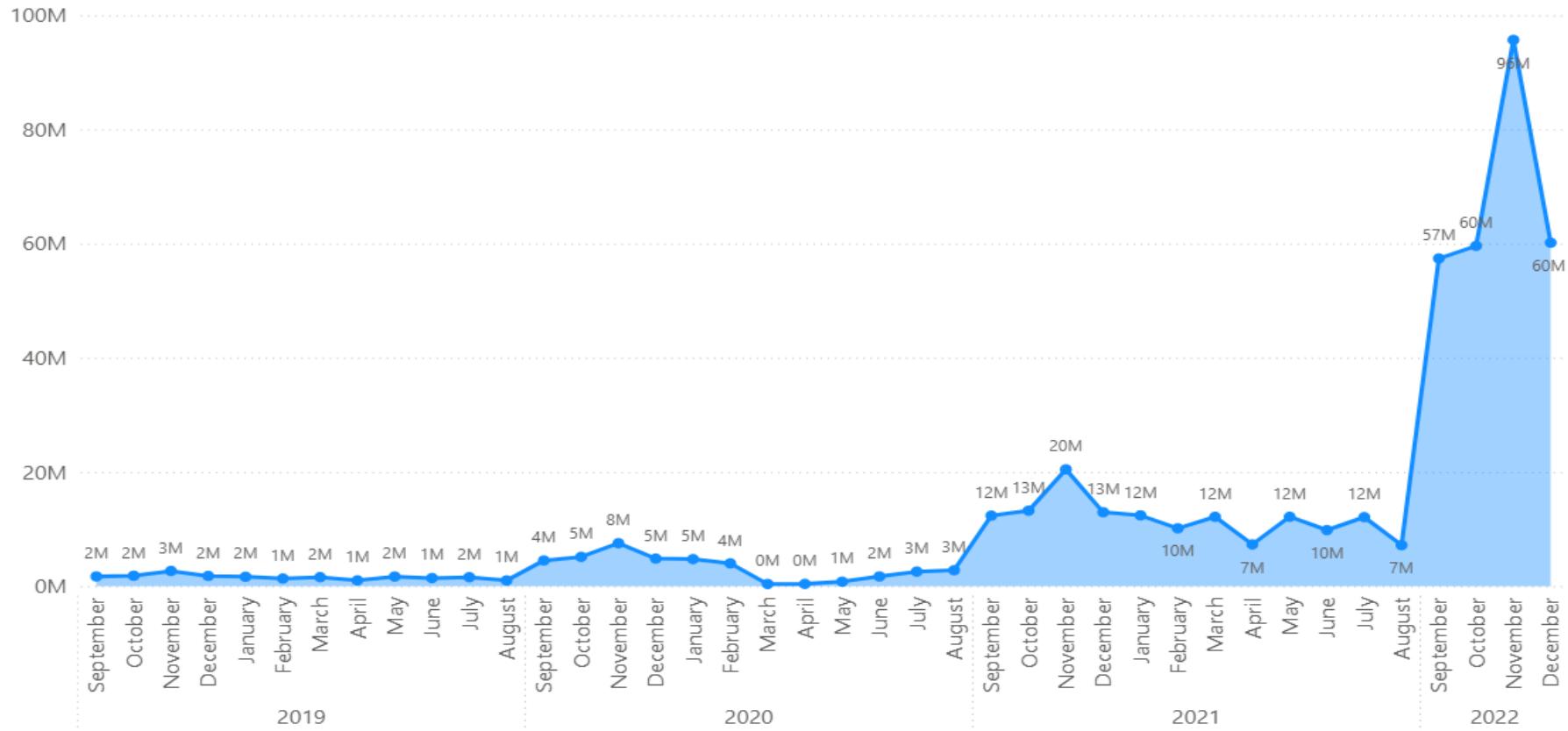
- Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month . This analysis helps to get an idea of low and high-performing months and take strategic decisions. The final report contains these columns:
 - Month
 - Year
 - Gross sales Amount

month	fiscal_year	gross_sales_amount
September	2019	1691699.6
October	2019	1825301.3
November	2019	2660157.3
December	2019	1792068.7
January	2019	1641318.7
February	2019	1336020.7
March	2019	1571381.4
April	2019	1010971.5
May	2019	1678867.1
June	2019	1416771.9
July	2019	1564327.1
August	2019	993165.2
September	2020	4496259.7
October	2020	5135902.3
November	2020	7522892.6
December	2020	4830404.7
January	2020	4740600.2
February	2020	3996227.8
March	2020	378771.0
April	2020	395035.4
May	2020	783813.4

month	fiscal_year	gross_sales_amount
April	2020	395035.4
May	2020	783813.4
June	2020	1695216.6
July	2020	2551159.2
August	2020	2786648.3
September	2021	12353509.8
October	2021	13218636.2
November	2021	20464999.1
December	2021	12944659.7
January	2021	12399393.0
February	2021	10129735.6
March	2021	12144061.3
April	2021	7312000.0
May	2021	12150225.0
June	2021	9824521.0
July	2021	12092346.3
August	2021	7178707.6
September	2022	57397032.3
October	2022	59610755.9
November	2022	95686586.0
December	2022	60156297.0

Insight:

Gross sales were low and mostly stable during FY 2019 and early FY 2020.(March&April due to **covid-19 pandemic**) From mid-2020, sales started increasing due to **seasonal demand**. FY 2021 showed steady growth at a higher level. FY 2022 recorded the highest sales, with a sharp rise from September and a peak in November.



Request-8

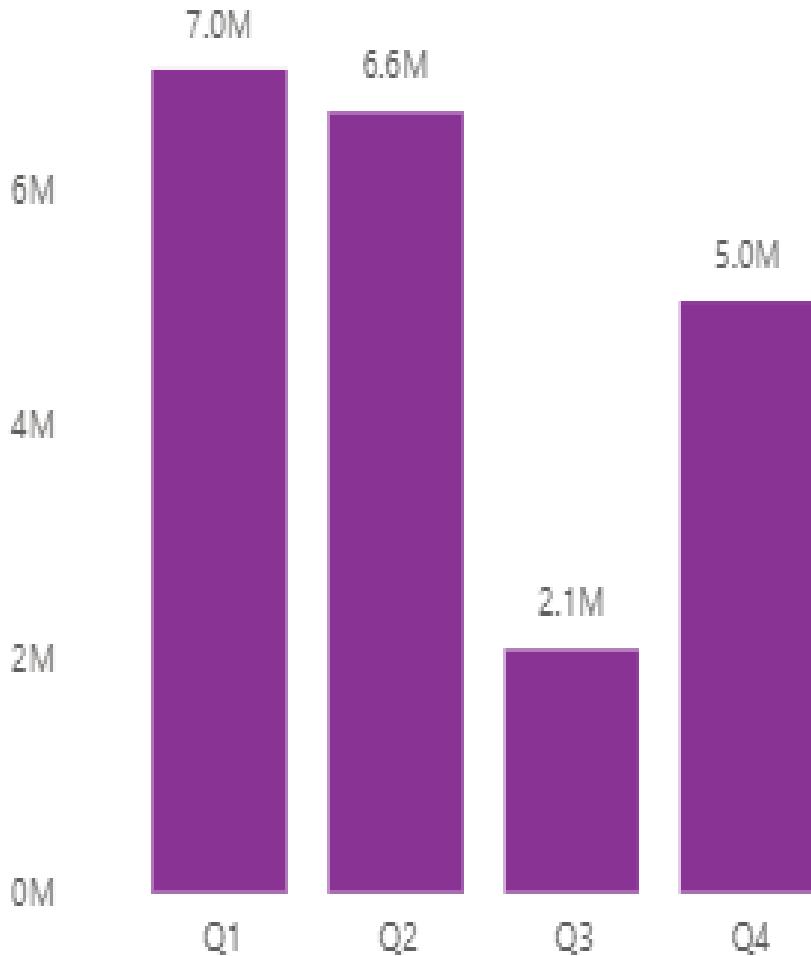
- In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
- -Quarter
- -total_sold_quantity

	quarter	total_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

Insight

In 2020, **Q1 recorded the highest total sold quantity**, making it the strongest-performing quarter of the year. This was closely followed by **Q2**, which also showed strong sales volume.

A sharp decline is observed in **Q3,(Covid-19 pandemic)**. Sales recovered in **Q4**, showing improvement compared to Q3, though they did not surpass the peak achieved in Q1.



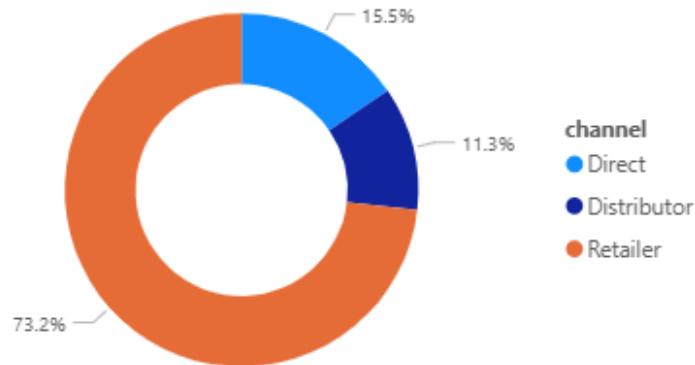
Request-9

- 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
Retailer	3708.5	73.2
Direct	784.1	15.5
Distributor	572.9	11.3

Insight

- In fiscal year 2021, the **Retailer channel contributed the highest gross sales**, accounting for approximately **73.2%** of the total gross sales, making it the primary revenue driver for the business.



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

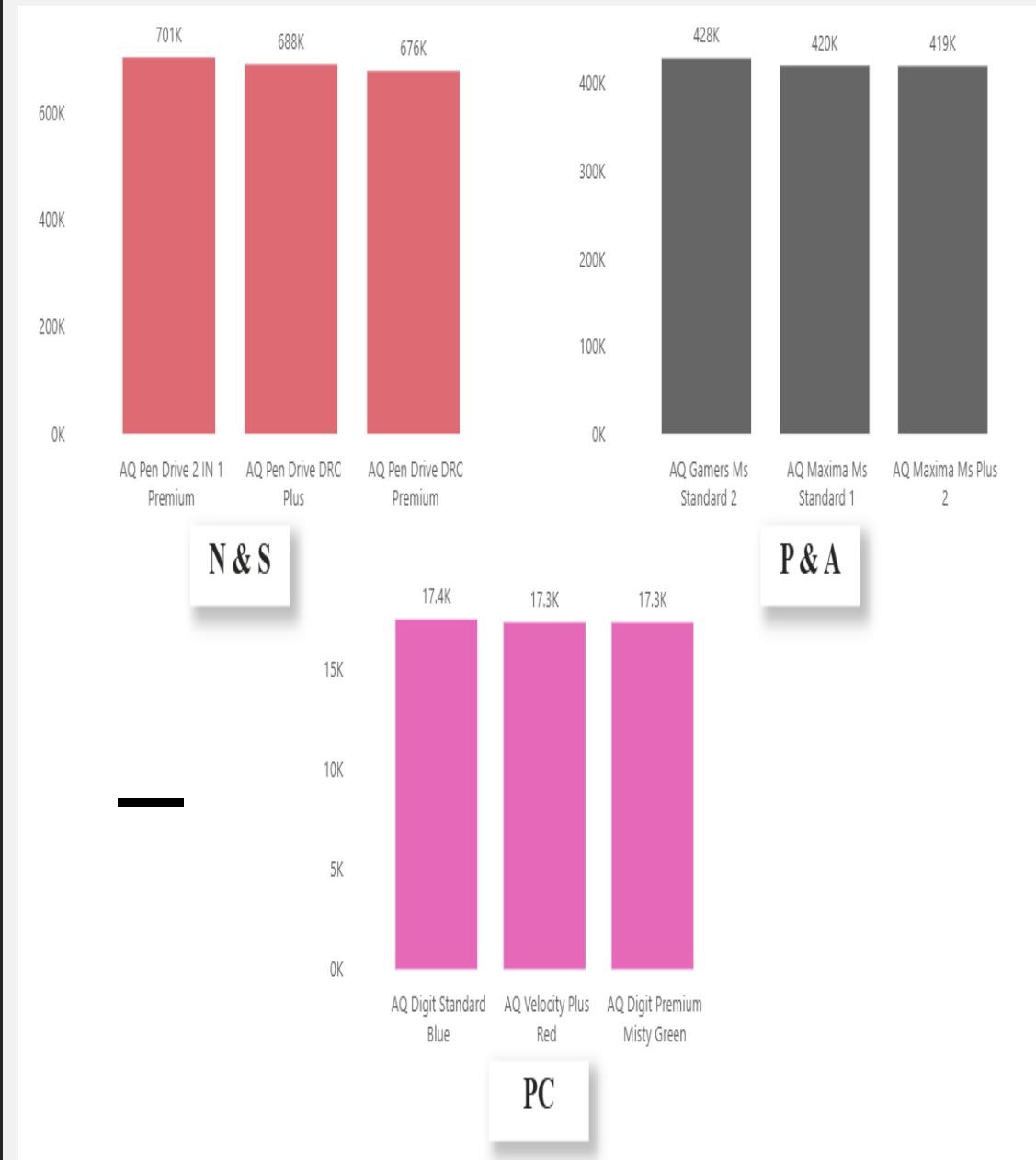
division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1 Premium	701373	1
N & S	A6818160202	AQ Pen Drive DRC Plus	688003	2
N & S	A6819160203	AQ Pen Drive DRC Premium	676245	3
P & A	A2319150302	AQ Gamers Ms Standard 2	428498	1
P & A	A2520150501	AQ Maxima Ms Standard 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

Insight:

In N&S division,top 3 products were sold in around 700K.(pen drives)

In P&A division,top 3 products were sold in around 400K.(mouse)

In PC division,top 3 products were sold in around 17K.(personal laptop)





Conclusion

- Successfully analyzed consumer goods data using **SQL**
- Answered **10 real-world business questions**
- Converted raw data into **actionable insights**

THANK YOU

