

Consumer Goods Adhoc Insights

Business Problem

Atliq Hardware (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too. However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions. The company is currently facing several business challenges related to analyzing its sales and product data, understanding market trends, and optimizing its operations.

Key Focused Area

- Product Performance Analysis
- Segment Analysis/Segment Growth
- Cost Optimization
- Sales Performance Tracking

Note: We will utilize SQL queries for analysis and Python libraries for visualization to analyze trends and gain insights into this business problem.

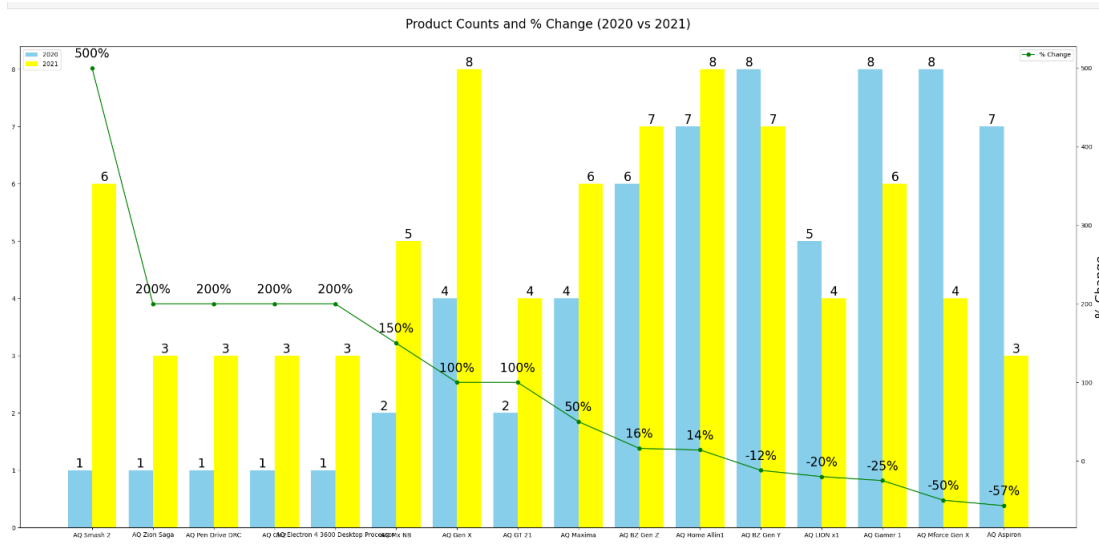
Analysis

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

market
character varying (45)
Bangladesh
Indonesia
Australia
Newzealand
Japan
Philiphines
India
South Korea

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.

product	product_2020	product_2021	pct_chg
character varying (200)	bigint	bigint	text
AQ Smash 2	1	6	500%
AQ Zion Saga	1	3	200%
AQ Pen Drive DRC	1	3	200%
AQ Clx2	1	3	200%
AQ Electron 4 3600 Desktop Processor	1	3	200%
AQ Mx NB	2	5	150%
AQ Gen X	4	8	100%
AQ GT 21	2	4	100%
AQ Maxima	4	6	50%
AQ BZ Gen Z	6	7	16%
AQ Home Allin1	7	8	14%
AQ BZ Gen Y	8	7	-12%
AQ LION x1	5	4	-20%
AQ Gamer 1	8	6	-25%
AQ Mforce Gen X	8	4	-50%
AQ Aspiren	7	3	-57%



Observation

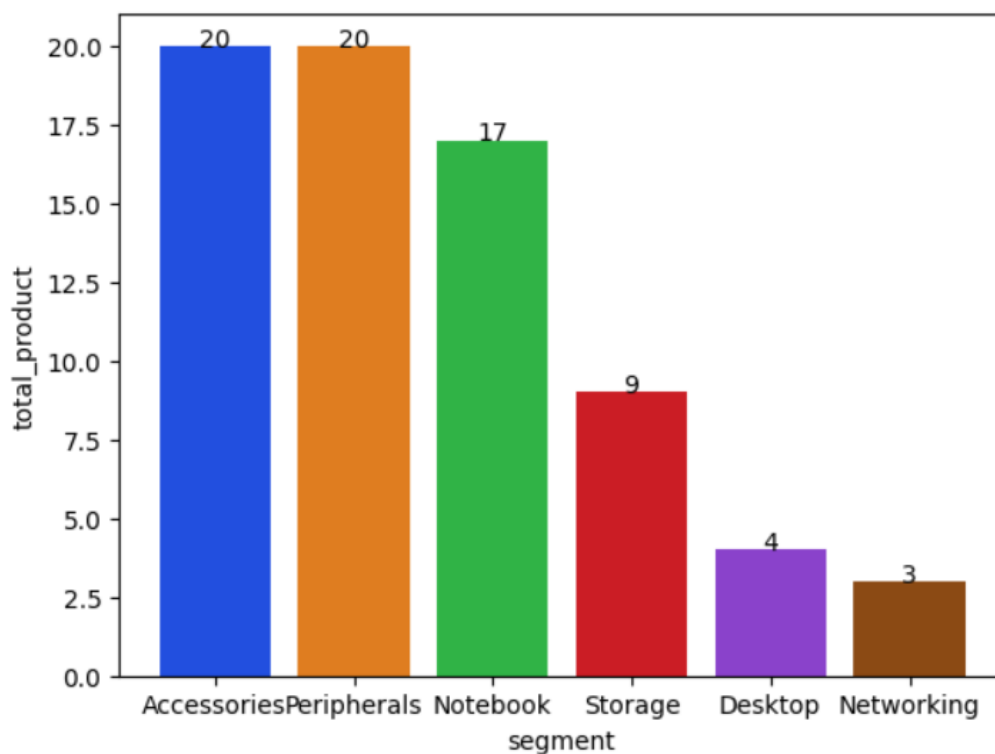
The table shows the change in product counts from 2020 to 2021 (productcount_2020 to productcount_2021). Products like "AQ Smash 2", "AQ Zion Saga", "AQ Pen Drive DRC", "AQ Clx2", and "AQ Electron 4 3600 Desktop Processor" experienced a significant increase in counts (200% to 500%). Conversely, products like "AQ Aspron", "AQ Mforce Gen X", "AQ Gamer 1", and "AQ LION x1" experienced a decrease in counts (-57% to -25%).

Some products, such as "AQ Gen X" and "AQ Home Allin1", maintained relatively stable performance with moderate growth (100% to 14%). This could indicate consistent demand or market presence for these products across both years.

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 character varying (45) 🔒	total_product bigint 🔒
	Accessories	20
	Peripherals	20
	Notebook	17
	Storage	9
	Desktop	4
	Networking	3

SQL: LJ



Observation

The table shows the distribution of products across different segments. Each segment represents a classification of products based on their characteristics or usage.

"Accessories" and "Peripherals" segments have the highest total unique products, suggesting that these segments may encompass a wide range of products within specific category. On the other hand, "Networking" and "Desktop" segment have less number of products, suggesting that the company may have a limited but

specific range of networking-related products.

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 character varying (45)	product_count_2020 bigint	product_count_2021 bigint	difference bigint
Accessories	13	19	6
Peripherals	15	20	5
Desktop	1	3	2
Notebook	14	16	2
Networking	2	3	1
Storage	6	7	1

Observation

"Accessories" segment increased by 6 products, "Peripherals" by 5 products. This growth indicates potential expansion or diversification within these segments, suggesting increased market demand or product innovation.

"Notebook and "Desktop" segment increased by only 2 products, while the "Storage" and "Networking" segments each increased by 1 product. This stability may indicate consistent market demand or a balanced product portfolio within these segments.

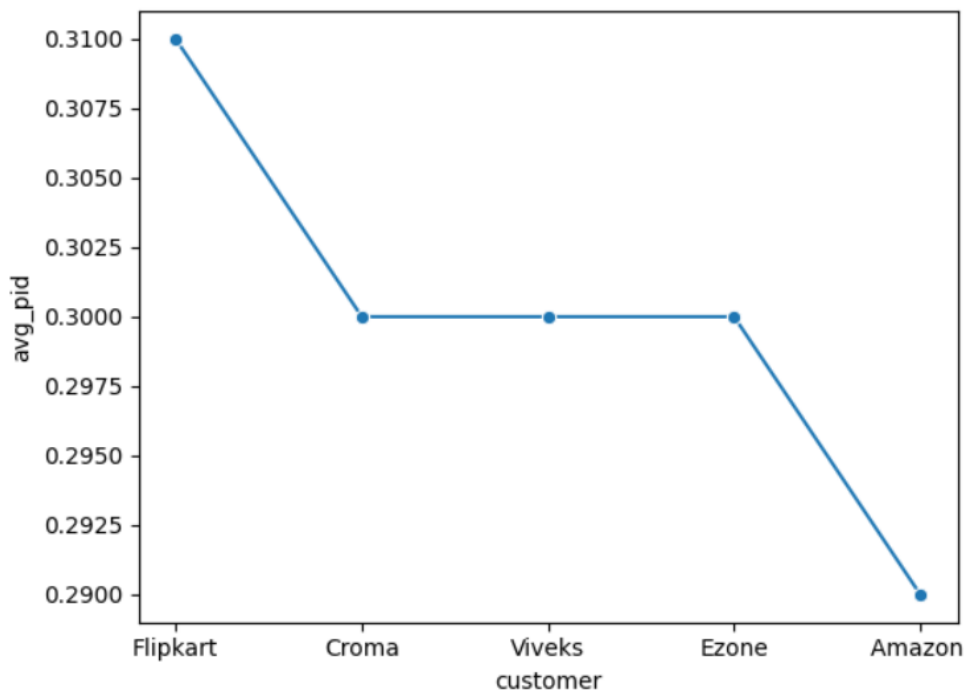
5) Get the products that have the highest and lowest manufacturing costs.The final output should contain these fields, product_code, product, manufacturing_cost.

product_code character varying (45)	product character varying (200)	manufacturing_cost numeric (15,4)
A2118150101	AQ Master wired x1 Ms	0.8920
A6120110206	AQ HOME Allin1 Gen 2	240.5364

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_code [PK] integer	customer character varying (150)	avg_pid numeric
90002009	Flipkart	0.31
90002002	Croma	0.30
90002006	Viveks	0.30
90002003	Ezone	0.30
90002016	Amazon	0.29

Average Pre-invoice Discount Percentage for Top 5 Customers (2021)

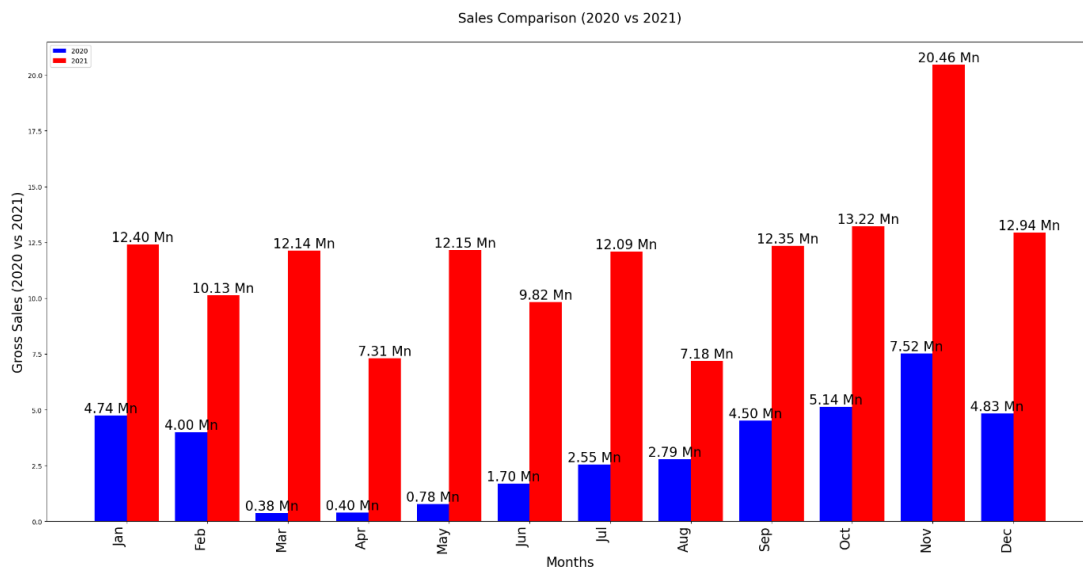


Observation

The data indicates that Flipkart, Croma, Viveks, Ezone, and Amazon received the highest average pre-invoice discount percentages in 2021. This suggests that these customers may have negotiated or qualified for higher discounts compared to other customers.

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 text	gross_sale_2020 text	gross_sale_2021 text
Jan	4.74 Mn	12.40 Mn
Feb	4.00 Mn	10.13 Mn
Mar	0.38 Mn	12.14 Mn
Apr	0.40 Mn	7.31 Mn
May	0.78 Mn	12.15 Mn
Jun	1.70 Mn	9.82 Mn
Jul	2.55 Mn	12.09 Mn
Aug	2.79 Mn	7.18 Mn
Sep	4.50 Mn	12.35 Mn
Oct	5.14 Mn	13.22 Mn
Nov	7.52 Mn	20.46 Mn
Dec	4.83 Mn	12.94 Mn



Observation

Overall, there appears to be a substantial increase in gross sales from 2020 to 2021. In most months, the gross sales for 2021 are notably higher compared to the same months in 2020. This suggests a positive trend in sales performance year-over-year. The month of November stands out as particularly strong performer in terms of gross sales in both 2020 and 2021 due to festive season.

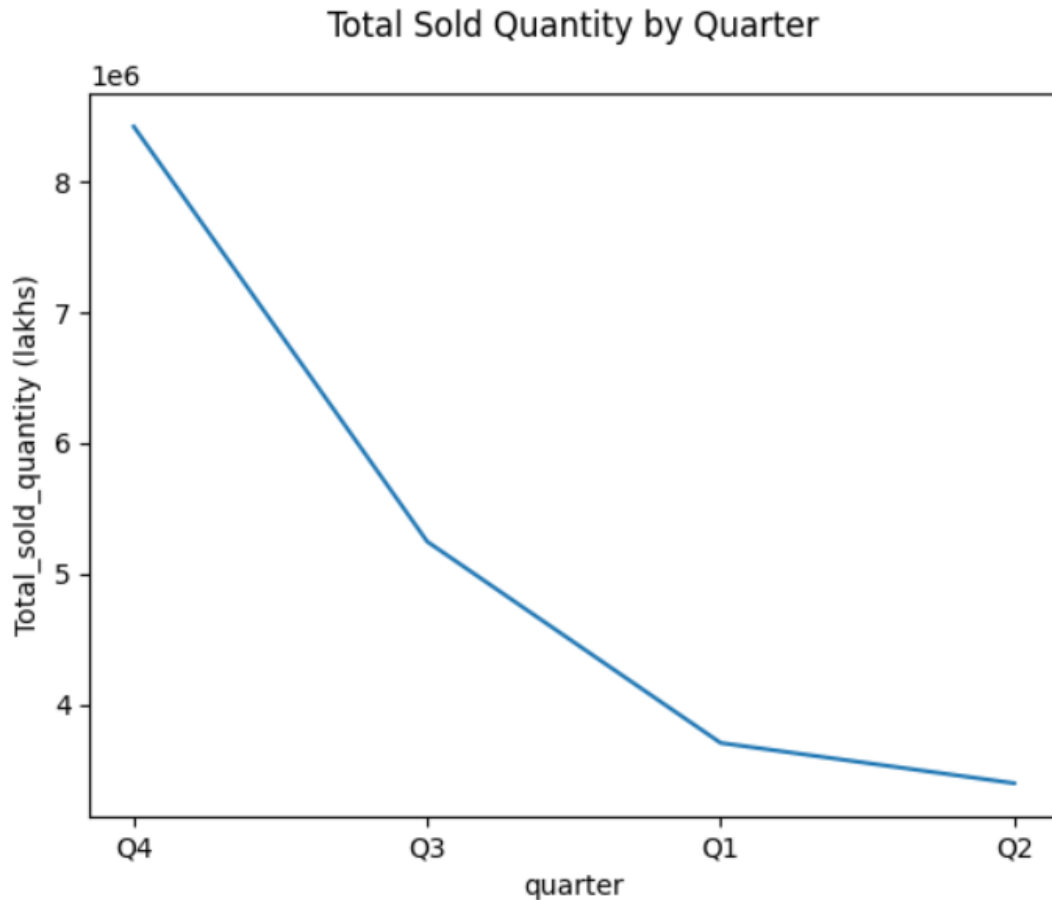
we can observe that the months from March to June in 2021 experienced substantial growth compared to the same period in 2020.

The data may also reflect the impact of external factors such as the COVID-19 pandemic. It's possible that changes in consumer behavior, shifts to online shopping, or economic stimulus measures contributed to the overall increase in gross sales observed in 2021 compared to 2020.

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 text	total_sold_quantity bigint	approx_total_sold_quantity text
Q4	8425822	84 L
Q3	5246770	52 L
Q1	3704398	37 L
Q2	3395899	33 L

: []



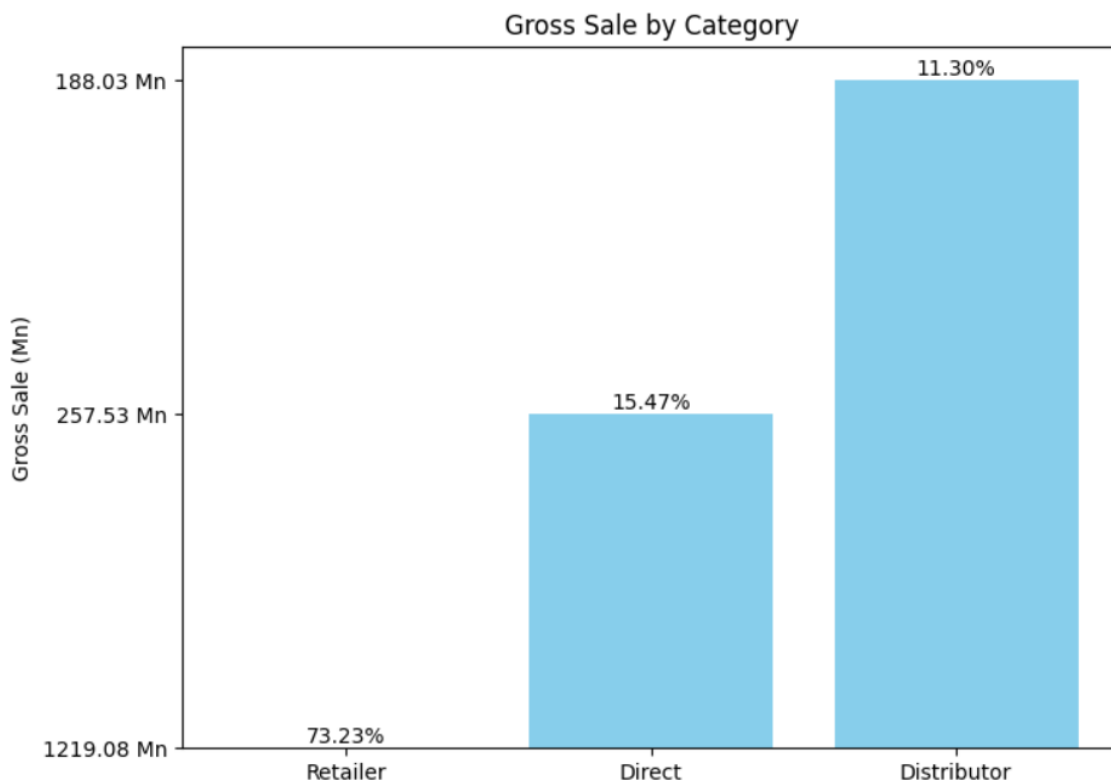
Observation

The data shows the total sold quantities for each quarter, with Q4 having the highest total sold quantity, followed by Q3, Q1, and Q2. This suggests that sales performance tends for the fiscal year 2020 to be stronger towards the end of the year, possibly due to factors such as holiday season shopping, promotions, and year-end sales.

we can observe that Q2(Apr-June) has lower sales volume may be due to the pandemic that impact on global economy.

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_sale	pct_contribution
character varying (45)	text	text
Retailer	1219.08 Mn	73.23%
Direct	257.53 Mn	15.47%
Distributor	188.03 Mn	11.30%



Observation

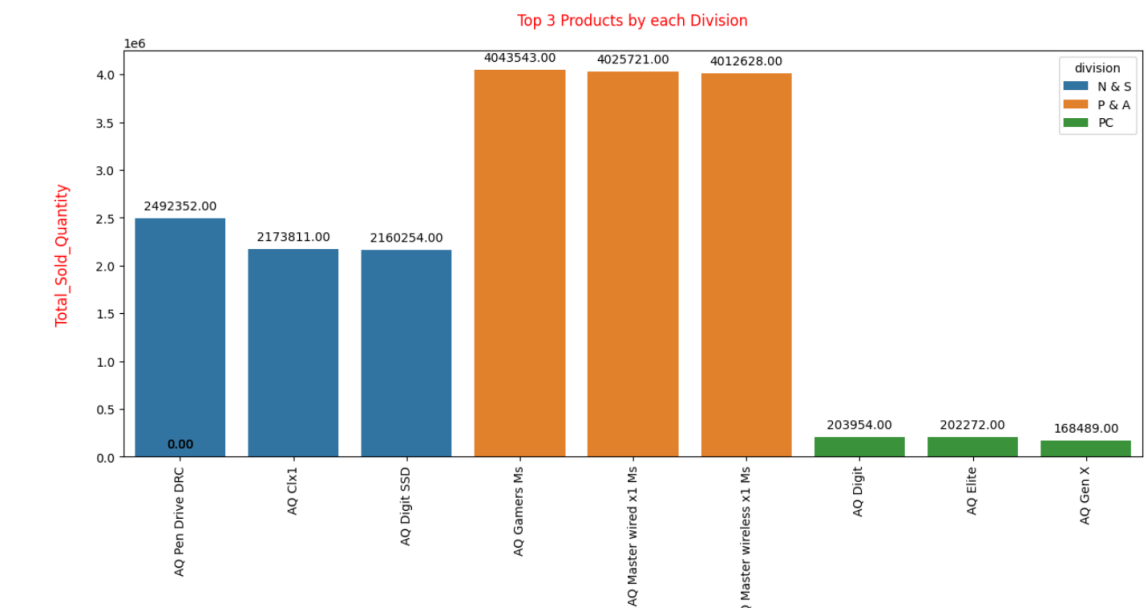
The data indicates the contribution of different sales channels to the overall gross sales. In this case, the "Retailer" channel appears to be the most significant contributor, accounting for approximately 73.23% of the total gross sales. This suggests that retail outlets or stores play a crucial role in driving sales for the business.

The "Distributor" channel, which involves sales through third-party distributors or wholesalers, contributes approximately 11.30% of the total gross sales. Distributors play a vital role in reaching markets and customers that may not be

accessible through other channels. While this channel contributes less than retail and direct sales in terms of percentage, it still represents a significant portion of overall sales.

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 character varying (45)	product character varying (200)	total_sold_quantity bigint
N & S	AQ Pen Drive DRC	2492352
N & S	AQ Clx1	2173811
N & S	AQ Digit SSD	2160254
P & A	AQ Gamers Ms	4043543
P & A	AQ Master wired x1 Ms	4025721
P & A	AQ Master wireless x1 Ms	4012628
PC	AQ Digit	203954
PC	AQ Elite	202272
PC	AQ Gen X	168489



Observation

The data provides information on the total sold quantity of top 3 products within each division. The "N & S" division appears to have sold a significant quantity of products, followed by the "P & A" division and the "PC" division.

Businesses can identify high-performing products and allocate resources strategically to promote their continued success. Conversely, products with lower sales volumes may require reevaluation or adjustments to marketing and sales strategies.