AGENDA

➢ Project overview & objectives

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➢ Ad-hoc Requests, Results (queries), Visualization & Insights

Project Overview & Objectives

Project Overview

- **AtliQ Hardwares** is a leading **computer hardware manufacturer** in India with a **strong global presence**.
- To **improve business performance** and **support strategic decision-making**, the company initiated a data-driven evaluation process for data analyst.

Objectives

➤ Understand business questions from the ad-hoc request document and translate them into analytical tasks.
➤ Write optimized SQL queries to extract accurate insights from the database.
➤ Interpret results and convert data findings into meaningful business insights.

PROBLEM STATEMENT

Consumer Goods Ad-Hoc Analysis | AtliQ Hardwares

Domain: Consumer Goods

Function: Executive Management

- Rapid growth, but leadership lacks fast actionable insights for smart decisions.

- Need to decode real business scenarios and convert them into analytics tasks.

- Solve 10 ad-hoc business queries using efficient SQL logic.

- Turn raw data into executive ready insights for top management.

Dataset Description

- dim_customer : Customer details including market, region, platform & channel.

- dim_product : Product attributes division, segment, category & variants.

- fact_gross_price : Product-wise yearly gross selling prices for the fiscal year 2020 & 2021.

- fact_manufacturing_cost : Annual manufacturing costs for each product.

- fact_pre_invoice_deductions : Customer-wise pre-invoice discount percentages.

- fact_sales_monthly : Monthly sales data sold quantity, product & customer mapping.

Ad-hoc Requests, Results (queries), Visualization & Insights

Market List of specific customer & in specific region

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

Output:

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

Visual →

Insights: Atliq Exclusive in the APAC region is operating its business in **8 countries** around the world.
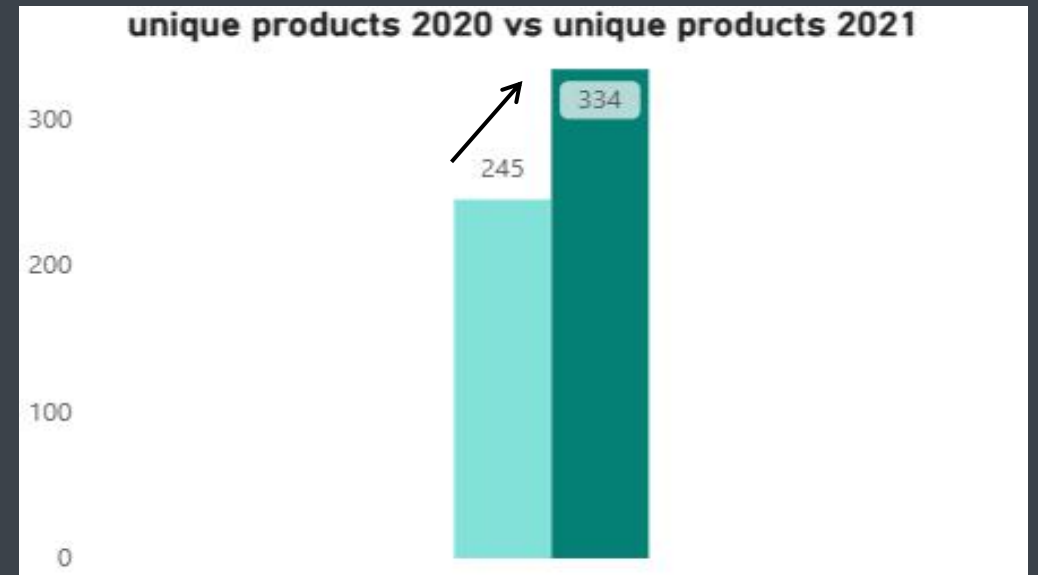
Total Unique product percentage change variance from the year 2020 to 2021

Request 2: What is the percentage of unique product increase in 2021 vs. 2020?

Output:

Visual

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

Insights: The percentage change between the unique products from the year 2020 to 2021 is observed as **36.33%**.
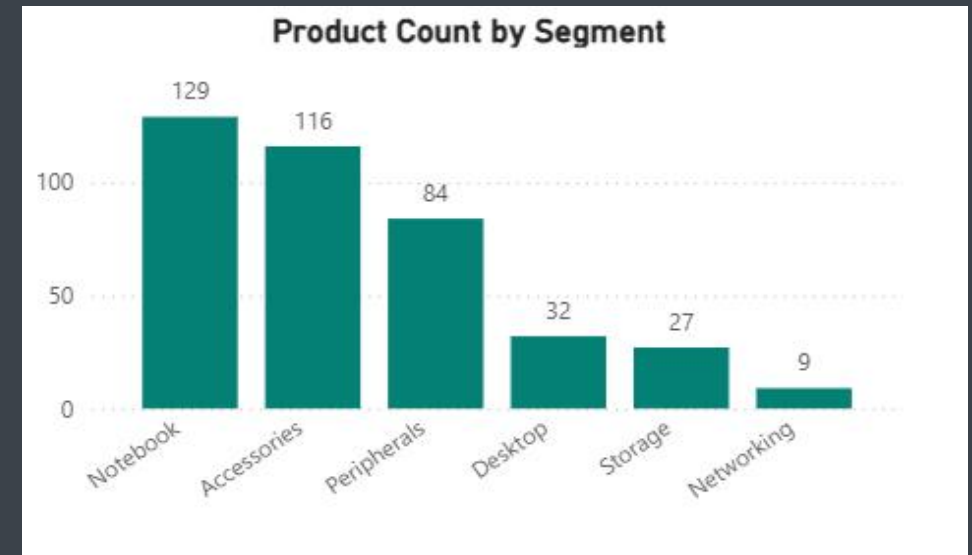
Unique product count for each segment

Request 3: Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

Output:

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

Visual →

Insights: **Notebook** and **Accessories** are the top-performing segments in terms of product sales, while **Storage** & **Networking** has the lowest product count, indicating an opportunity to review strategies and improve sales performance.
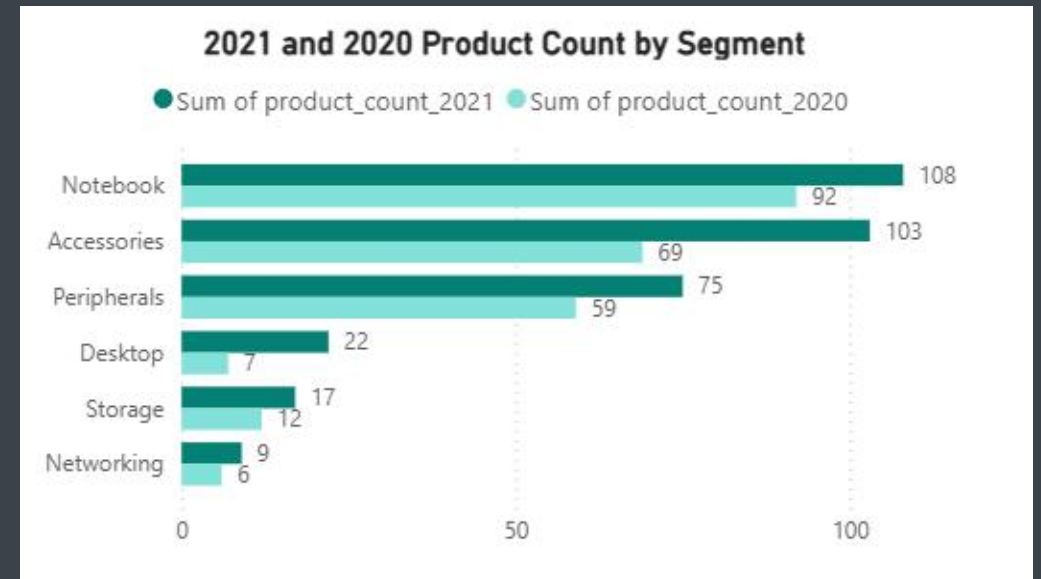
Most Varied product sales comparison in 2021 vs 2020

Request 4: Which segment had the most increase in unique products in 2021 vs 2020?

Output:

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

Visual →

2021 and 2020 Product Count by Segment

● Sum of product_count_2021   ● Sum of product_count_2020

Notebook	108 / 92
Accessories	103 / 69
Peripherals	75 / 59
Desktop	22 / 7
Storage	17 / 12
Networking	9 / 6

0   50   100

Insights: Between 2020 and 2021, the **Accessories** segment experienced the most significant growth in product count. In contrast, Networking and Storage witnessed negligible changes, reflecting limited expansion during this period.

Highest & lowest manufacturing costs of products

Request 5: Get the products that have the highest and lowest manufacturing costs.

Output:

Visual →

Insights: A significant cost disparity is observed for product **A0118150101**, where the manufacturing cost ranges between 0.89 and 240.54, pointing toward possible inefficiencies or **variations in manufacturing** practices that could be standardized to improve cost control.
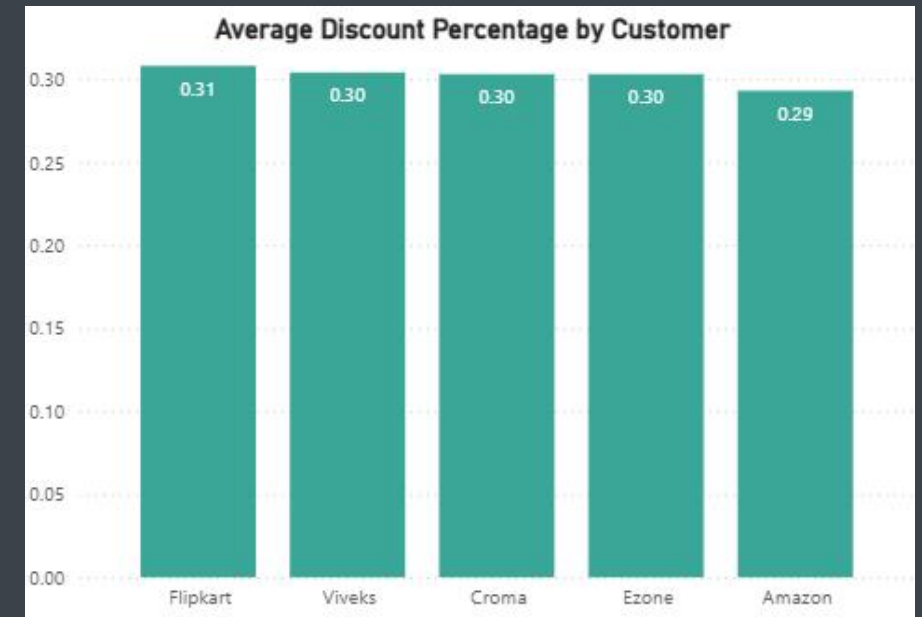
Market List of specific customer & in specific region

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.

Output:

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.308
90002006	Viveks	0.304
90002002	Croma	0.303
90002003	Ezone	0.303
90002016	Amazon	0.293

Visual →

Insights: The analysis reveals a discount-driven customer strategy, with Flipkart leading in average pre-invoice discounts. While this supports high-volume sales, continuous evaluation is required to ensure discounts are aligned with profitability goals.
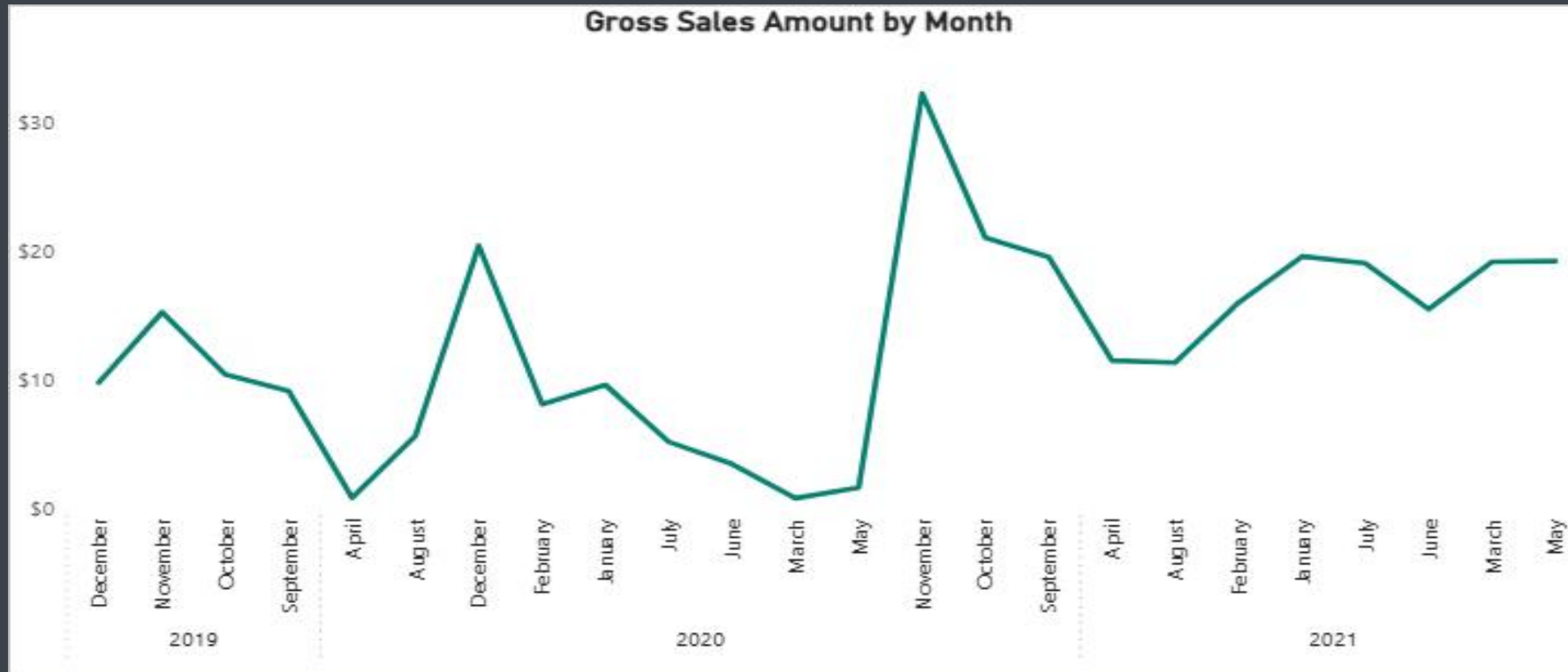
Market List of specific customer & in specific region

Request 7: Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.

Output:

date_month	date_year	gross_sales_amount
September	2019	9.09M
October	2019	10.38M
November	2019	15.23M
December	2019	9.76M
January	2020	9.58M
February	2020	8.08M
March	2020	0.77M
April	2020	0.80M
May	2020	1.59M
June	2020	3.43M
July	2020	5.15M
August	2020	5.64M
September	2020	19.53M
October	2020	21.02M
November	2020	32.25M
December	2020	20.41M
January	2021	19.57M
February	2021	15.99M
March	2021	19.15M
April	2021	11.48M
May	2021	19.20M
June	2021	15.46M
July	2021	19.04M
August	2021	11.32M

Atliq Exclusive gross sales amount for each month

Insights:
- Clear seasonality observed, with sales fluctuating across months, indicating demand peaks driven by festive periods and promotional cycles.
- November 2020 recorded the highest gross sales i.e., $32.25 highlighting a strong demand surge and serving as a benchmark period for future planning.
- Early 2020 shows a sales dip, likely due to market disruptions, followed by a strong recovery in late 2020.
- Sales performance in 2021 is more stable and consistent, reflecting improved demand forecasting and a strengthened customer relationship.
- Reduced volatility in 2021 suggests better predictability, supporting more efficient inventory and supply-chain planning.
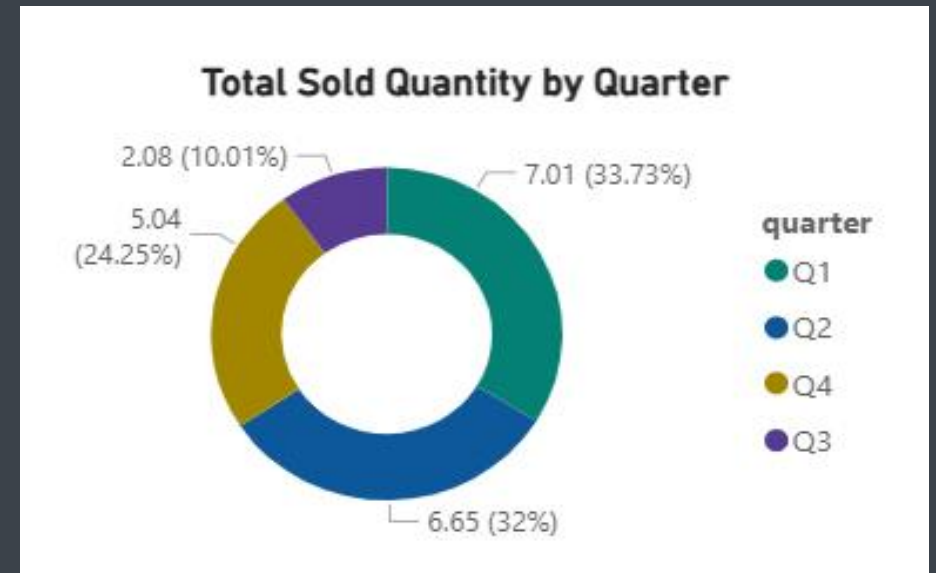
Quarter based sales analysis for the year 2020

Request 8: In which quarter of 2020, got the maximum total_sold_quantity?

Output:

quarter	total_sold_quantity
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08

Visual →

Total Sold Quantity by Quarter

2.08 (10.01%) — 7.01 (33.73%)

5.04 (24.25%)

6.65 (32%)

quarter
- Q1
- Q2
- Q4
- Q3

Insights: Q1 recorded the highest total sold quantity at 7.01, while Q3 posted the lowest at 2.08, highlighting a clear seasonal or demand-related variation across quarters.
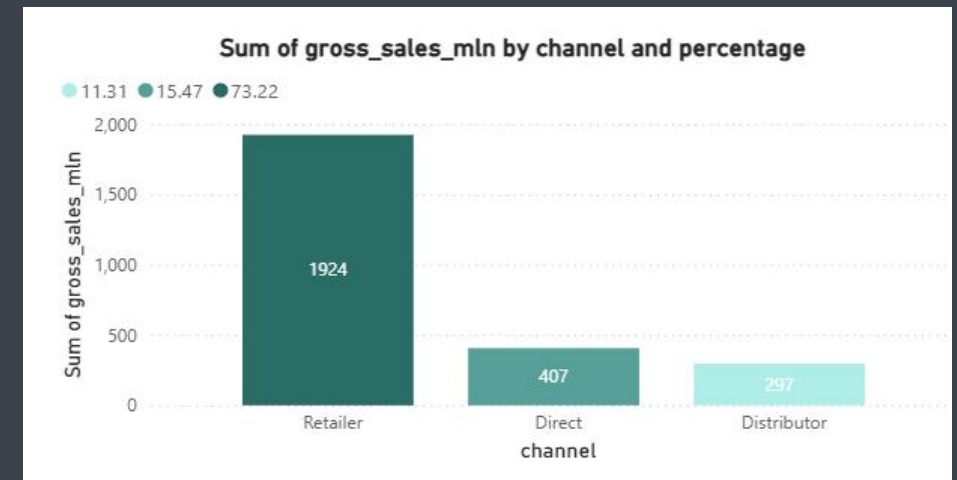
Each channel gross sales and the percentage contribution in fy:2021

Request 9: Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

Output:

channel	gross_sales_mln	percentage
Retailer	1924.17	73.22
Direct	406.69	15.47
Distributor	297.18	11.31

Visual

Sum of gross_sales_mln by channel and percentage

● 11.31 ● 15.47 ● 73.22

Insights: In FY 2021, the Retailer channel generated the highest gross sales and contributed the largest share of overall revenue. In contrast, the Distributor channel recorded the lowest percentage contribution, indicating underutilized reach and potential inefficiencies in channel strategy that may be limiting sales performance.

Market List of specific customer & in specific region

Request 10: Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

Output:

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 – Top Products by Division (FY 2021):

➢ PC Division
- AQ Digit series dominates PC sales, with all top 3 products contributing ~17K units each.
- Sales distribution among the top products is highly balanced, indicating stable demand rather than dependence on a single product.

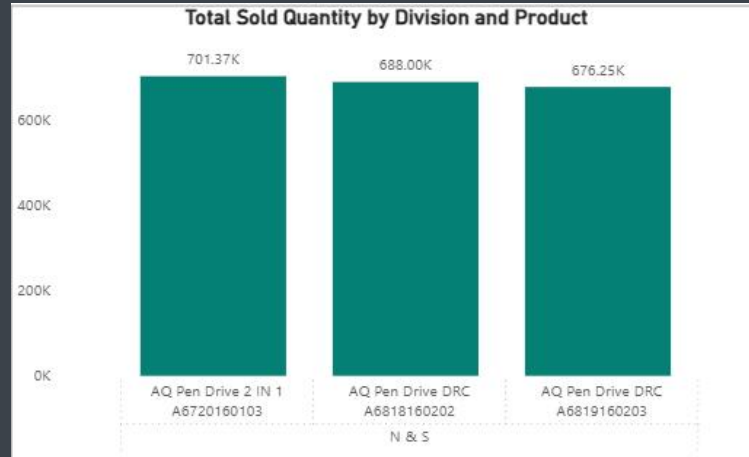➢ P & A (Peripherals & Accessories) Division
- AQ Gamers Ms emerges as the top-performing product, leading with ~428K units sold.
- This division demonstrates high volume scalability, making it ideal for promotional campaigns and cross-selling.

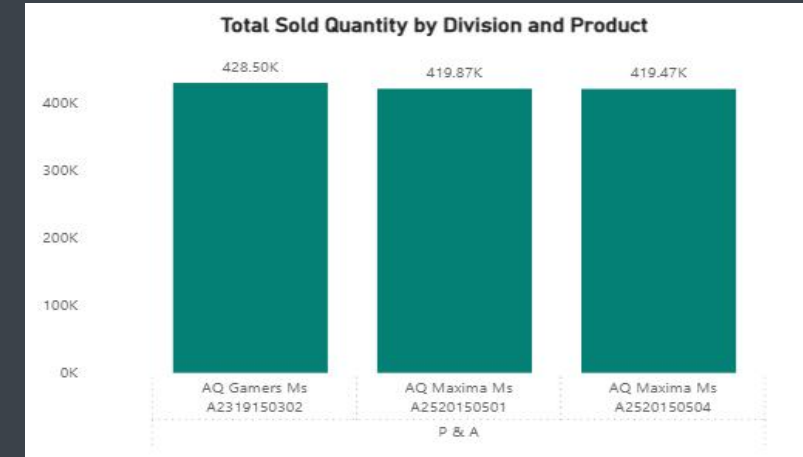➢ N & S (Networking & Storage) Division
- AQ Pen Drive 2-in-1 is the clear leader with ~701K units, outperforming other products.
- Pen Drive variants dominate the top 3, indicating strong customer preference for storage solutions.
- This division contributes the highest overall sales volume among all divisions in FY 2021.
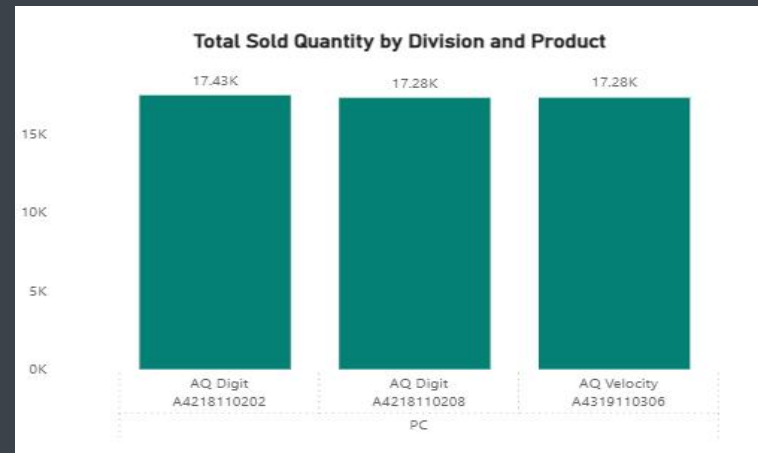
Top 3 products in each Division

- ➤ N & S division is the strongest growth driver by volume in FY 2021.
- ➤ P & A division shows consistent high demand, suitable for revenue optimization strategies.
- ➤ PC division has uniform product performance, suggesting room for innovation-led differentiation.
- ➤ Focus on inventory optimization and marketing investments should prioritize N & S and P & A divisions.