# CONSUMER GOODS AD-HOC INSIGHTS

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# COMPANY OVERVIEW

AtliQ Hardware (Imaginary Company) is one of the leading and rapidly expanding global hardware manufacturing company, specializing in a diverse range of products, including mice, desktops, laptops, storage devices, and more in various variants like standard, plus, and premium

# PROBLEM STATEMENT

- Management is struggling with slow, data-driven decision-making due to a lack of actionable insights from existing data systems.
- The executive team requires better visibility into key metrics for more effective strategic planning.
- To address this, the company is expanding its data analytics team and has identified 10 ad-hoc requests for which insights are needed.

# DATA MODEL
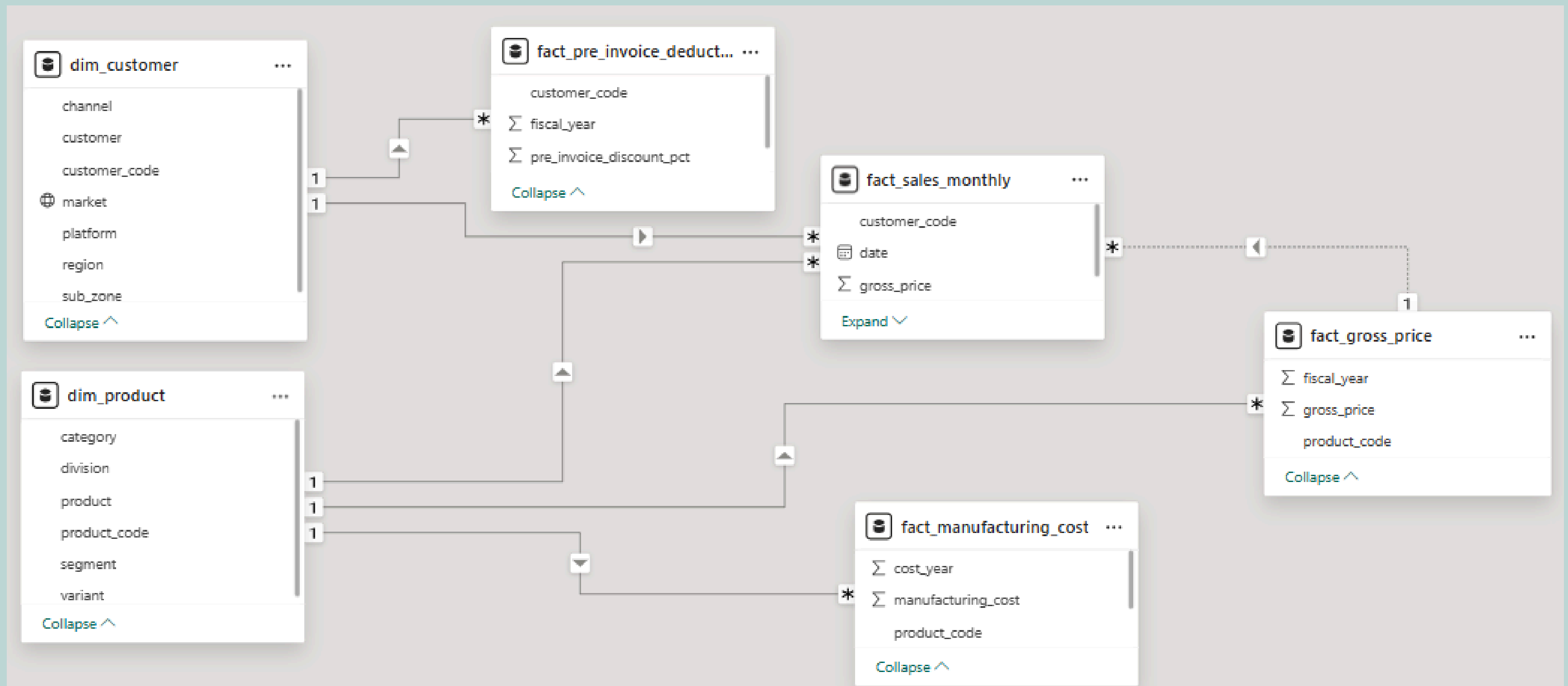
# AD-HOC REQUESTS QUERY, RESULTS AND INSIGHTS

# REQUEST 1

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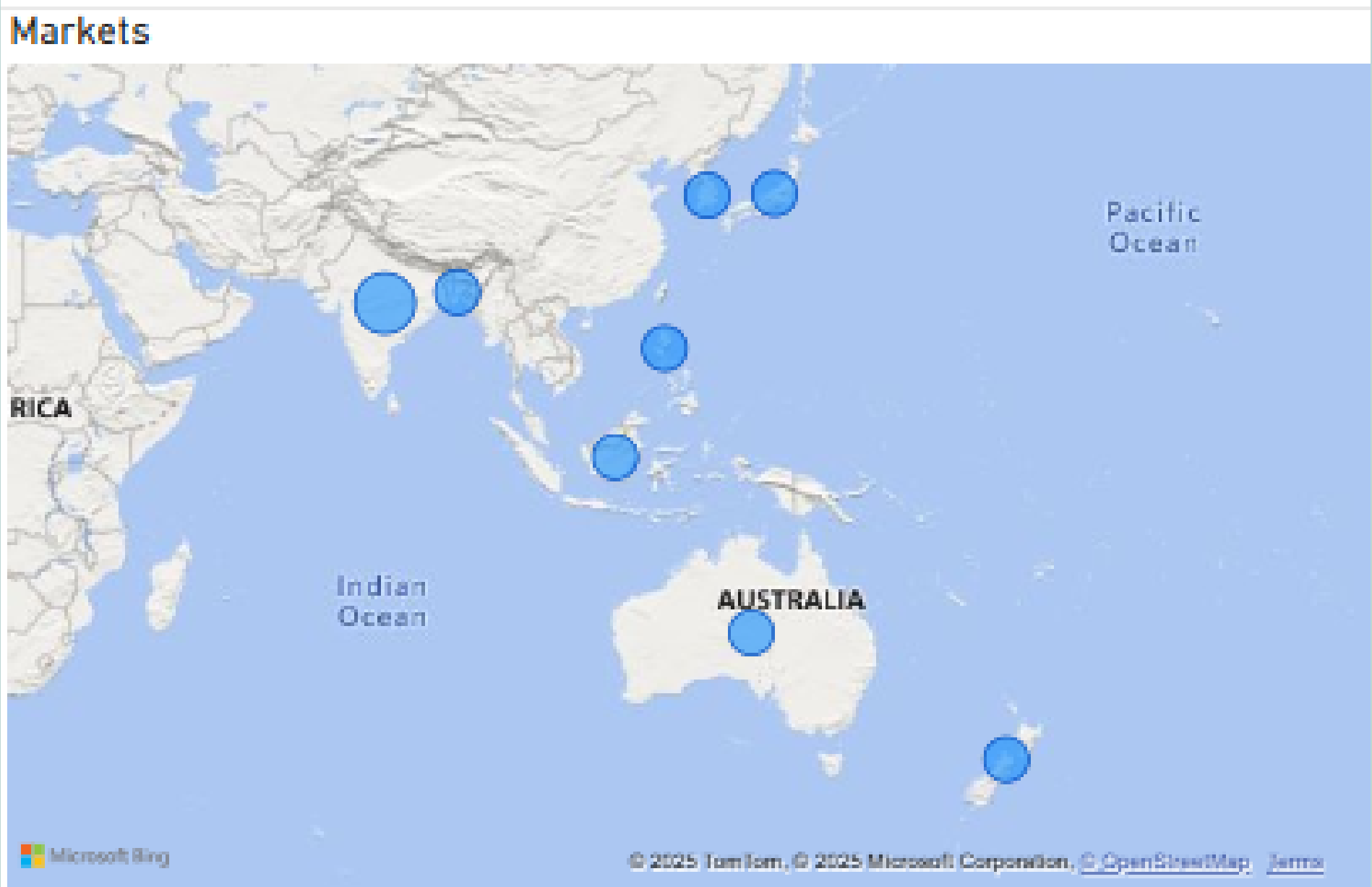
## QUERY

```sql
SELECT market
FROM dim_customer
WHERE customer='Atliq Exclusive' AND region='APAC'
GROUP BY market;
```

# OUTPUT

| market |
|---|
| ▶ India |
| Indonesia |
| Japan |
| Philiphines |
| South Korea |
| Australia |
| Newzealand |
| Bangladesh |

Markets



# INSIGHT

AtliQ Exclusive operates in eight countries across the APAC region, showcasing a Insight strong presence in the regional market.

# REQUEST 2

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

## QUERY

```sql
WITH cte1 AS(
SELECT COUNT(DISTINCT product_code) AS unique_products_2020
    FROM fact_sales_monthly
    WHERE fiscal_year=2020),
cte2 AS(
SELECT COUNT(DISTINCT product_code) AS unique_products_2021
    FROM fact_sales_monthly
    WHERE fiscal_year=2021)
SELECT*,
round((unique_products_2021-unique_products_2020)*100/unique_products_2020,2)
as percentage_chg
FROM cte1 cross join cte2;
```

| | unique_products_2020 | unique_products_2021 | percentage_chg |
|---|---|---|---|
| ▶ | 245 | 334 | 36.33 |



fiscal_year
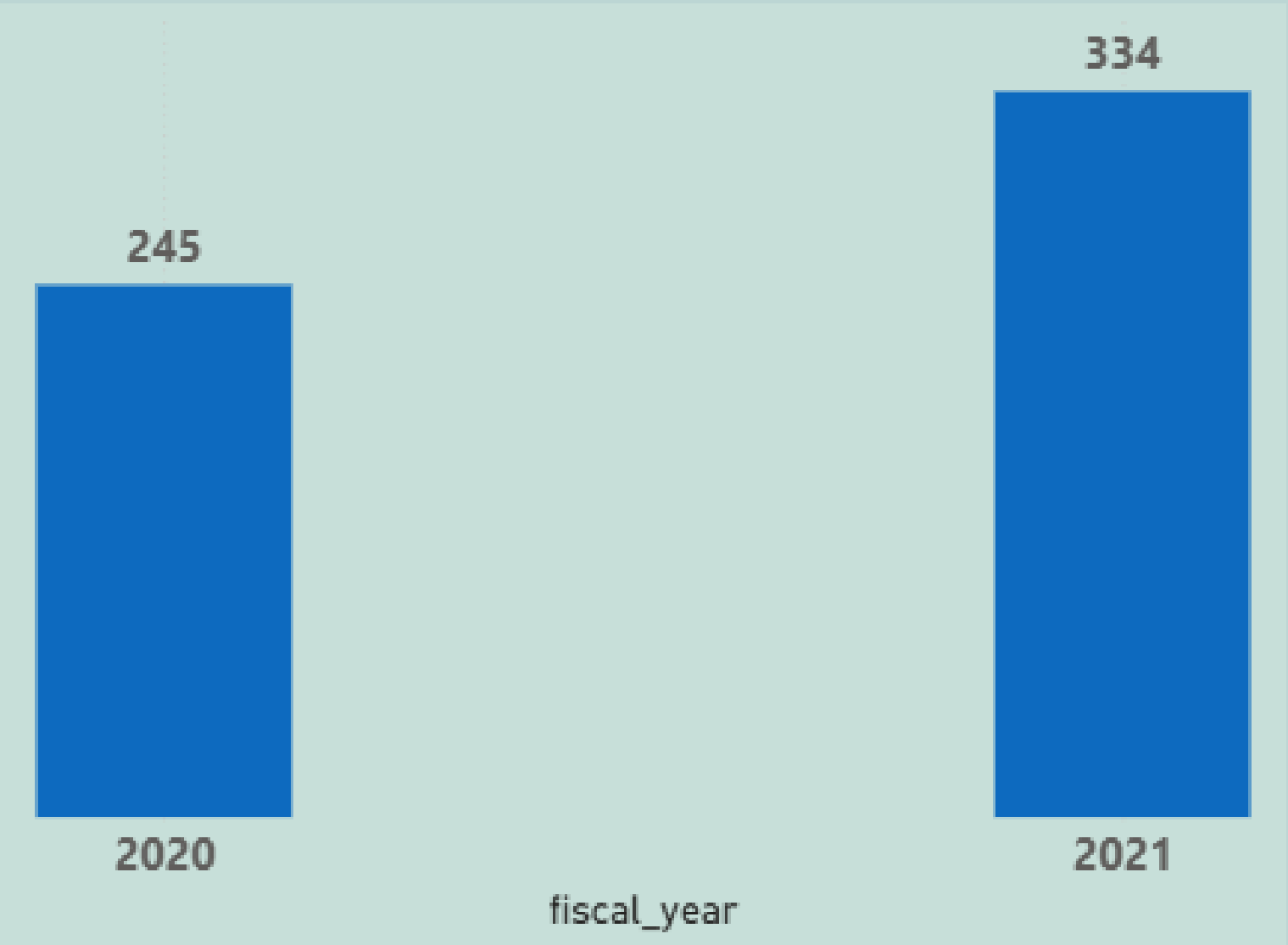
## INSIGHT

In 2020, total number of products was 245, which was increased by 36% in 2021.

# REQUEST 3

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
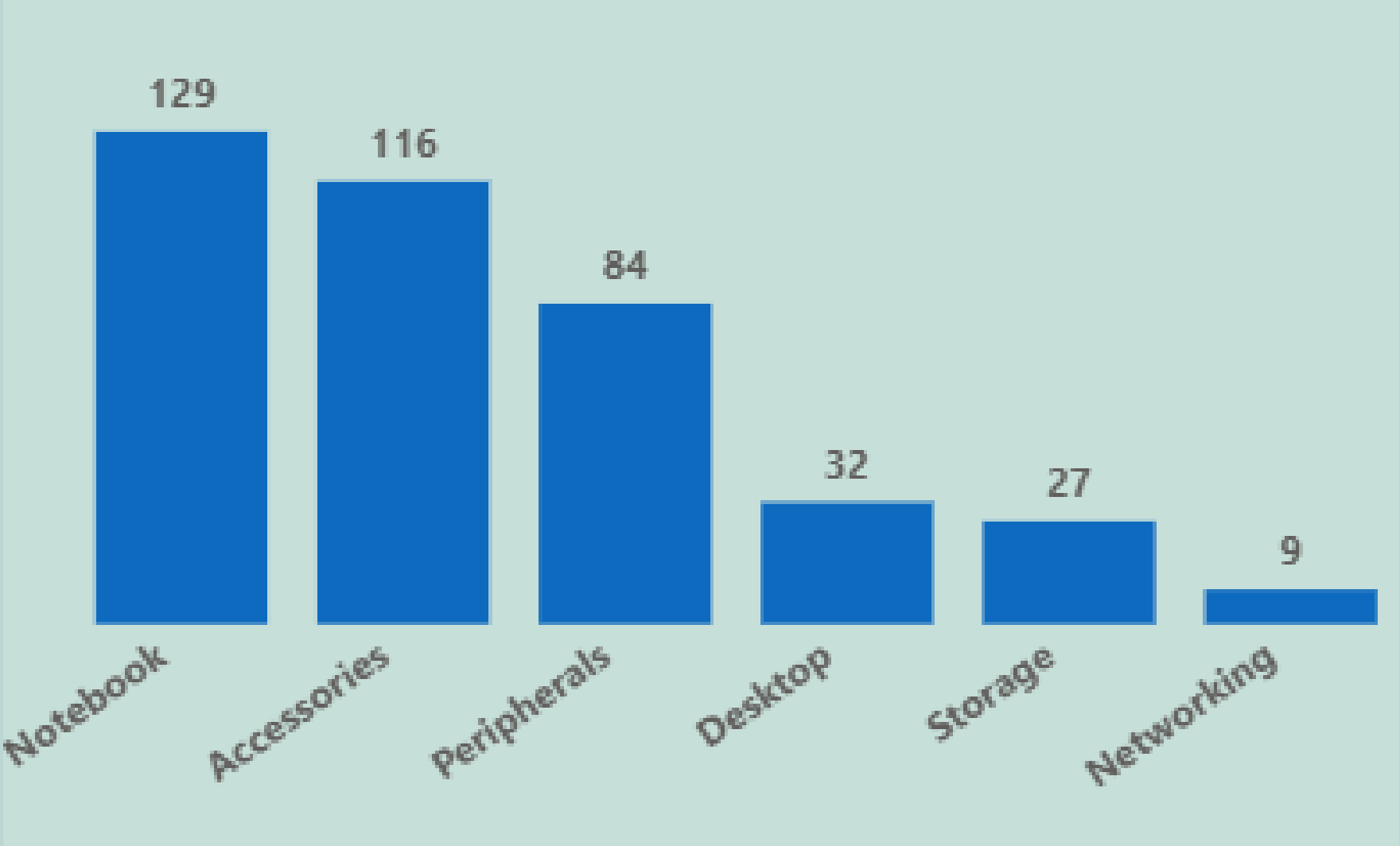
## QUERY

```sql
SELECT Segment,
COUNT(DISTINCT (product_code)) as Product_count
FROM dim_product
GROUP BY Segment
ORDER BY Product_count DESC ;
```

# OUTPUT

| Segment | Product_count |
|---|---|
| Notebook | 129 |
| Accessories | 116 |
| Peripherals | 84 |
| Desktop | 32 |
| Storage | 27 |
| Networking | 9 |



# INSIGHT

- Atliq Hardwares has a strong portfolio in consumer-focused segments, with over 300 products across Notebooks, Accessories, and Peripherals.
- Mid-range categories like Desktop and Storage account for around 60 products, indicating moderate business focus.
- The Networking segment has only 9 products.

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# REQUEST 4

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

## QUERY

```sql
WITH cte1 AS
( SELECT
        dp.segment AS segment,
        COUNT(DISTINCT
            (CASE
                WHEN fiscal_year = 2020 THEN fsm.product_code END)) AS product_count_2020,
        COUNT(DISTINCT
            (CASE
                WHEN fiscal_year = 2021 THEN fsm.product_code END)) AS product_count_2021
    FROM fact_sales_monthly AS fsm
    INNER JOIN dim_product AS dp
    ON fsm.product_code = dp.product_code
    GROUP BY dp.segment  )
SELECT segment, product_count_2020, product_count_2021,
    (product_count_2021-product_count_2020) AS difference
FROM cte1
ORDER BY difference DESC;
```
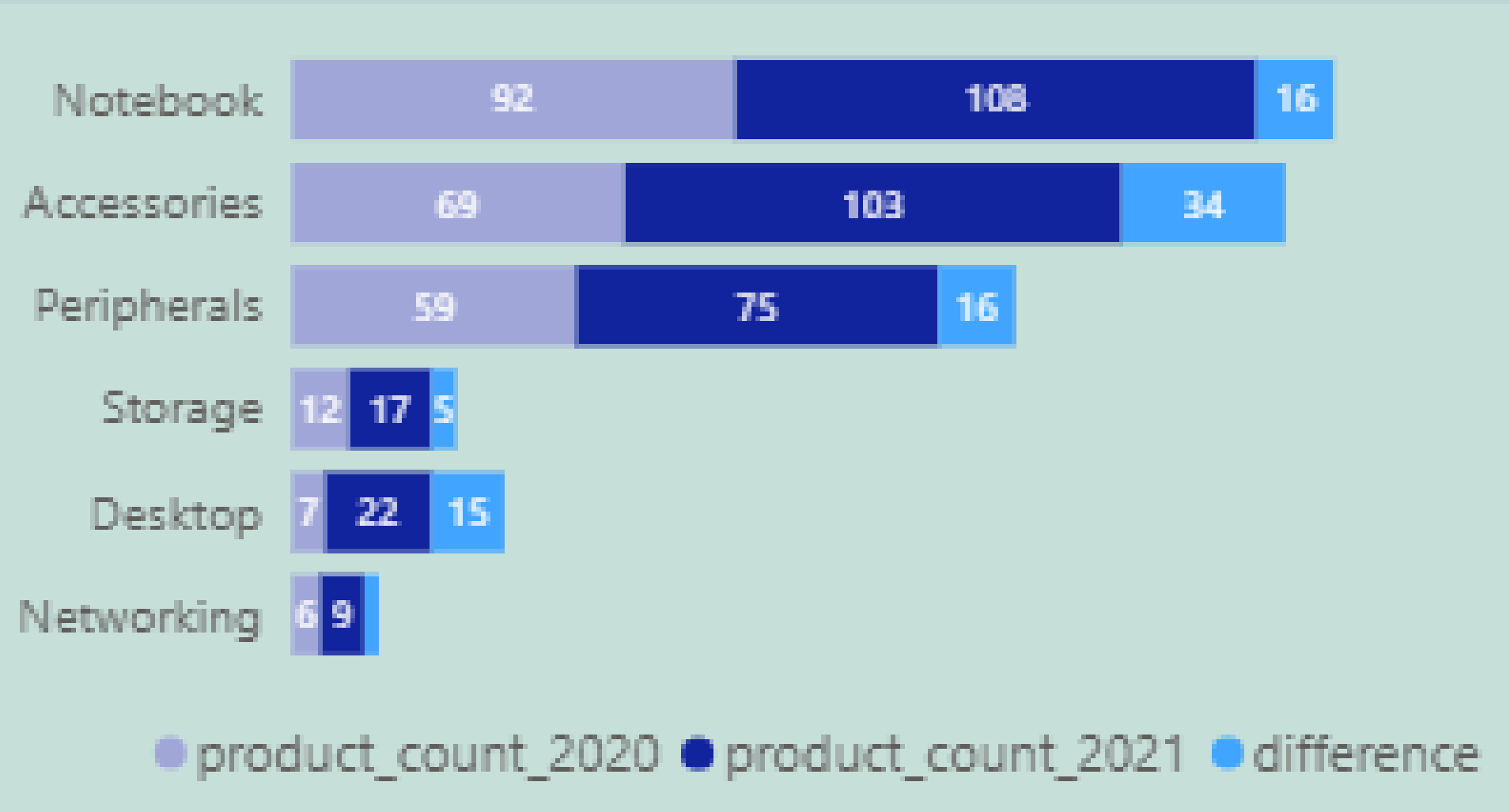
# OUTPUT

| 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 |

# INSIGHT



- Accessories saw the biggest growth from 2020 to 2021, adding 34 new products.
- Desktop product production surged by about 214% during the same period.
- Storage and Networking segments are producing the least new products from 2020 to 2021.

# REQUEST 5

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

## QUERY

```sql
SELECT fmc.product_code, dp.product, fmc.manufacturing_cost
FROM fact_manufacturing_cost fmc
    JOIN dim_product dp
    ON fmc.product_code = dp.product_code
WHERE manufacturing_cost
    IN (
        SELECT MAX(manufacturing_cost)
        FROM fact_manufacturing_cost
    UNION
        SELECT MIN(manufacturing_cost)
        FROM fact_manufacturing_cost
    )
ORDER BY manufacturing_cost DESC;
```

# OUTPUT

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

## Products having the highest and lowest manufacturing cost

### 240.54
product
AQ HOME Allin1 Gen 2

### 0.89
product
AQ Master wired x1 Ms

# 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, avg_discount_percentage

## QUERY

```sql
SELECT dc.customer_code, dc.customer,
ROUND(AVG(pre_invoice_discount_pct)*100,2) AS average_discount_percentage
    FROM fact_pre_invoice_deductions fd
        JOIN dim_customer dc
        ON fd.customer_code = dc.customer_code
    WHERE dc.market = "India" AND fiscal_year = "2021"
GROUP BY customer_code,dc.customer
ORDER BY average_discount_percentage DESC
    LIMIT 5;
```

# OUTPUT

| customer_code | customer | average_discount_percentage |
|---|---|---|
| ▸ 90002009 | Flipkart | 30.83 |
| 90002006 | Viveks | 30.38 |
| 90002003 | Ezone | 30.28 |
| 90002002 | Croma | 30.25 |
| 90002016 | Amazon | 29.33 |

Amazon 29.33%

Flipkart 30.83%

Croma 30.25%

Ezone 30.28%

Viveks 30.38%

# INSIGHT
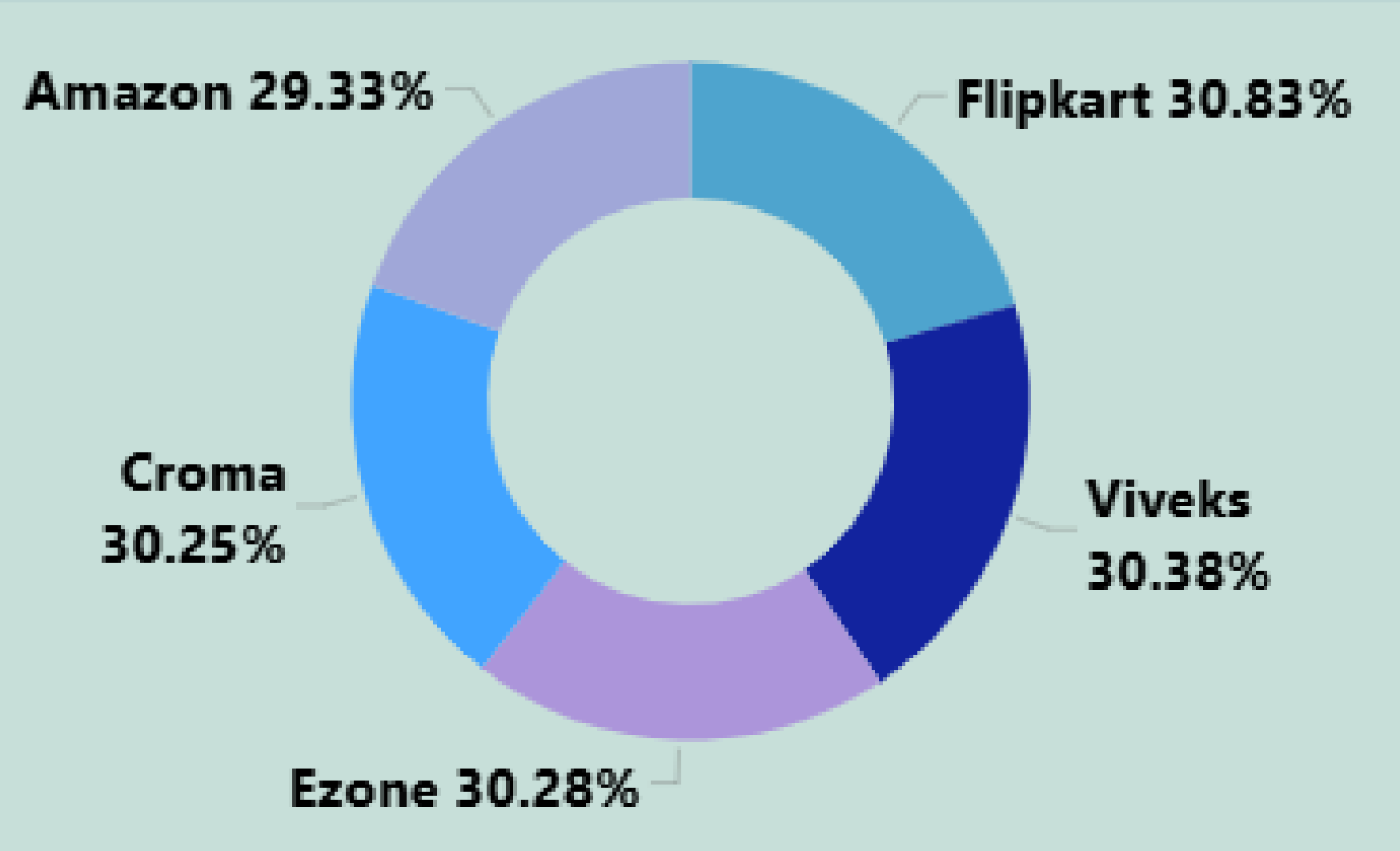
- Top 5 Customers have a collective similar average around 30.21%
- Flipkart has received the highest pre invoice discount percent i.e., 30.83%.

# 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
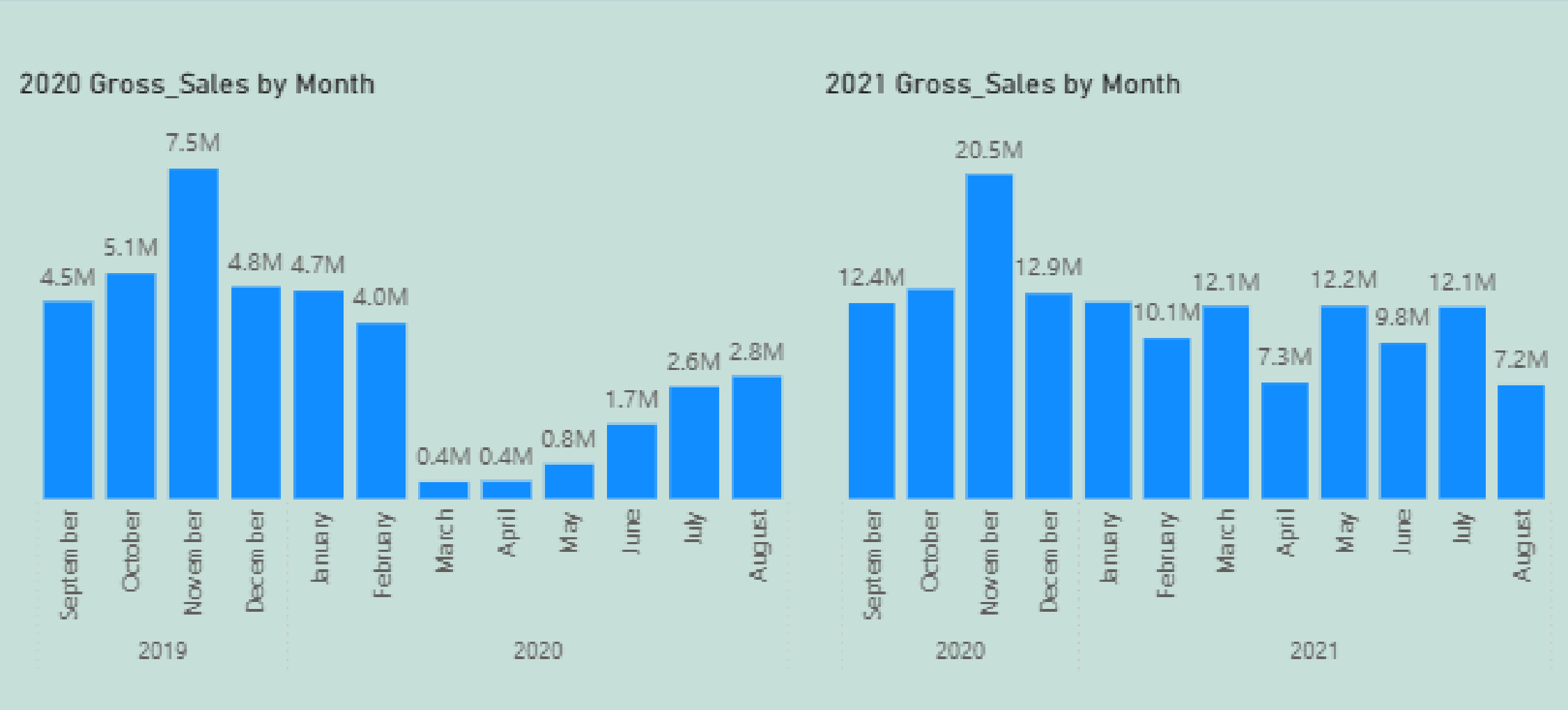
## QUERY

```sql
SELECT
    MONTHNAME(fsm.date) AS month_name,
    fsm.fiscal_year AS year,
    ROUND(SUM(fsm.sold_quantity * fgp.gross_price), 2) AS gross_sales_amount
FROM fact_sales_monthly AS fsm
JOIN dim_customer AS dc
    ON fsm.customer_code = dc.customer_code
JOIN fact_gross_price AS fgp
    ON fsm.product_code = fgp.product_code
    AND fsm.fiscal_year = fgp.fiscal_year
WHERE dc.customer = 'AtliQ Exclusive'
GROUP BY month_name,year
ORDER BY year;
```

# OUTPUT

| month_name | year | gross_sales_amount |
|---|---|---|
| September | 2020 | 4496259.67 |
| October | 2020 | 5135902.35 |
| November | 2020 | 7522892.56 |
| December | 2020 | 4830404.73 |
| January | 2020 | 4740600.16 |
| February | 2020 | 3996227.77 |
| March | 2020 | 378770.97 |
| April | 2020 | 395035.35 |
| May | 2020 | 783813.42 |
| June | 2020 | 1695216.60 |
| July | 2020 | 2551159.16 |
| August | 2020 | 2786648.26 |
| September | 2021 | 12353509.79 |
| October | 2021 | 13218636.20 |
| November | 2021 | 20464999.10 |
| December | 2021 | 12944659.65 |
| January | 2021 | 12399392.98 |
| February | 2021 | 10129735.57 |
| March | 2021 | 12144061.25 |
| April | 2021 | 7311999.95 |
| May | 2021 | 12150225.01 |
| June | 2021 | 9824521.01 |
| July | 2021 | 12092346.32 |
| August | 2021 | 7178707.59 |

### 2020 Gross_Sales by Month

4.5M 5.1M 7.5M 4.8M 4.7M 4.0M 0.4M 0.4M 0.8M 1.7M 2.6M 2.8M

September October November December January February March April May June July August

2019 — 2020

### 2021 Gross_Sales by Month

12.4M 20.5M 12.9M 10.1M 12.1M 7.3M 12.2M 9.8M 12.1M 7.2M

September October November December January February March April May June July August

2020 — 2021

# INSIGHT

- Sales dropped to 0.4M in March 2020, likely due to the COVID-19 impact.
- A gradual recovery followed, peaking at 20.5M in November 2020.
- From September 2020 to January 2021, sales stayed strong at around 12–13M.
- Sales declined again in March - August 2021 dropping to around 7M.

# REQUEST 8

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
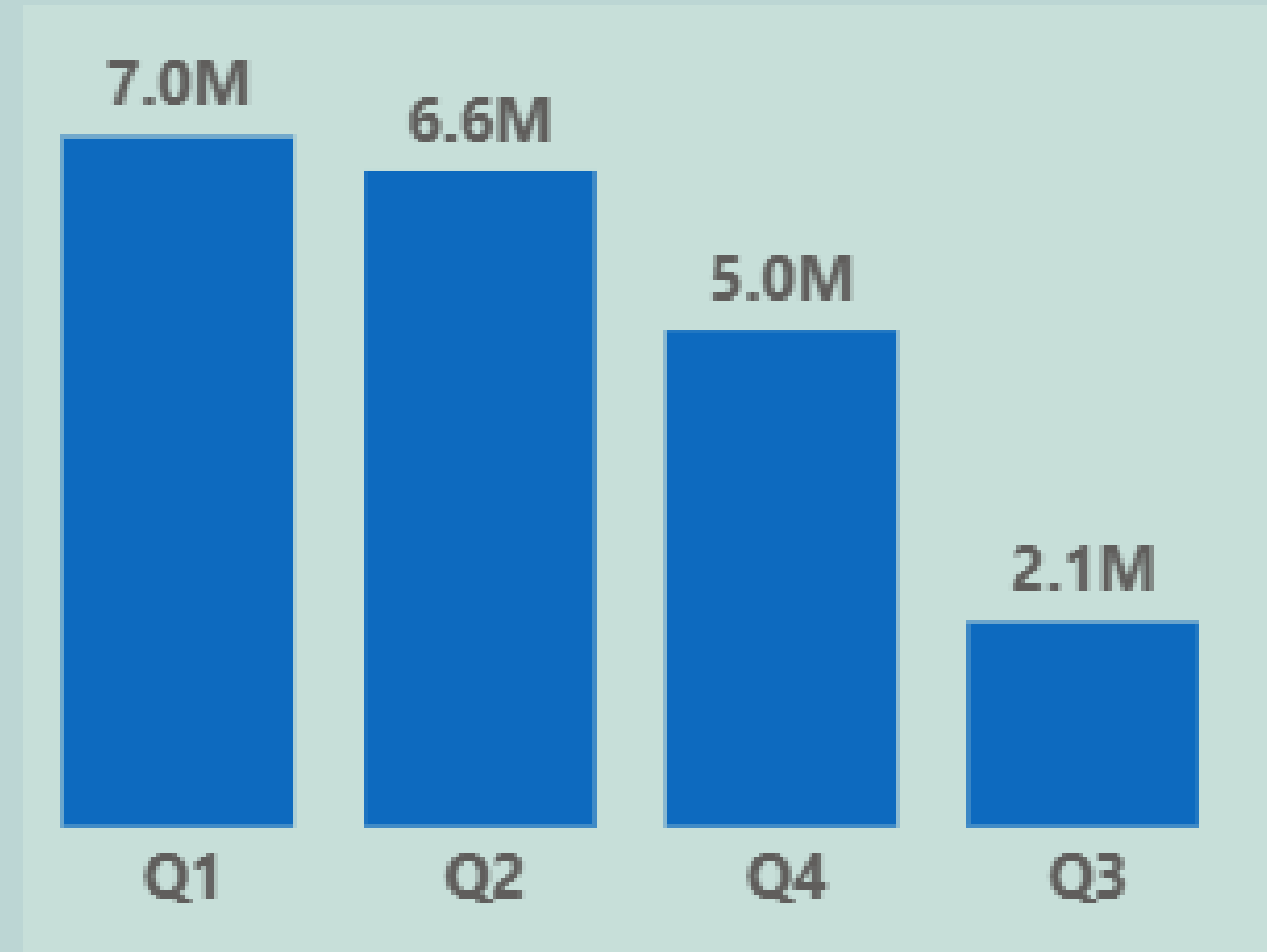
## QUERY

```sql
SELECT
    CASE
        WHEN MONTH(date) IN (9,10,11) THEN 'Q1'
        WHEN MONTH(date) IN (12,1,2) THEN 'Q2'
        WHEN MONTH(date) IN (3,4,5) THEN 'Q3'
    ELSE 'Q4'
    END AS quarters,
SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC;
```

# OUTPUT

| quarters | total_sold_quantity |
|----------|---------------------|
| Q1       | 7005619             |
| Q2       | 6649642             |
| Q4       | 5042541             |
| Q3       | 2075087             |



# INSIGHT

- Q1 ( September-November) had the maximum quantity sold for FY 2020 standing at 7 millions.
- The sold quantity decreased to 2.1 million in quarter 3 of FY 2020, which was actually March, April, and May when COVID-19 was at its peak.

# 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, per
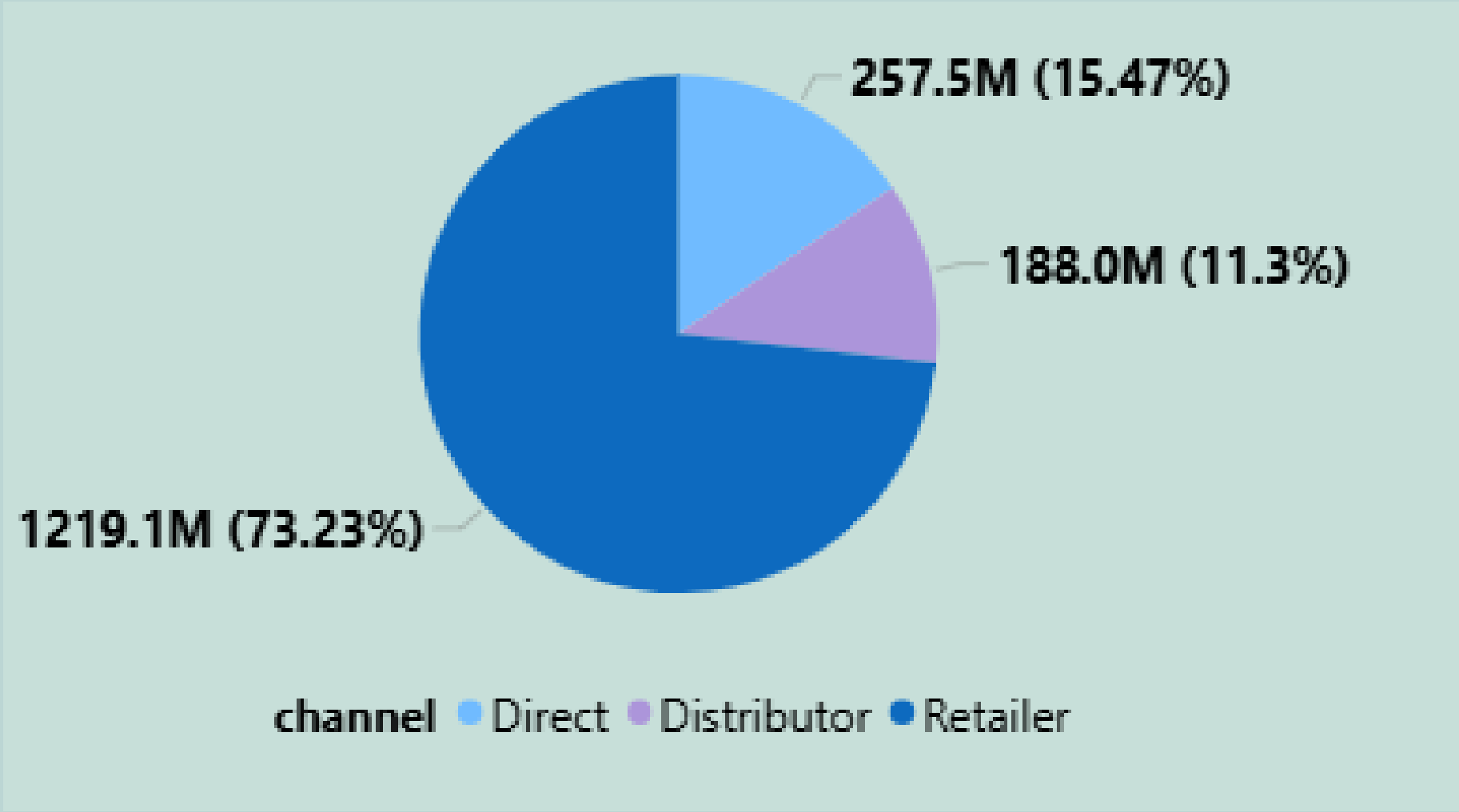
## QUERY

```sql
WITH gross_sales AS
( SELECT c.channel AS channel_,
    ROUND(SUM(b.gross_price * a.sold_quantity) / 1000000, 2) AS gross_sales_million
  FROM fact_sales_monthly AS a
  LEFT JOIN fact_gross_price AS b
    ON a.product_code = b.product_code
    AND a.fiscal_year = b.fiscal_year
  LEFT JOIN dim_customer AS c
    ON a.customer_code = c.customer_code
  WHERE a.fiscal_year = 2021
  GROUP BY c.channel
)SELECT
  channel_ AS channel,gross_sales_million,
  ROUND(gross_sales_million / SUM(gross_sales_million) OVER() * 100, 2) AS percentage
FROM gross_sales
ORDER BY percentage DESC;
```

# OUTPUT

| | channel | gross_sales_million | percentage |
|---|---|---|---|
| ▶ | Retailer | 1219.08 | 73.23 |
| | Direct | 257.53 | 15.47 |
| | Distributor | 188.03 | 11.30 |

**257.5M (15.47%)**

**188.0M (11.3%)**

**1219.1M (73.23%)**

channel ● Direct ● Distributor ● Retailer

# INSIGHT

- 1. Retailers drive most of sales, making up 73.22% of total gross sales.
- 2. Direct and distributor channels contribute 26.79%

# REQUEST 10

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.

## QUERY

```sql
SELECT division, product_code, product, total_sold_quantity, rank_order
FROM (
    SELECT
        dp.division,
        fsm.product_code,
        dp.product,
        SUM(fsm.sold_quantity) AS total_sold_quantity,
        RANK() OVER (PARTITION BY dp.division ORDER BY SUM(fsm.sold_quantity) DESC) AS
        rank_order
    FROM fact_sales_monthly fsm
    JOIN dim_product dp ON fsm.product_code = dp.product_code
    WHERE fsm.fiscal_year = 2021
    GROUP BY dp.division, fsm.product_code, dp.product
) ranked
WHERE rank_order <=3
ORDER BY division, rank_order;
```

# 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 | A421811 0202 | AQ Digit | 17434 | 1 |
| PC | A4319110306 | AQ Velocity | 17280 | 2 |
| PC | A4218110208 | AQ Digit | 17275 | 3 |

# INSIGHT

- In the N&S division, pen drives dominate the top three spots.
- The P&A division's top three products are all mice.
- The PC division's bestsellers are personal laptops.
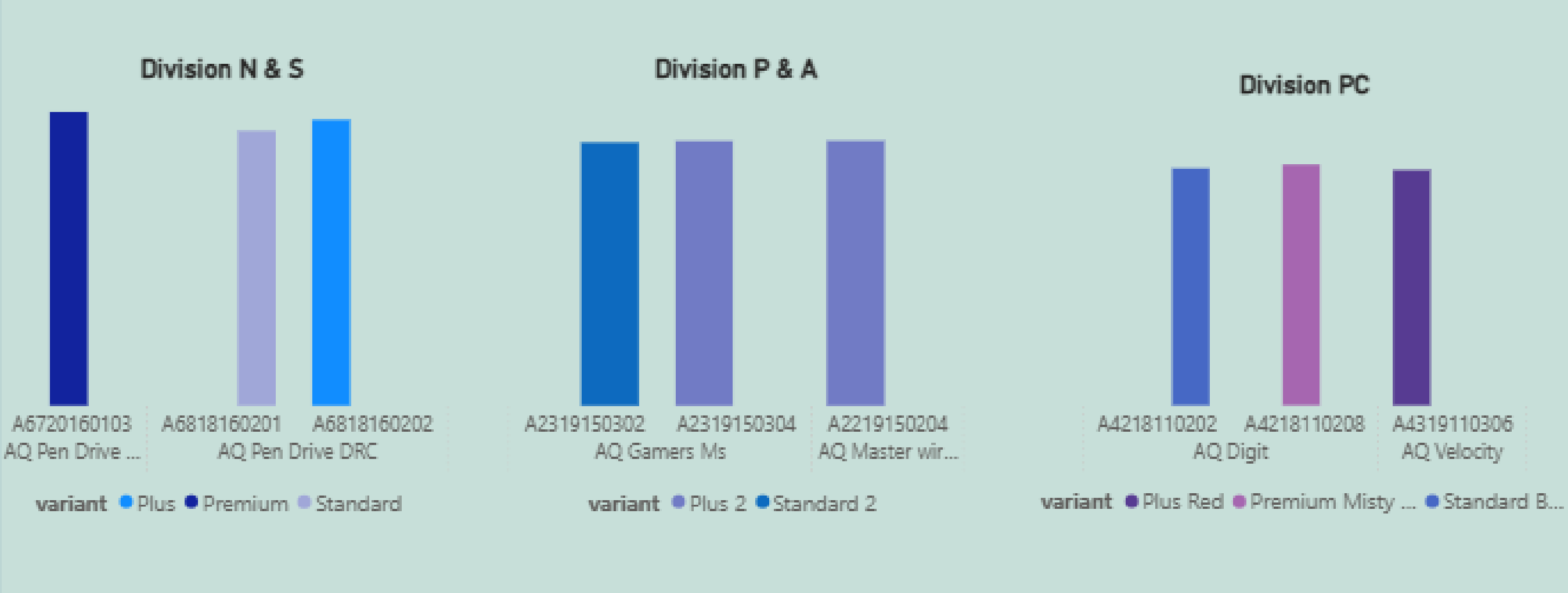
# RECOMMENDATIONS

- **Focus on Core Products:**

    Prioritize Notebooks, Accessories, and Peripherals—key contributors to sales.
- **Leverage High-Growth Segments:**

    Boost investment in Accessories and Desktops, which show rapid growth.
- **Region-Wise Strategic Planning:**

    Tailor strategies per APAC country to increase market impact.
- **Optimize Sales Around Seasonal Peaks:**

    Align campaigns with high-sales periods like Q1 (Sept–Nov) for better returns.
- **Use Inventory & Product Planning:**

    Track bestsellers by division to guide smarter inventory and planning.

# THANK YOU !