# CONSUMER GOODS AD_HOC INSIGHTS

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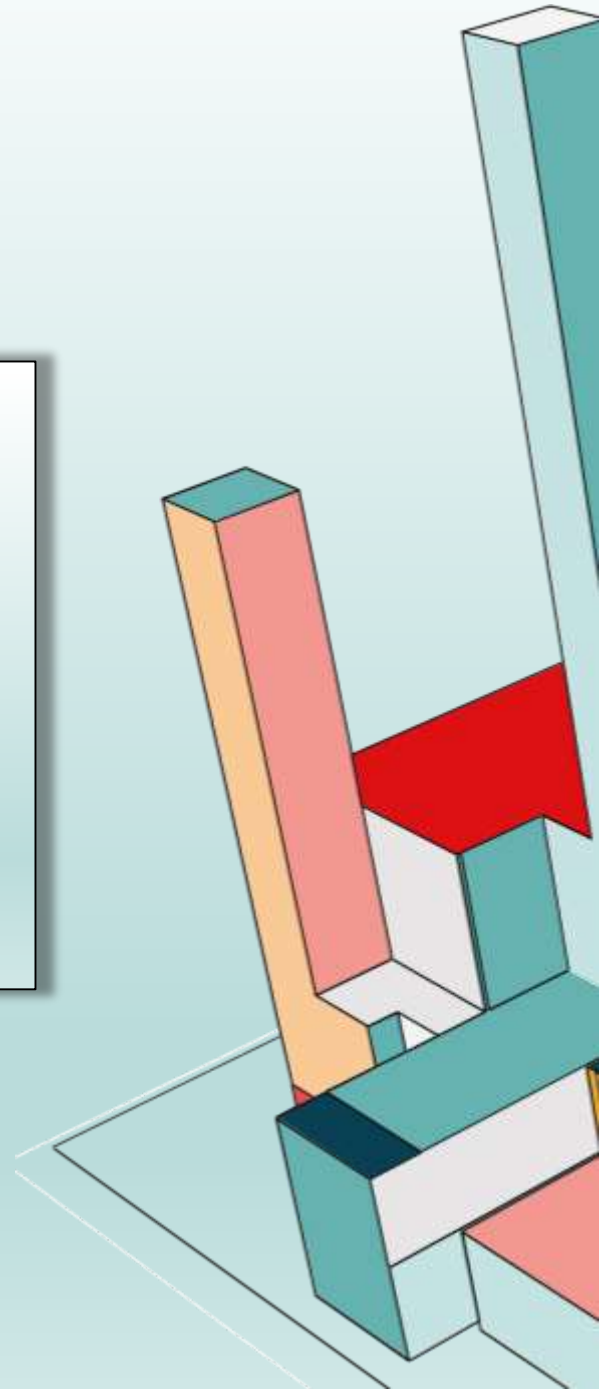
# ATLIQ’S BUSINESS MODEL

- AtliQ Hardware is one of the leading computer hardware producers in India and well expanded in other countries too.
- The company specializes in producing and distributing a wide range of high quality hardware products.
- Our offerings include personal computers, printers, microphones, and various computer accessories, serving the needs of customers around the world.



## PROBLEM STATEMENT

- The management observed that they did not have enough insights to make rapid and sensible data-driven decisions.
- They intend to grow their data analytics team by adding a few younger data analysts.

## OBJECTIVE

- To fulfill 10 ad-hoc business requests, execute SQL queries to extract relevant data and create actionable insights.
- The findings will be presented in a dashboard designed specifically for top-level management to facilitate successful data-driven decision-making.

# ATLIQ'S PRODUCT SEGMENTATION

| Division | Segment | Category | Product | Variant |
|---|---|---|---|---|
| P &A - Peripherals and Accessories | Peripherals | 150 | 120 | Standard |
| PC – Personal Computer | Accessories | 60 | 75 | Plus |
| N & S – Network and Storage | Notebook | 10 | 15 | Premium |
| | Desktop | 90 | 95 | Premium Plus |

# MARKET PRESENCE OF ATLIQ EXCLUSIVE IN THE APAC REGION

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

## SQL Query:

```
select
   distinct(market)
   from dim_customer
where customer = "Atliq Exclusive" and region =  "APAC";
```

## Output:

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


Atliq Exclusive is well-established in 8 APAC (Asia-Pacific) region, including India, Indonesia, Japan, Philippines, South Korea, Australia, New Zealand, and Bangladesh

# UNIQUE PRODUCT INCREASE (2020 VS. 2021)

**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.

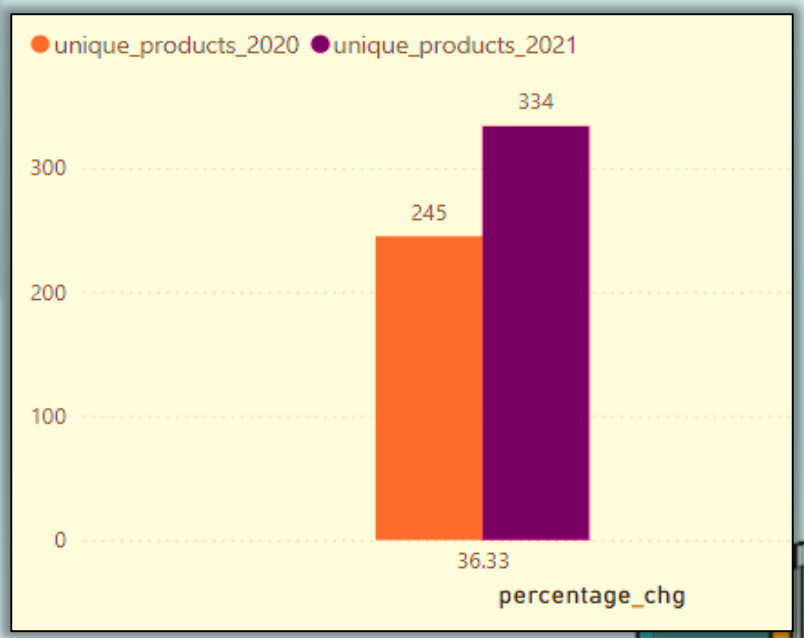
## SQL Query:

```sql
with cte as (
  select
    count(distinct case when fiscal_year = 2020 then product_code end) as unique_products_2020,
    count(distinct case when fiscal_year = 2021 then product_code end) as unique_products_2021
  from fact_sales_monthly
)
select
  unique_products_2020,
  unique_products_2021,
  round((unique_products_2021 - unique_products_2020) * 100 / (unique_products_2020), 2)  as percentage_chg
from cte;
```

In 2021, the unique product count rose from 245 to 334, marking a 36.33% increase compared to the previous year.

## Output:

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



# SEGMENT-WISE UNIQUE PRODUCT COUNT

**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.

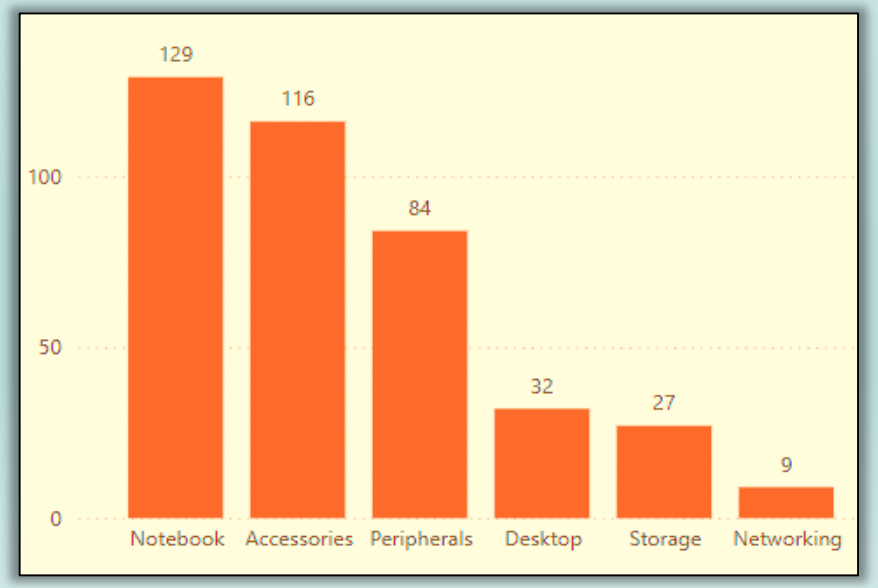
## SQL Query:

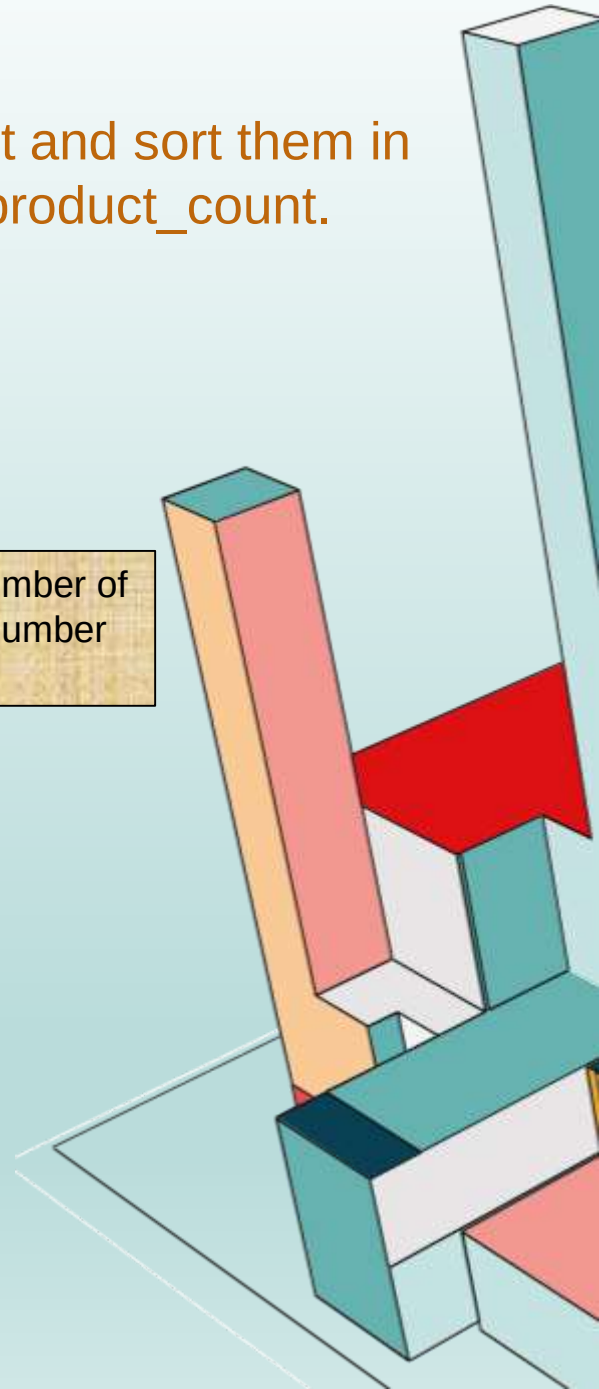
```sql
select
    segment,
    count(distinct(product_code)) as product_counts
from dim_product
group by segment
order by product_counts desc;
```

Out of 6 segments, Notebook had the highest number of products (129), and Networking had the lowest number of products (9).

## Output:

| segment | product_counts |
|---|---|
| Notebook | 129 |
| Accessories | 116 |
| Peripherals | 84 |
| Desktop | 32 |
| Storage | 27 |
| Networking | 9 |



# SEGMENT-WISE UNIQUE PRODUCT INCREASE (2020 VS. 2021)

**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

## SQL Query:

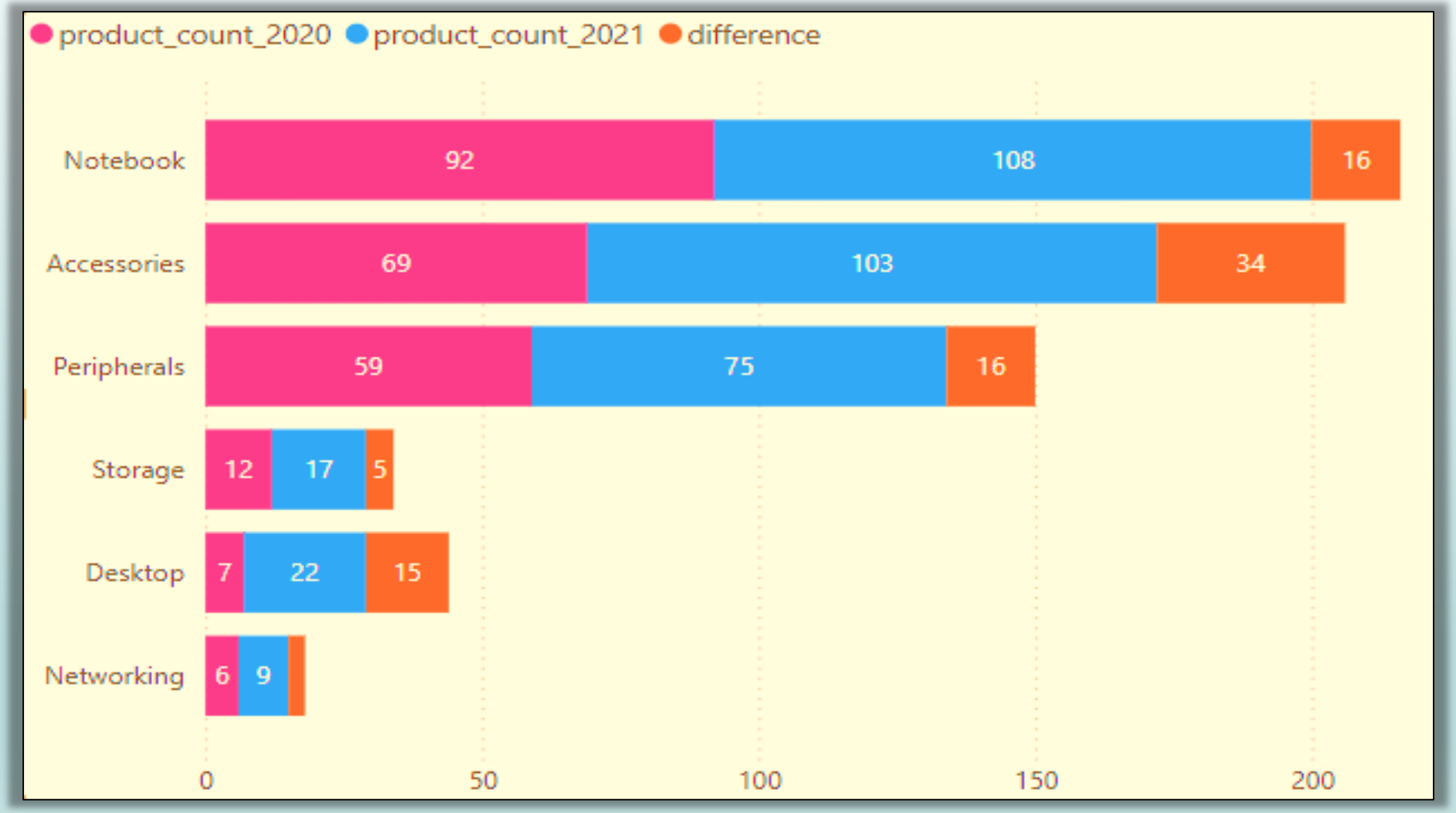
```sql
with cte as (
    select
        p.segment,
        count(distinct case when fiscal_year = 2020 then s.product_code end) as product_count_2020,
        count(distinct case when fiscal_year = 2021 then s.product_code end) as product_count_2021
    from fact_sales_monthly s
    join dim_product p
    on p.product_code = s.product_code
    group by p.segment
)
select
    segment,
    product_count_2020,
    product_count_2021,
    abs(product_count_2021 - product_count_2020) as difference
from cte
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 |

In 2021, Notebooks added 16 new unique products, reaching108. However, Accessories added 34 products, reaching a total of 103, making it first in terms of growth.

# PRODUCT COUNT CHANGE BY SEGMENT



# HIGHEST AND LOWEST MANUFACTURING COSTS FOR PRODUCTS

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

## SQL Query:

```
select
    p.product_code,
    p.product,
    m.manufacturing_cost
from fact_manufacturing_cost m
join dim_product p
on m.product_code = p.product_code
where m.manufacturing_cost in (
      (select max(manufacturing_cost) from fact_manufacturing_cost),
      (select min(manufacturing_cost) from fact_manufacturing_cost)
);
```

## Output:

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



'AQ Master wired x1Ms' had the lowest manufacturing cost with 0.89,
'AQ HOMEAllin1Gen2' had the highest manufacturing cost at 240.54.

# TOP 5 CUSTOMERS WITH HIGHEST PRE-INVOICE DISCOUNT PERCENTAGE IN THE INDIAN MARKET (FISCAL YEAR 2021)

**Request 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

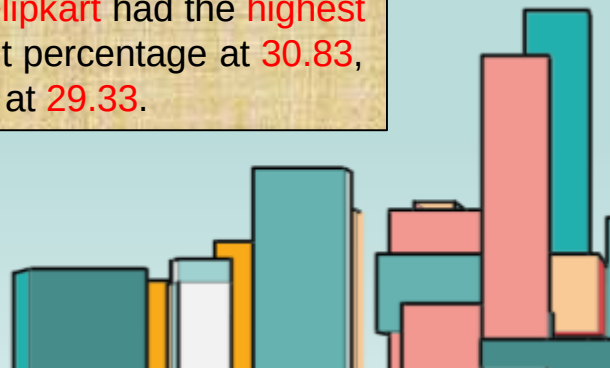
## SQL Query:

```
select
    c.customer_code,
    c.customer,
    round(avg(i.pre_invoice_discount_pct * 100), 2) as average_discount_percentage
from fact_pre_invoice_deductions i
join dim_customer c
on i.customer_code = c.customer_code
where i.fiscal_year = 2021  and c.market = "India"
group by c.customer_code, c.customer
order by average_discount_percentage desc
limit 5
```

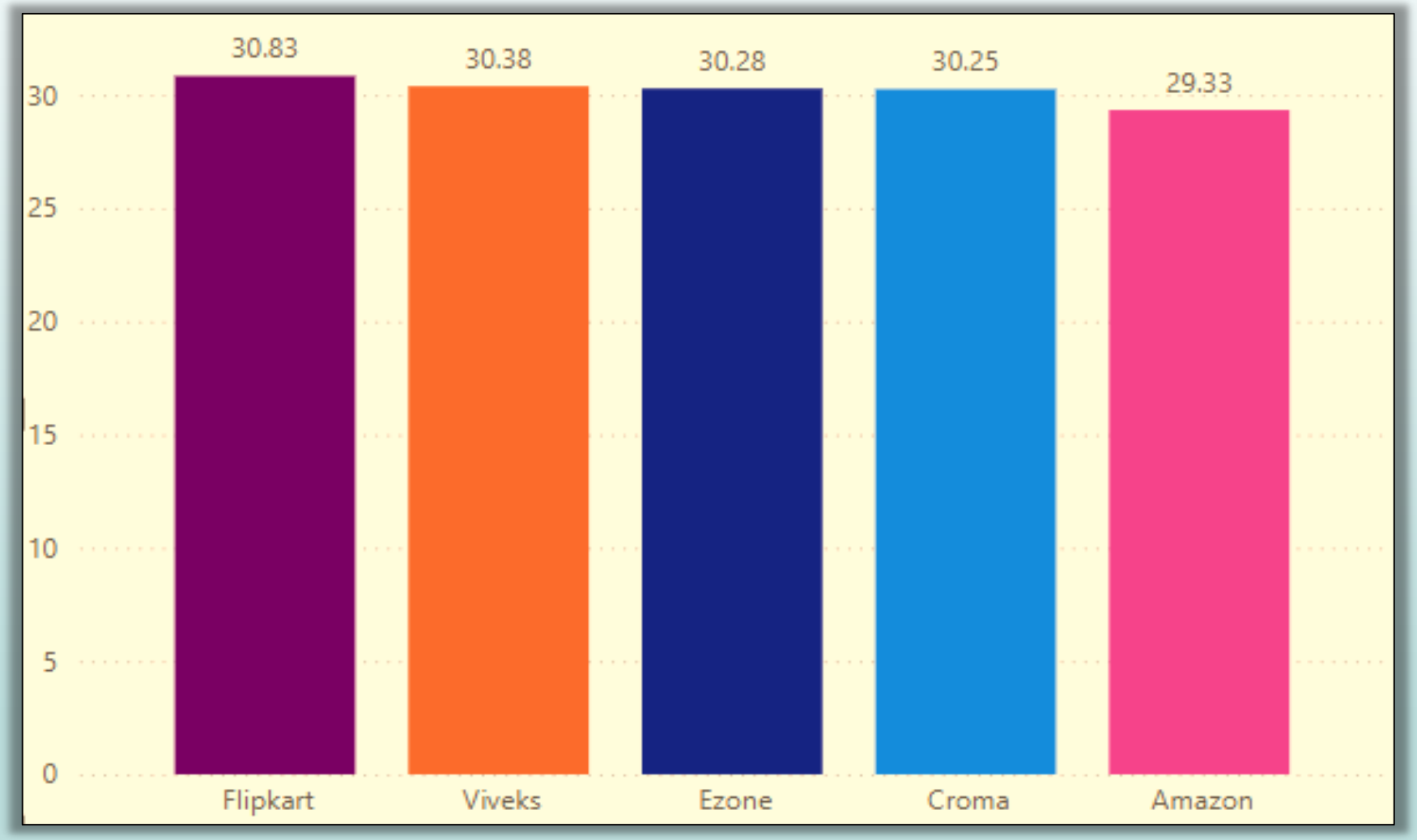
## Output:

| 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 |

In the Indian Market 2021, Flipkart had the highest average pre-invoice discount percentage at 30.83, and Amazon had the lowest at 29.33.



# TOP 5 INDIAN CUSTOMERS BY HIGHEST AVG DISCOUNTS – FY2021



# MONTHLY GROSS SALES ANALYSIS FOR CUSTOMER "ATLIQ EXCLUSIVE"

**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

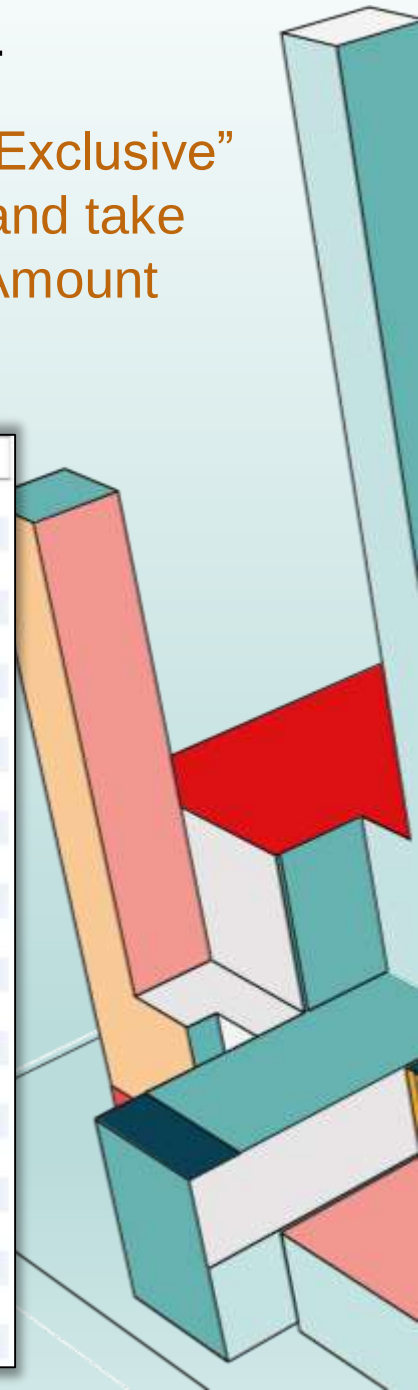
## SQL Query:

```sql
select
    monthname(s.date) as month,
    s.fiscal_year as year,
    concat(round(sum(s.sold_quantity * g.gross_price) / 1000000, 2), "M") as gross_sales_amount
from fact_sales_monthly s
join dim_customer c
on s.customer_code = c.customer_code
join fact_gross_price g
on s.product_code = g.product_code and s.fiscal_year = g.fiscal_year
where c.customer = "AtliQ Exclusive"
group by MONTHNAME(s.date), year
order by year asc;
```

## Output:

| month | year | gross_sales_amount |
|---|---|---|
| September | 2020 | 4.50M |
| October | 2020 | 5.14M |
| November | 2020 | 7.52M |
| December | 2020 | 4.83M |
| January | 2020 | 4.74M |
| February | 2020 | 4.00M |
| March | 2020 | 0.38M |
| April | 2020 | 0.40M |
| May | 2020 | 0.78M |
| June | 2020 | 1.70M |
| July | 2020 | 2.55M |
| August | 2020 | 2.79M |
| September | 2021 | 12.35M |
| October | 2021 | 13.22M |
| November | 2021 | 20.46M |
| December | 2021 | 12.94M |
| January | 2021 | 12.40M |
| February | 2021 | 10.13M |
| March | 2021 | 12.14M |
| April | 2021 | 7.31M |
| May | 2021 | 12.15M |
| June | 2021 | 9.82M |
| July | 2021 | 12.09M |
| August | 2021 | 7.18M |

- In 2021, gross sales for "Atliq Exclusive" saw a substantial increase compared to 2020.
- The highest sales month in 2021 was November (20.46M), nearly 3 times higher than November 2020 (7.52M).

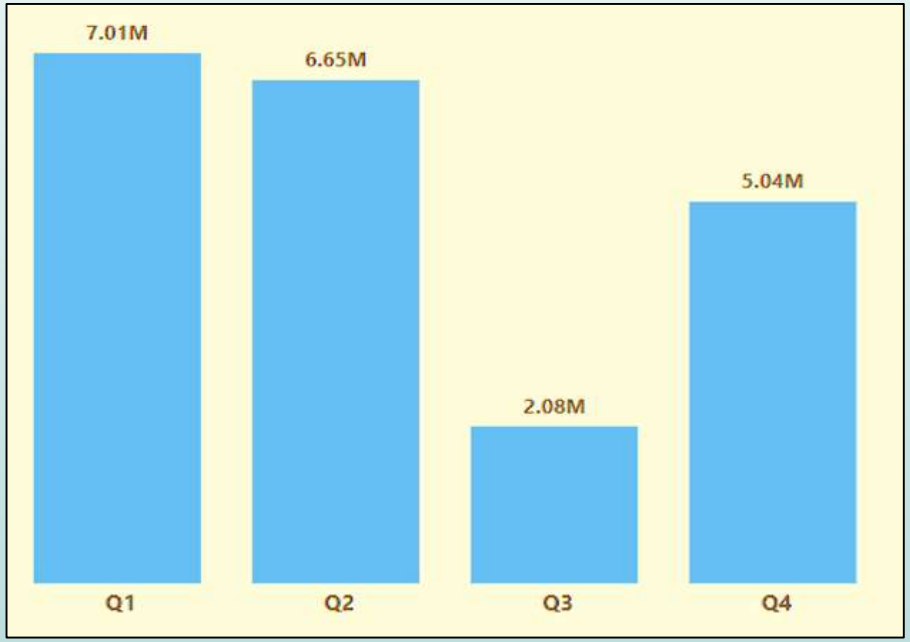


# IDENTIFYING QUARTER WITH MAXIMUM TOTAL SOLD QUANTITY IN 2020

**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

## SQL Query:

```
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"
    when month(date) in (6,7,8) then "Q4"
    end as Quarters,
concat(round(sum(sold_quantity)/1000000,2), "M") 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 | 7.01 M |
| Q2 | 6.65 M |
| Q4 | 5.04 M |
| Q3 | 2.08 M |

In 2020, Quarter 1 reports the maximum sold quantity of 7 Million, while Quarter 3 reports the minimum total of 2 Million.

# CHANNEL IMPACT: FISCAL YEAR 2021 GROSS SALES CONTRIBUTION

**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

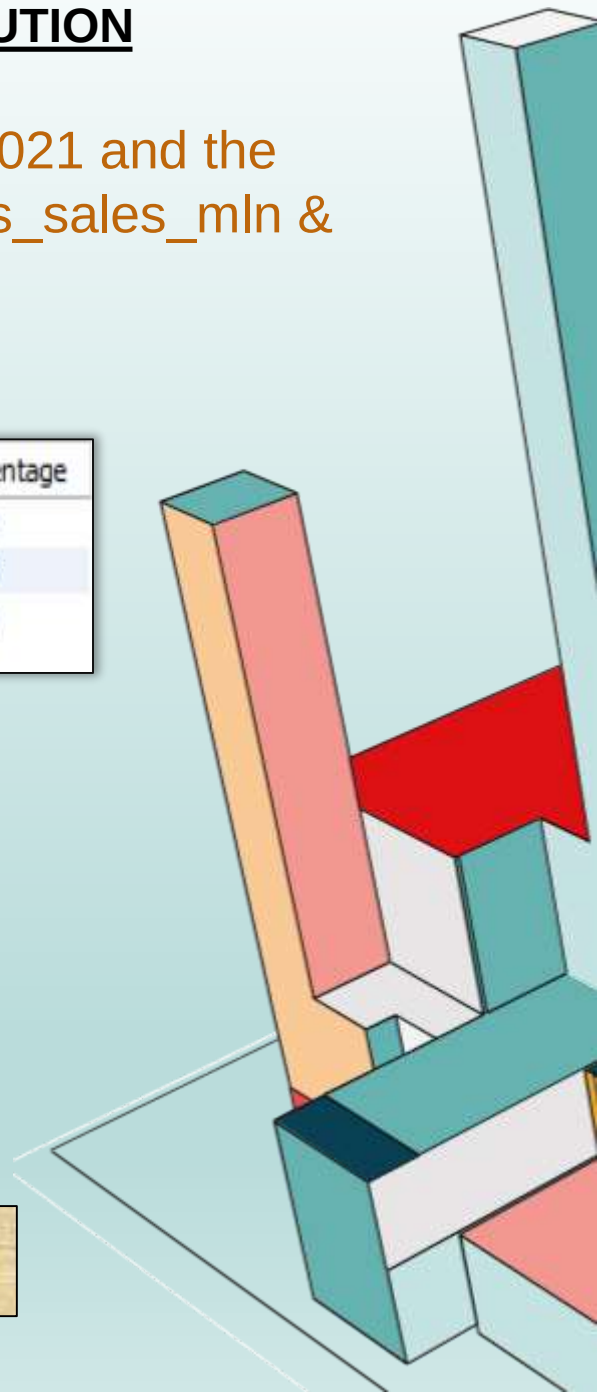
## SQL Query:

```sql
with cte as (
    select
        c.channel,
        round(sum(g.gross_price * s.sold_quantity) / 1000000, 2) as gross_sales_mln
    from fact_sales_monthly s
    join dim_customer c
    on s.customer_code = c.customer_code
    join fact_gross_price g
    on s.product_code = g.product_code and s.fiscal_year = g.fiscal_year
    where s.fiscal_year = 2021
    group by c.channel
)
select
    channel,
    gross_sales_mln,
    round((gross_sales_mln / sum(gross_sales_mln) over()) * 100, 2) as percentage
from cte
order by gross_sales_mln desc;
```

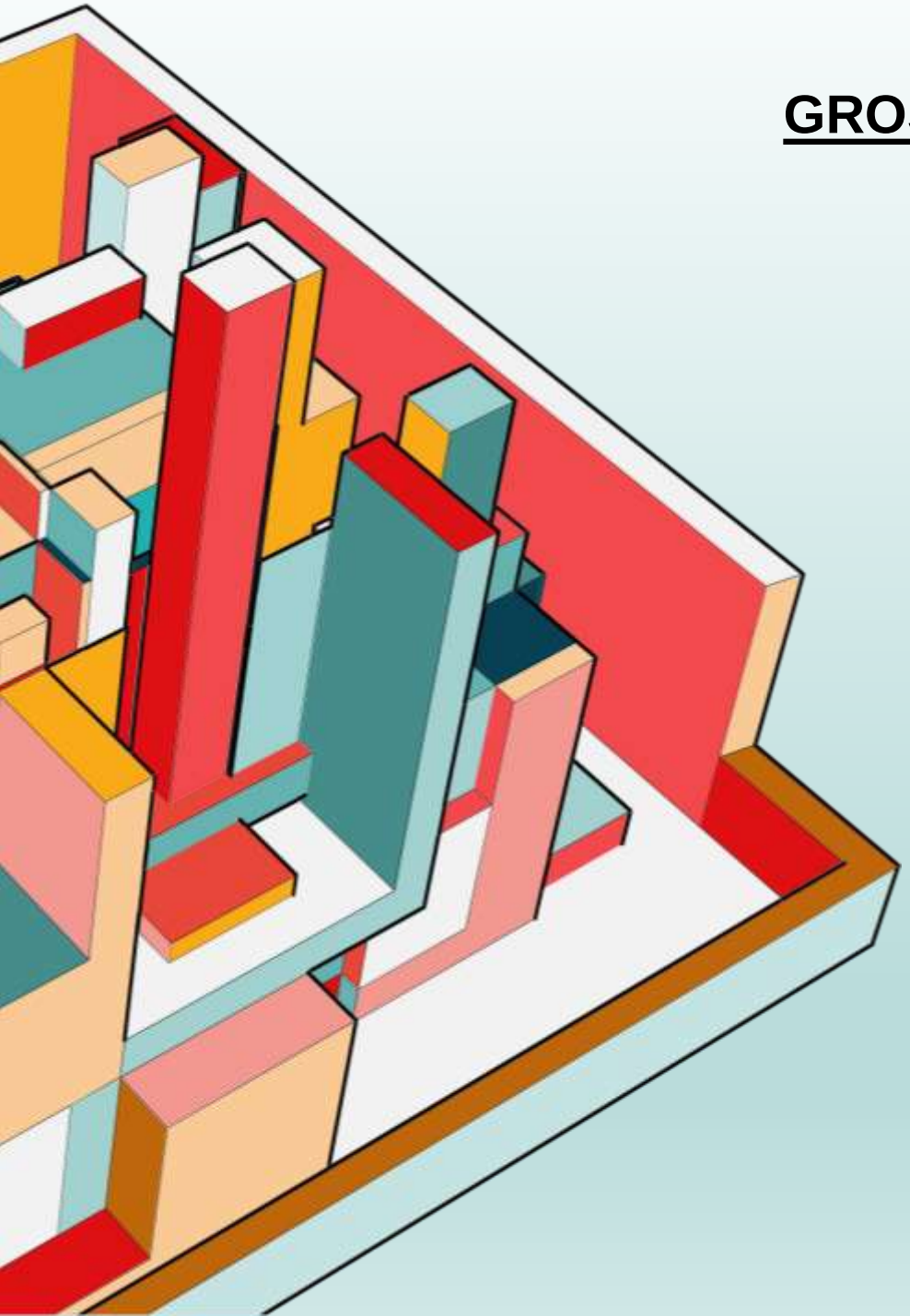
## Output:

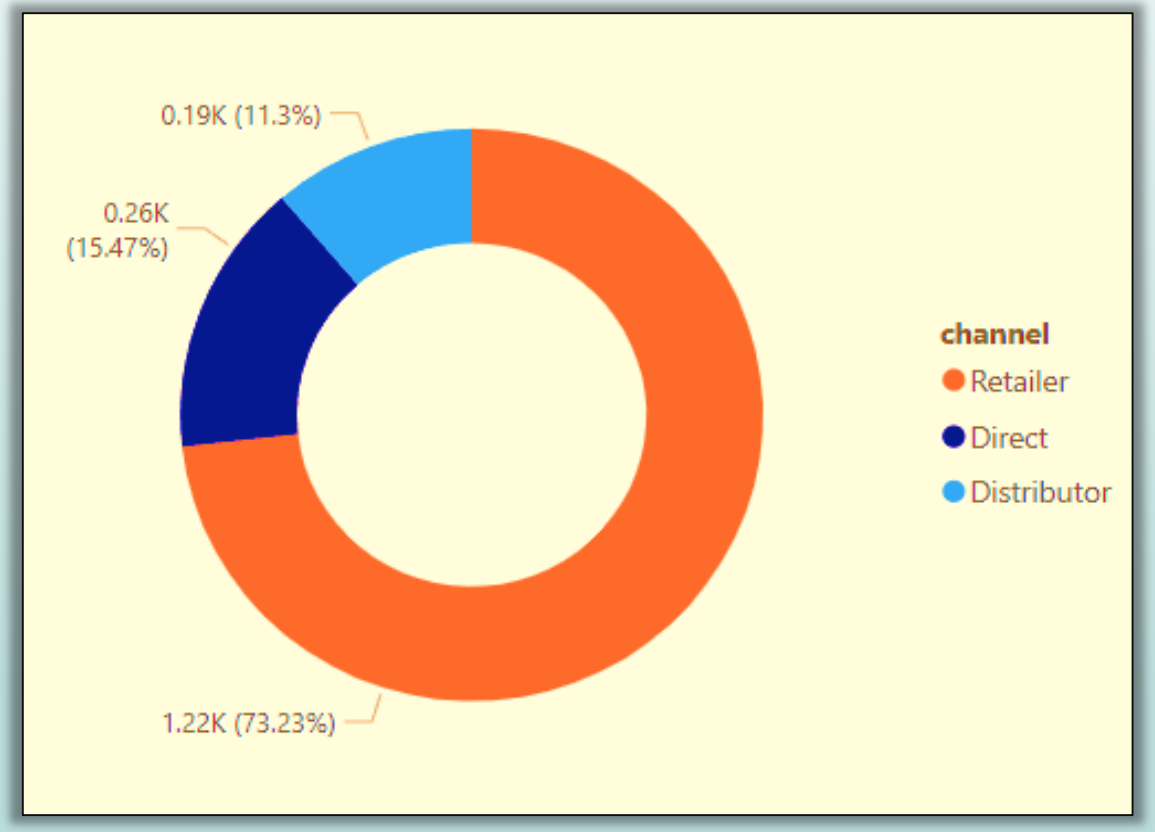
| channel | gross_sales_mln | percentage |
|---|---|---|
| Retailer | 1219.08 | 73.23 |
| Direct | 257.53 | 15.47 |
| Distributor | 188.03 | 11.30 |

In 2021, Retailer led gross sales with 73.23%, while Direct (15.47%) and Distributor (11.30%) had significantly lower contributions.



# GROSS SALES AND CONTRIBUTION PERCENTAGES BY CHANNELS FOR FY 2021





# DIVISION-WISE TOP 3 PRODUCTS WITH HIGH TOTAL SOLD QUANTITY (FISCAL YEAR 2021)

**Request 10 :** Get the Top 3 products in each division with 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

## SQL Query:

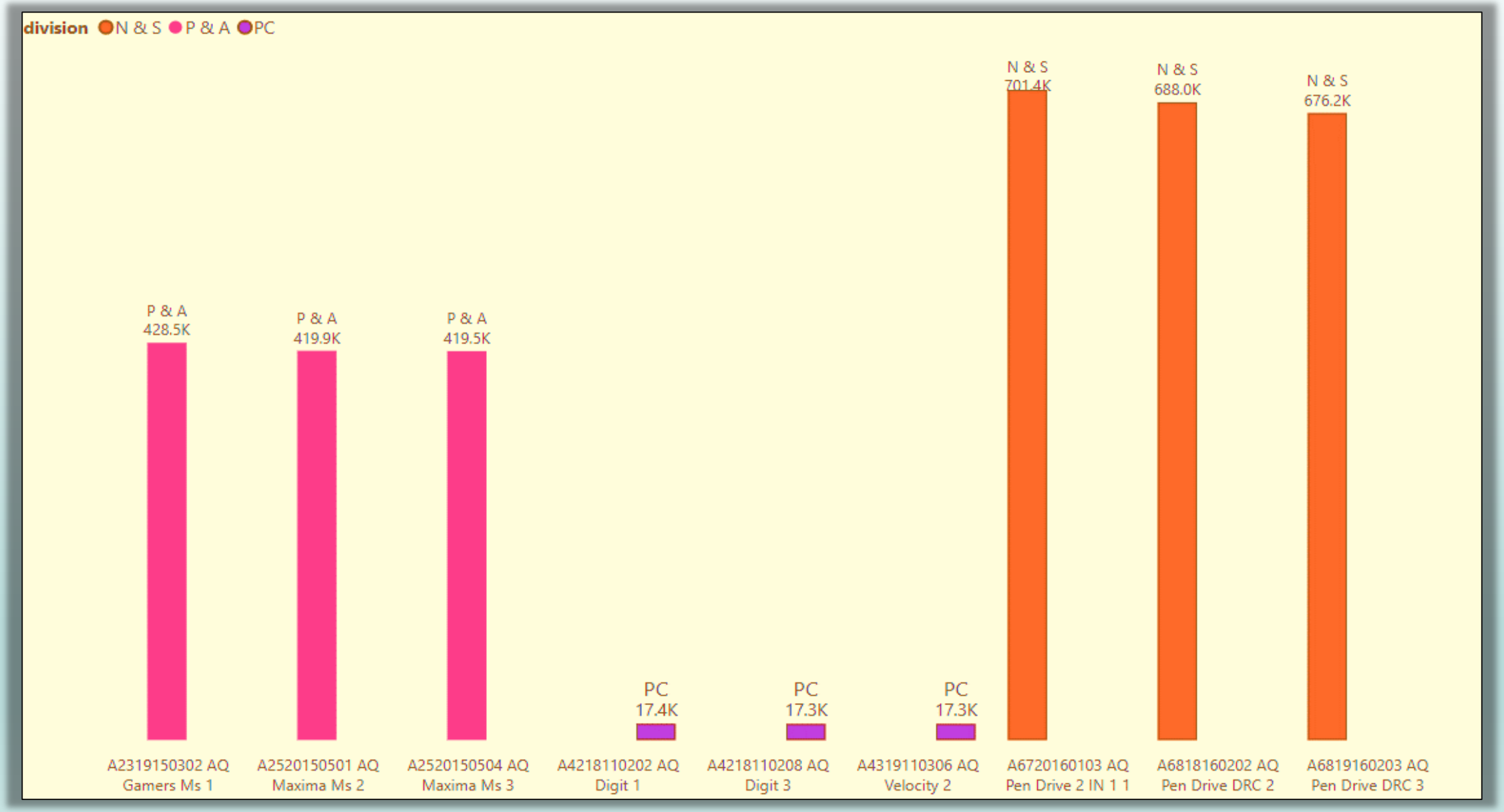
```sql
with cte as (
    select
        p.division,
        s.product_code,
        p.product,
        sum(s.sold_quantity) as total_sold_quantity,
        dense_rank() over (partition by p.division order by sum(s.sold_quantity) desc) as rank_order
    from dim_product p
    join fact_sales_monthly s
    using (product_code)
    where s.fiscal_year = 2021
    group by p.division, s.product_code, p.product
)
select
    *
from cte
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 | A4218110202 | AQ Digit | 17434 | 1 |
| PC | A4319110306 | AQ Velocity | 17280 | 2 |
| PC | A4218110208 | AQ Digit | 17275 | 3 |

- N & S Division: "AQ Pen Drive 2 IN 1" leads with 701.4K units sold, highlighting strong demand for storage devices.
- P & A Division: "AQ Gamers Ms" tops with 428.5K units, indicating high interest in gaming accessories.

# TOP 3 HIGHEST-SELLING PRODUCTS BY DIVISION FOR FY 2021



# THANK YOU