Consumer Goods Insights Project

Amit Bahedia

About the Company

Atliq Hardwares (Imaginary Company for this project) is a leading manufacturer of computer hardware components, renowned for its innovative products and robust market presence. Founded in India, Atliq Hardwares has expanded its operations internationally, establishing itself as a significant player in the global hardware industry. The company is dedicated to providing high-quality, cutting-edge hardware solutions that meet the evolving needs of technology enthusiasts, businesses, and enterprises worldwide.

Problem Statement

The management team at Atliq Hardwares has observed a significant gap in their ability to make timely, data-driven decisions. Despite having access to vast amounts of data, the insights generated are not sufficiently actionable, hindering the organization's responsiveness and strategic agility. This issue is exacerbated by the current team's limited capacity to analyze and interpret data effectively, leading to slower decision-making processes and missed opportunities for optimization.

Analysis and Insights:

Data Analysis Process:

To understand the root cause of the delayed and suboptimal decision-making, we conducted a thorough analysis of the data related to our current decision-making processes and analytics capabilities. This involved using SQL to query and extract relevant datasets from our data repositories. The analysis aimed to uncover patterns, bottlenecks, and gaps in data handling and decision-making workflows.

Data Extraction and Preparation:

- **Data Sources**: We accessed various datasets from our data repositories, including logs from analytics platforms, data quality reports, and records of insight utilization.
- **SQL Queries**: We employed Structured Query Language (SQL) to extract and aggregate relevant data for analysis. This involved writing and executing complex queries to pull comprehensive data sets that span across different aspects of our analytics and decision-making processes.

SQL Queries

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

```sql
SELECT market from dim_customer
where customer = "Atliq Exclusive" and region = "APAC"
```

Output

▶ India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

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

```sql
with unique_products as
(
select
        (SELECT COUNT(DISTINCT product_code) FROM fact_gross_price WHERE fiscal_year = 2020) AS unique_products_2020
        (SELECT COUNT(DISTINCT product_code) FROM fact_gross_price WHERE fiscal_year = 2021) AS unique_products_2021

)                                .
SELECT
    unique_products_2021,
    unique_products_2020,
    ROUND((unique_products_2021 - unique_products_2020) * 100.0 / unique_products_2020, 2) AS percentage_chg
FROM unique_products;
```

Output

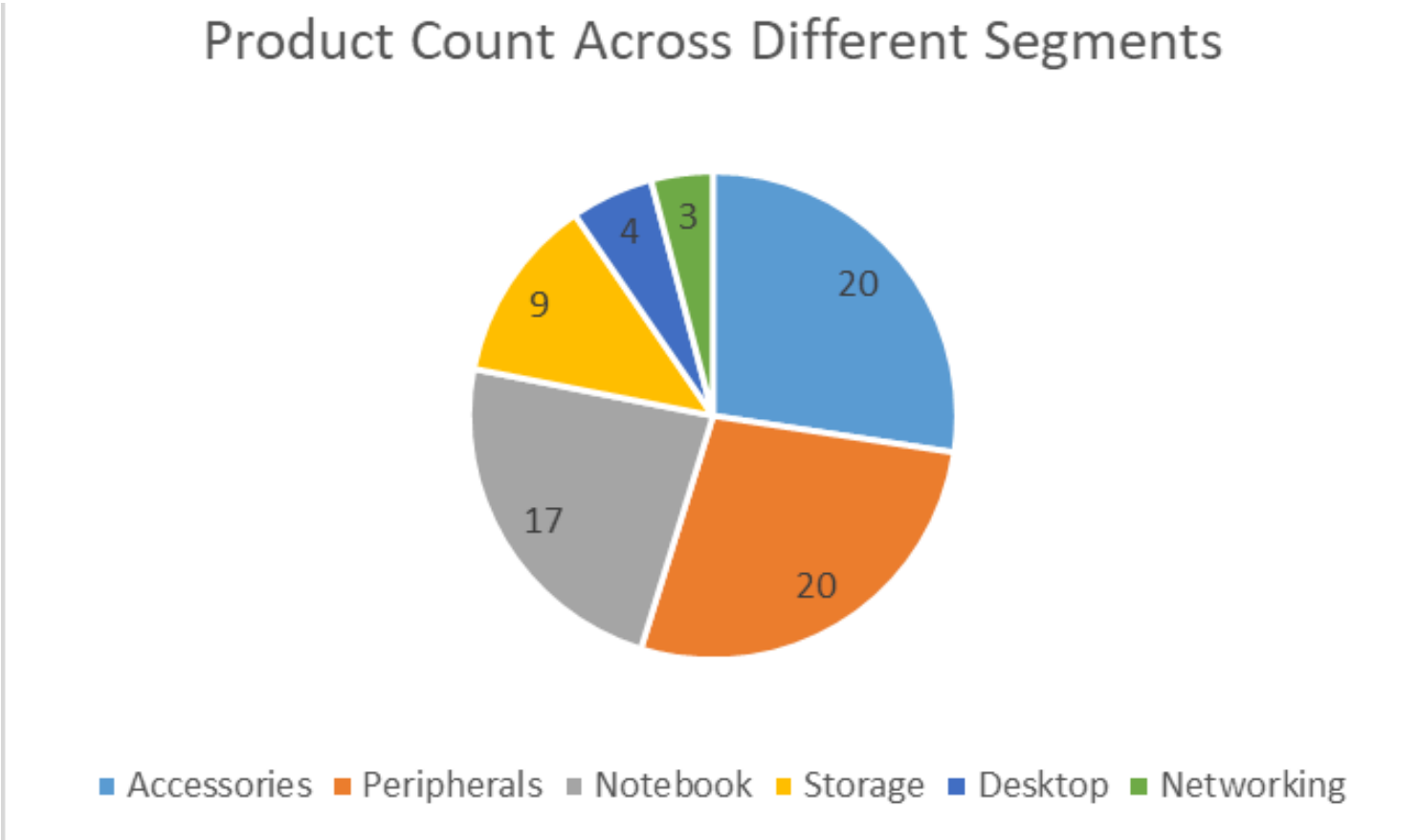| unique_products_2021	unique_products_2020	percentage_chg
334	245	36.33

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

```sql
select segment, count(distinct product) as product_count from dim_product
group by segment
order by product_count desc
```

Output

segment	product_count
Accessories	20
Peripherals	20
Notebook	17
Storage	9
Desktop	4
Networking	3

Visual

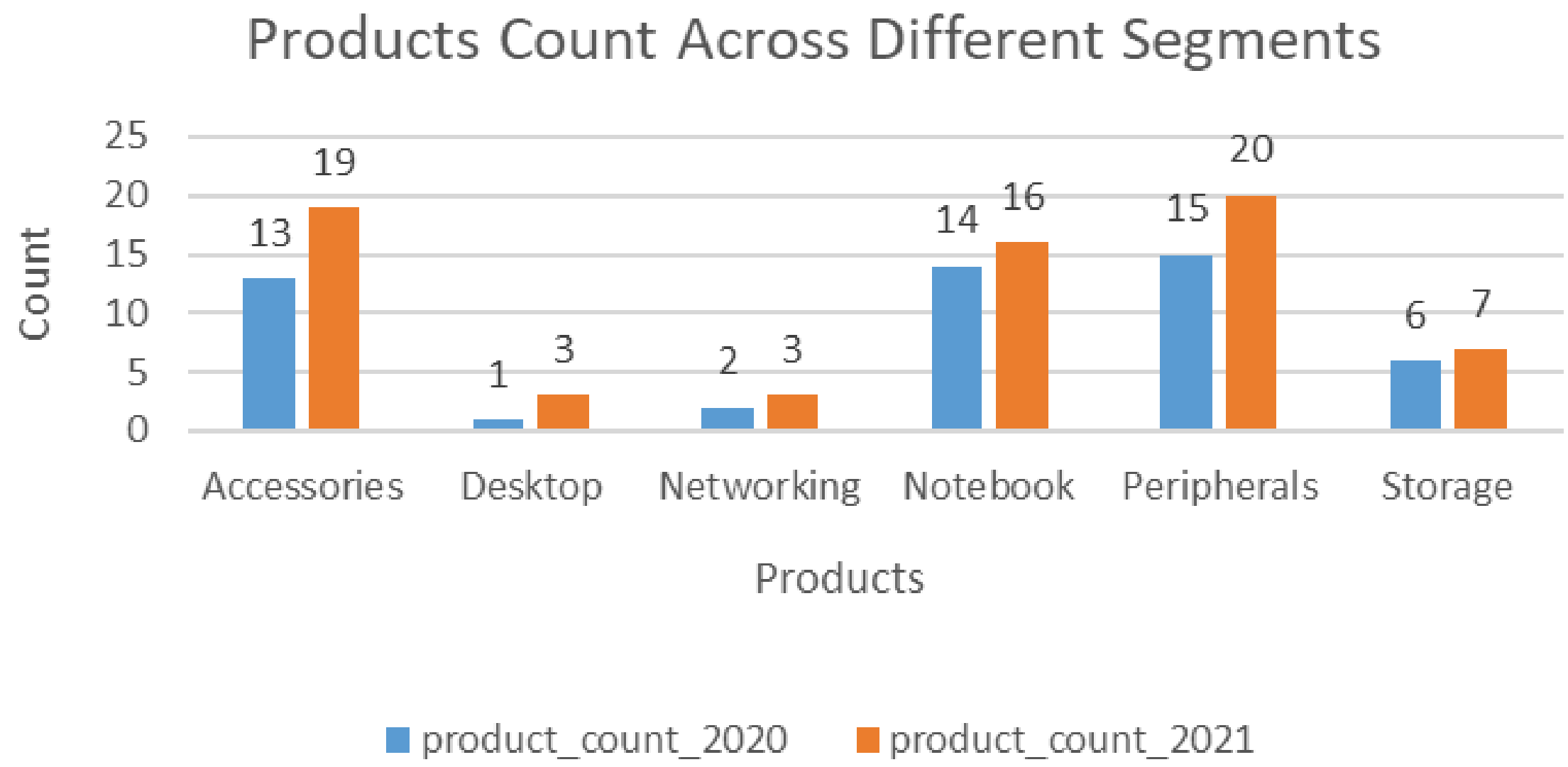Product Count Across Different Segments

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

Output

segment	product_count
Accessories	20
Peripherals	20
Notebook	17
Storage	9
Desktop	4
Networking	3

Visual

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

Output

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

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
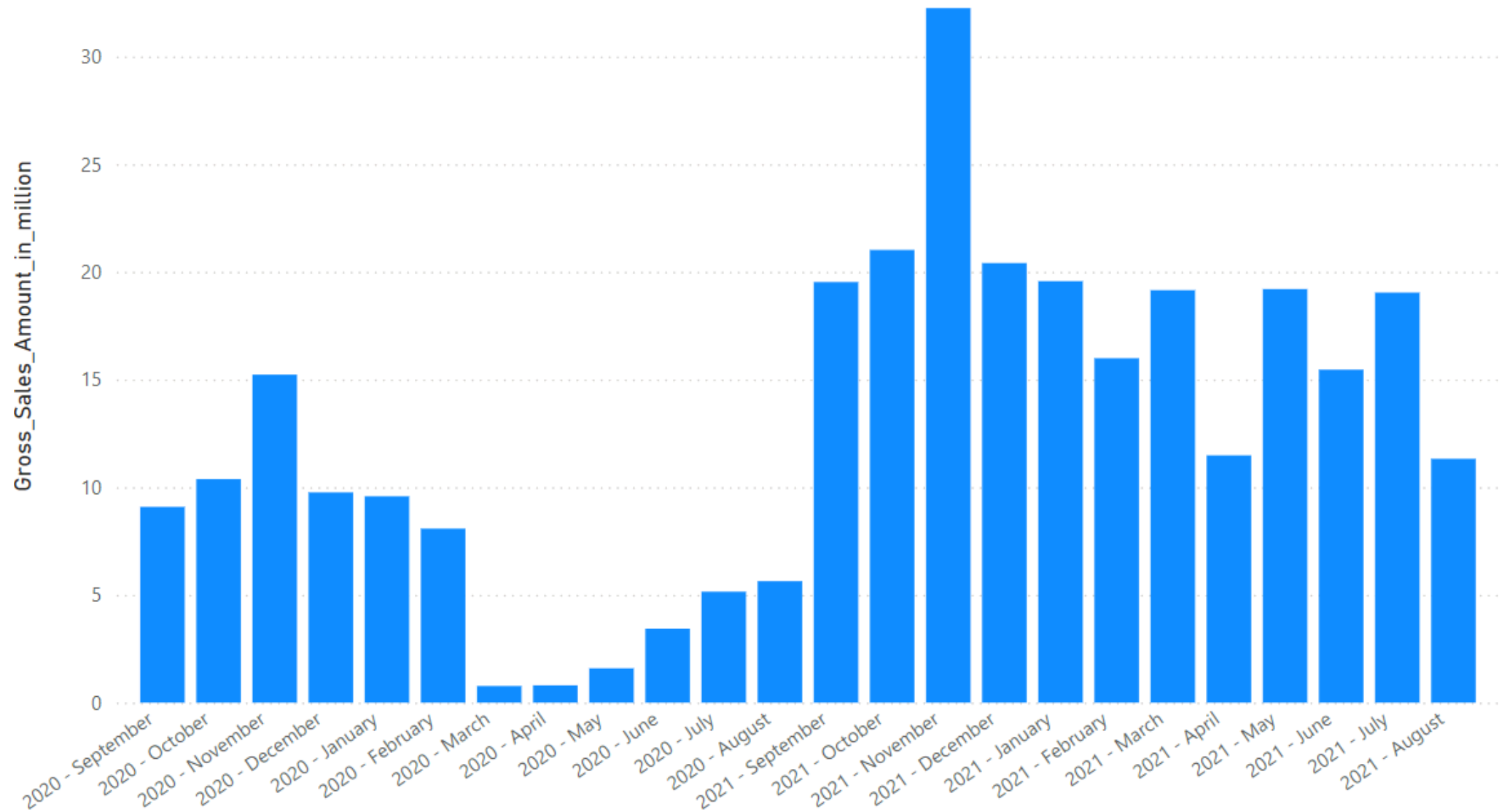
Output

```sql
select c.customer_code, c.customer, avg(d.pre_invoice_discount_pct) as Average_Pre_Invoice_Discount
from dim_customer c
join fact_pre_invoice_deductions d
on c.customer_code = d.customer_code
where d.fiscal_year = 2021 and c.market = "India"
group by customer, customer_code
order by Average_Pre_Invoice_Discount desc
limit 5
```

customer_code	customer	Average_Pre_Invoice_Discount
90002009	Flipkart	0.30830000
90002006	Viveks	0.30380000
90002003	Ezone	0.30280000
90002002	Croma	0.30250000
90002016	Amazon	0.29330000

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

Output

month	year	Gross_Sales_Amount_in_million
September	2020	9.09
October	2020	10.38
November	2020	15.23
December	2020	9.76
January	2020	9.58
February	2020	8.08
March	2020	0.77
April	2020	0.8
May	2020	1.59
June	2020	3.43
July	2020	5.15
August	2020	5.64
September	2021	19.53
October	2021	21.02
November	2021	32.25
December	2021	20.41
January	2021	19.57
February	2021	15.99
March	2021	19.15
April	2021	11.48
May	2021	19.2
June	2021	15.46
July	2021	19.04
August	2021	11.32

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

Output

```sql
SELECT fiscal_year,
    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 fiscal_quarter,
    sum(sold_quantity) as total_sold_quantity
FROM fact_sales_monthly
where fiscal_year = 2020
group by fiscal_quarter
order by total_sold_quantity desc
```

Result Grid | Filter Rows: | Export:

fiscal_year	fiscal_quarter	total_sold_quantity
2020	Q1	7005619
2020	Q2	6649642
2020	Q4	5042541
2020	Q3	2075087

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	1924.17039791	73.22
Direct	406.68687390	15.47
Distributor	297.17587972	11.31

Percentage of contribution by gross sales in FY 2021

Retailer ■ Direct ■ Distributor
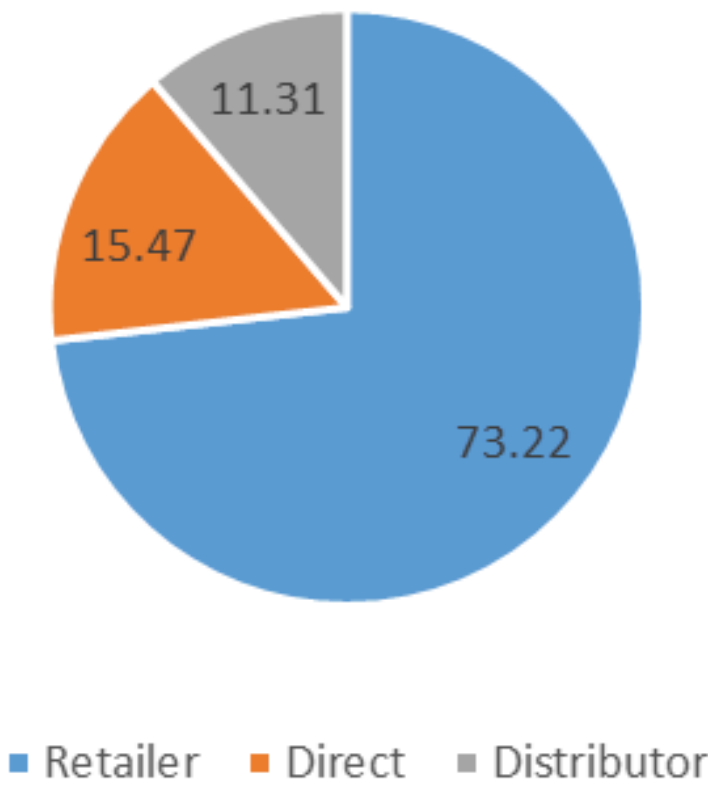
Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021

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