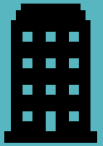


Consumer Goods Ad hoc Insights

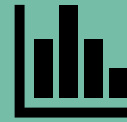
Presenter: Gyaneshwar Singh



Agenda



Overview of Company



About data



Objective



Ad hoc request with
Insights



Our Company

- ⑧ Atliq Hardware is one of the leading computer hardware producers in India as well as 26 other countries across the globe
- ⑧ Manufactures products under 3 major divisions i.e., Peripherals & Accessories, PC, Networking & Storage
- ⑧ We have a total of 74 Customers like Neptune, Sage, Leader, Vijay Sales etc. across all markets/countries



Objective

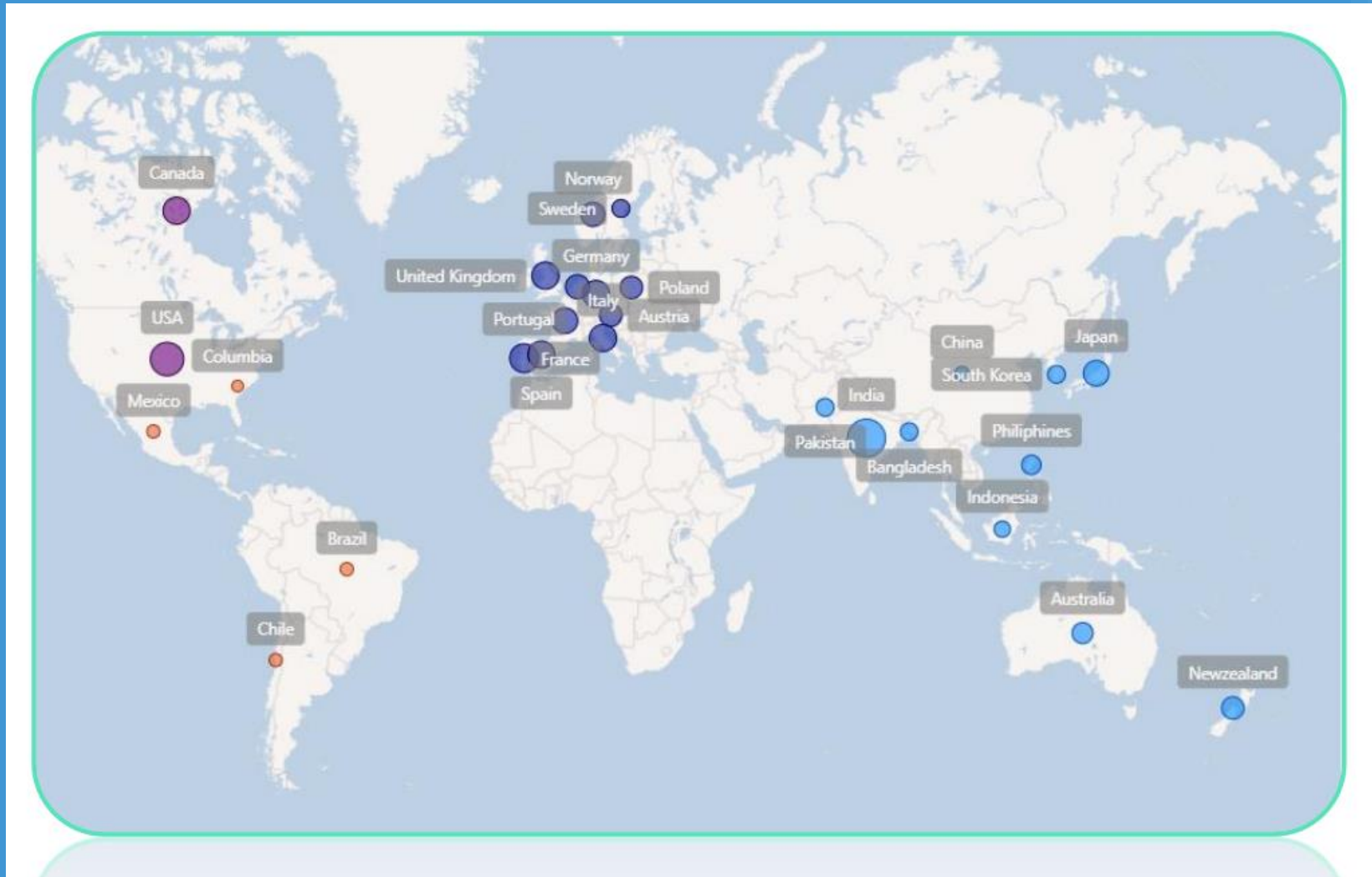
- ⑧ Assist the management team to gain more insights about the business
- ⑧ Take data-driven decisions to scale business



About data

- ⑧ We have 4 fact tables i.e., sales monthly, manufacturing cost, pre invoice deductions, gross price which have measurable metrics and 2 dimension table i.e., customer details and product details.
- ⑧ Fiscal year for Atliq Hardware starts from 1st September and ends on 31st August each year
- ⑧ Sales data is available for fiscal year 2020-2021





- ❑ Atliq Hardware is actively doing business in 27 countries across NA, EU and APAC region



Let's see requests,
query results and
insights



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

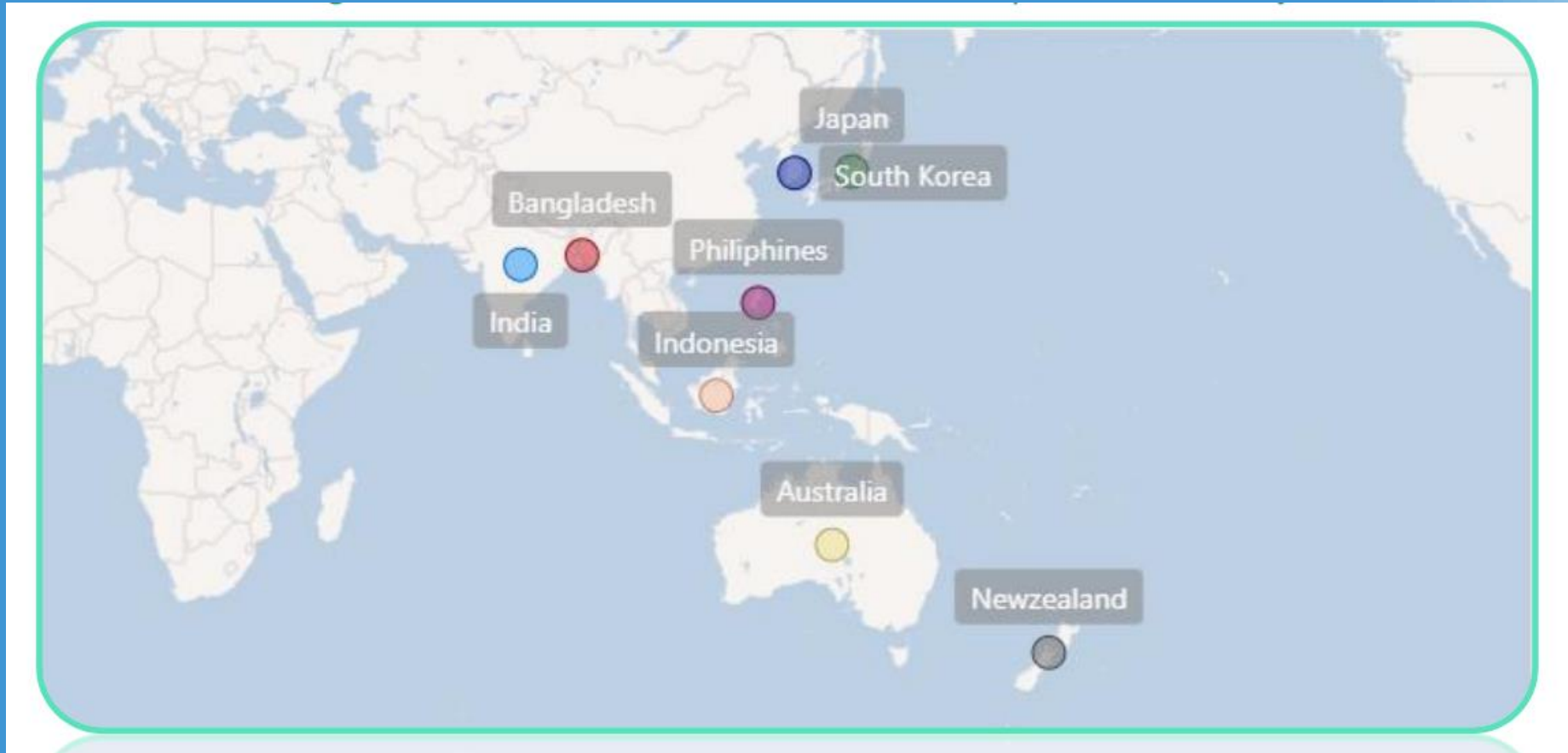
Query:

```
SELECT DISTINCT(market) FROM dim_customer  
WHERE customer = 'Atliq Exclusive'  
AND region = 'APAC';
```

Output:

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh





Insights

- ❑ Atliq Exclusive operates its business in 8 major markets of Asia Pacific region
- ❑ Atliq Exclusive has the most stores in APAC region followed by EU(6) and NA(2)



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

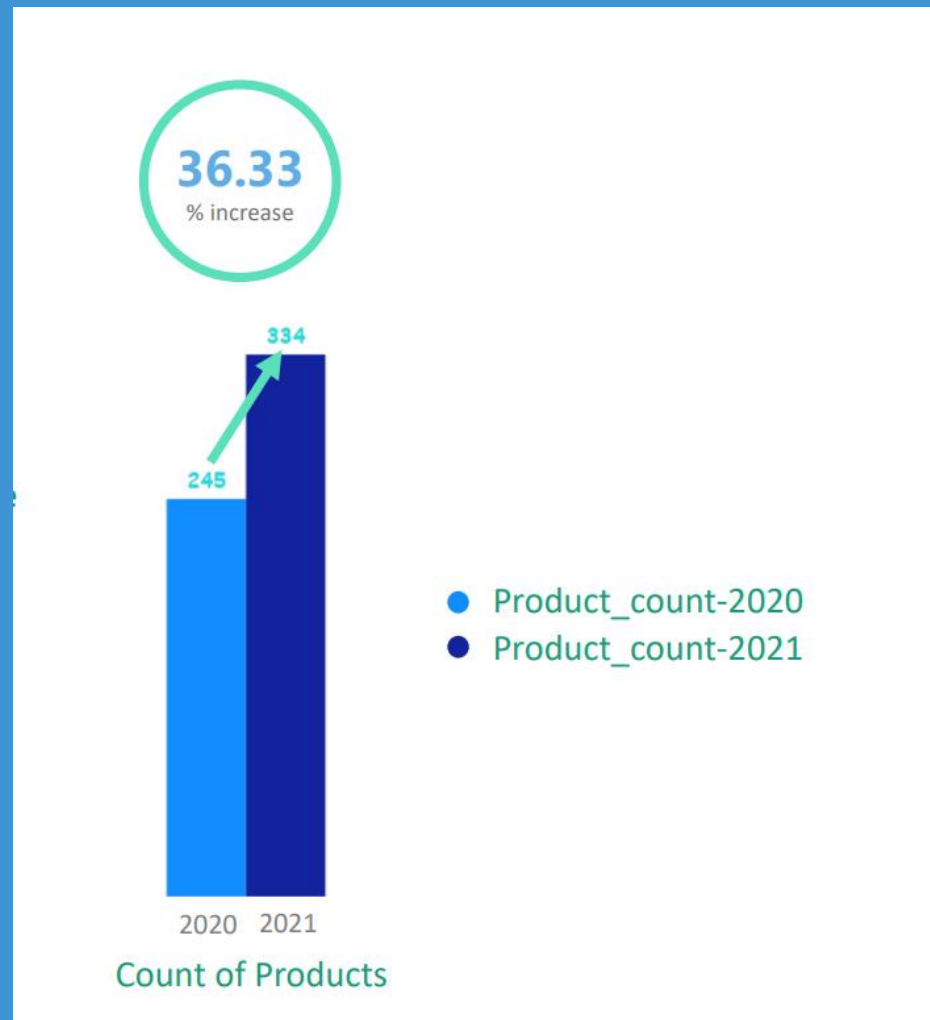
Query:

```
WITH unique_product_count AS
(
    SELECT COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN
product_code END) AS unique_products_2020, /* count of distinct/unique
products sold in 2020 */
          COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN
product_code END) AS unique_products_2021 /* count of distinct/unique
products sold in 2021 */
          FROM fact_sales_monthly
)
SELECT unique_products_2020,
       unique_products_2020,
       CONCAT(ROUND(((unique_products_2021-
unique_products_2020)*1.0/unique_products_2020)*100,2),'%') AS
percentage_chg
FROM unique_product_count;
```

Output:

	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.33%





Insights

- ❑ With a 36.33% increase in new products, AltIQ hardware is building a strong and dynamic reputation by meeting with the changing needs of the customer



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

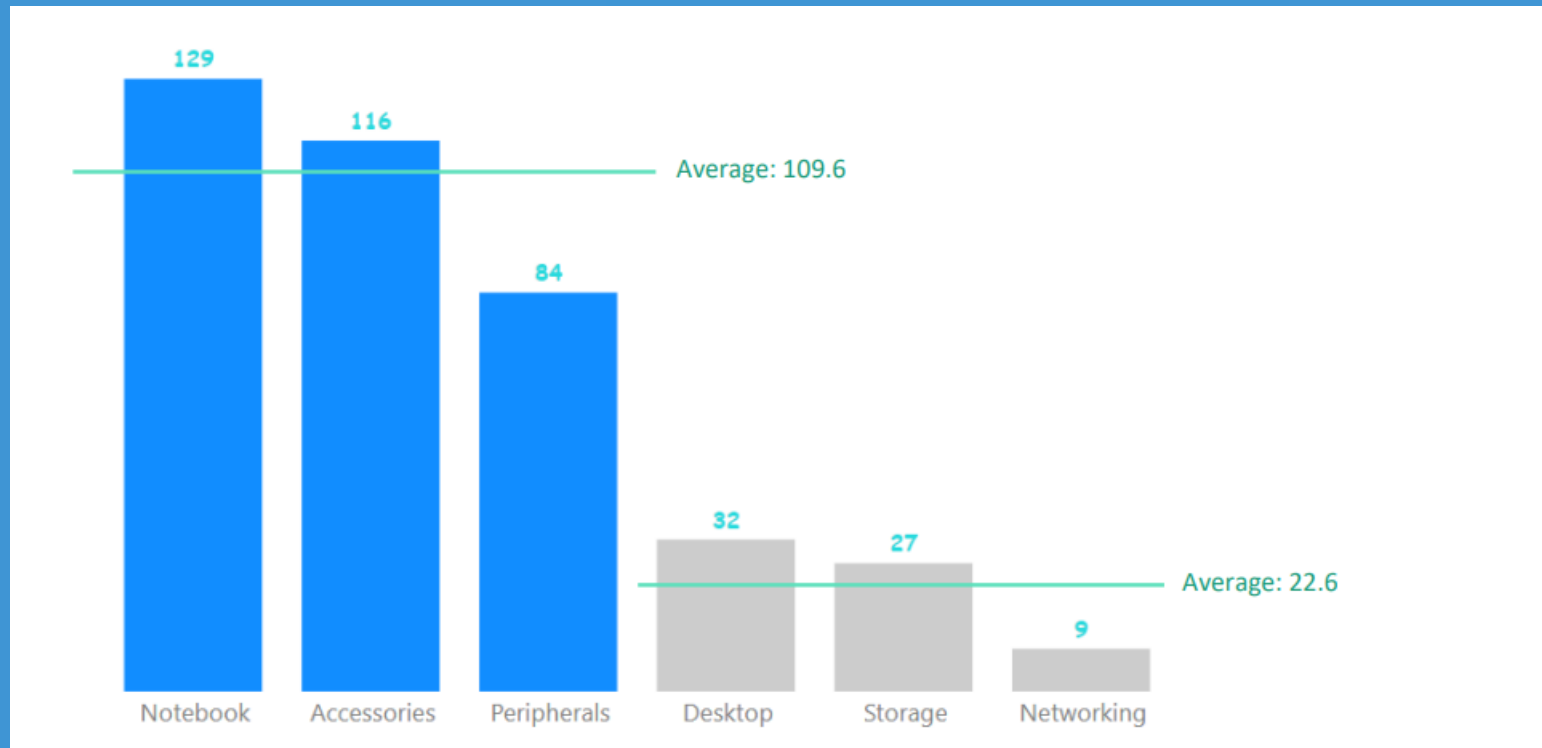
Query:

```
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





Insights

- ❑ We have a wide range of products under segment: Notebook, Accessories and Peripherals averaging around 110 while segment like Desktop, Storage and Network are lagging with an average of 23 products per segment.
- ❑ Product Development team needs to evaluate on products that require redesigning as per modern standards
- ❑ Innovations will keep Atliq Hardware ahead in this competitive market



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

Query:

```
WITH unique_product AS
(
  SELECT
    b.segment AS segment,
    COUNT(DISTINCT
      (CASE
        WHEN fiscal_year = 2020 THEN a.product_code END)) AS
    product_count_2020,
    COUNT(DISTINCT
      (CASE
        WHEN fiscal_year = 2021 THEN a.product_code END)) AS
    product_count_2021
  FROM fact_sales_monthly AS a
  INNER JOIN dim_product AS b
  ON a.product_code = b.product_code
  GROUP BY b.segment
)
SELECT segment, product_count_2020, product_count_2021,
(product_count_2021-product_count_2020) AS difference
FROM unique_product
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



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

Query:

```
SELECT  a.product_code AS product_code /*here a is alias for
dim_product table*/,
        a.product AS product,
        CONCAT('$',ROUND(b.manufacturing_cost,2)) AS
manufacturing_cost /*here b is alias for fact_manufacturing_cost
table*/
FROM
dim_product AS a
INNER JOIN
fact_manufacturing_cost AS b
ON a.product_code = b.product_code /* joining on key ie.
product_code*/
WHERE b.manufacturing_cost = (SELECT MAX(manufacturing_cost) FROM
fact_manufacturing_cost) /* filter to fetch product having max
manufacturing cost*/
OR    b.manufacturing_cost = (SELECT MIN(manufacturing_cost) FROM
fact_manufacturing_cost) /* filter to fetch product having min
manufacturing cost*/
ORDER BY b.manufacturing_cost DESC;
```

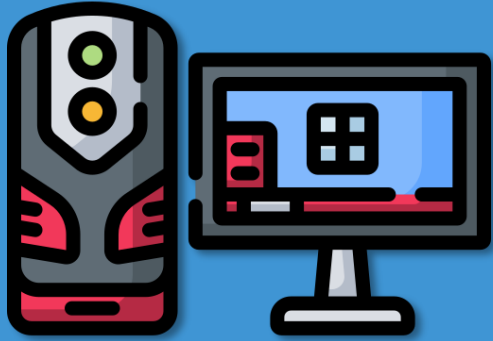
Output:

	product_code	product	manufacturing_cost
▶	A6120110206	AQ HOME Allin1 Gen 2	\$240.54
	A2118150101	AQ Master wired x1 Ms	\$0.89



Insights

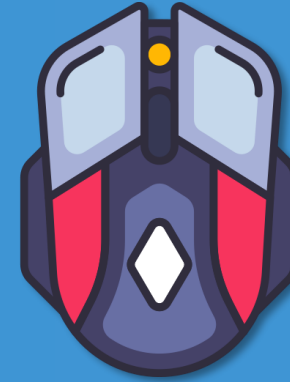
Highest manufacturing cost



AQ HOME Allin1 Gen 2 (Plus 3)
Category: Personal Desktop

\$240.54

Lowest manufacturing cost



AQ Master wired x1 Ms (Standard 1)
Category: Mouse

\$0.89



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, average_discount_percentage

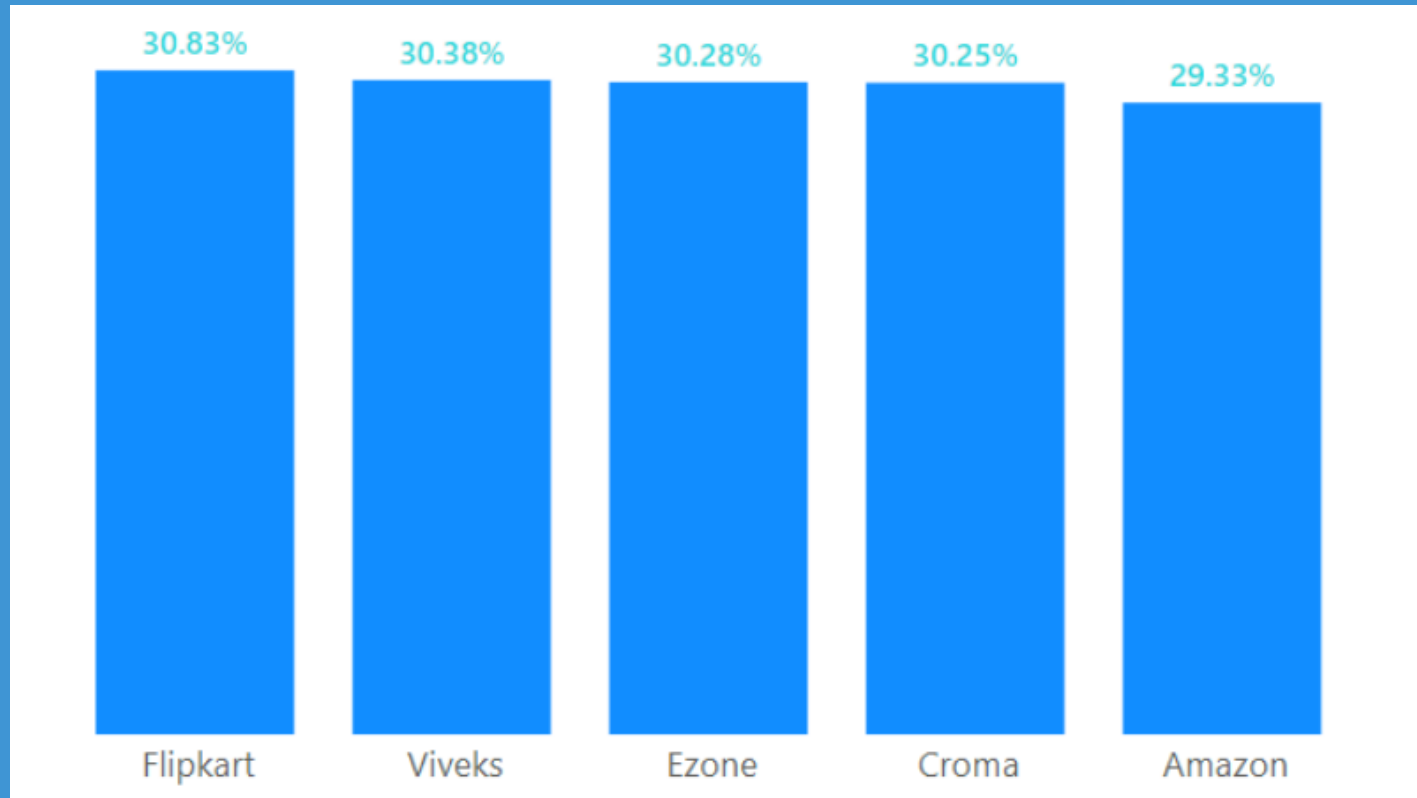
Query:

```
SELECT a.customer_code ,  
       b.customer,  
       CONCAT(ROUND(AVG(pre_invoice_discount_pct)*100,2),'%') AS  
average_discount_percentage  
FROM fact_pre_invoice_deductions AS a  
INNER JOIN  
dim_customer AS b  
ON a.customer_code = b.customer_code  
WHERE market = 'India'  
AND fiscal_year = 2021  
GROUP BY customer, customer_code  
ORDER BY AVG(pre_invoice_discount_pct) 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%





Insights

- ❑ Flipkart has received the highest pre invoice discount percent i.e., 30.83%
- ❑ Top 5 Customers have a collective average around 30.21%
- ❑ FY 2021, Average discount provided to all customers in Indian market was 24.16%



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

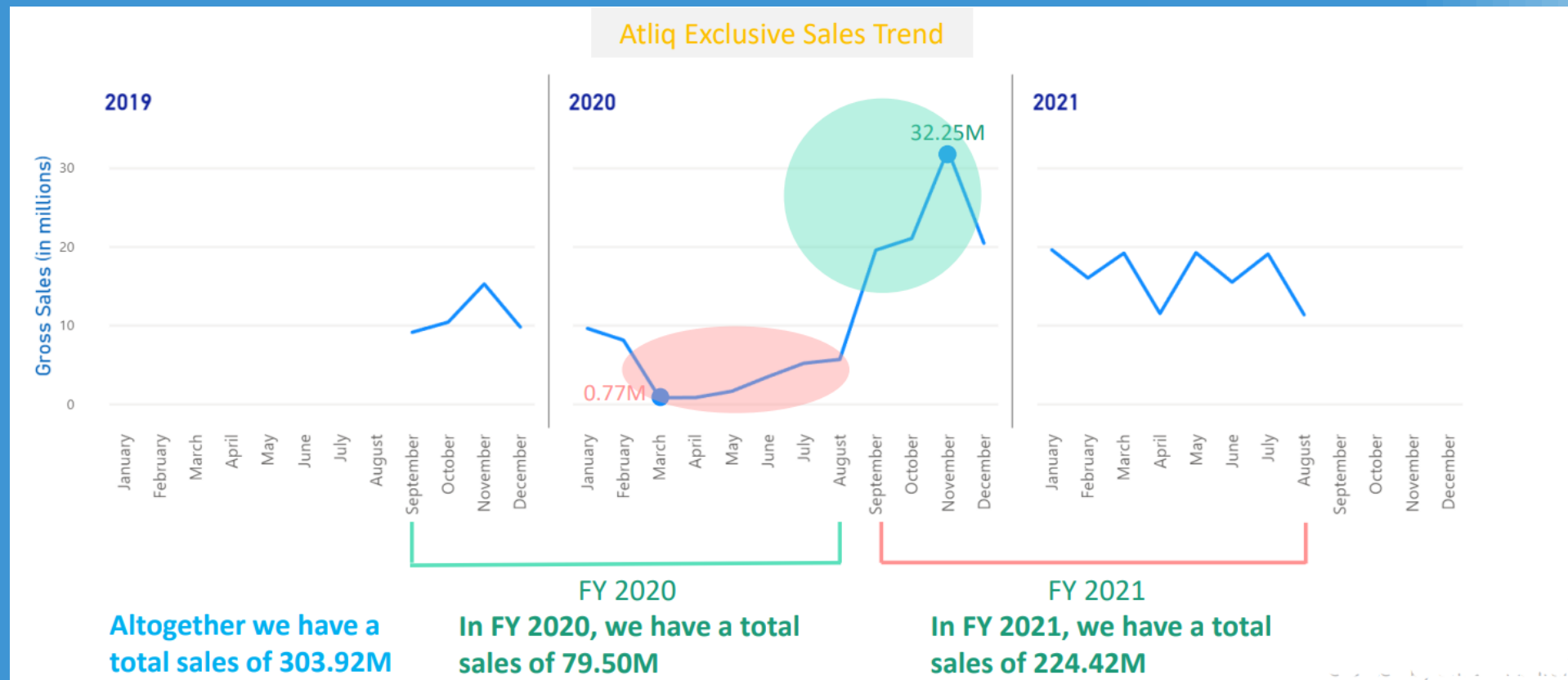
Query:

```
SELECT
    MONTHNAME(date) AS month_name,
    YEAR(date) AS year_,
    CONCAT('$',ROUND(SUM(a.sold_quantity * b.gross_price)/1000000,2)) AS
gross_sales_amount_millions /*value in millions*/
FROM fact_sales_monthly AS a
INNER JOIN fact_gross_price AS b
ON b.product_code = a.product_code
AND b.fiscal_year = a.fiscal_year
INNER JOIN dim_customer AS c
ON c.customer_code = a.customer_code
WHERE c.customer = 'Atliq Exclusive'
GROUP BY month_name, year_
ORDER BY year_;
```

Output:

month_name	year_	gross_sales_amount_millions
September	2019	\$4.50
October	2019	\$5.14
November	2019	\$7.52
December	2019	\$4.83
January	2020	\$4.74
February	2020	\$4.00
March	2020	\$0.38
April	2020	\$0.40
May	2020	\$0.78
June	2020	\$1.70
July	2020	\$2.55
August	2020	\$2.79
September	2020	\$12.35
October	2020	\$13.22
November	2020	\$20.46
December	2020	\$12.94
January	2021	\$12.40
February	2021	\$10.13
March	2021	\$12.14
April	2021	\$7.31
May	2021	\$12.15
June	2021	\$9.82
July	2021	\$12.09
August	2021	\$7.18





Insights

- ❑ For Atliq Exclusive Store maximum sales were recorded in November-2020(\$32.25 Million) and lowest sales recorded in March-2020 (\$0.77 Million)
- ❑ Low sales from March to August were due to pandemic when stores were shut
- ❑ Sales started improving from September-2020 onwards due to ease in lockdown restrictions and the onset of festival season in India and other markets



Request 8: In which quarter of 2020, got the maximum total_quantity_sold? The final output contains these fields sorted by the total_quantity_sold:

Quarter, total_quantity_sold

Query:

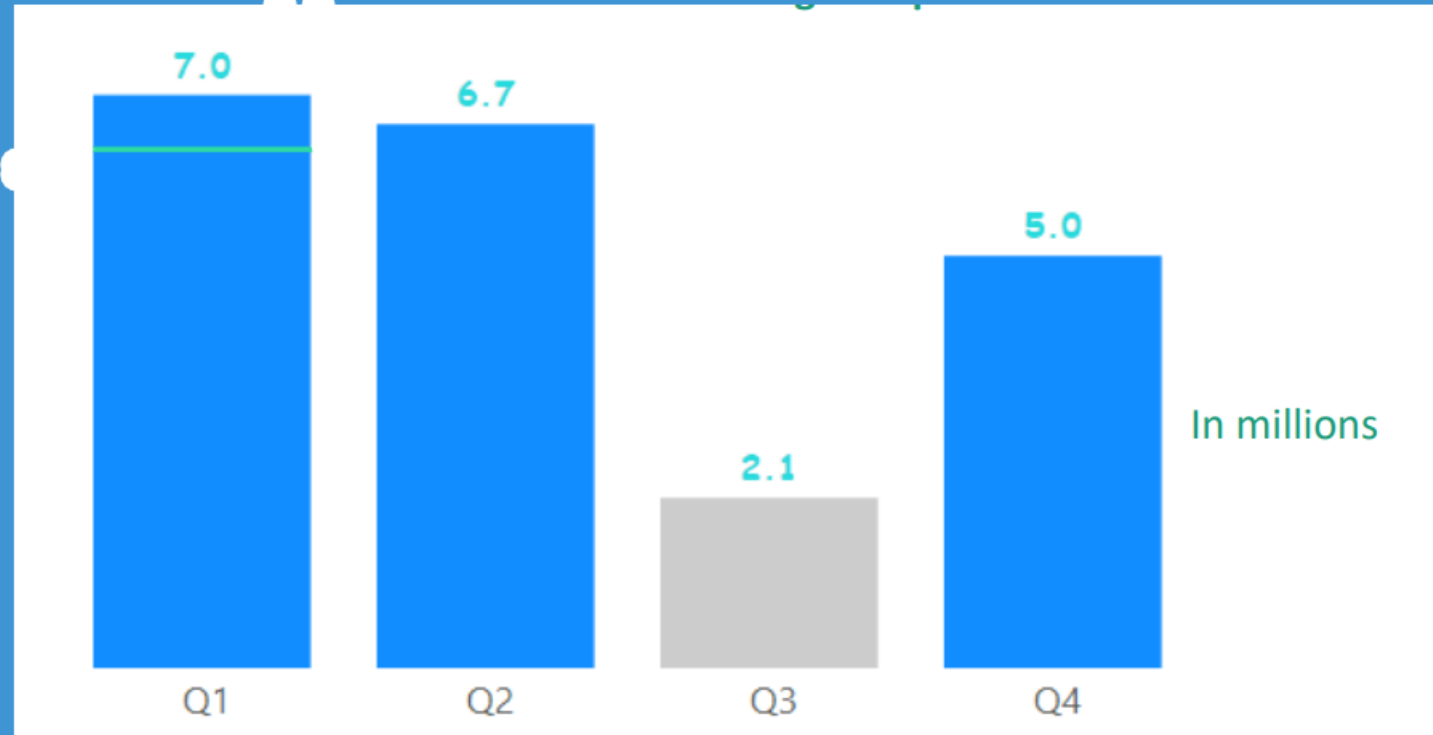
```
SELECT CASE
    WHEN MONTH(date) IN (9,10,11) THEN 'Q1' /*
Atliq hardware has september as it's first financial month*/
    WHEN MONTH(date) IN (12,1,2) THEN 'Q2'
    WHEN MONTH(date) IN (3,4,5) THEN 'Q3'
    ELSE 'Q4'
END AS quarters,
SUM(sold_quantity) AS total_quantity_sold
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY quarters
ORDER BY total_quantity_sold DESC;
```

Output:

	quarters	total_quantity_sold
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

Q3	2075087
----	---------





Insights

- ❑ Q1(September-November) had the maximum quantity sold for FY 2020
- ❑ Sales dropped in Q3(March-May) because of pandemic
- ❑ Increase in sales recorded in Q4(June-August)



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

Query:

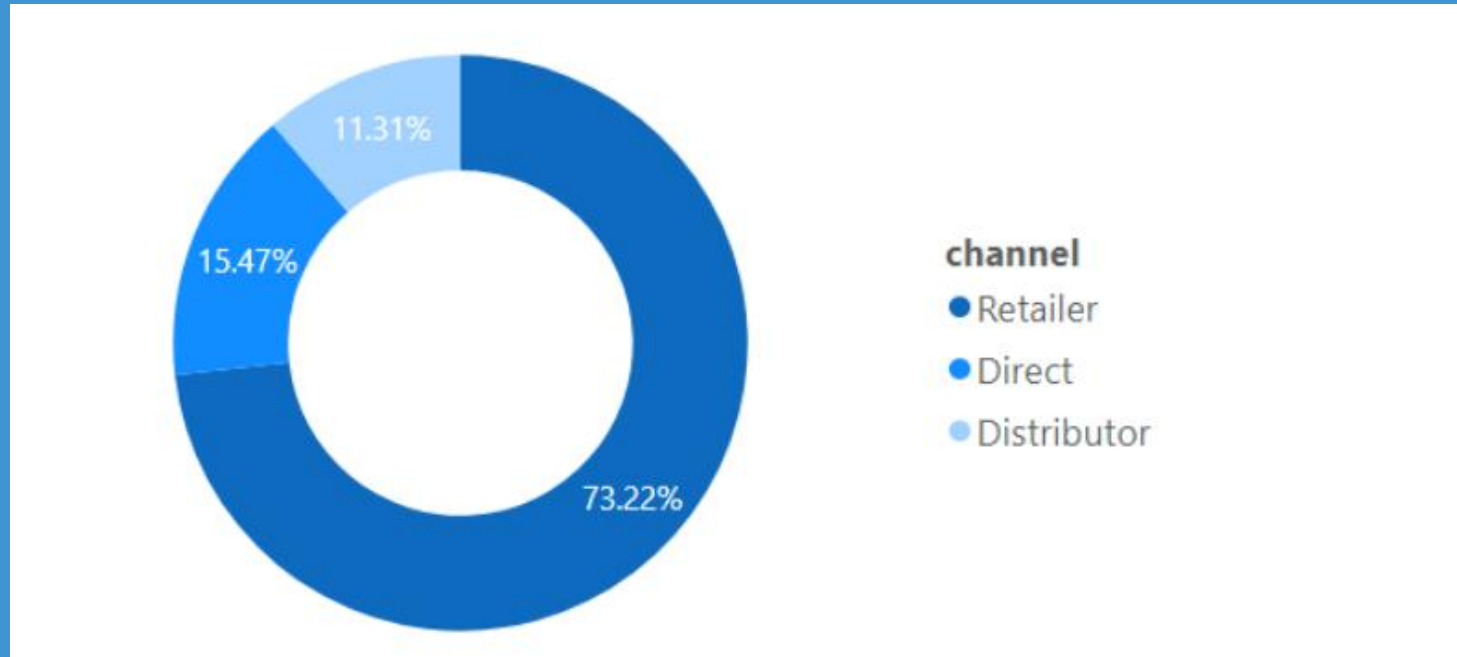
```
WITH gross_sales AS
(
    SELECT c.channel AS channel_,
           ROUND(SUM(b.gross_price*a.sold_quantity)/1000000,2) /*
converting values to millions*/
           AS gross_sales_million
    FROM fact_sales_monthly AS a
    LEFT JOIN fact_gross_price AS b
    ON a.product_code = b.product_code
    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_,
       CONCAT('$',gross_sales_million) AS gross_sales_million,
       CONCAT(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%





Insights

- ❑ Retailers with \$1219.08 Million which is 73.23% of gross sales for FY 2021 followed by Direct channel with \$257.53 Million and Distributor with \$188.03 Million.



Request 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:

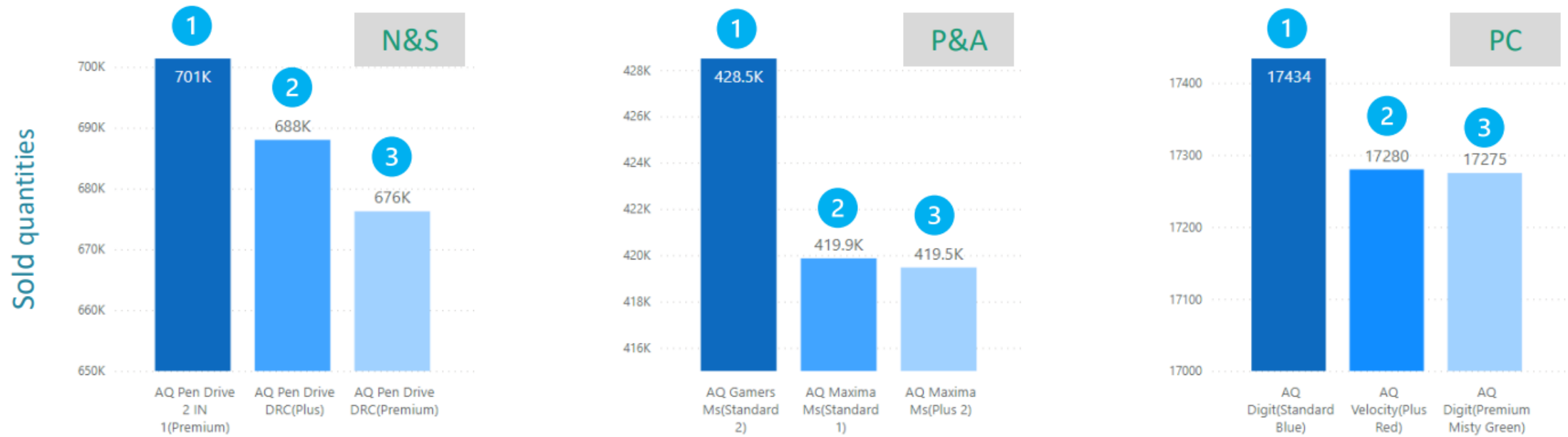
```
WITH top_sold_products AS /*creating a CTE for getting top selling products for all divisions*/
(
    SELECT b.division AS division,
           b.product_code AS product_code,
           b.product AS product,
           SUM(a.sold_quantity) AS total_sold_quantity
    FROM fact_sales_monthly AS a
    INNER JOIN dim_product AS b
    ON a.product_code = b.product_code
    WHERE a.fiscal_year = 2021
    GROUP BY b.division, b.product_code, b.product /* to get total sold quantity we will need to group it as shown in this part of query */
    ORDER BY total_sold_quantity DESC
),
top_sold_per_division AS /*creating this CTE to get top 3 based on total_sold quantity per division*/
(
    SELECT division,
           product_code,
           product,
           total_sold_quantity,
           DENSE_RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC)
    AS rank_order /* using dense rank so that we can handle ties and still grab top 3 products*/
    FROM top_sold_products
)
SELECT * FROM top_sold_per_division
WHERE rank_order <= 3;
```

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

bC	V45T8IT0508	V0 Digit	17552	3
bC	V43T8IT030E	V0 Velocity	17580	5
bC	V45T8IT050S	V0 Digit	17434	1





Insights

- ❑ For N&S, the top selling product is AQ Pen Drive 2 IN 1 with a total of 7,01,373 quantities sold in FY 2021 followed by two variants of AQ Pen Drive DRC with 6,88,003 and 6,76,245 quantity sold respectively
- ❑ For P&A, top selling product is AQ Gamers Ms with 4,28,498 quantities sold followed by two variants of AQ Maxima Ms
- ❑ For PC, top selling product is AQ Digit PC with 17,434 quantities sold
- ❑ The company can take some strategic decisions to improve sale in PC division



Thanks For
Watching

