Consumer Goods Ad-Hoc Insights

About the Company – AtliQ Hardwares

AtliQ Hardwares is a global computer hardware manufacturing company headquartered in India, offering products such as PCs, peripherals, and accessories.

- Operates primarily on a **B2B business model**, supplying products to major retail stores and online platforms
- Serves customers through a **multi-channel strategy**:
  - **Retailer Channel**: Brick-and-Mortar stores and E-commerce platforms
  - **Direct Channel (B2C)**: Company-owned stores like AtliQ Exclusive and AtliQ E-Store
  - **Distributor Channel**: Authorized distributors in restricted trade regions
- Strong presence across multiple international markets
- Focused on scalable growth and customer reach through diversified sales channels

Objective

Enable AtliQ Hardwares' leadership to make **timely, data-driven decisions** by performing **SQL-based ad-hoc analysis** on sales, product, customer, and channel data.
The analysis focuses on understanding **market reach, product portfolio growth, cost efficiency, sales trends, customer discounts, and channel performance** across fiscal years.

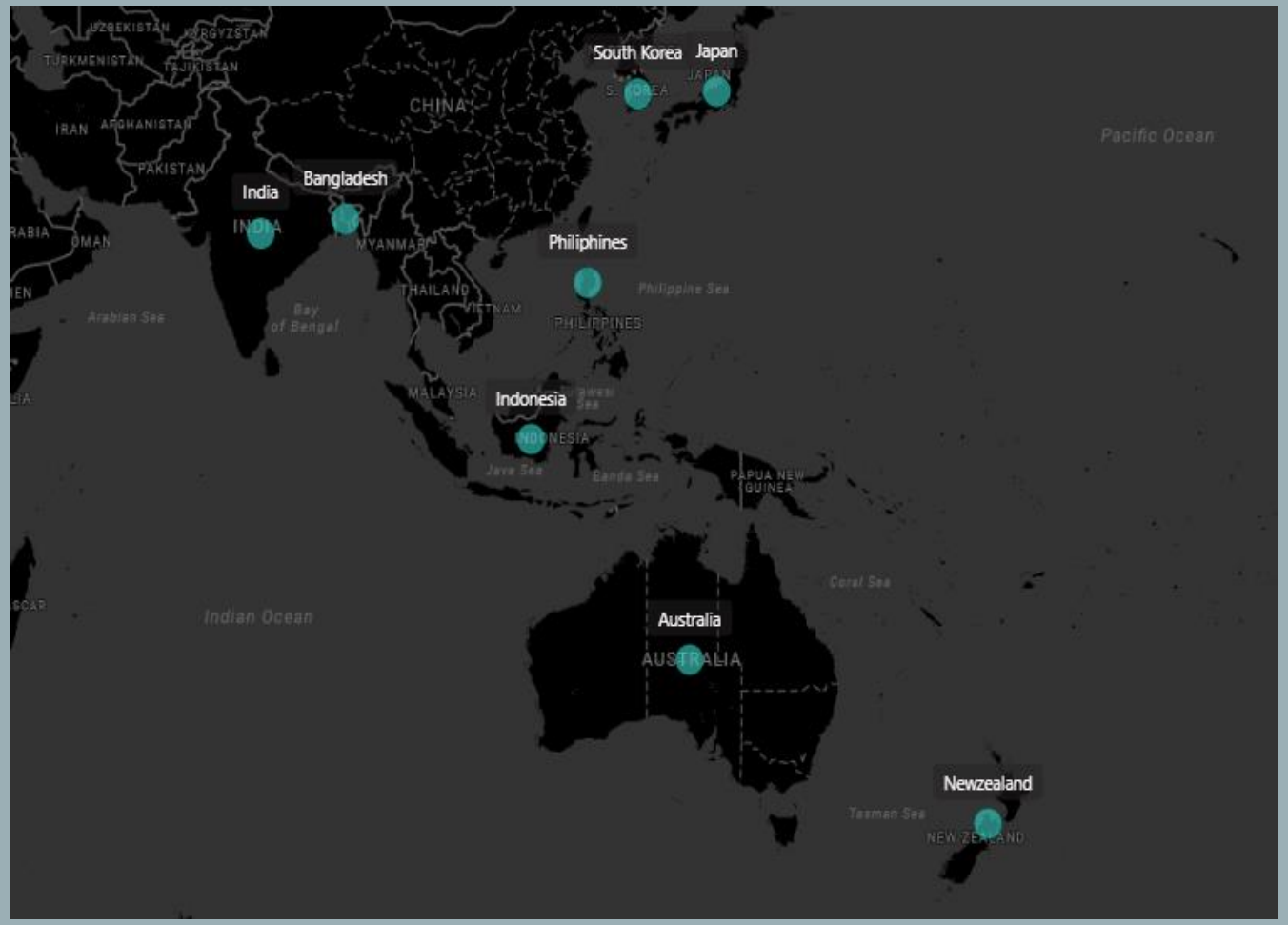
Business Outcomes

- Assessed **regional market presence** of key customers for strategic expansion
- Measured **year-over-year product growth** and identified fast-growing segments
- Highlighted **top and bottom manufacturing cost products** to support cost optimization
- Analyzed **customer discount patterns** to improve pricing strategies
- Delivered **monthly and quarterly sales trend insights** to identify seasonality
- Identified the **most profitable sales channel** and its revenue contribution
- Ranked **top-performing products by division** to guide sales and inventory focus

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

```
SELECT DISTINCT market
FROM dim_customer
WHERE customer = "Atliq Exclusive"
  AND region = "APAC";
```

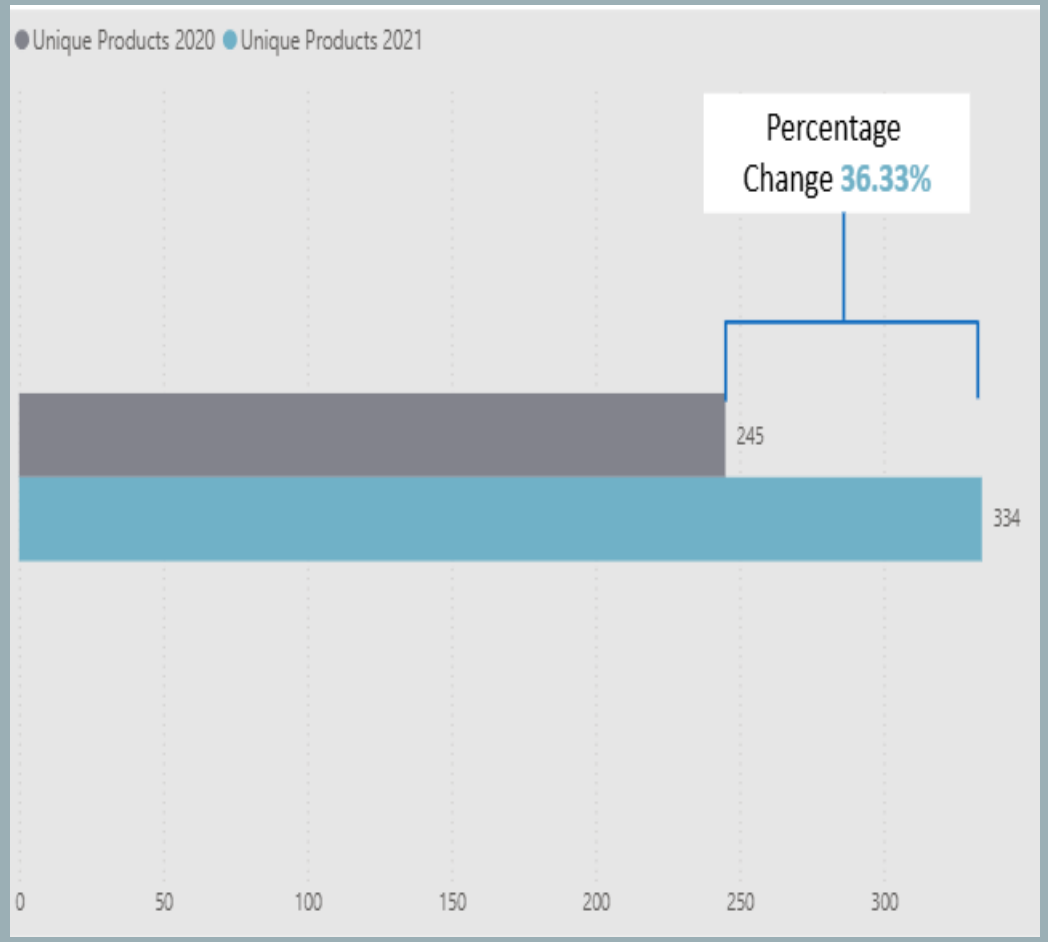
market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh



2. What is the percentage of unique product increase in 2021 vs. 2020? Output Fields: unique_products_2020, unique_products_2021, percentage_chg

```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
    p1.unique_products_2020,
    p2.unique_products_2021,
    ROUND(((p2.unique_products_2021 - p1.unique_products_2020) / p1.unique_products_2020) * 100, 2)
    AS percentage_chg
FROM cte1 p1
CROSS JOIN cte2 p2;
```

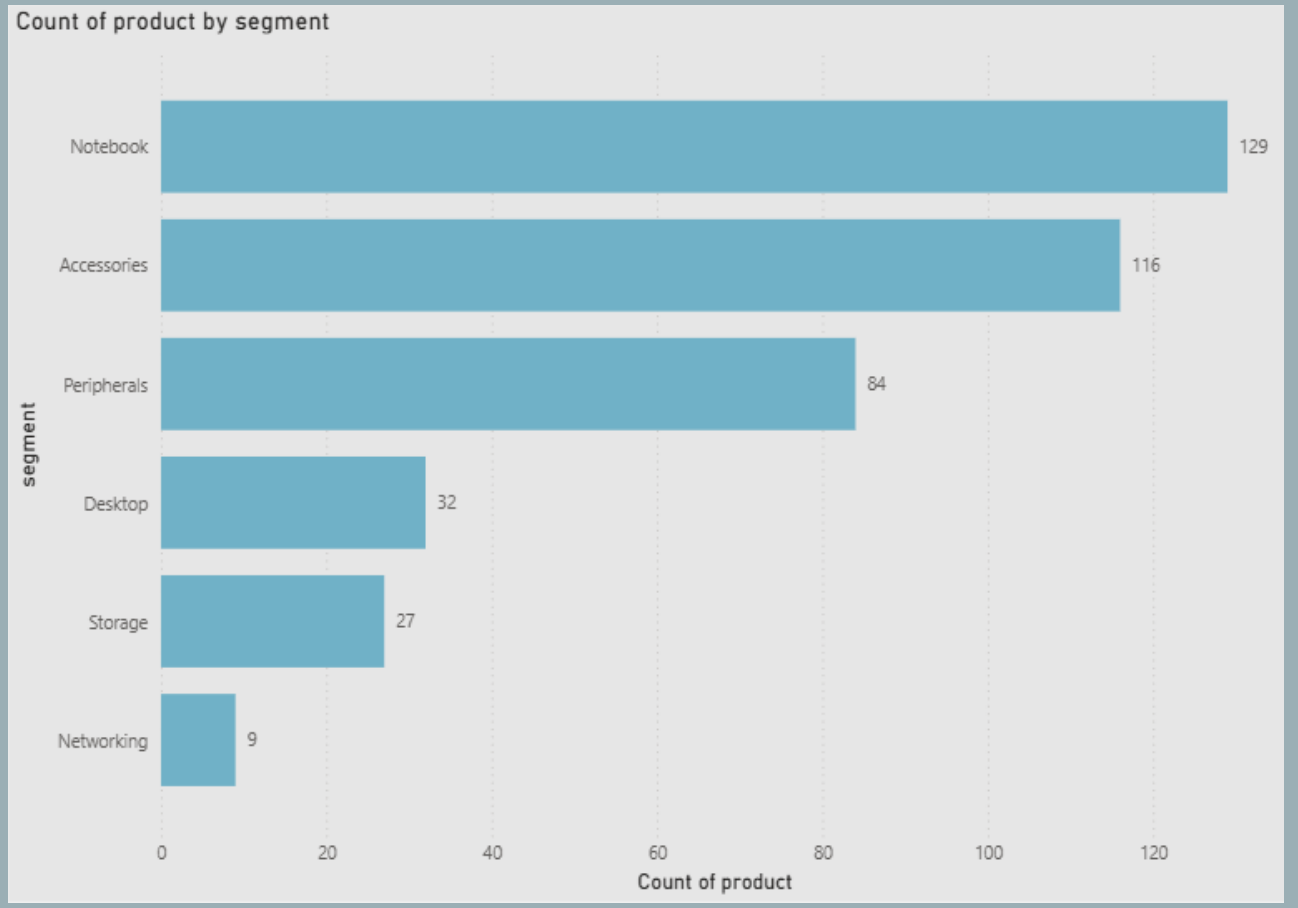
	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.3265



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

```sql
SELECT
    segment,
    COUNT(DISTINCT product_code) AS product_count
FROM dim_product
GROUP BY segment
ORDER BY product_count DESC;
```

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



4. Which segment had the most increase in unique products in 2021 vs 2020?Output Fields: segment, product_count_2020, product_count_2021, difference

```sql
WITH count_2020 AS (
    SELECT
        p1.segment,
        COUNT(DISTINCT fs1.product_code) AS products_count_2020
    FROM fact_sales_monthly fs1
    JOIN dim_product p1 ON fs1.product_code = p1.product_code
    WHERE fs1.fiscal_year = "2020"
    GROUP BY p1.segment
),
count_2021 AS (
    SELECT
        p2.segment,
        COUNT(DISTINCT fs2.product_code) AS products_count_2021
    FROM fact_sales_monthly fs2
    JOIN dim_product p2 ON fs2.product_code = p2.product_code
    WHERE fs2.fiscal_year = "2021"
    GROUP BY p2.segment
)
SELECT
    c1.segment,
    c1.products_count_2020,
    c2.products_count_2021,
    (c2.products_count_2021 - c1.products_count_2020) AS difference
FROM count_2020 c1
JOIN count_2021 c2 ON c1.segment = c2.segment
ORDER BY difference DESC
LIMIT 1;
```

	segment	products_count_2020	products_count_2021	difference
▶	Accessories	69	103	34

Segment	Products Count 2020	Products 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
Total	**245**	**334**	**89**

5. Get the products that have the highest and lowest manufacturing costs.
Output Fields: product_code, product, manufacturing_cost

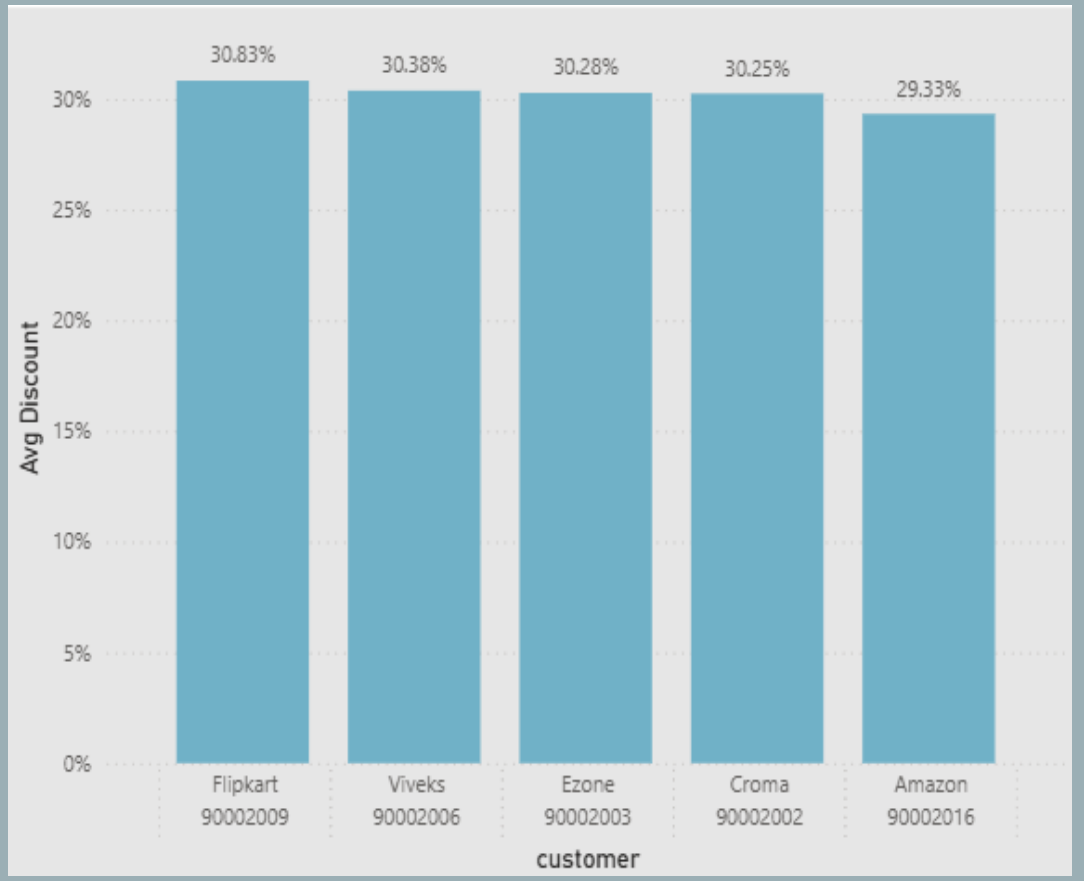
```sql
WITH cost_extremes AS (
    SELECT
        MAX(manufacturing_cost) AS max_cost,
        MIN(manufacturing_cost) AS min_cost
    FROM fact_manufacturing_cost
)
SELECT
    p.product_code,
    p.product,
    mc.manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost mc
    ON p.product_code = mc.product_code
JOIN cost_extremes ce
    ON mc.manufacturing_cost IN (ce.max_cost, ce.min_cost);
```

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

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 Fields: customer_code, customer, average_discount_percentage

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

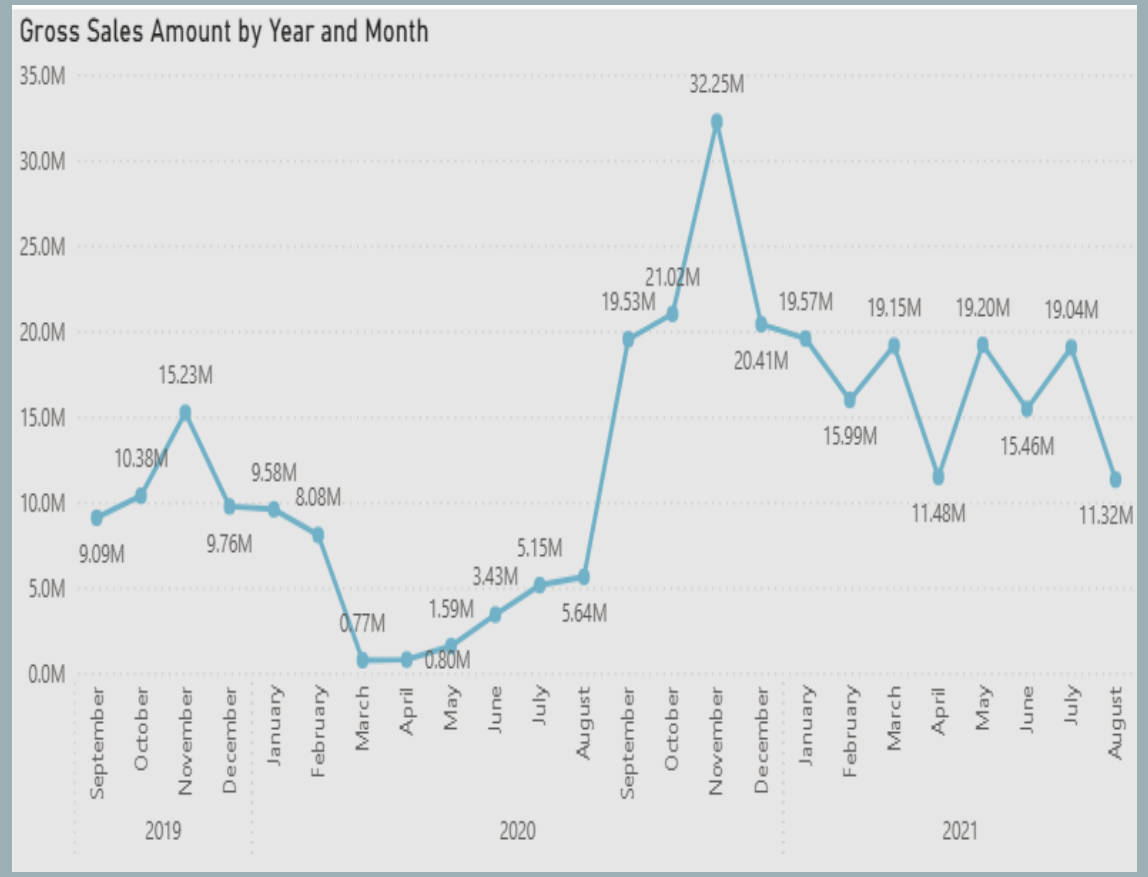
customer_code	customer	average_discount_percentage
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33



7. Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.
Output Fields: Month, Year, Gross sales Amount

```sql
SELECT
    MONTH(sm.date) AS month,
    YEAR(sm.date) AS year,
    ROUND(SUM(gp.gross_price * sm.sold_quantity), 2)
    AS Gross_sales_Amount
FROM dim_customer c
JOIN fact_sales_monthly sm
    ON c.customer_code = sm.customer_code
JOIN fact_gross_price gp
    ON sm.product_code = gp.product_code
    AND sm.fiscal_year = gp.fiscal_year
WHERE c.customer = "Atliq Exclusive"
GROUP BY year, month
ORDER BY year, month;
```

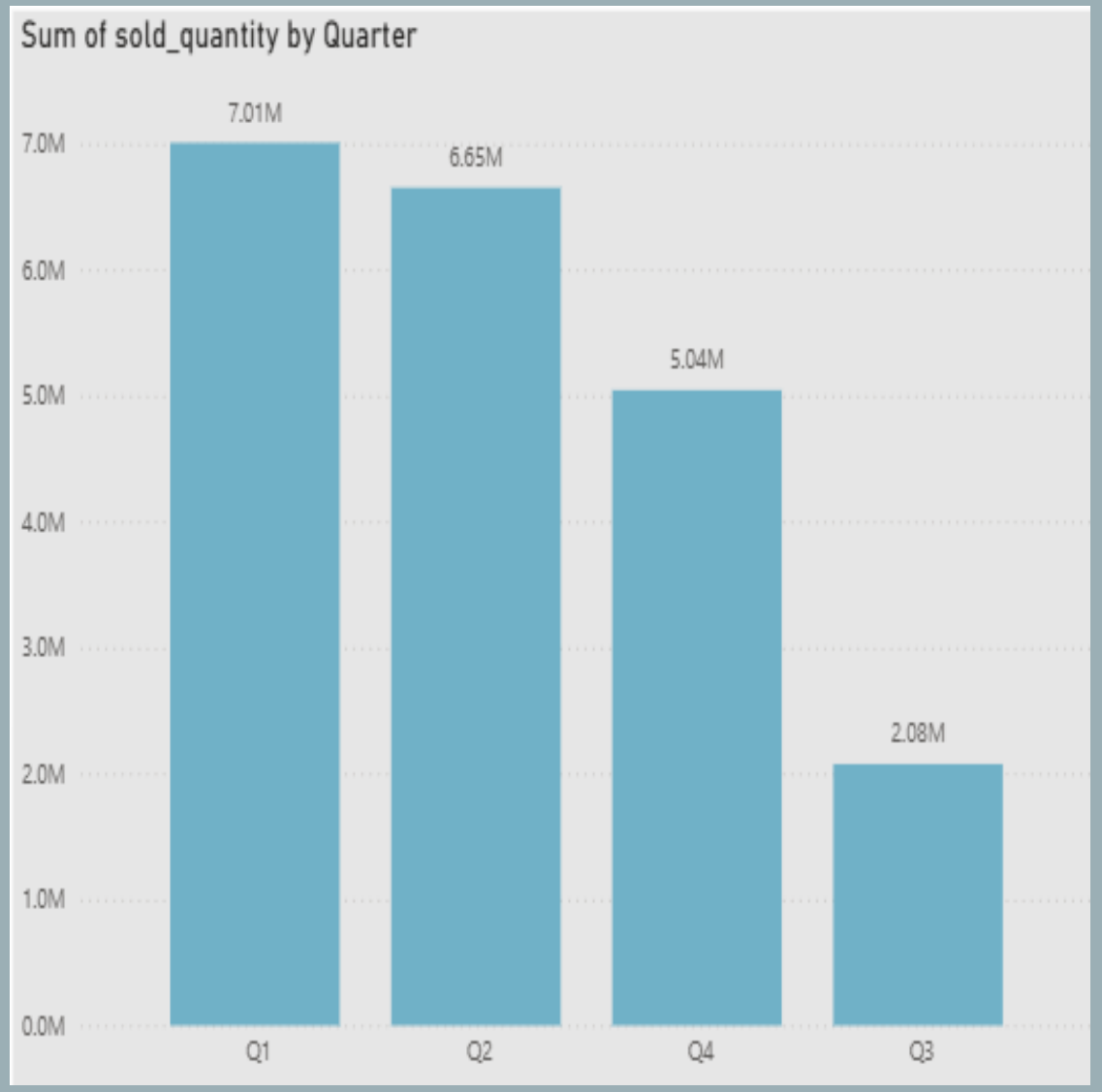
month	year	Gross_sales_Amount
9	2019	4496259.67
10	2019	5135902.35
11	2019	7522892.56
12	2019	4830404.73
1	2020	4740600.16
2	2020	3996227.77
3	2020	378770.97
4	2020	395035.35
5	2020	783813.42
6	2020	1695216.60
7	2020	2551159.16
8	2020	2786648.26
9	2020	12353509.79
10	2020	13218636.20
11	2020	20464999.10
12	2020	12944659.65
1	2021	12399392.98
2	2021	10129735.57
3	2021	12144061.25
4	2021	7311999.95
5	2021	12150225.01
6	2021	9824521.01
7	2021	12092346.32
8	2021	7178707.59



8. In which quarter of 2020 did we get the maximum total_sold_quantity?
Output Fields: Quarter, total_sold_quantity

```sql
WITH sales_with_quarter AS (
    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 Quarter,
        sold_quantity
    FROM fact_sales_monthly
    WHERE fiscal_year = "2020"
)
SELECT
    Quarter,
    SUM(sold_quantity) AS total_sold_quantity
FROM sales_with_quarter
GROUP BY Quarter
ORDER BY total_sold_quantity DESC;
```

	Quarter	total_sold_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

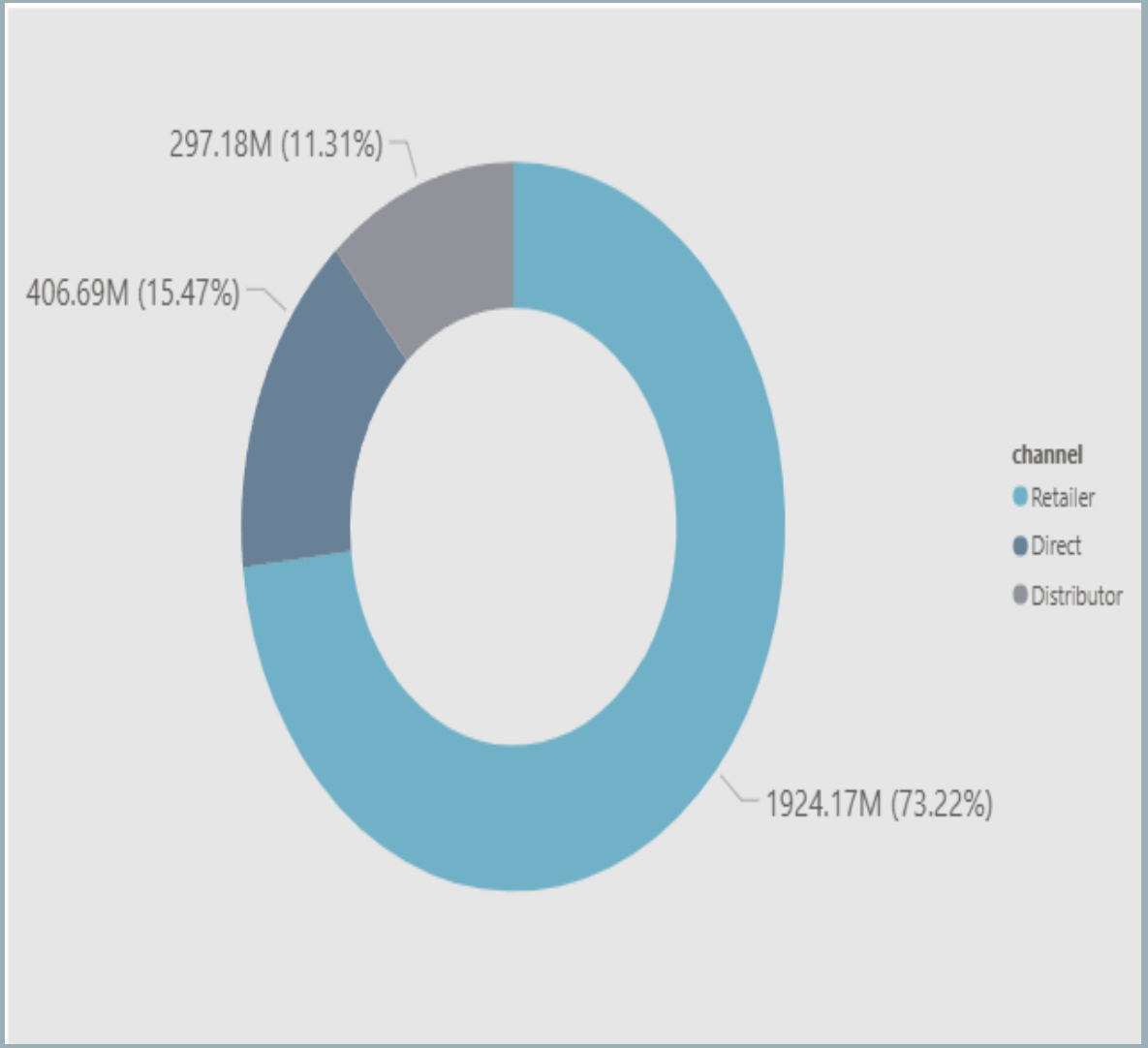


9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

Output Fields: channel, gross_sales_mln, percentage

```sql
WITH channel_gross_sale AS (
    SELECT
        c.channel,
        SUM(gp.gross_price * sm.sold_quantity) AS gross_sale
    FROM dim_customer c
    JOIN fact_sales_monthly sm
        ON c.customer_code = sm.customer_code
    JOIN fact_gross_price gp
        ON sm.product_code = gp.product_code
        AND sm.fiscal_year = gp.fiscal_year
    WHERE sm.fiscal_year = "2021"
    GROUP BY c.channel
)
SELECT
    channel,
    ROUND(gross_sale / 1000000, 2) AS gross_sales_mln,
    ROUND((gross_sale / SUM(gross_sale) OVER()) * 100, 2) AS percentage
FROM channel_gross_sale
ORDER BY gross_sale DESC;
```

	channel	Gross_sales_mln	percentage
▶	Retailer	1924.17 M	73.22 %
	Direct	406.69 M	15.48 %
	Distributor	297.18 M	11.31 %



10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021.
Output Fields: division, product_code, product, total_sold_quantity, rank_order

```sql
WITH division_sold_quantity AS (
    SELECT
        p.division,p.product_code,p.product,
        SUM(sm.sold_quantity) AS total_sold_quantity
    FROM dim_product p
    JOIN fact_sales_monthly sm
        ON p.product_code = sm.product_code
    WHERE sm.fiscal_year = "2021"
    GROUP BY p.division, p.product_code, p.product
),
ranked_product AS (
    SELECT
        division,
        product_code,
        product,
        total_sold_quantity,
        RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_order
    FROM division_sold_quantity
)
SELECT
    division,
    product_code,
    product,
    total_sold_quantity,
    rank_order
FROM ranked_product
WHERE rank_order <= 3
ORDER BY division, rank_order;
```

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

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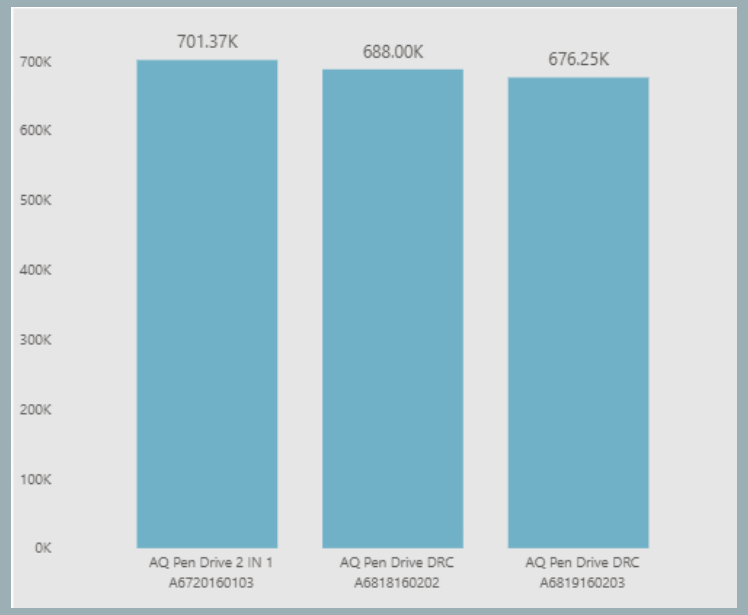
N & S



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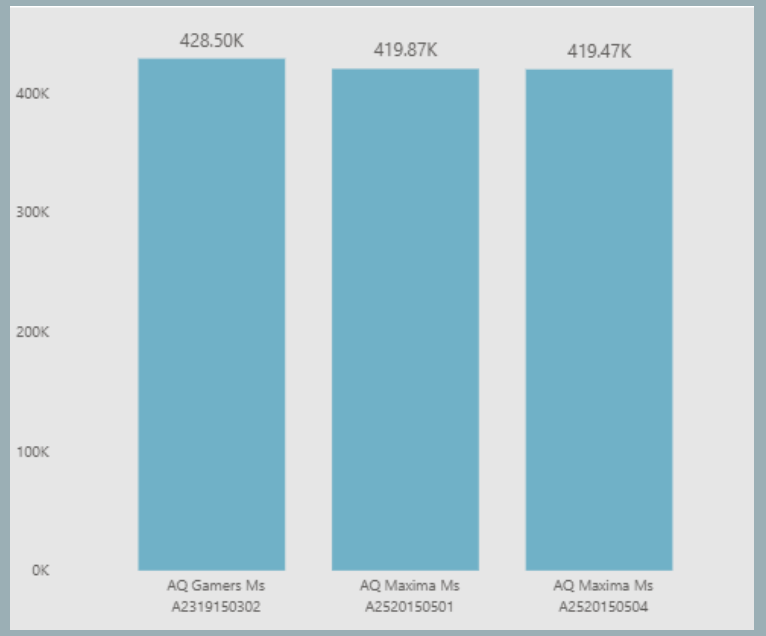

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