



Consumer Goods

Ad-hoc Insights

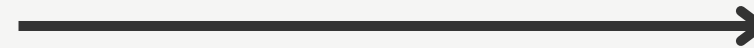
June 2025

Presented by

Bharat Chotwani



Content



About Company

Problem Statement

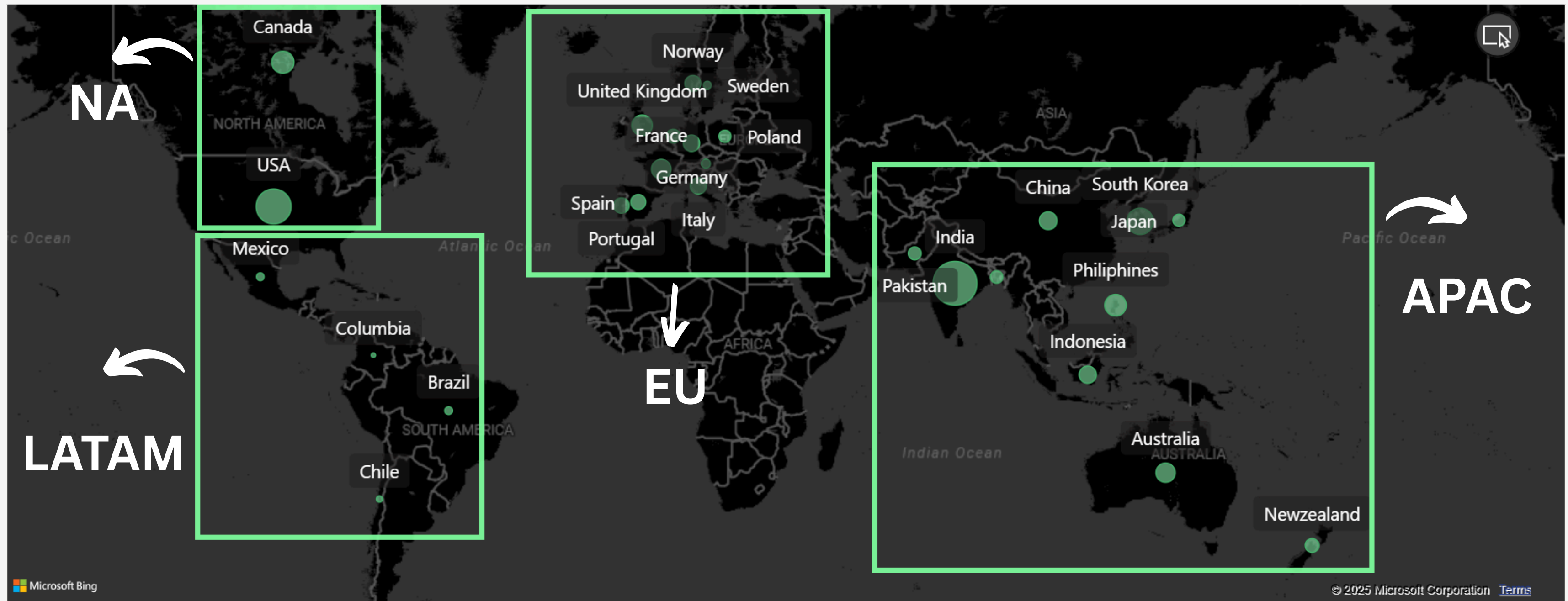
Process of Project

About Company

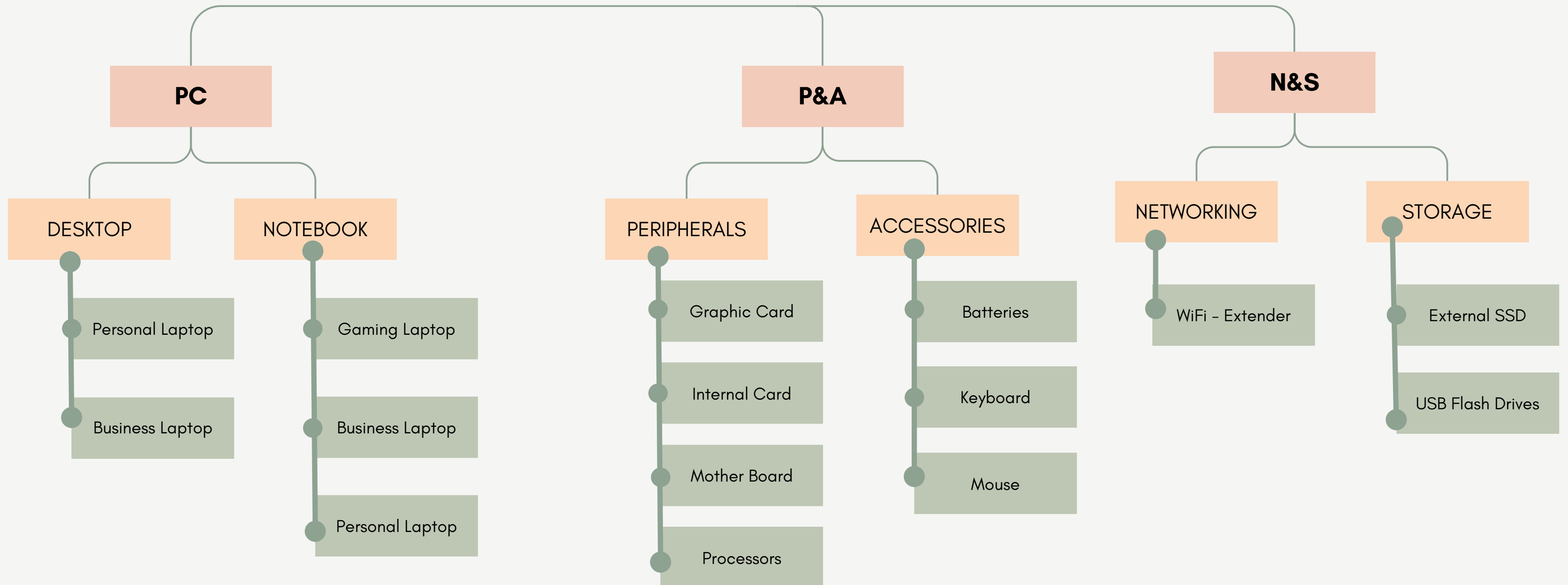
- **Atliq Hardwares** is a leading computer hardware manufacturer in India. The company has successfully expanded into international markets.
- The **management lacks timely and actionable insights** to make quick, data-driven decisions. There is a need for a **stronger data analytics foundation** within the organization.
- To address this issue, the company plans to expand its data analytics team by hiring several **junior data analysts**.
- **Tony Sharma**, the Director of Data Analytics, is leading the hiring process. He is looking for candidates with a balance of technical (especially SQL) and soft skills. To assess these skills, he has initiated a **SQL challenge** as part of the hiring process.

Company's Market

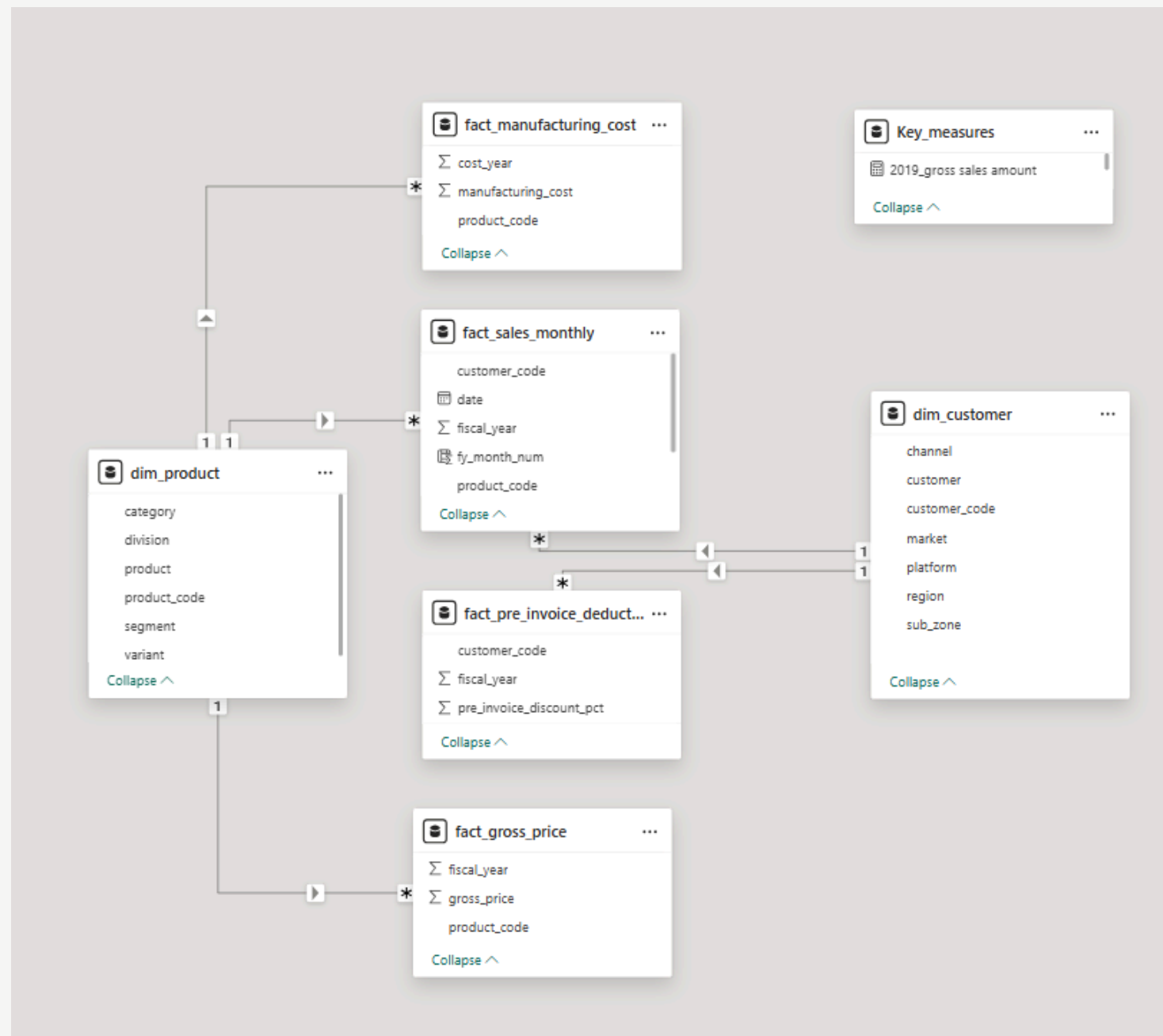
Fiscal Year: Sep 2019 - Aug 2020 --> FY 2020 Sep 2020 - Aug 2021 --> FY 2021



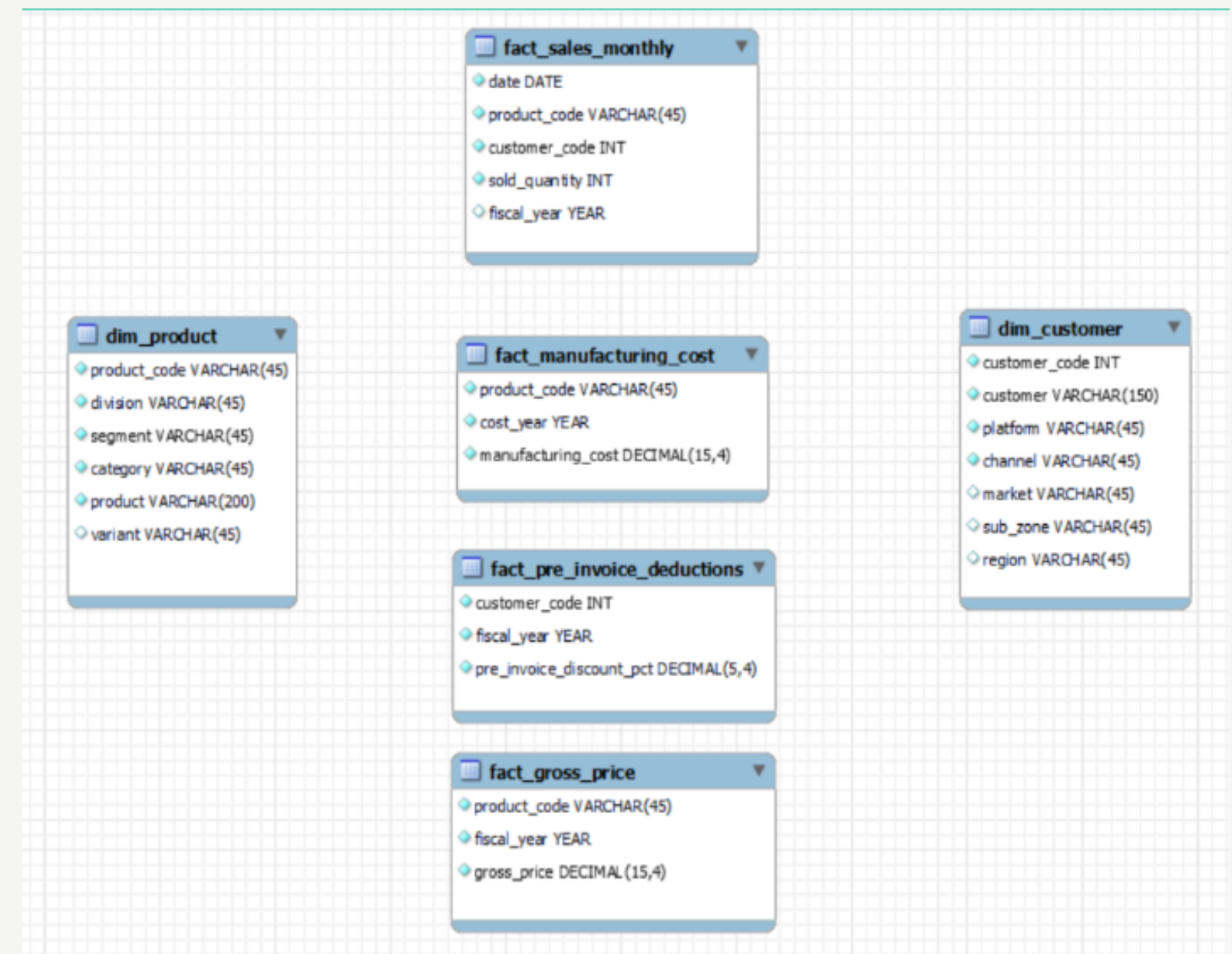
Atliq's Product hierarchy



Process

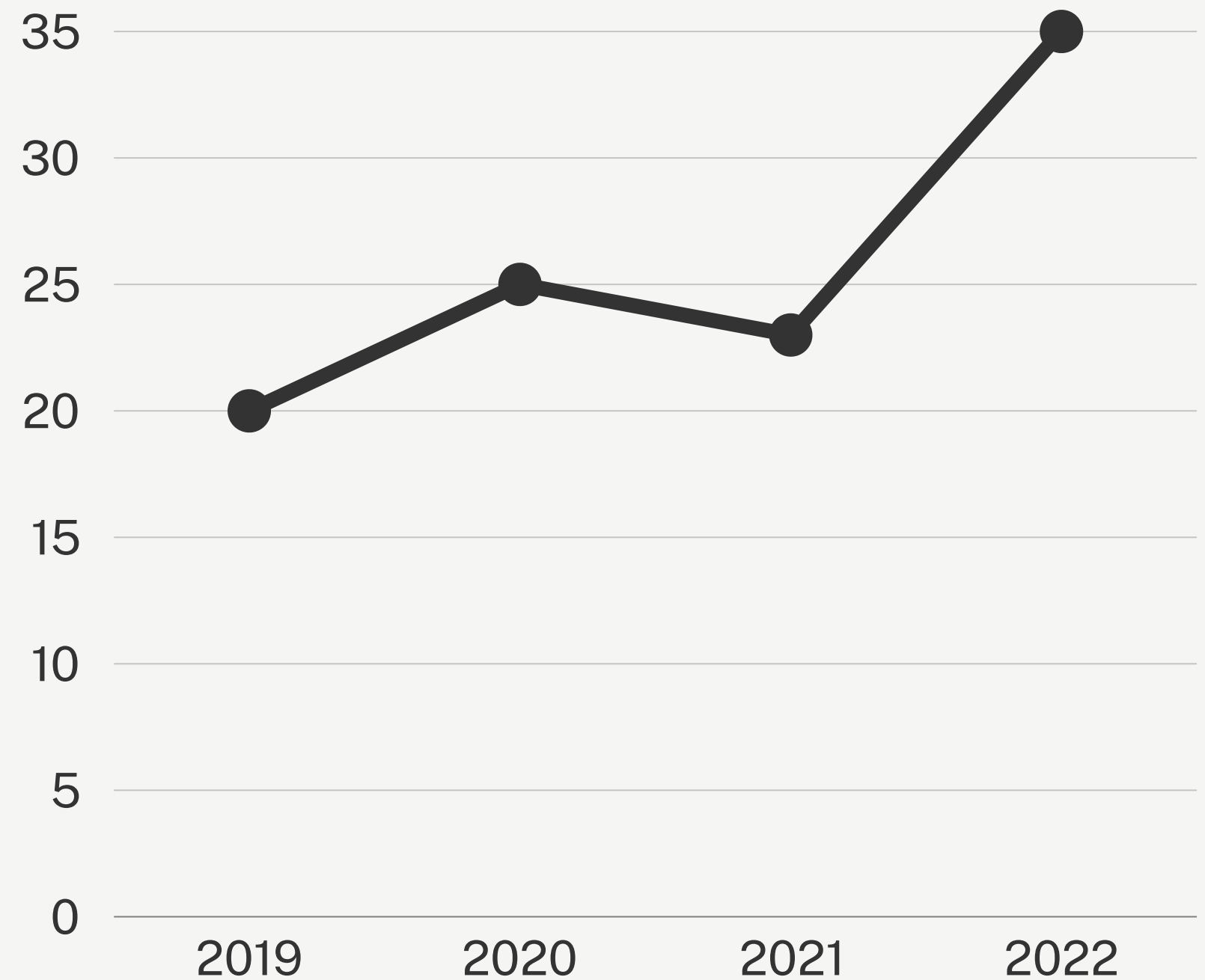


Power BI



SQL


*10 Ad-hoc request,
Query & Result,
Insights,
and
Visualization*



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

Request 1

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



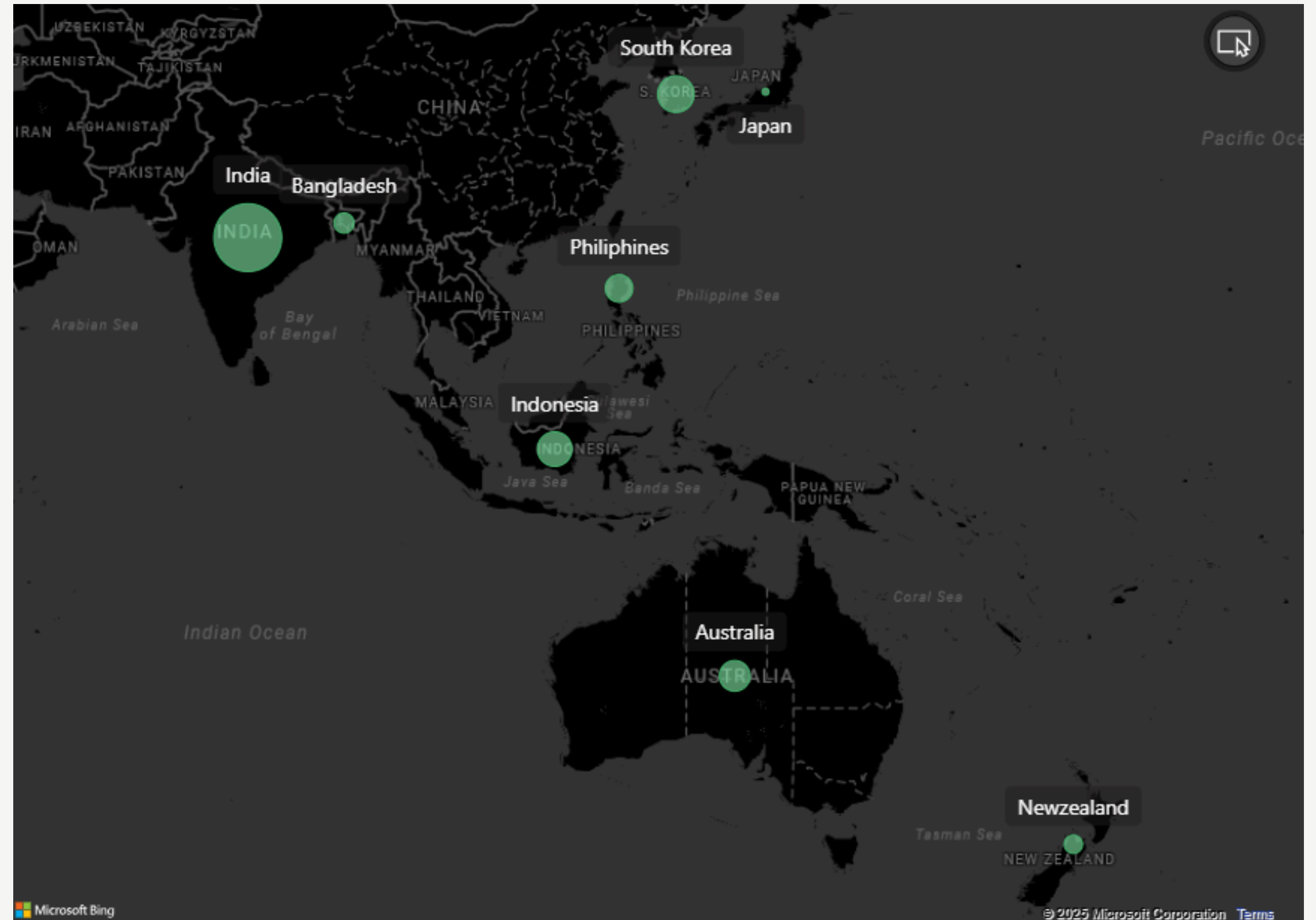
| | market |
|---|-------------|
| ▶ | Australia |
| | Bangladesh |
| | India |
| | Indonesia |
| | Japan |
| | Newzealand |
| | Philiphines |
| | South Korea |

Visual Insight
→

Insight

In the APAC region, our Atliq Exclusive store has established a strong presence across 8 major markets.

India leads with the highest sold quantity at **1.9266 million** units, followed by **South Korea** with **0.5058 million** units, and **Indonesia** with **0.4484 million** units.



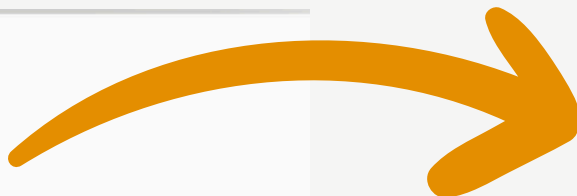
Request 2. What is the **percentage of unique products** increase in **2021 vs. 2020**?

```
Request 2

WITH
  products_20 AS
  ( SELECT COUNT(DISTINCT(product_code)) AS count_2020
    FROM fact_sales_monthly WHERE fiscal_year = 2020 ),

  products_21 AS
  ( SELECT COUNT(DISTINCT(product_code)) AS count_2021
    FROM fact_sales_monthly WHERE fiscal_year = 2021 )

SELECT
  p20.count_2020,
  p21.count_2021,
  ROUND((count_2021-count_2020)*100.0/count_2020, 2) AS
pct_change
FROM products_20 p20
CROSS JOIN products_21 p21;
```



| count_2020 | count_2021 | pct_change |
|------------|------------|------------|
| 245 | 334 | 36.33 |

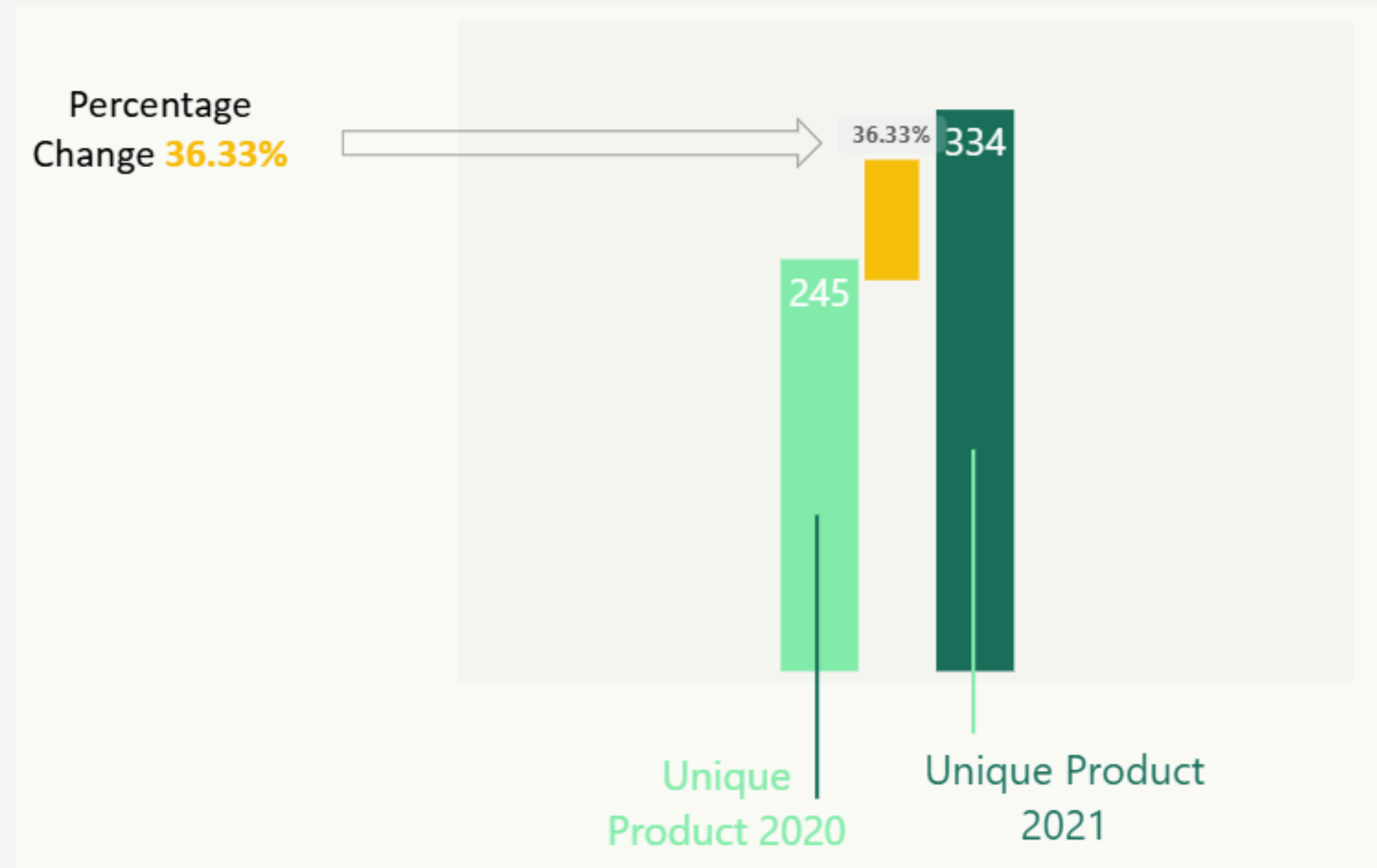
Visual Insight
→

Insight

There has been a significant increase of **36.33%** in the number of unique products from **2020 to 2021**.

This suggests that the company has either expanded its product range, introduced more product variations, or improved its product development pipeline in 2021 compared to 2020.

Unique Product Growth (2020 vs 2021)



Request 3. Provide a report with all the unique product counts for each segment. and sort them in descending order of product counts.



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



Request 3

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

Visual Insight



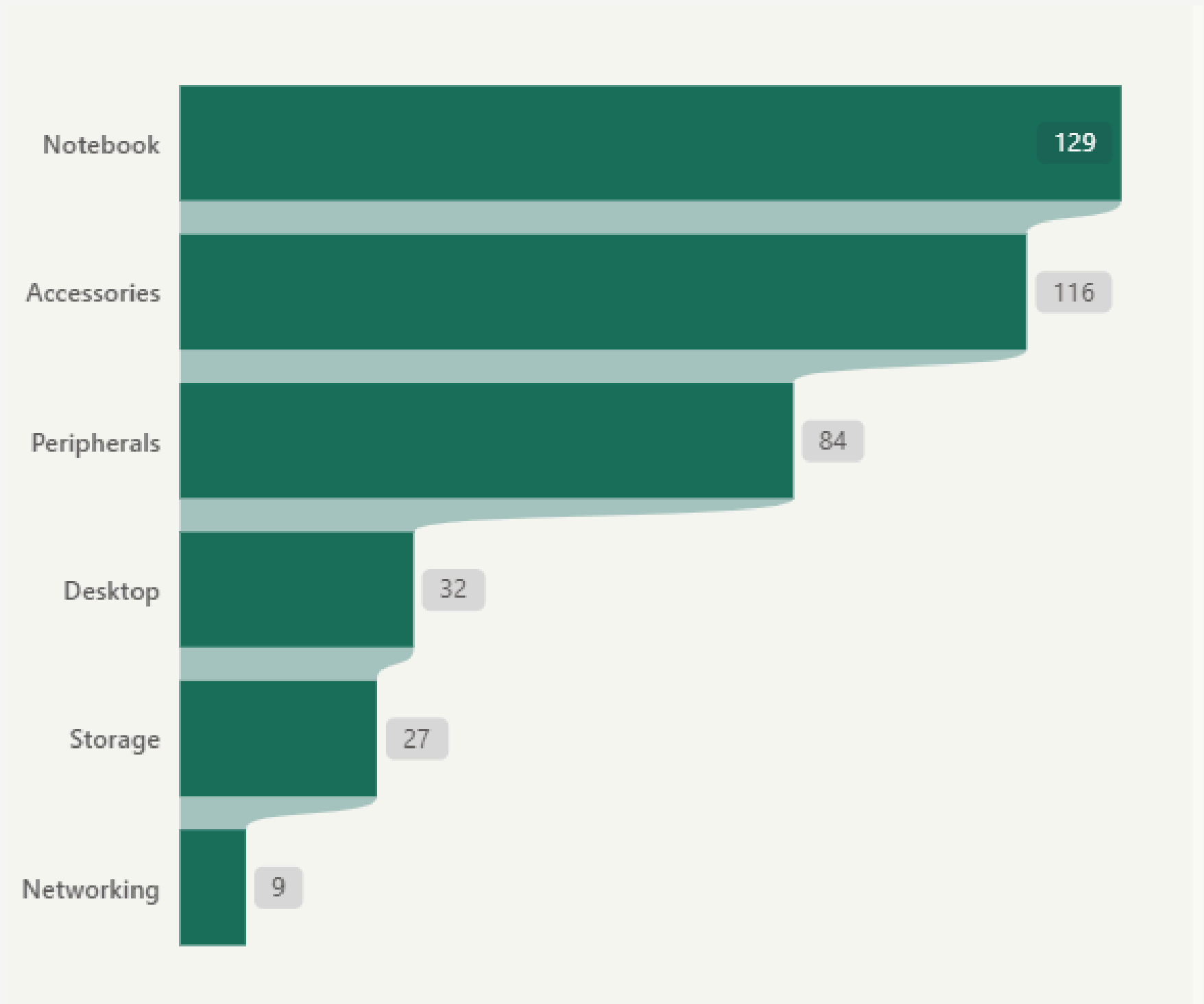
Insight

The **Notebook** category has the **highest number of products (129)**, followed closely by **Accessories (116)** and **Peripherals (84)**.

These three categories dominate the product portfolio, making up the bulk of the offerings.

In contrast, **Networking (9)**, **Storage (27)**, and **Desktop (32)** categories have significantly fewer products, indicating either lower focus, less demand, or a more consolidated product strategy in these segments.

Unique Product Count by Segment



Request 4. Follow-up: Which **segment** had the most **increase** in unique products in **2021 vs 2020**?

```
Request 4

WITH products_20 AS
(
  SELECT p.segment,
  COUNT(DISTINCT(fs.product_code)) AS product_counts_20
  FROM fact_sales_monthly fs
  JOIN dim_product p
  ON fs.product_code = p.product_code
  WHERE fs.fiscal_year = 2020
  GROUP BY segment
),
products_21 AS
(
  SELECT p.segment,
  COUNT(DISTINCT(fs.product_code)) AS product_counts_21
  FROM fact_sales_monthly fs
  JOIN dim_product p
  ON fs.product_code = p.product_code
  WHERE fs.fiscal_year = 2021
  GROUP BY segment
)

SELECT
  p20.segment,
  p20.product_counts_20,
  p21.product_counts_21,
  (p21.product_counts_21-p20.product_counts_20) AS
  difference
FROM products_20 p20
JOIN products_21 p21
ON p20.segment = p21.segment
ORDER BY difference DESC;
```



| segment | product_counts_20 | product_counts_21 | 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 |

Visual Insight
→

Insight

Accessories had the **largest growth** with an increase of **34 unique products (from 69 to 103)**.


Storage and Networking saw **modest** increases (**+5** and **+3** respectively), maintaining a smaller share.

Segment-wise Increase in Products (2020 vs 2021)

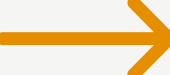
| Segment | Unique Products of 2020 | Unique Products of 2021 | Difference |
|-------------|-------------------------|-------------------------|------------|
| Accessories | 69 | 103 | 34 |
| Notebook | 92 | 108 | 16 |
| Peripherals | 59 | 75 | 16 |
| Desktop | 7 | 22 | 15 |
| Storage | 12 | 17 | 5 |
| Networking | 6 | 9 | 3 |
| Total | 245 | 334 | 89 |

Request 5. Get the products that have the **highest** and **lowest manufacturing costs**.

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

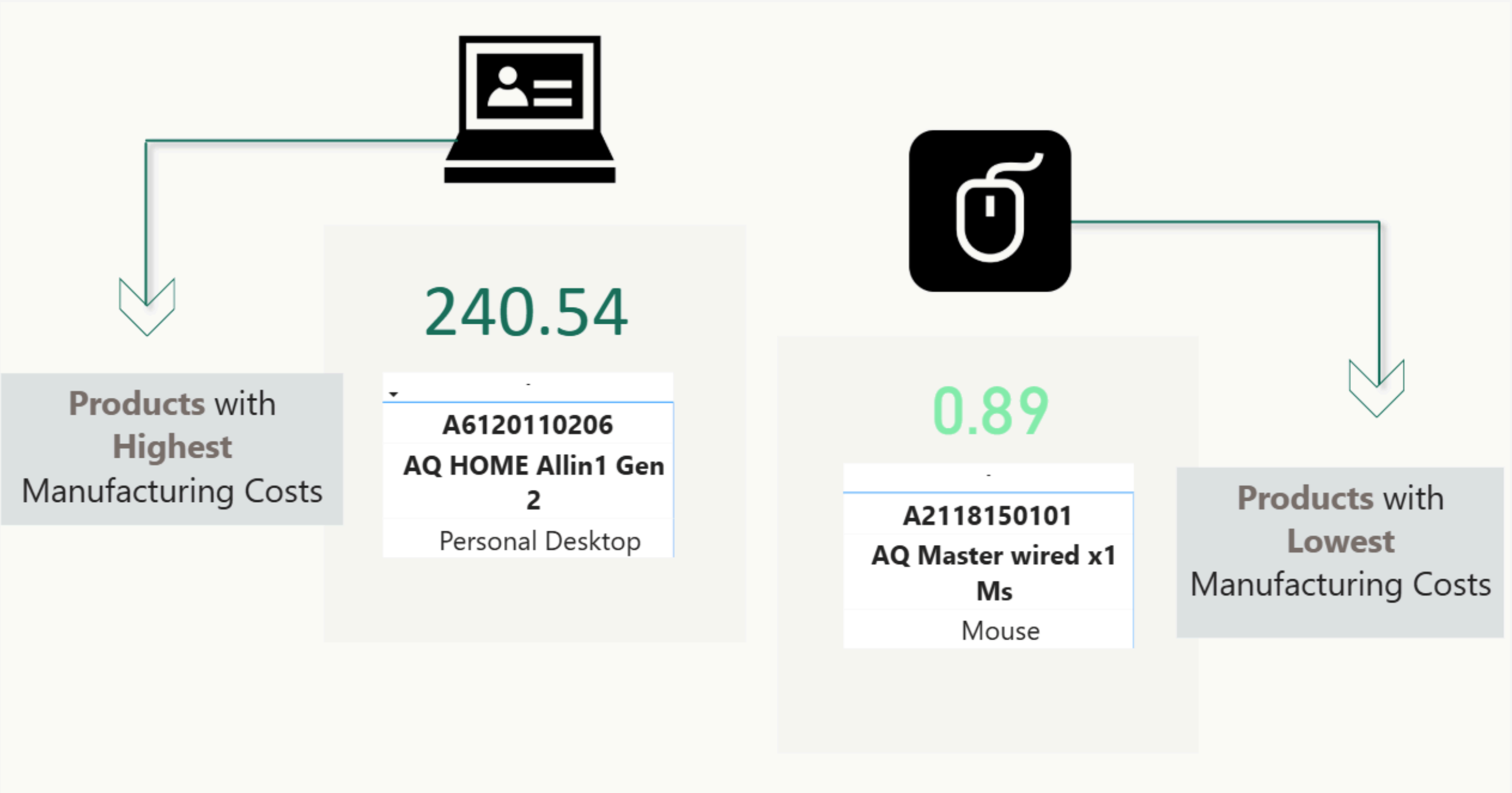


| product_code | product | manufacturing_cost |
|--------------|-----------------------|--------------------|
| A6120110206 | AQ HOME Allin1 Gen 2 | 240.5364 |
| A2118150101 | AQ Master wired x1 Ms | 0.8920 |

Visual Insight


Insight


KPI for the Highest and Lowest Manufacturing Costs



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**.

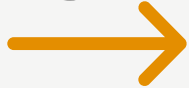
Request 6

```
WITH tbl1 as (  
  SELECT  
    customer_code AS cust_code_a,  
    AVG(pre_invoice_discount_pct) AS pre_idp  
  FROM fact_pre_invoice_deductions  
  WHERE fiscal_year = 2021  
  GROUP BY customer_code  
)  
  
tbl2 as (  
  SELECT customer_code AS cust_code_b, customer AS cust FROM dim_customer WHERE  
  market="india"  
)  
  
SELECT tbl2.cust_code_b, tbl2.cust, ROUND(tbl1.pre_idp, 4) as  
average_discount_percentage  
FROM tbl1  
JOIN tbl2  
ON tbl1.cust_code_a = tbl2.cust_code_b  
ORDER BY average_discount_percentage DESC  
LIMIT 5;
```



| cust_code_b | cust | average_discount_percentage |
|-------------|----------|-----------------------------|
| 90002009 | Flipkart | 0.3083 |
| 90002006 | Viveks | 0.3038 |
| 90002003 | Ezone | 0.3028 |
| 90002002 | Croma | 0.3025 |
| 90002016 | Amazon | 0.2933 |

Visual Insight

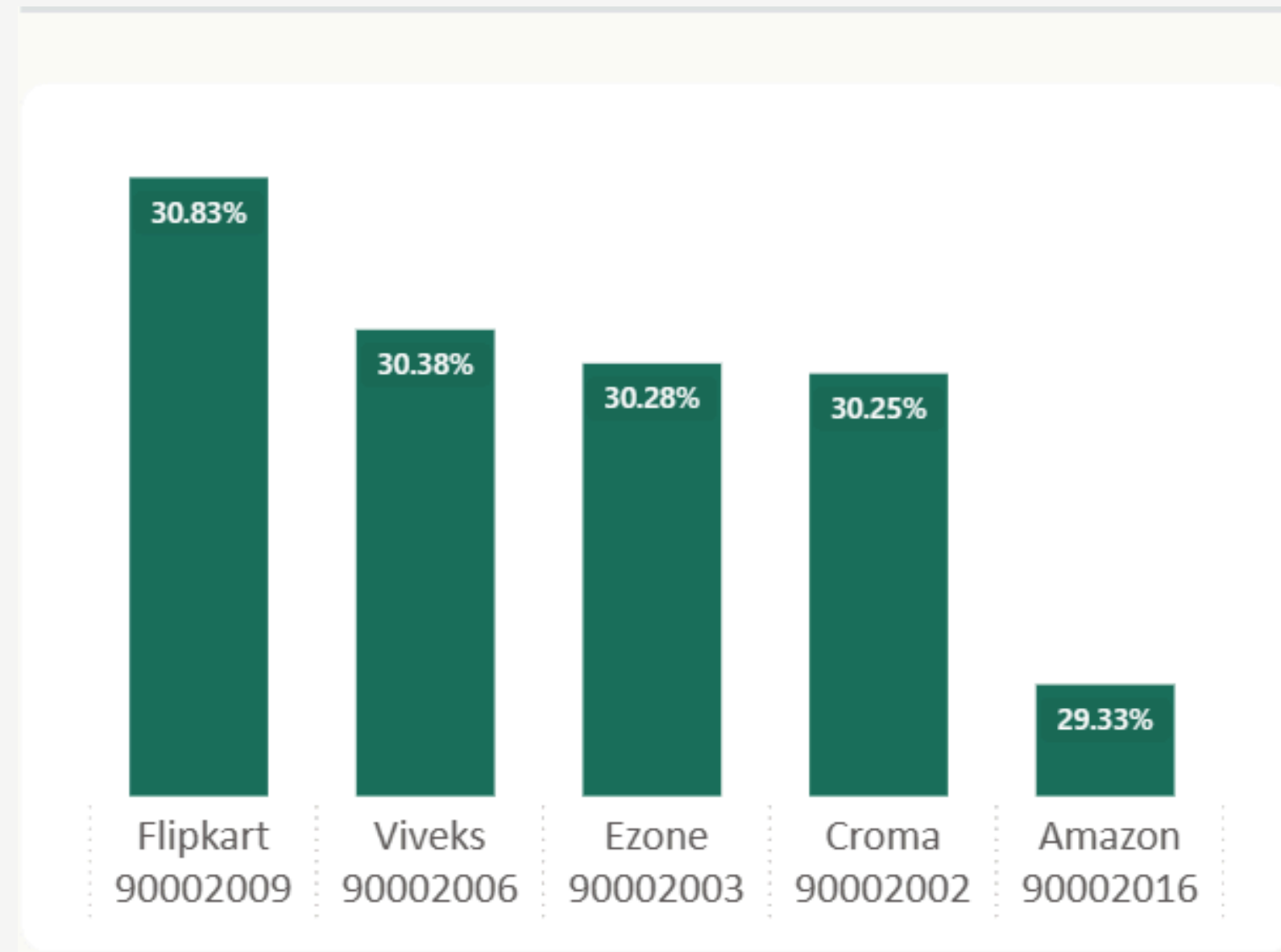


Insight

Flipkart leads with the **highest pre-invoice discount percentage (30.83%)**, closely followed by **Viveks, Ezone,** and **Croma** — all hovering just above **30%**. **Amazon**, while slightly lower at **29.33%**, still holds a significant share.

The narrow percentage gaps suggest strong competition and relatively even performance across all sellers.

*Top **5** Indian customers with the highest average discount percentage for FY 2021*



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.



Request 7

```
SELECT
    CONCAT(MONTHNAME(fs.date), ' (', YEAR(fs.date), ')') AS 'Month',
    fs.fiscal_year,
    (gp.gross_price * fs.sold_quantity) AS gross_sales_amount
FROM fact_sales_monthly fs
JOIN dim_customer c
    ON fs.customer_code = c.customer_code
JOIN fact_gross_price gp
    ON fs.product_code = gp.product_code
WHERE c.customer = 'Atliq Exclusive'
GROUP BY Month, fs.fiscal_year
ORDER BY fs.fiscal_year;
```



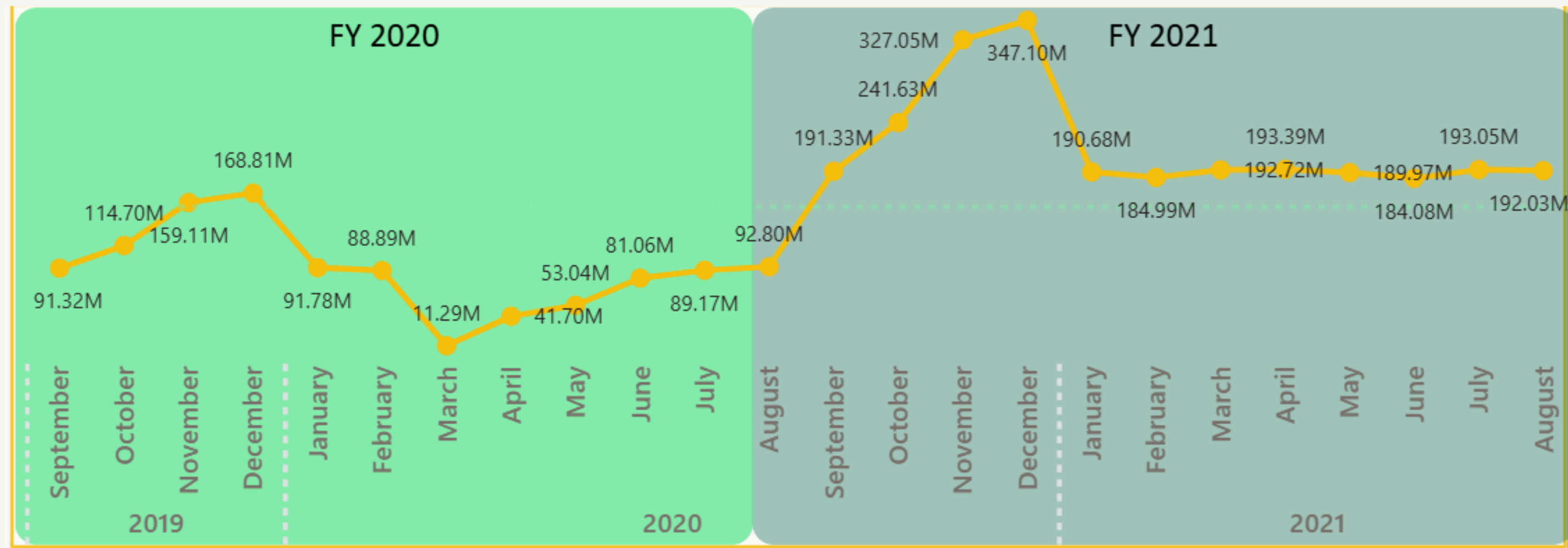
| Month | fiscal_year | gross_sales_amount |
|------------------|-------------|--------------------|
| September (2019) | 2020 | 2610.8501 |
| October (2019) | 2020 | 762.292 |
| November (2019) | 2020 | 3620.887 |
| December (2019) | 2020 | 1372.1256 |
| January (2020) | 2020 | 3068.2253 |
| February (2020) | 2020 | 514.5471 |
| March (2020) | 2020 | 57.1719 |
| April (2020) | 2020 | 133.4011 |
| May (2020) | 2020 | 76.2292 |
| June (2020) | 2020 | 514.5471 |
| July (2020) | 2020 | 1410.2402 |
| August (2020) | 2020 | 762.292 |
| September (2020) | 2021 | 4726.2104 |
| October (2020) | 2021 | 5660.0181 |
| November (2020) | 2021 | 914.7504 |
| December (2020) | 2021 | 1619.8705 |
| January (2021) | 2021 | 2267.8187 |
| February (2021) | 2021 | 3315.9702 |
| March (2021) | 2021 | 3068.2253 |
| April (2021) | 2021 | 686.0628 |
| May (2021) | 2021 | 3563.7151 |
| June (2021) | 2021 | 2344.0479 |
| July (2021) | 2021 | 3449.3713 |
| August (2021) | 2021 | 495.4898 |

Visual Insight



Insight

Monthly Gross Sales – Atliq Exclusive




FY 2021 showed significant growth and stability compared to **FY 2020**. After a steep rise peaking in **December 2020**, the metrics stabilized at a high level around **190M** for the rest of the **fiscal year**. In contrast, **FY 2020** experienced sharp volatility, especially a steep decline in **Q4**, with recovery only **starting mid-2020**.

Request 8. In which **quarter of 2020**, got the **maximum total_sold_quantity**?

● ● ●

Request 8

```
SELECT
CASE
  WHEN MONTH(date) IN (9, 10, 11) THEN '1Q'
  WHEN MONTH(date) IN (12, 1, 2) THEN '2Q'
  WHEN MONTH(date) IN (3, 4, 5) THEN '3Q'
  WHEN MONTH(date) IN (6, 7, 8) THEN '4Q'
END AS Quarters,
ROUND(SUM(sold_quantity)/1000000,2) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC;
```



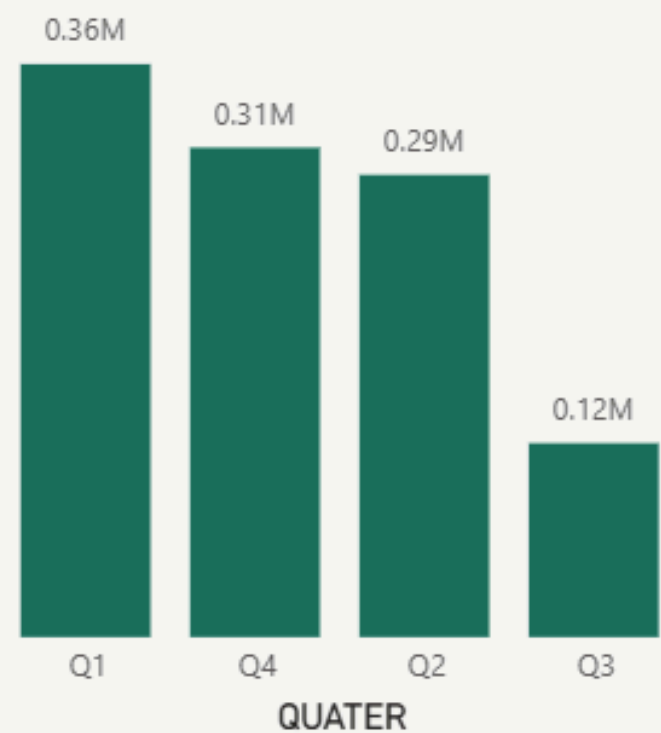
| Quarters | total_sold_quantity |
|----------|---------------------|
| 1Q | 7.01 |
| 2Q | 6.65 |
| 4Q | 5.04 |
| 3Q | 2.08 |



Insight

Top Quarter by Sales Volume (2020)

- **Q1 recorded the highest sold quantity (0.36M)**, driven by strong sales in **October and November**.
- **Q3 had the lowest sales (0.12M)**, showing a clear dip in **March–May**.
- Sales in **Q4 rebounded to 0.31M**, indicating a steady recovery toward the end of the fiscal year.



| Month | QUATER | Sum of sold_quantity |
|-----------|--------|----------------------|
| September | Q1 | 1.76M |
| October | Q1 | 2.19M |
| November | Q1 | 3.05M |
| January | Q2 | 1.76M |
| February | Q2 | 1.70M |
| December | Q2 | 3.18M |
| March | Q3 | 0.24M |
| April | Q3 | 0.82M |
| May | Q3 | 1.02M |
| June | Q4 | 1.56M |
| July | Q4 | 1.69M |
| August | Q4 | 1.79M |

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



Request 9

```
WITH channel_sale AS (  
  SELECT  
    c.channel,  
    ROUND(SUM(gross_price*sold_quantity/1000000), 2) AS gross_sales_mln  
  FROM fact_sales_monthly fs  
  JOIN dim_customer c  
    ON fs.customer_code = c.customer_code  
  JOIN fact_gross_price fg  
    ON fs.product_code = fg.product_code  
  WHERE fs.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_contribution  
FROM channel_sale  
ORDER BY gross_sales_mln;
```

| channel | gross_sales_mln | percentage_contribution |
|-------------|-----------------|-------------------------|
| Distributor | 297.18 | 11.31 |
| Direct | 406.69 | 15.48 |
| Retailer | 1924.17 | 73.22 |

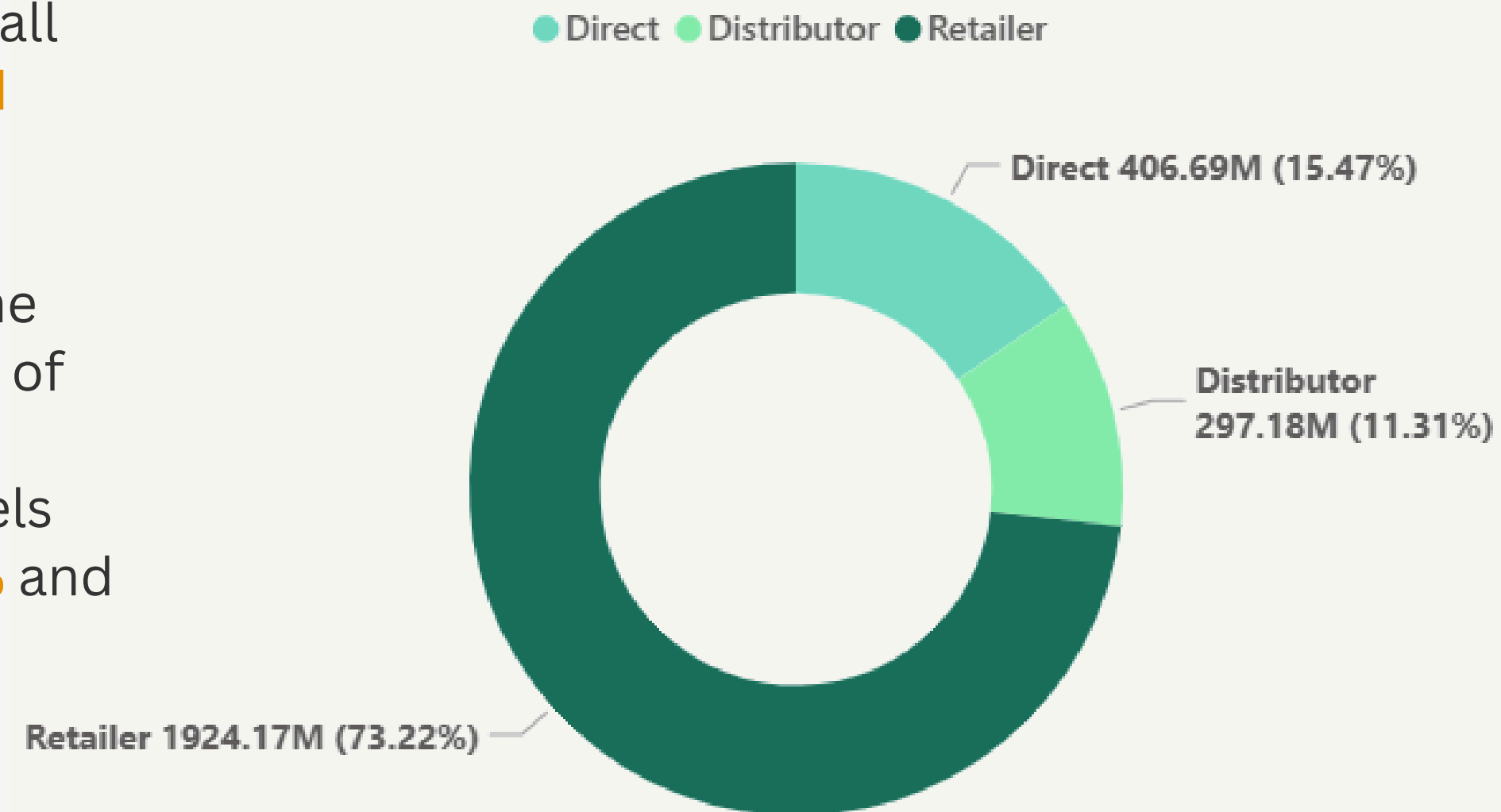


Insight

Most of our sales came through **retailers**, making up **75%** of the total. Only a small portion of sales came from **direct and distributor channels**.

- The **Retailer** channel brought in the highest sales, contributing **73.22%** of the total.
- The **Direct** and **Distributor** channels contributed the least, with **15.47%** and **11.31%**, respectively.

Channel-wise Gross Sales Contribution (**FY 2021**)



Request 10. Get the **Top 3 products** in **each division** that have a **high total_sold_quantity** in the **fiscal_year 2021**?

Request 10

```
WITH product_table AS (  
  SELECT  
    p.division,  
    p.product_code,  
    p.product,  
    SUM(fs.sold_quantity) AS total_sold_quantity  
  FROM fact_sales_monthly fs  
  JOIN dim_product p ON fs.product_code = p.product_code  
  WHERE fs.fiscal_year = 2021  
  GROUP BY p.division, p.product_code, p.product  
)  
ranked_products AS (  
  SELECT  
    division,  
    product_code,  
    product,  
    total_sold_quantity,  
    DENSE_RANK() OVER (PARTITION BY division ORDER BY total_sold_quantity DESC)  
  AS rank_order  
  FROM product_table  
)  
SELECT  
  division,  
  product_code,  
  product,  
  total_sold_quantity,  
  rank_order  
FROM ranked_products  
WHERE rank_order <= 3;
```

| division | product_code | product | total_sold_quantity | rank_ |
|----------|--------------|---------------------|---------------------|-------|
| 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 |

Insight

Channel-wise Gross Sales Contribution (**FY 2021**)

- **AQ Gamers Ms (A2319150302)** achieved the **highest sales** in the **P & A division** with **0.43M** units.
- **AQ Maxima Ms models (A2520150501 and A2520150504)** followed closely with **0.42M** units each.
- All three top-performing products had very similar sales, showing consistent performance in the division.

