



Consumer Goods

Ad-hoc Insights

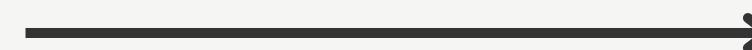
June 2025

Presented by

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Content



About Company

Problem Statement

Process of Project

June 2025

About Company

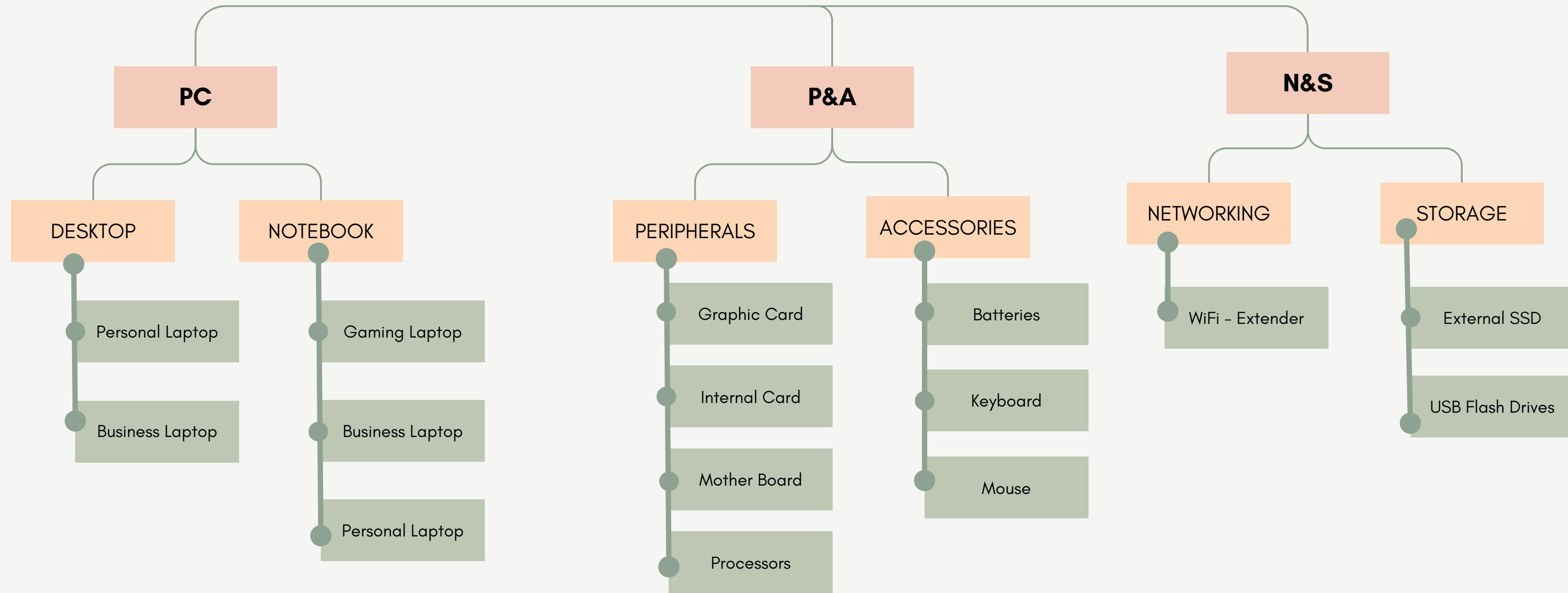
- **Atliq Hardwares** is a leading computer hardware manufacturer in India. The company has successfully expanded into international markets.
- The **management lacks timely and actionable insights** to make quick, data-driven decisions. There is a need for a **stronger data analytics foundation** within 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

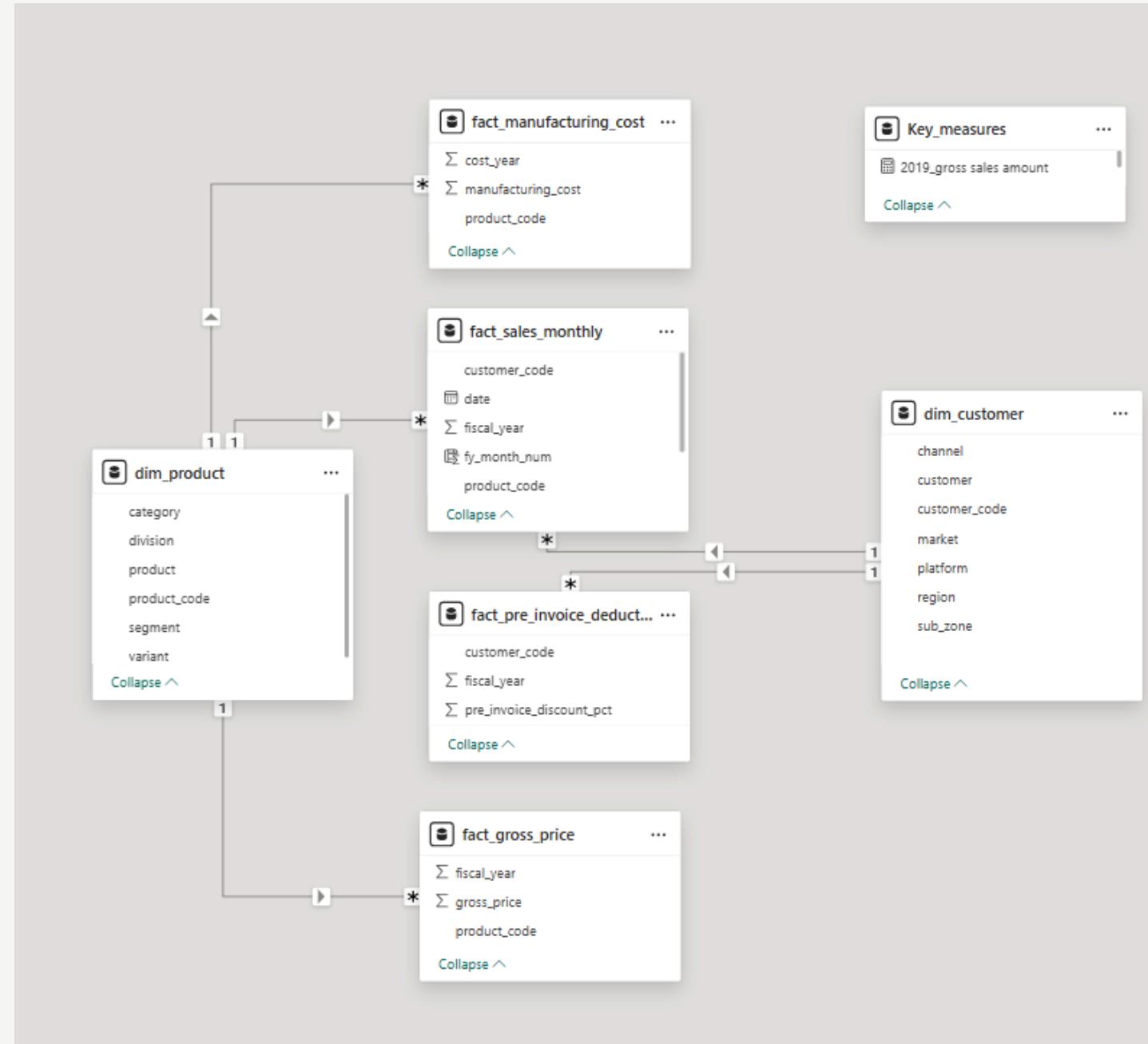
Fiscal Year: Sep 2019 - Aug 2020 --> FY 2020 Sep 2020 - Aug 2021 --> FY 2021



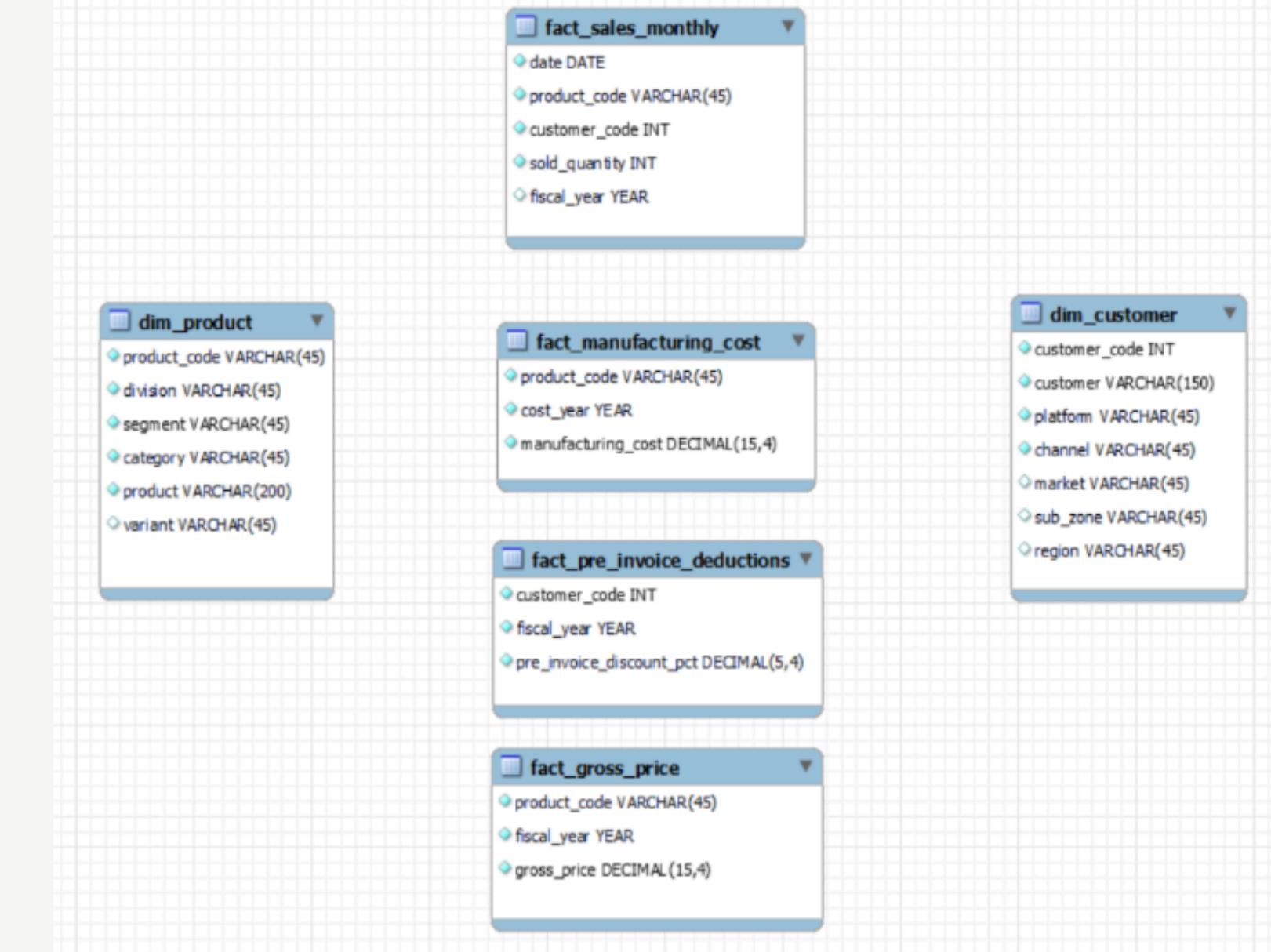
Atliq's Product hierarchy



Process

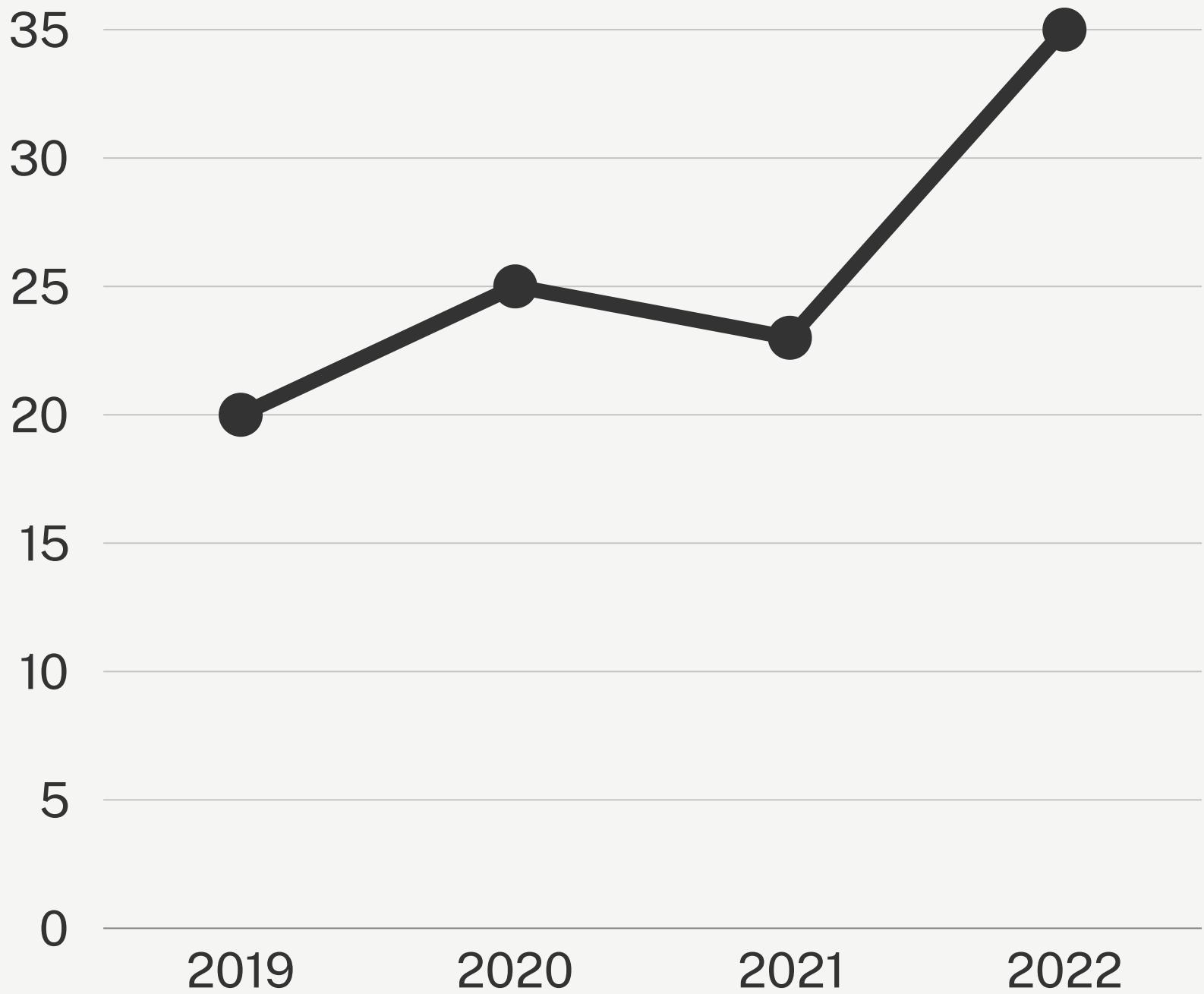


Power BI



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;
```



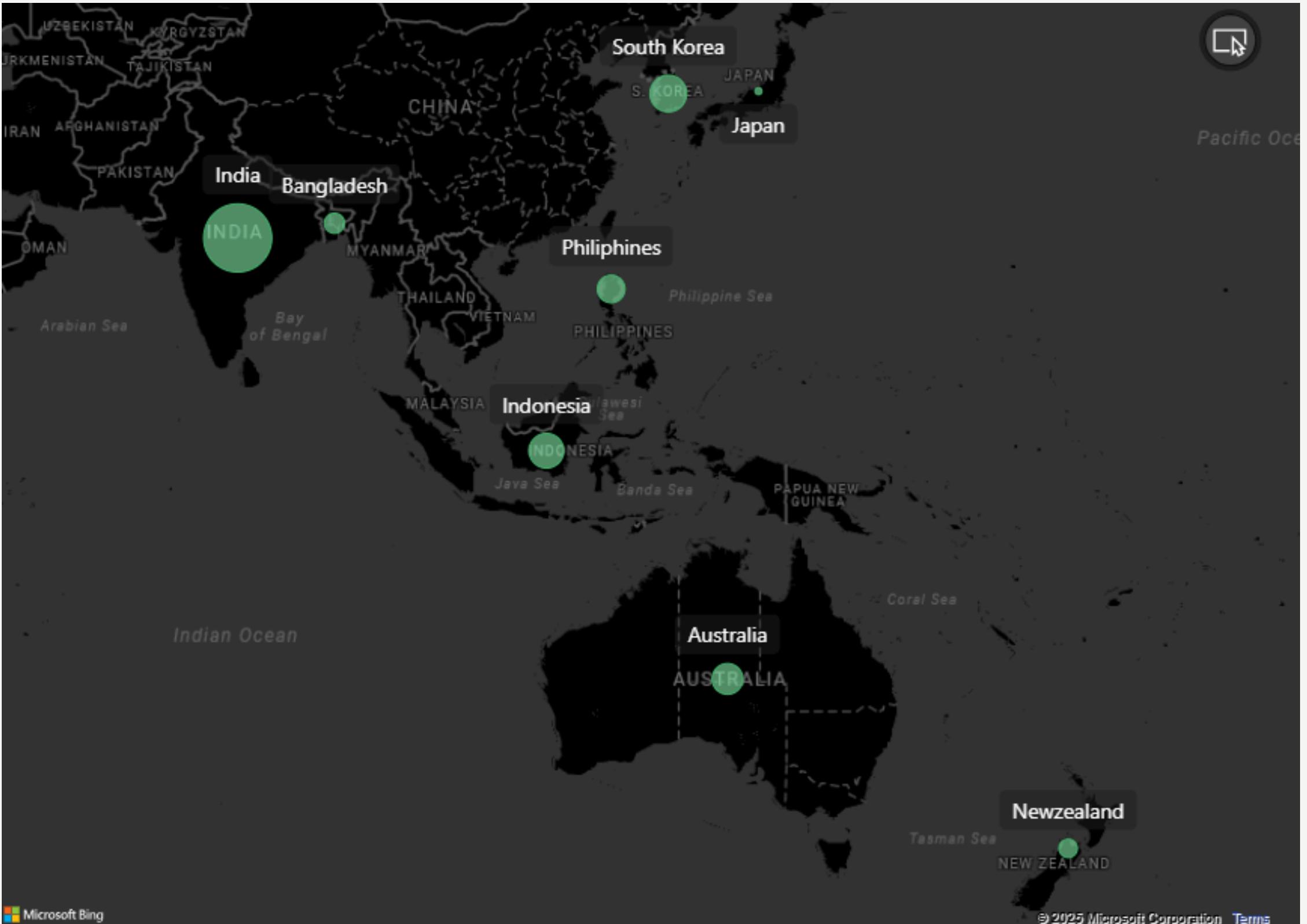
market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

Visual Insight
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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

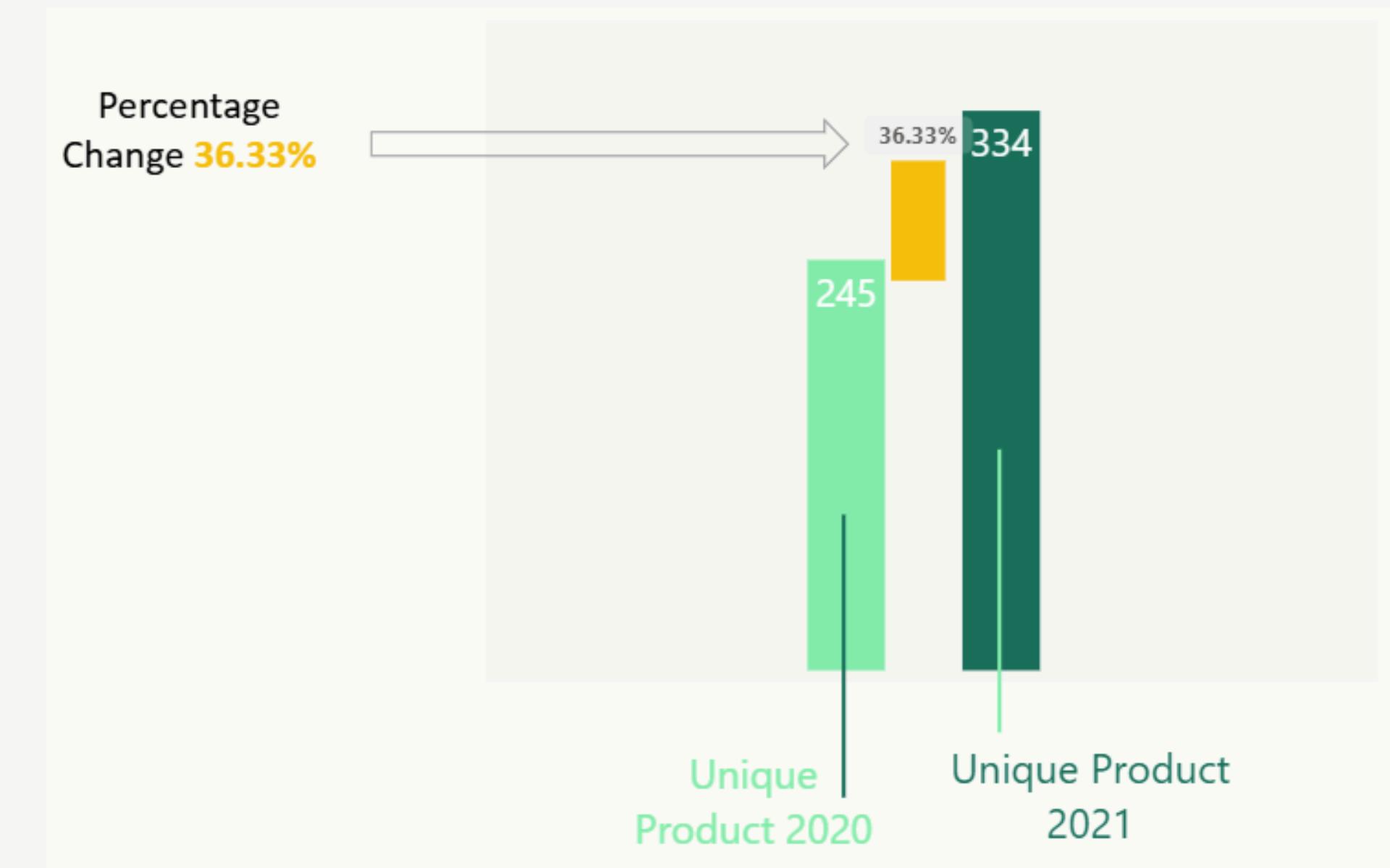
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Insight

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.

● ● ●

Request 3

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



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

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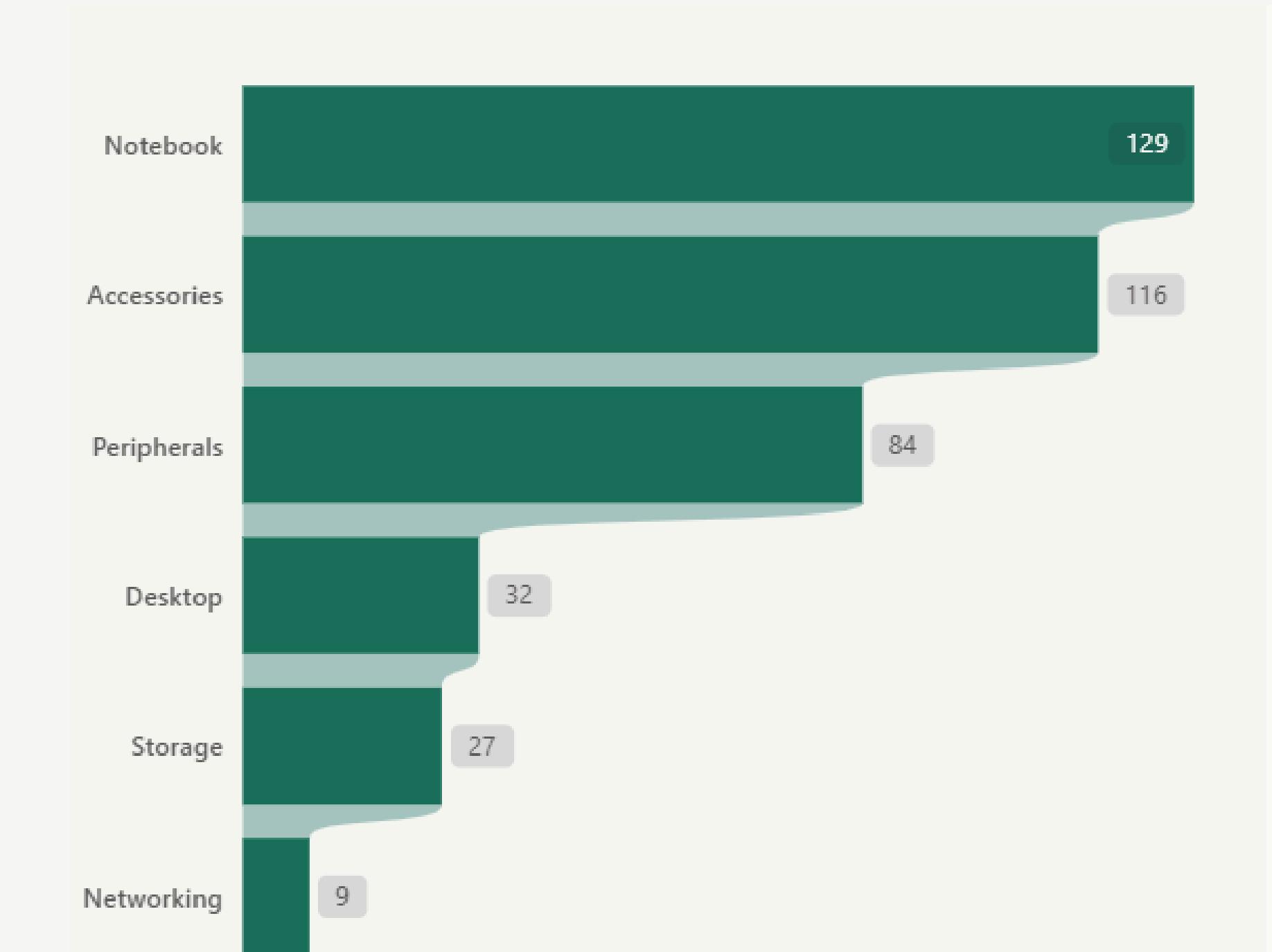
Insight

Unique Product Count by Segment

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.



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

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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**.



```
Request 5

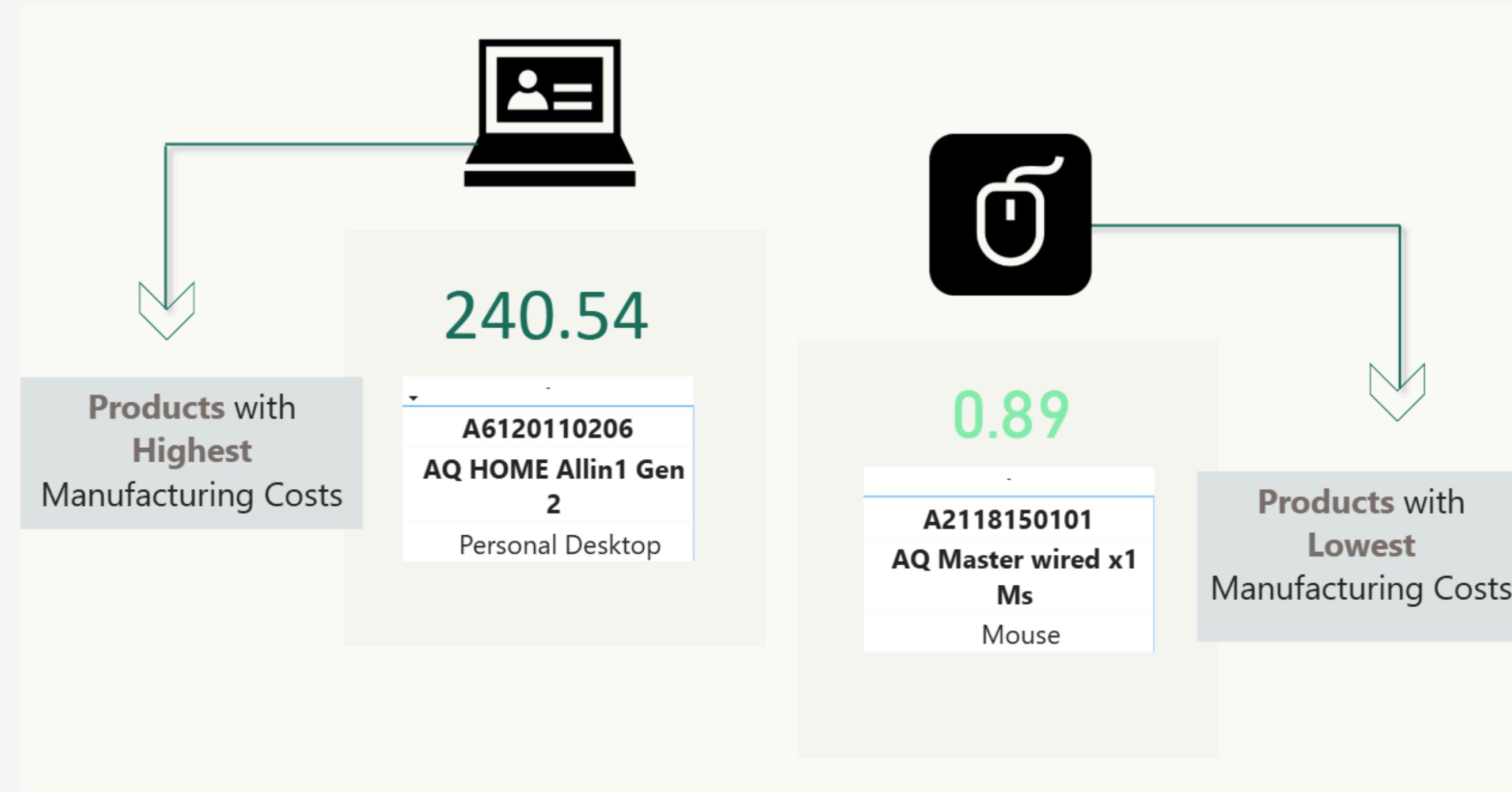
SELECT
    fmc.product_code,
    p.product,
    fmc.manufacturing_cost
FROM fact_manufacturing_cost fmc
JOIN dim_product p
ON fmc.product_code = p.product_code
WHERE fmc.manufacturing_cost IN (
    SELECT MIN(manufacturing_cost)
    FROM fact_manufacturing_cost
    UNION
    SELECT MAX(manufacturing_cost)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

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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

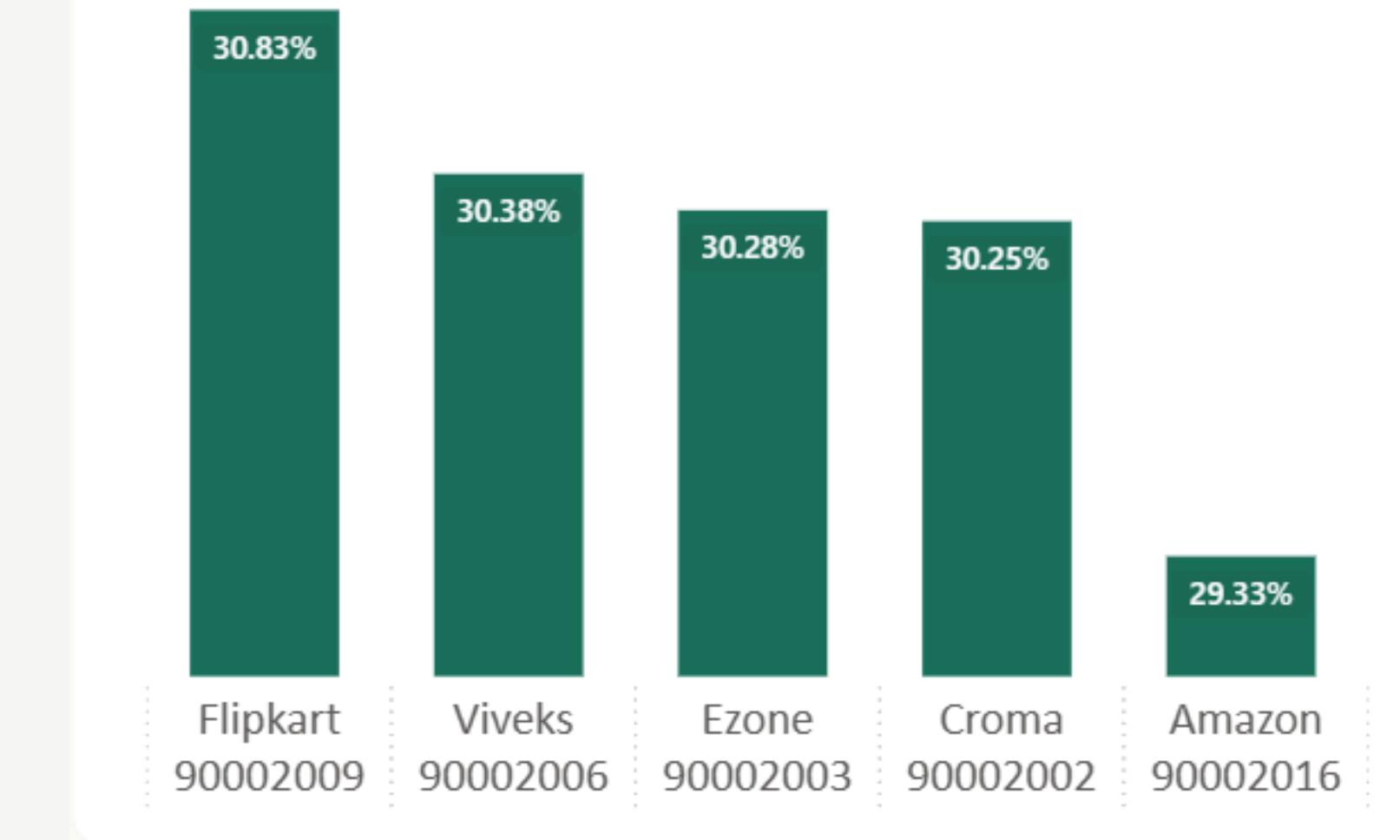
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Insight

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

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.



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;
```

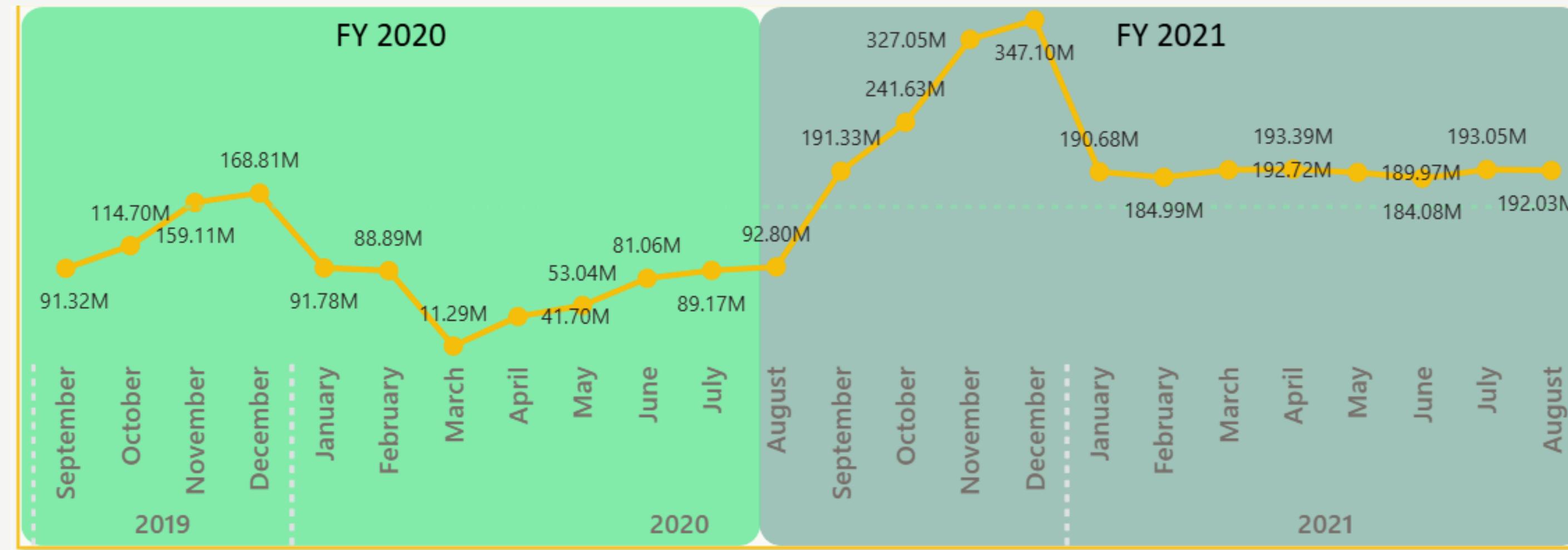


Month	fiscal_year	gross_sales_amount
September (2019)	2020	2610.8501
October (2019)	2020	762.292
November (2019)	2020	3620.887
December (2019)	2020	1372.1256
January (2020)	2020	3068.2253
February (2020)	2020	514.5471
March (2020)	2020	57.1719
April (2020)	2020	133.4011
May (2020)	2020	76.2292
June (2020)	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

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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

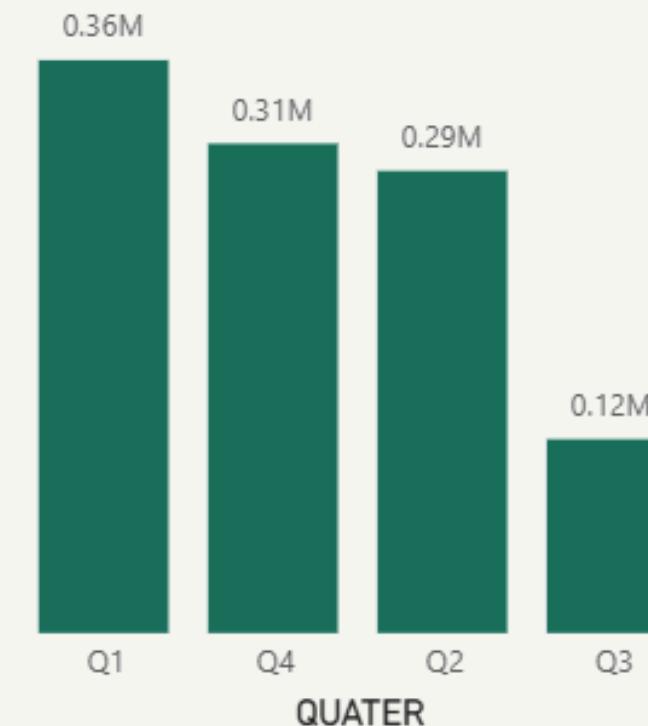
Visual Insight



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;
```

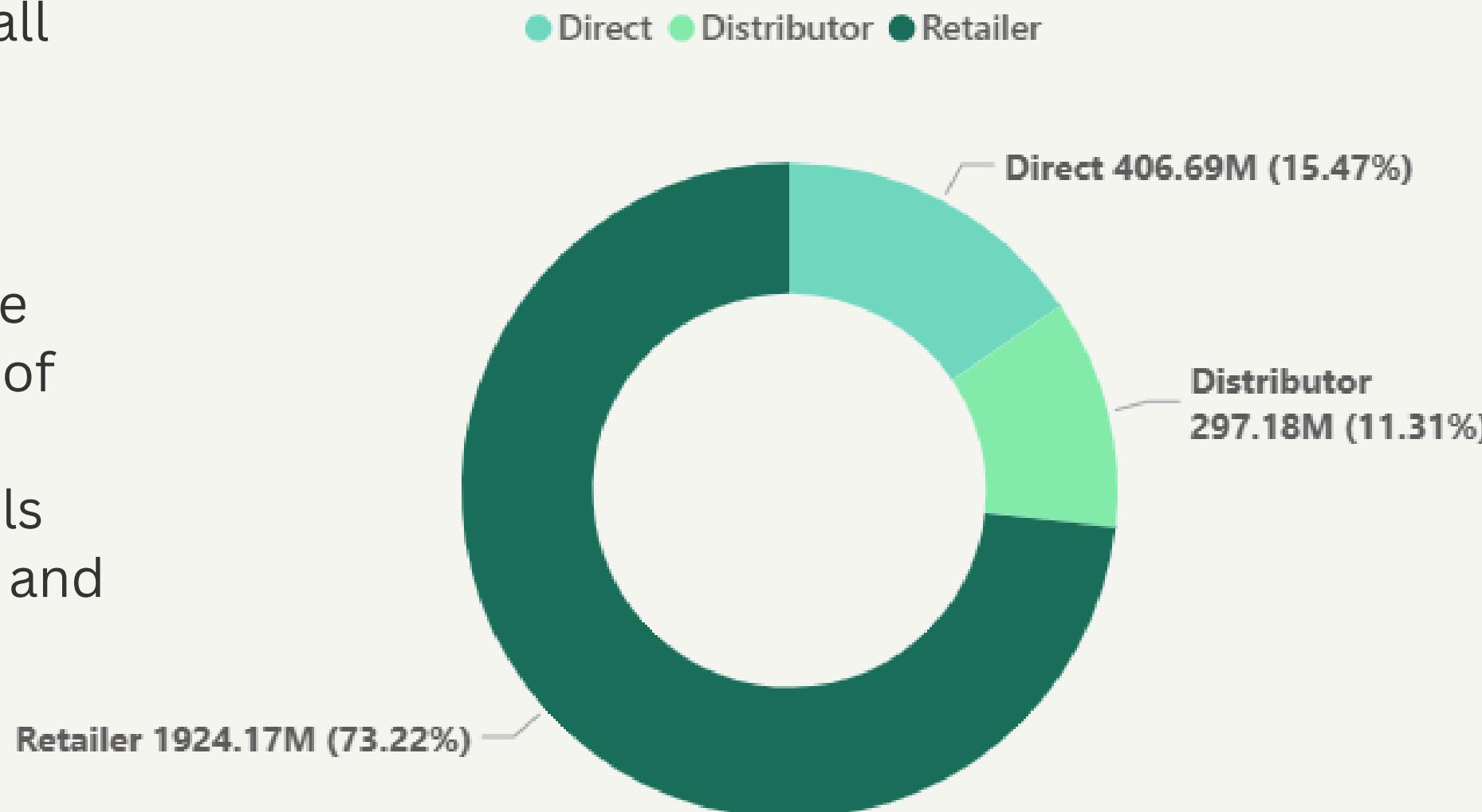
channel	gross_sales_mln	percentage_contribution
Distributor	297.18	11.31
Direct	406.69	15.48
Retailer	1924.17	73.22

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

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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.

division ● P & A



*Thank You
for Your
time*

I express this from the bottom of my hearts



BHARAT CHOTWANI