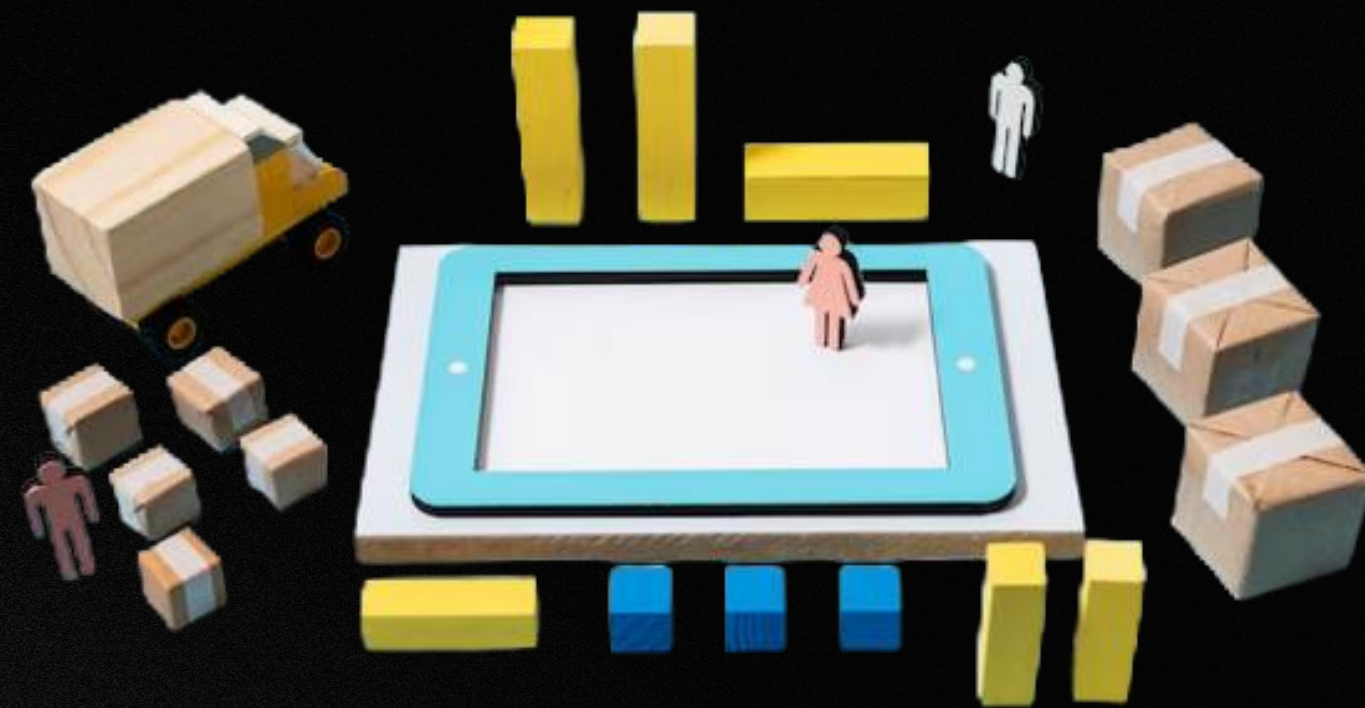


CONSUMER GOODS ANALYTICS

CREATED BY : PALAK ARORA



AGENDA

✓ Problem Statement and Project Overview

✓ ATILQ Business Model

✓ Dataset

✓ 10 Ad-Hoc Requests



ABOUT ATLIQ

AtliQ Hardwares is a leading global hardware company specializing in PCs, printers, mice, and computers. The company operates in multiple countries, including **India, Japan, Australia, and Indonesia.**



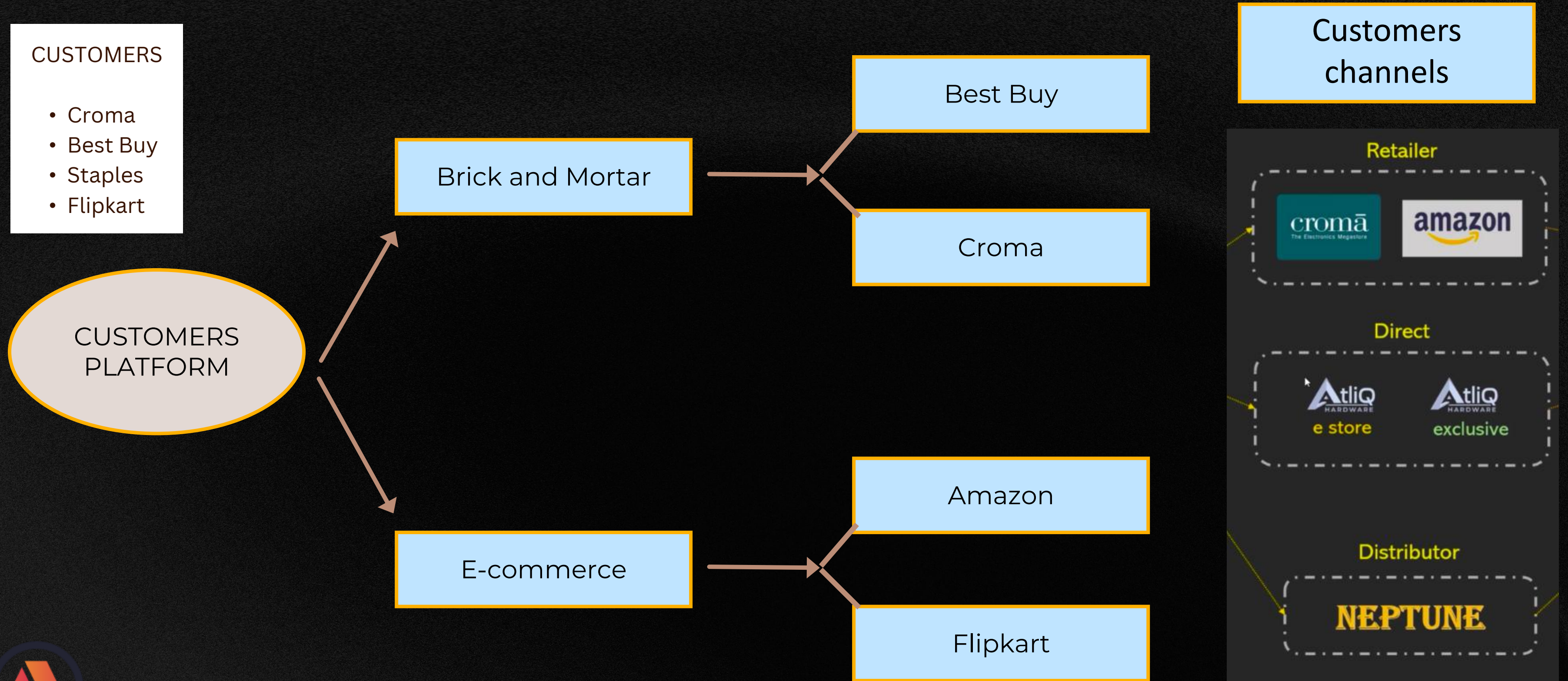
PROBLEM STATEMENT

AtliQ Hardwares faced a critical challenge in making quick, data-driven decisions to stay competitive in the rapidly evolving market. The management realized they were missing key insights essential for strategic planning.

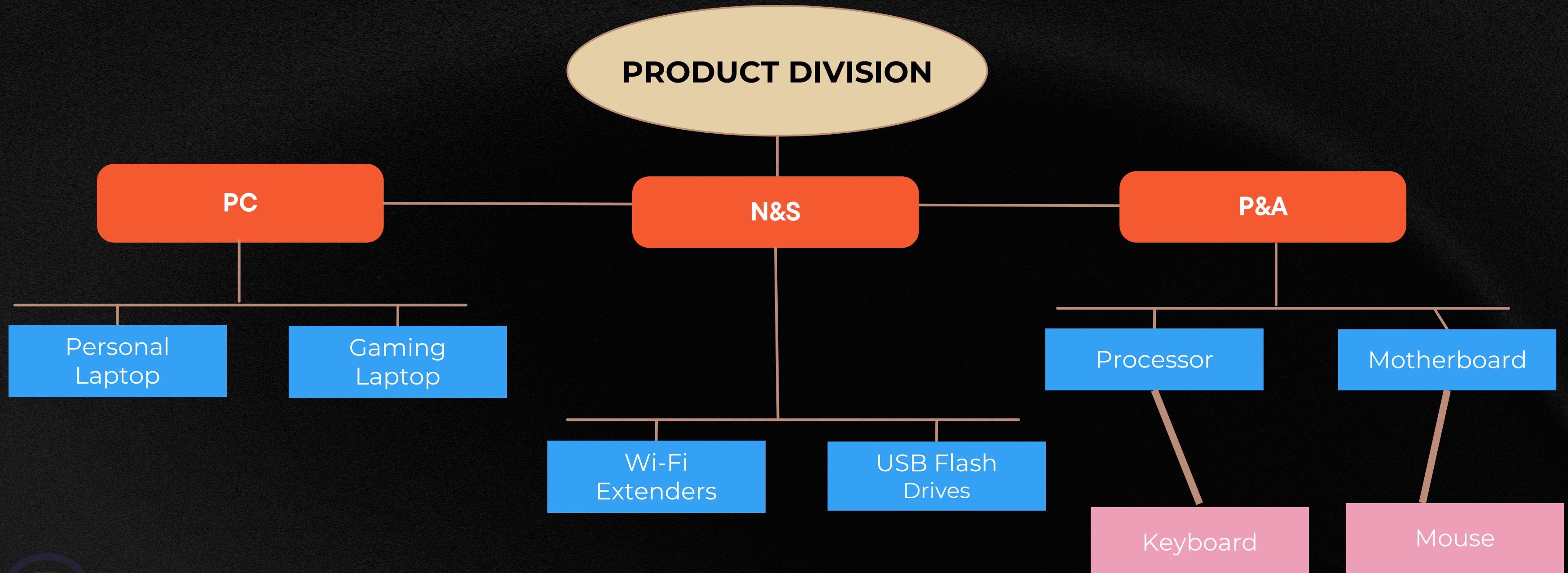
PROJECT OVERVIEW

This project involves working with a consumer goods dataset to address ten specific ad-hoc requests using SQL queries for business analytics.

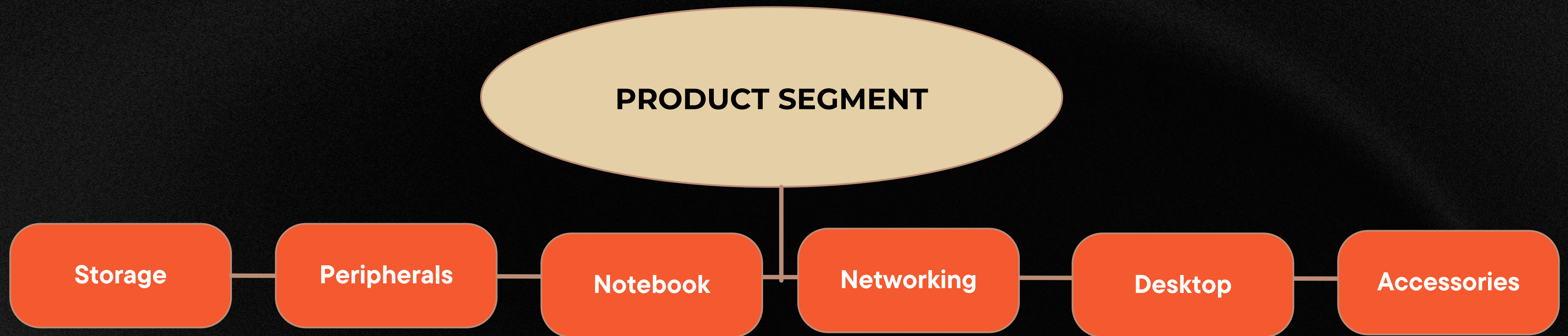
ATLIQ HARDWARE BUSINESS MODEL



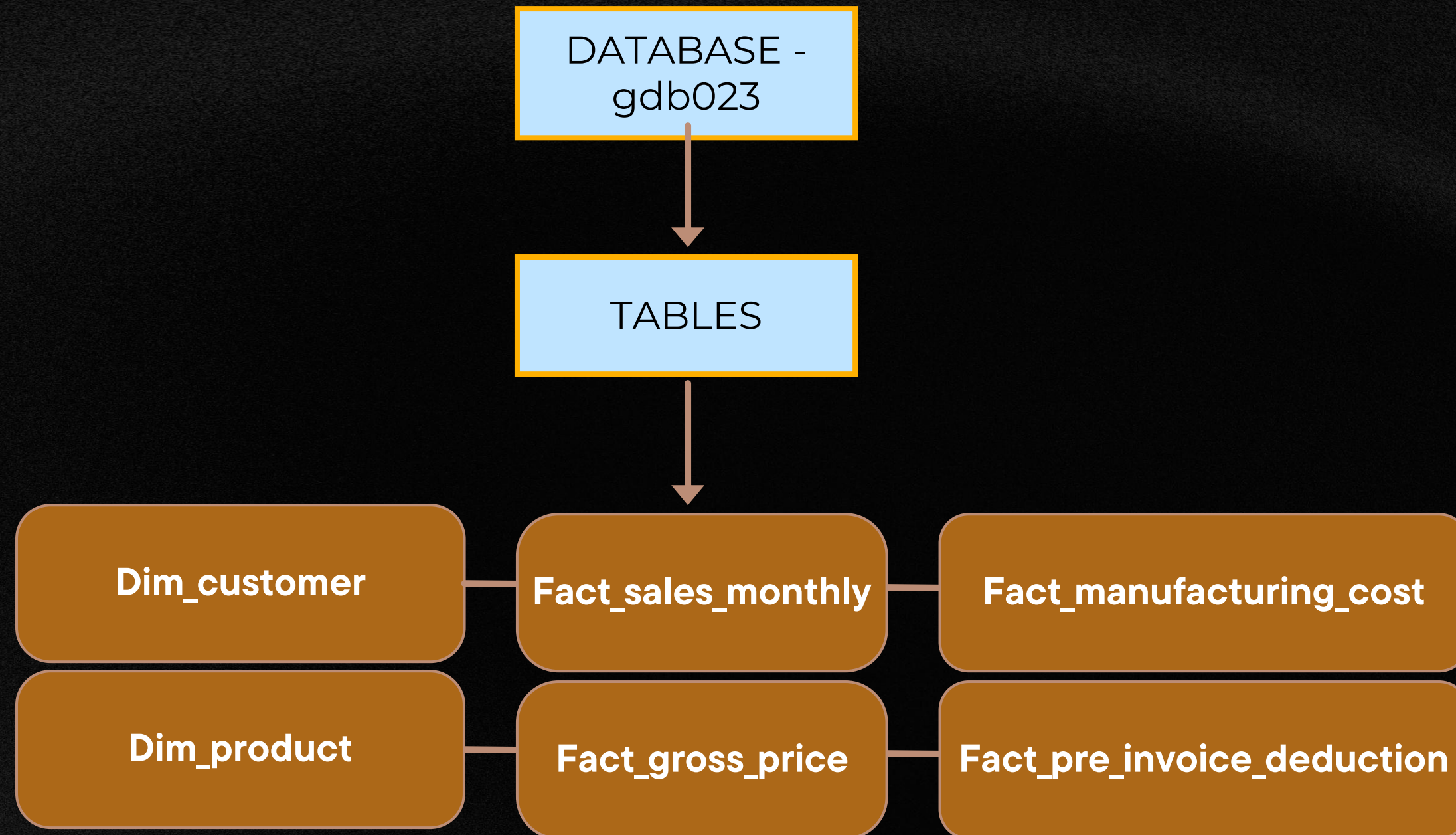
ATLIQ HARDWARE BUSINESS MODEL



ATLIQ HARDWARE BUSINESS MODEL



DATA - SET



AD_HOD - REQUEST 1

Market Presence

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
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh



Count of market by market and market

market ● Australia ● Bangladesh ● India ● Indonesia ● Japan ● Newzealand ● Philiphines ● South Korea



INSIGHTS

Atliq Exclusive operates in multiple APAC countries, including India, Indonesia, Japan, the Philippines, South Korea, Australia, New Zealand, and Bangladesh. This wide presence highlights its strong market reach and ability to adapt to different customer needs across the region.



AD_HOD - REQUEST 2

Unique Product Growth

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_chng ?

```
WITH X AS(  
    SELECT COUNT(DISTINCT product_code) AS unique_product_2020  
    FROM fact_sales_monthly  
    WHERE fiscal_year = 2020),  
Y AS (  
    SELECT COUNT(DISTINCT product_code) AS unique_product_2021  
    FROM fact_sales_monthly  
    WHERE fiscal_year = 2021)  
SELECT  
    X.unique_product_2020,  
    Y.unique_product_2021,  
    ROUND(((Y.unique_product_2021-X.unique_product_2020)/X.unique_product_2020)*100/2)  
    AS percentage_chng  
FROM X,Y;
```

Note:

Fiscal_year 2020 is from sep2019 to aug_2020.
Fiscal_year 2021 is from sep2020 to aug_2021.

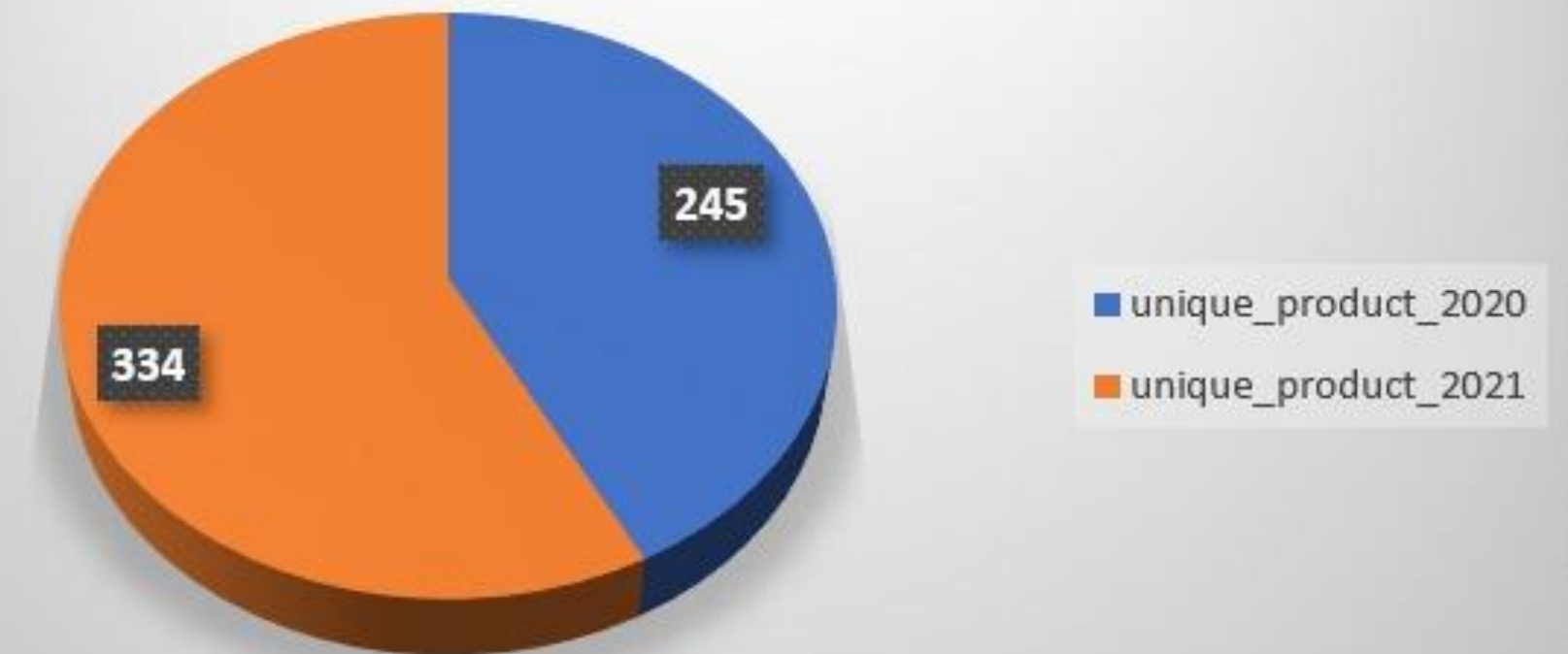
	unique_product_2020	unique_product_2021	percentage_chng
▶	245	334	18



INSIGHTS

- The number of unique products increased from 245 in 2020 to 334 in 2021.
- This represents a growth of 36.33% in unique products.
- The rise in product variety indicates an effort to expand offerings, attract more customers, and boost sales.
- It's a strong sign of business growth and adaptability to market trends.

Rise in unique_product 2021 vs 2020



AD_HOD - REQUEST 3

Product Counts by Segment

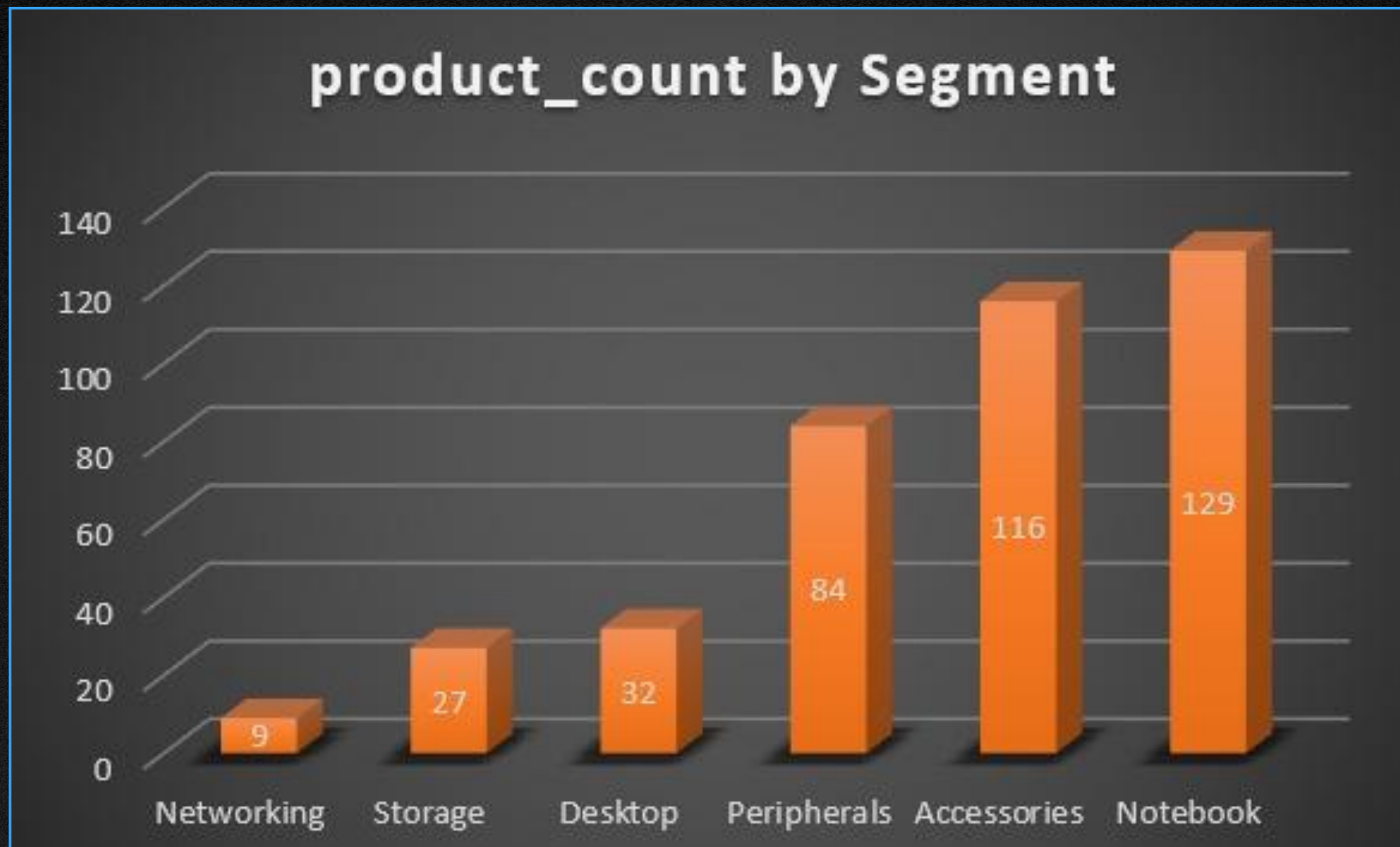
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields, segment, product_count.

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

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



INSIGHTS



- "Notebook" has the highest product count with 129 products.
- "Networking" has the lowest product count with just 9 products.
- This shows the diversity in product offerings, with Notebook and Accessories having a wide range, while Networking is more limited.
- A varied product selection helps meet different customer needs across segments.



AD_HOD - REQUEST 4

Product Growth by Segment

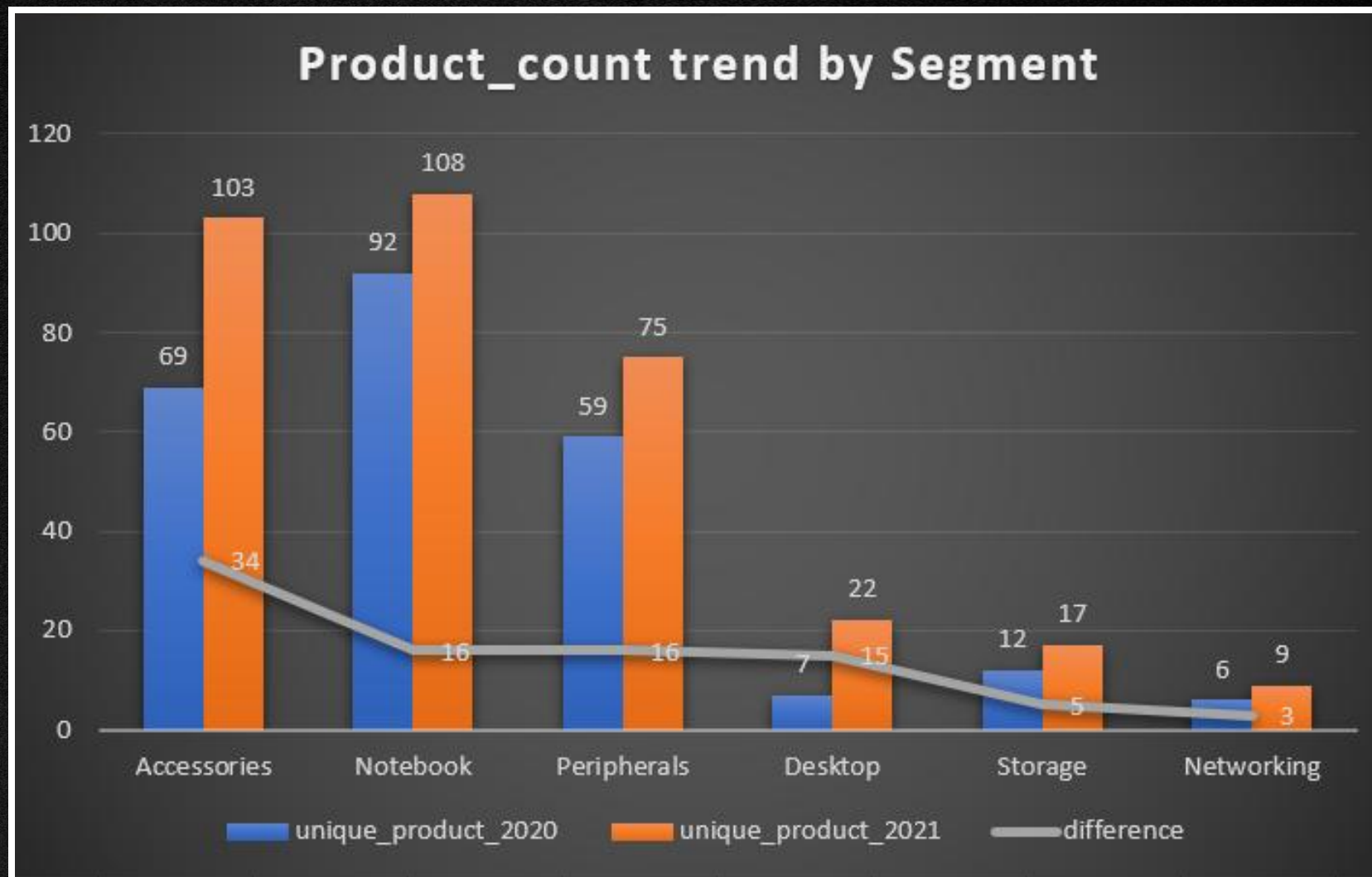
Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields, segment, product_count_2020, product_count_2021, difference

```
WITH X AS(  
    SELECT p.segment,  
    COUNT(DISTINCT s.product_code) AS unique_product_2020  
    FROM fact_sales_monthly s JOIN dim_product p  
    ON p.product_code = s.product_code  
    WHERE fiscal_year = 2020  
    GROUP BY p.segment),  
Y AS (  
    SELECT p.segment,  
    COUNT(DISTINCT s.product_code) AS unique_product_2021  
    FROM fact_sales_monthly s JOIN dim_product p  
    ON p.product_code = s.product_code  
    WHERE fiscal_year = 2021  
    GROUP BY p.segment)  
SELECT  
X.Segment,  
X.unique_product_2020,  
Y.unique_product_2021,  
ABS(Y.unique_product_2021-X.unique_product_2020) AS difference  
FROM X JOIN Y ON x.segment = y.segment  
ORDER BY difference DESC;
```

Segment	unique_product_2020	unique_product_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



INSIGHTS



- Accessories segment expanded by 34 products in 2021 vs. 2020.
- Notebook & Accessories segments show portfolio growth, aligning with diverse customer needs.
- Increased product variety boosts market competitiveness and provides more choices for customers.



AD_HOD - REQUEST 5

Manufacturing Costs

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

```
SELECT m.product_code, p.product, m.manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost m
USING (product_code)

WHERE m.manufacturing_cost =
(SELECT MAX(manufacturing_cost)
FROM fact_manufacturing_cost)
OR m.manufacturing_cost = (SELECT MAX(manufacturing_cost)
FROM fact_manufacturing_cost)
ORDER BY manufacturing_cost;
```

	product_code	product	manufacturing_cost
▶	A6121110208	AQ HOME Allin1 Gen 2	263.4207

INSIGHTS

- "AQ HOME Allin1 Gen 2" has a relatively higher manufacturing cost of 240.5364.
- In contrast, "AQ Master wired x1 Ms" has a significantly lower manufacturing cost of 0.892.



AD_HOD - REQUEST 6

Discount Analysis

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

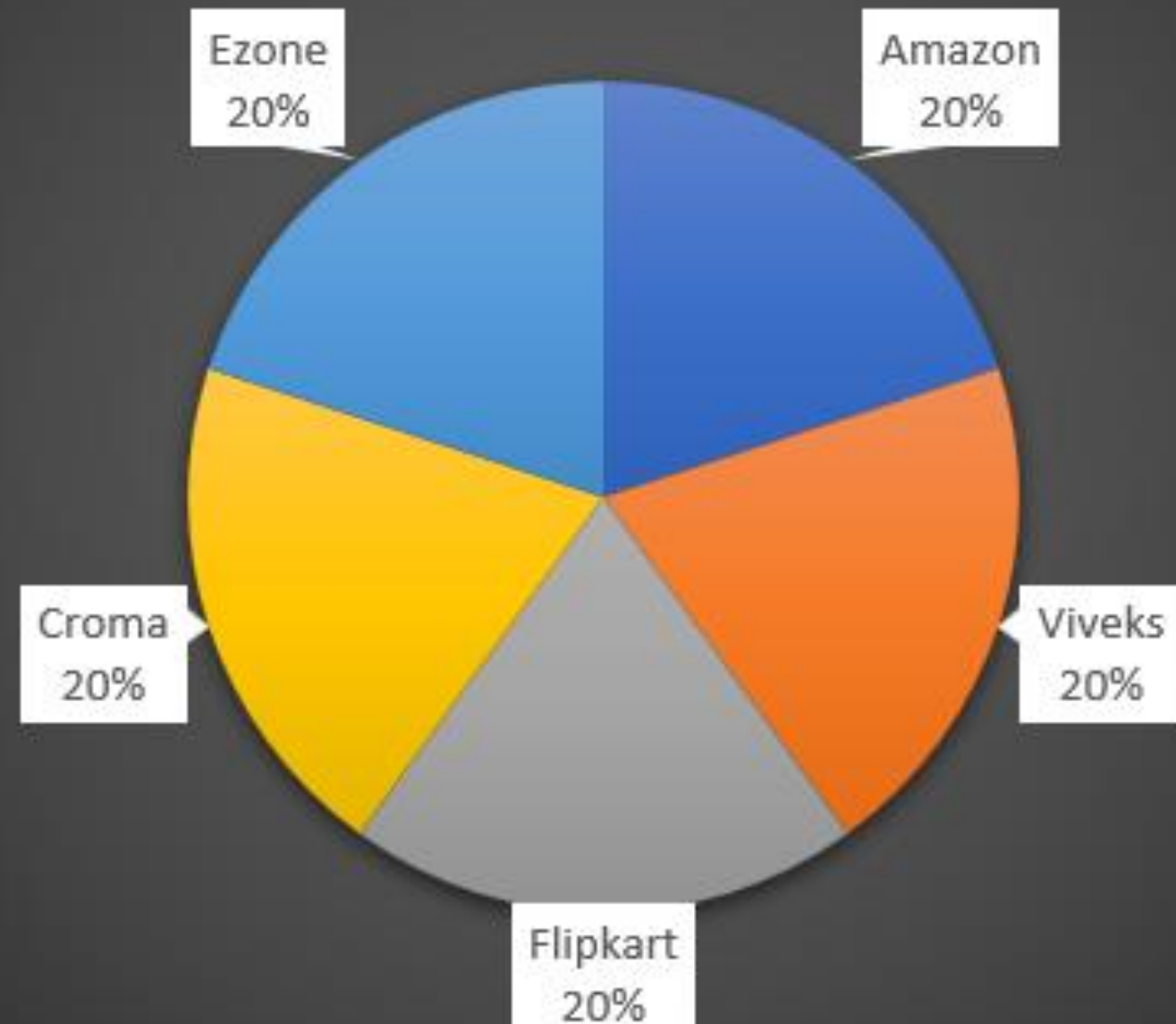
```
SELECT pre.customer_code, c.customer,  
ROUND(AVG(pre_invoice_discount_pct*100/2)) AS Avg_discount_pct  
FROM fact_pre_invoice_deductions pre  
JOIN dim_customer c USING (customer_code)  
WHERE pre.fiscal_year = 2021 AND c.market = "India"  
GROUP BY pre.customer_code, c.customer  
ORDER BY avg_discount_pct DESC  
LIMIT 5;
```

customer_code	customer	Avg_discount_pct
90002016	Amazon	15
90002006	Viveks	15
90002009	Flipkart	15
90002002	Croma	15
90002003	Ezone	15



INSIGHTS

Customer vs avg_discount_pct



- Flipkart offers the highest average pre-invoice discount at 30.83%, while Amazon has a lower 29.33%.
- Flipkart & Viveks use higher discounts to attract price-sensitive customers.
- Amazon's lower discounts suggest a different pricing strategy or a less discount-driven customer base.
- These insights help in optimizing discount strategies based on customer preferences.



AD_HOD - REQUEST 7

Gross Sales Trends

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.

```
SELECT monthname(s.date) as month, s.fiscal_year,  
ROUND(SUM(gross_price * sold_quantity),2) as gross_price  
FROM fact_sales_monthly s  
JOIN dim_customer c USING (customer_code)  
JOIN fact_gross_price g USING (product_code)  
WHERE customer = "AtliQ Exclusive"  
GROUP BY monthname(s.date), fiscal_year  
ORDER BY gross_price DESC;
```

month	fiscal_year	gross_price
November	2022	259105977.18
December	2022	161727839.58
October	2022	159240254.33
September	2022	153599487.95
November	2021	62302295.57
October	2021	40444450.56
December	2021	39306619.91
September	2021	37752848.19
January	2021	37704996.30
May	2021	37037201.24
March	2021	36972600.02
July	2021	36677913.91
February	2021	30852326.32
June	2021	29887193.88
November	2020	28512004.15
April	2021	22147394.99
August	2021	21839400.72
October	2020	19475069.34
December	2020	18322529.10



INSIGHTS

gross_sales_price by month and fiscal_year



- November 2021 recorded the highest gross sales at \$32,247,289.79.
- Sales started lower in September but peaked in November, showing a seasonal trend.
- March and April had lower sales in 2020, but saw improvement in 2021.
- These insights help in strategic planning, such as optimizing marketing efforts and inventory management around peak months while addressing challenges in slower months.



AD_HOD - REQUEST 8

Sales by Quarter

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

```
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'
  ELSE 'Q4'
END AS Quarters,
SUM(sold_quantity) AS total_sold_qty
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_qty DESC;
```

Quarters	total_sold_qty
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

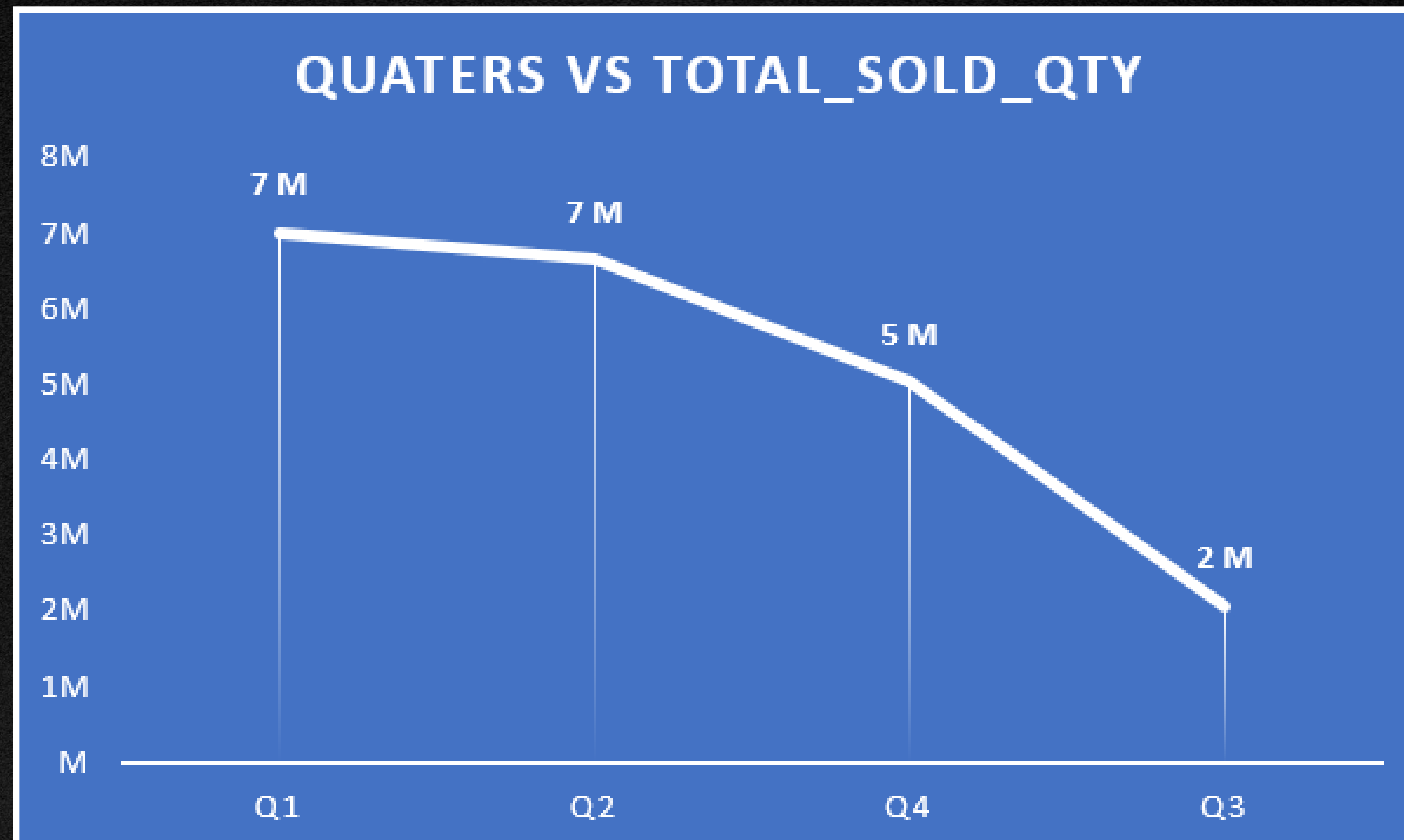
Note:

Q1 = SEPT, OCT, NOV
Q3 = MAR, APR, MAY

Q2 = DEC, JAN, FEB
Q4 = JUN, JUL, AUG



INSIGHTS



- Q1 recorded the highest total sold quantity with 7,005,619 units.
- Sales show a seasonal trend, with Q1 & Q2 being the strongest and Q3 the weakest.
- These insights help in inventory management and marketing planning to align with seasonal demand.



AD_HOD - REQUEST 9

Sales by Channel

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.

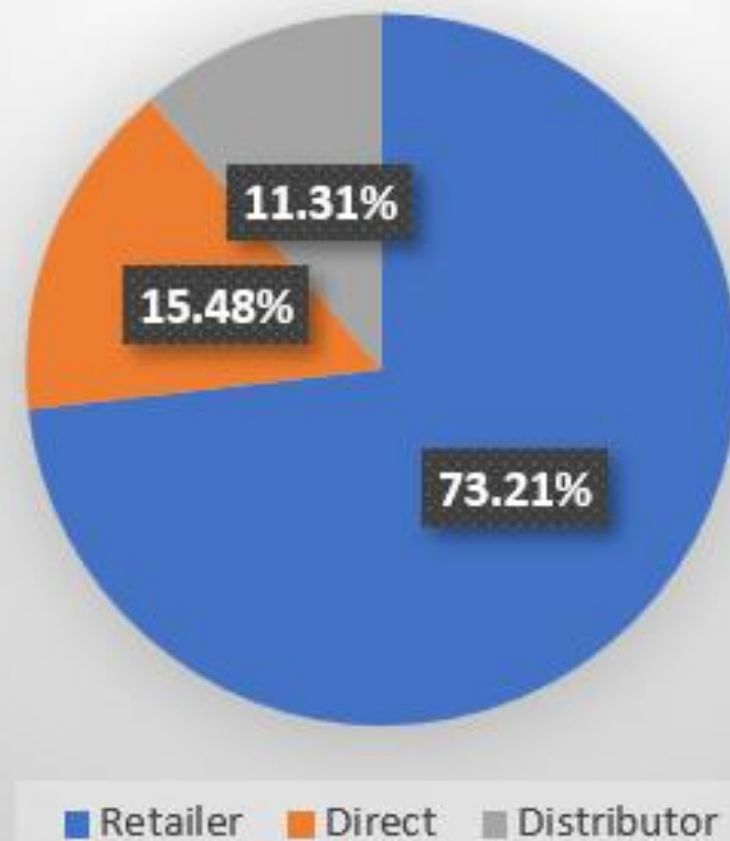
```
WITH gp AS (  
  SELECT c.channel,  
    ROUND(SUM(g.gross_price * s.sold_quantity) / 1000000, 2) AS gross_sales_mln  
  FROM fact_sales_monthly s  
  JOIN dim_customer c USING (customer_code)  
  JOIN fact_gross_price g USING (product_code)  
  WHERE s.fiscal_year = 2021  
  GROUP BY c.channel  
)  
SELECT channel,  
  gross_sales_mln,  
  ROUND((gross_sales_mln / SUM(gross_sales_mln) OVER ()) * 100, 2) AS pct  
FROM gp  
ORDER BY gross_sales_mln DESC;
```

channel	gross_sales_mln	pct
Retailer	3708.46	73.21
Direct	784.14	15.48
Distributor	572.86	11.31



INSIGHTS

Channel gross_sales contribution



- Retailer channel dominates with 73.22% of gross sales, making it the primary revenue driver.
- Direct channel holds 15.47%, while Distributor channel contributes 11.31%.
- Expanding Direct & Distributor channels could unlock growth opportunities and diversify



AD_HOD - REQUEST 10

Top-Selling Products

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.

```
WITH X AS (  
    SELECT p.division, p.product, s.product_code,  
           SUM(s.sold_quantity) AS total_sold_qty,  
    RANK() OVER (PARTITION BY p.division ORDER BY SUM(s.sold_quantity) DESC) AS rank_order  
    FROM fact_sales_monthly s  
    JOIN dim_product p  
    Using (product_code)  
    WHERE s.fiscal_year = 2021  
    GROUP BY p.division, p.product, s.product_code)  
SELECT * FROM x  
WHERE rank_order IN(1,2,3)  
ORDER BY x.division, x.product_code;
```

division	product	product_code	total_sold_qty	rank_order
N & S	AQ Pen Drive 2 IN 1	A6720160103	701373	1
N & S	AQ Pen Drive DRC	A6818160202	688003	2
N & S	AQ Pen Drive DRC	A6819160203	676245	3
P & A	AQ Gamers Ms	A2319150302	428498	1
P & A	AQ Maxima Ms	A2520150501	419865	2
P & A	AQ Maxima Ms	A2520150504	419471	3
PC	AQ Digit	A4218110202	17434	1
PC	AQ Digit	A4218110208	17275	3
PC	AQ Velocity	A4319110306	17280	2



INSIGHTS



- Top 3 products: "AQ Pen Drive 2 IN 1," "AQ Pen Drive DRC," and another AQ Pen Drive DRC variant.
- Pen drives dominate consumer preference, highlighting strong demand in this segment.
- Market leadership in this category suggests growth potential and expansion opportunities.
- Optimized inventory management is key to maintaining consistent supply and profitability.



THANK YOU

CREATED BY : PALAK ARORA

