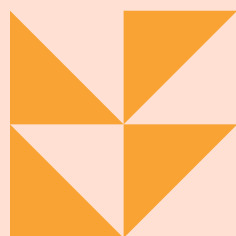# Ad_Hoc Insights

CONSUMER GOODS

Created by
Kalpana S

INTRODUCTION TO COMPANY

Atliq Hardware is a computer hardware and accessory manufacturer
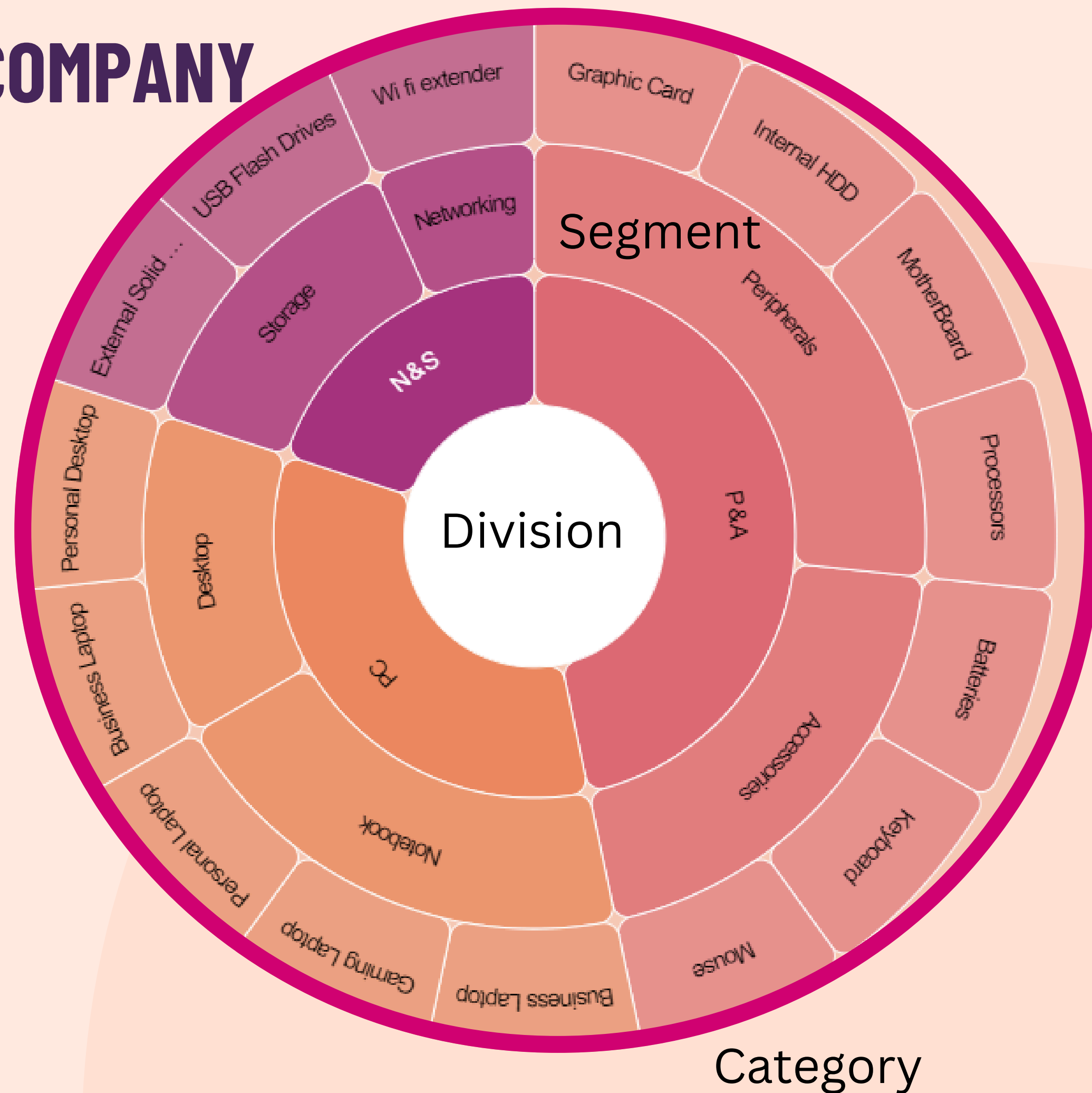
FISCAL YEAR
FY 2020
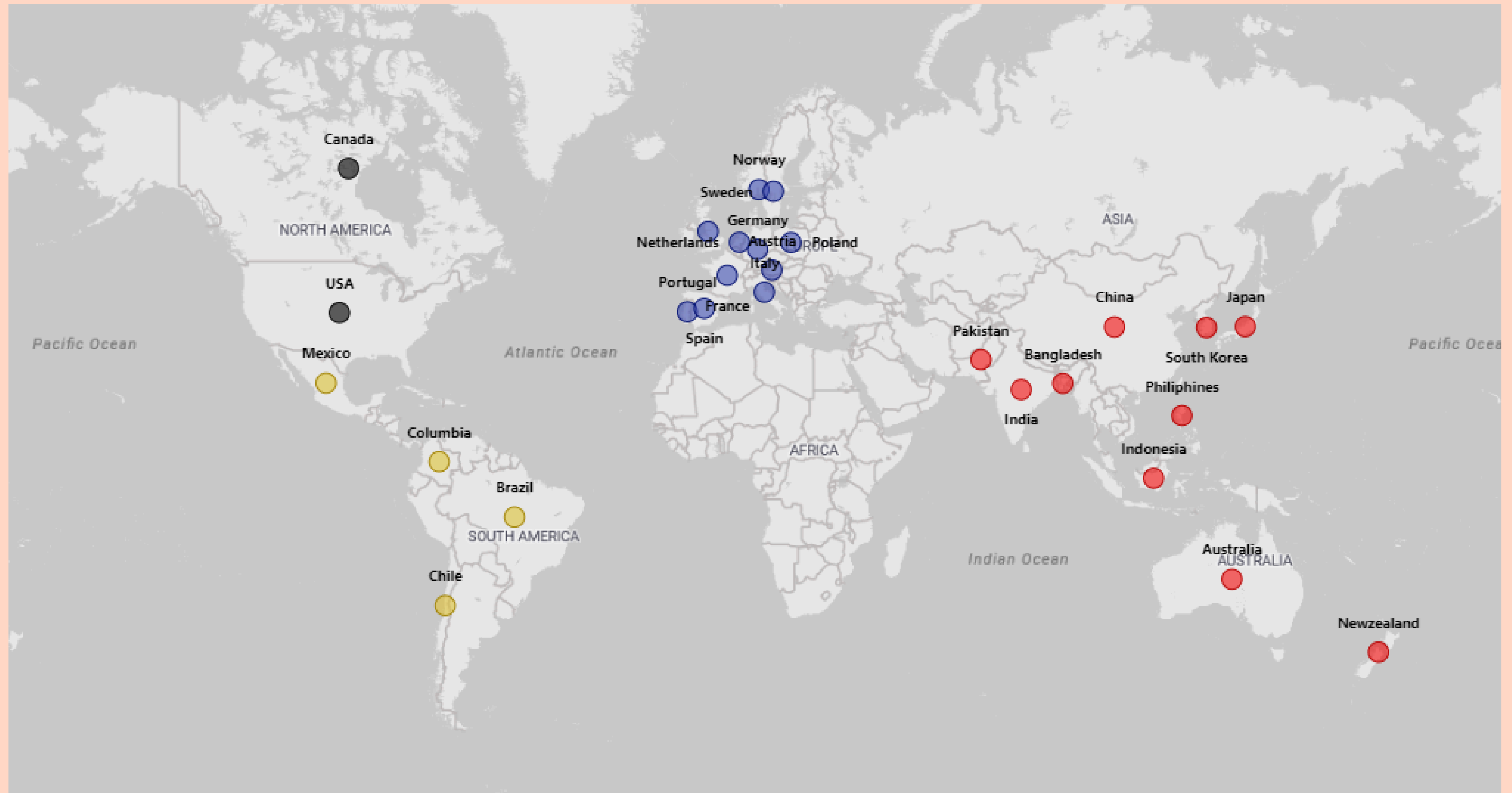SEPTEMBER 2019 – AUGUST 2020
FY 2021
SEPTEMBER 2020 – AUGUST 2021

Division

Segment

Category

N&S

Storage

Networking

Wi fi extender

USB Flash Drives

External Solid ...

PC

Desktop

Notebook

Personal Desktop

Business Laptop

Personal Laptop

Gaming Laptop

Business Laptop

P&A

Peripherals

Accessories

Graphic Card

Internal HDD

MotherBoard

Processors

Batteries

Keyboard

Mouse
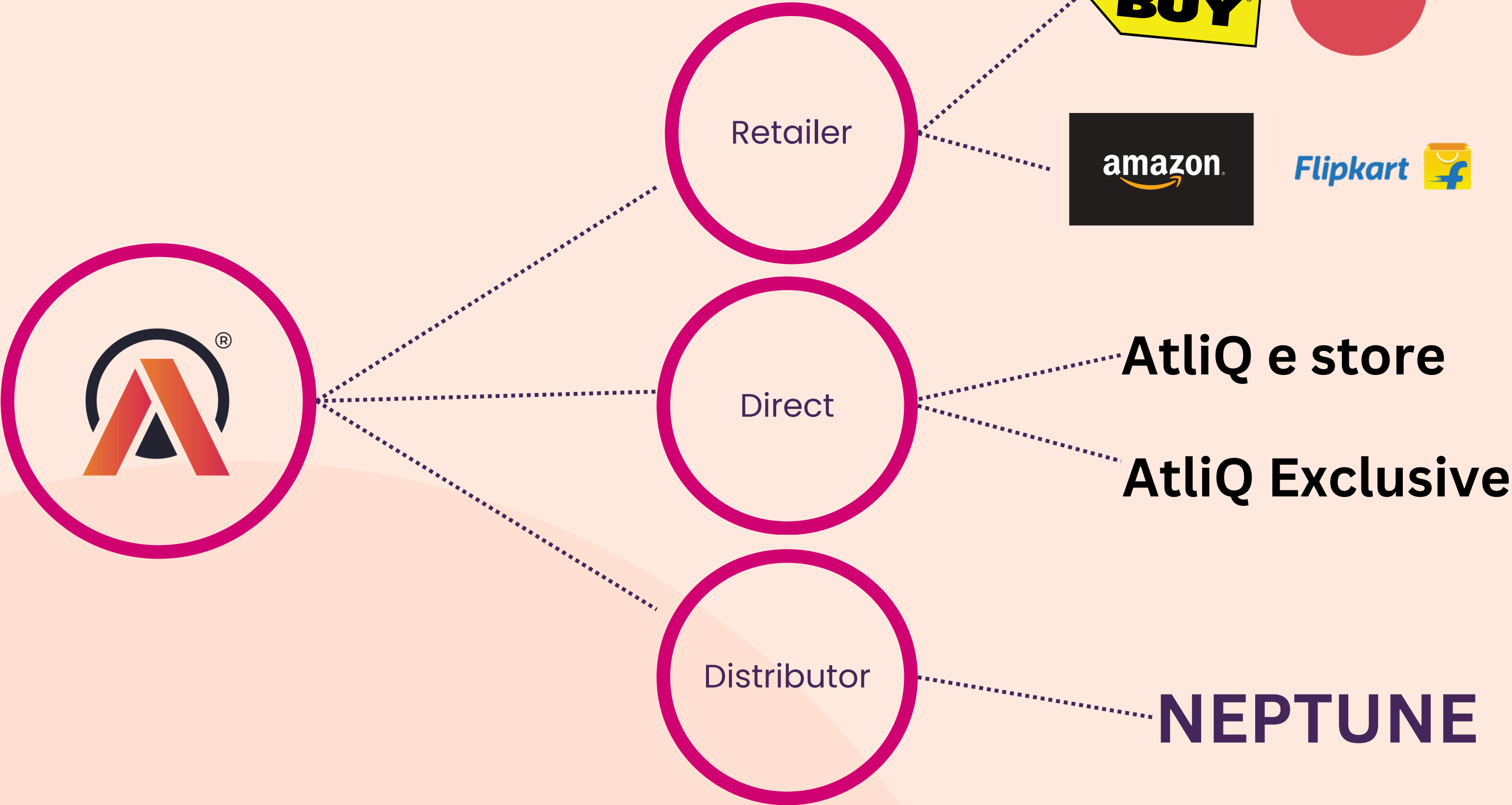
AtliQ Market

AtliQ sells Hardware through 3 Channels

OBJECTIVES

- AtliqHardware (fictitious corporation) is one ofthe major computer hardware manufacturers in India, with a strong presence in other nations.
- Nevertheless,the management did note that they do not have sufficient insights to make prompt, wise, and data-informed judgments.
- Plan to expand the data analytics team by adding junior data analysts.
- To assess candidates, Data analytics director, TonySharma plans to conduct aSQL challenge to evaluate both tech and soft skills.
- The company seeks insights for10 ad hoc requests.

Data Model

Ad hoc Requests

Codebasics SQL Challenge

Requests:

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

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

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

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

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

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

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

8. 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

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

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

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

market
India
Indonesia
Japan
Philipines
South Korea
Australia
Newzealand
Bangladesh

Atliq Exclusive's marketing countries in APAC region

2.What is the percentage of unique product increase in 2021 vs. 2020?

The final output contains these fields,
unique_products_2020
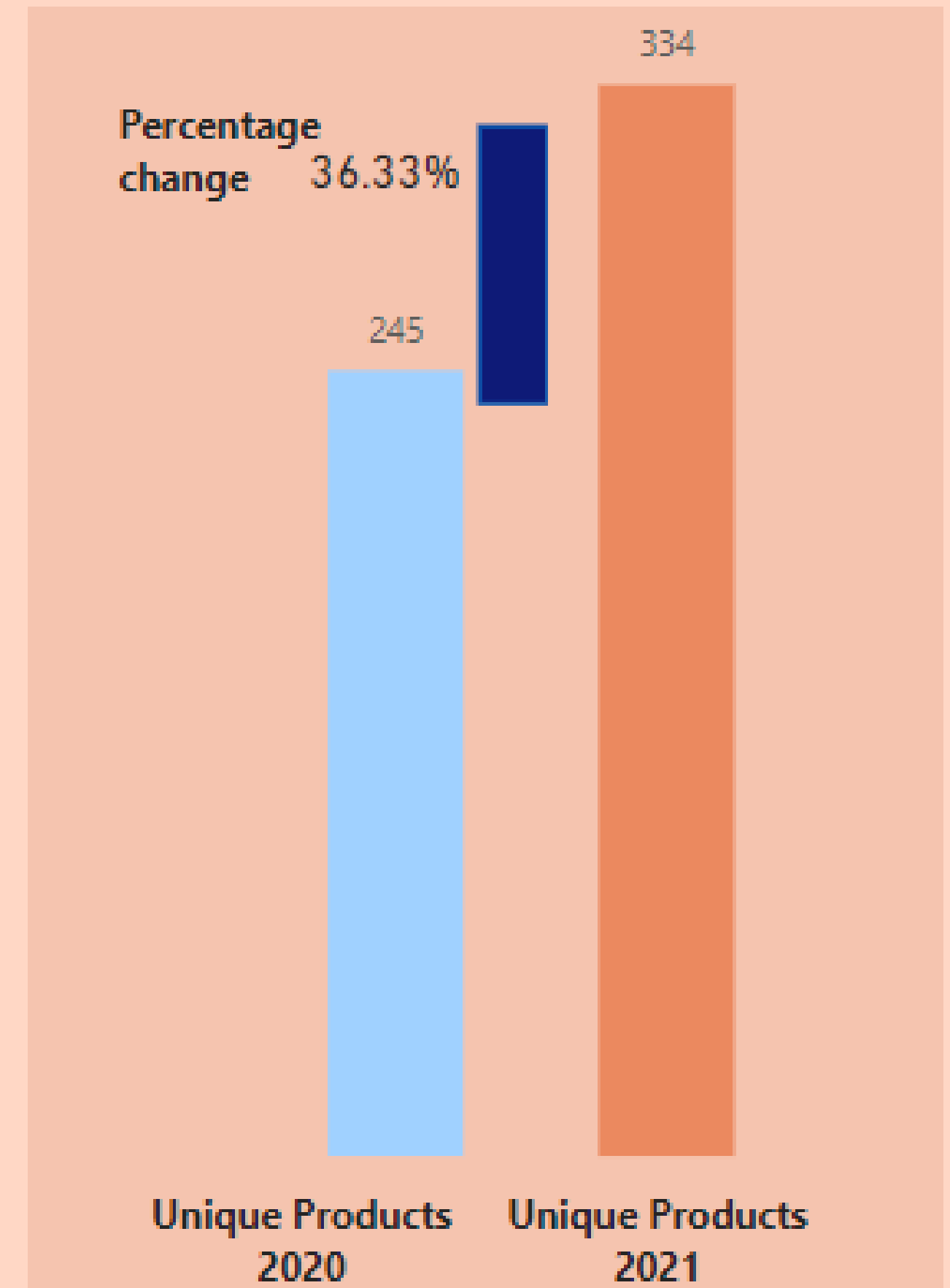unique_products_2021
percentage_chg

unique_products_2020	unique_products_2021	percentage_change
245	334	36.3265

Percentage change   36.33%

334

245

Unique Products 2020   Unique Products 2021

**Insight:** Demand and production both increased

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

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

Product count by segment

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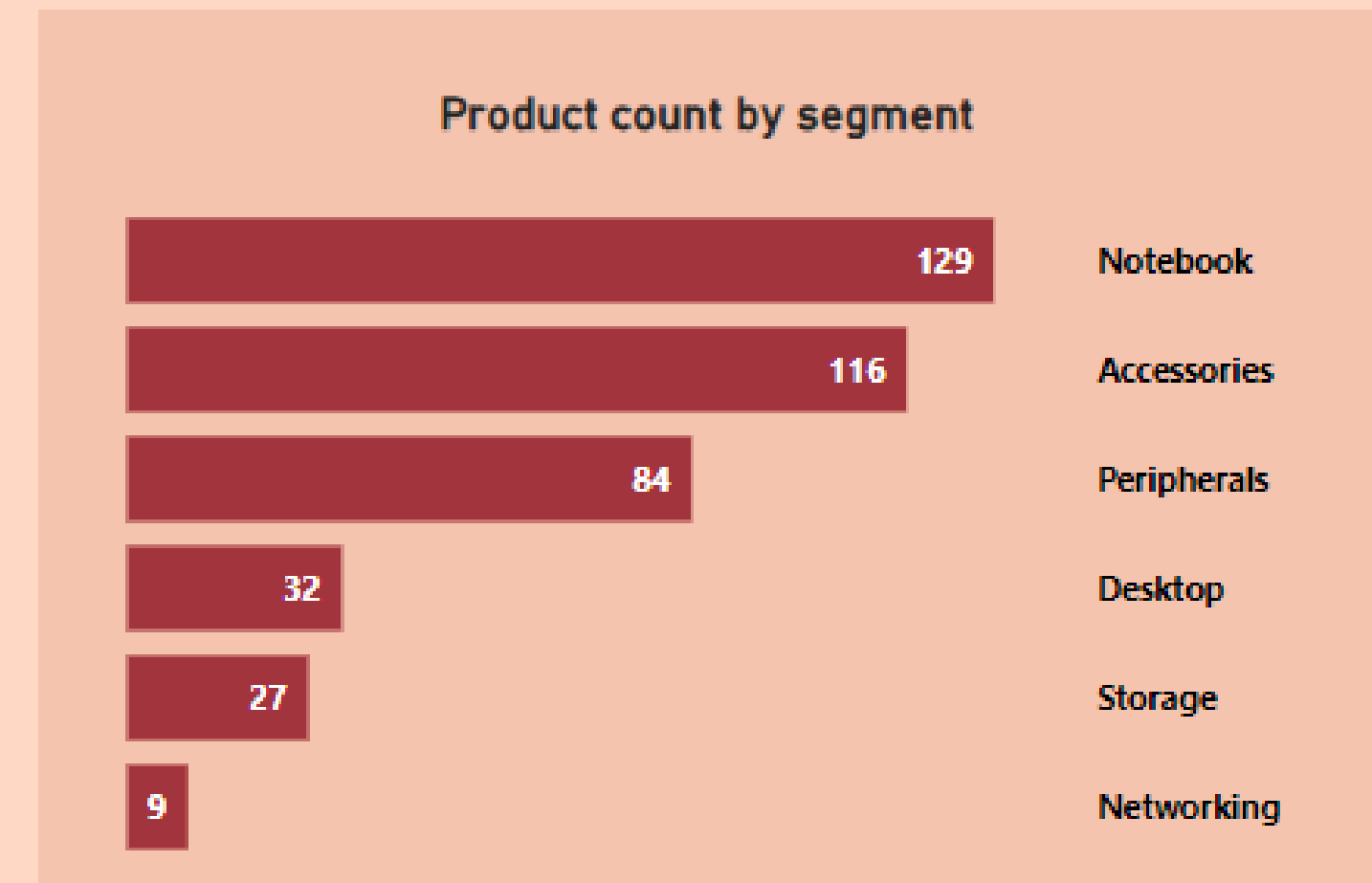
Insights

- Segments: notebooks, accessories, and peripherals are showing significant manufacturing growth as compared to desktops, stora and networking.
- Notebooks, accessories, and peripherals constitute 83% ofthe total manufactured product.

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

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

| segment	Unique Products 2020	Unique Products 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 had the largest increase in production.
- Storage and networking are experiencing slower production growth than other segments

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

The final output should contain these fields,
product_code
product
manufacturing_cost

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

240.54
Highest Manufacturing Cost

A6120110206
AQ HOME Allin 1 Gen 2
Personal Desktop

0.89
Lowest Manufacturing Cost

A2118150101
AQ Master wired x1 Ms
Mouse
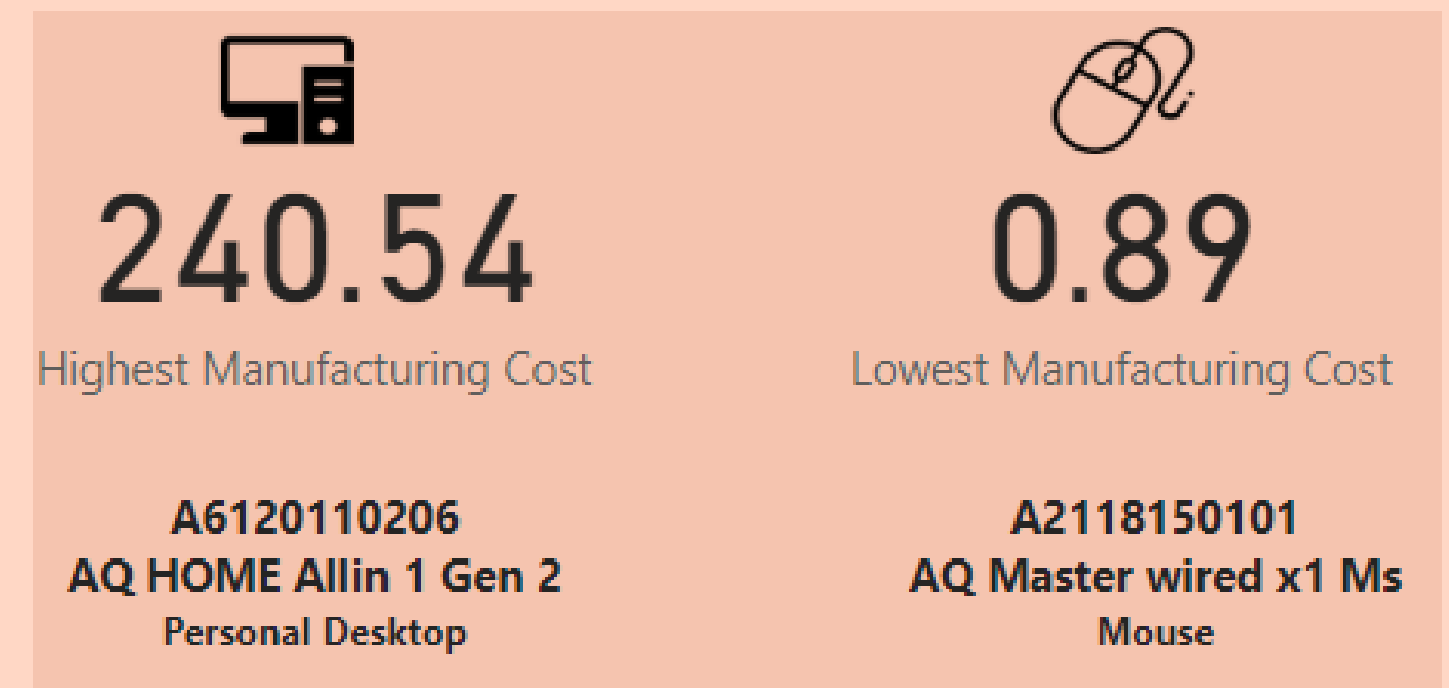
Insights

- Mouse: AQ Master wired x1 Ms (Variant:Standard1) has the lowest manufacturing cost.
- Personal Desktop: AQ Home Allin1 Gen2 (Variant:Plus3) has the highest manufacturing cost

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

| 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
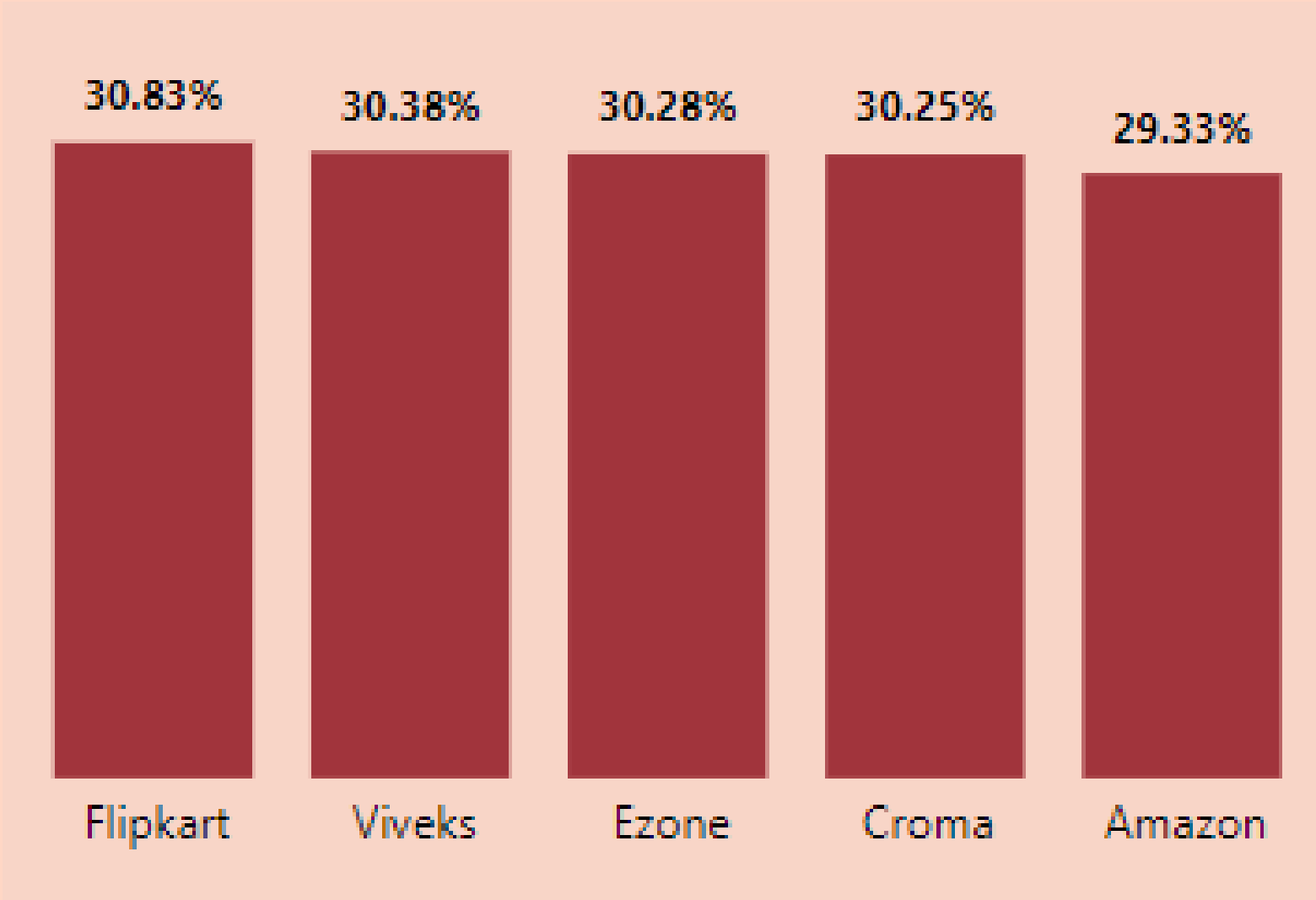
Insights

- The largest average pre-invoice discount was given to Flipkart.
- The least average pre-invoice discount was given to Viveks

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
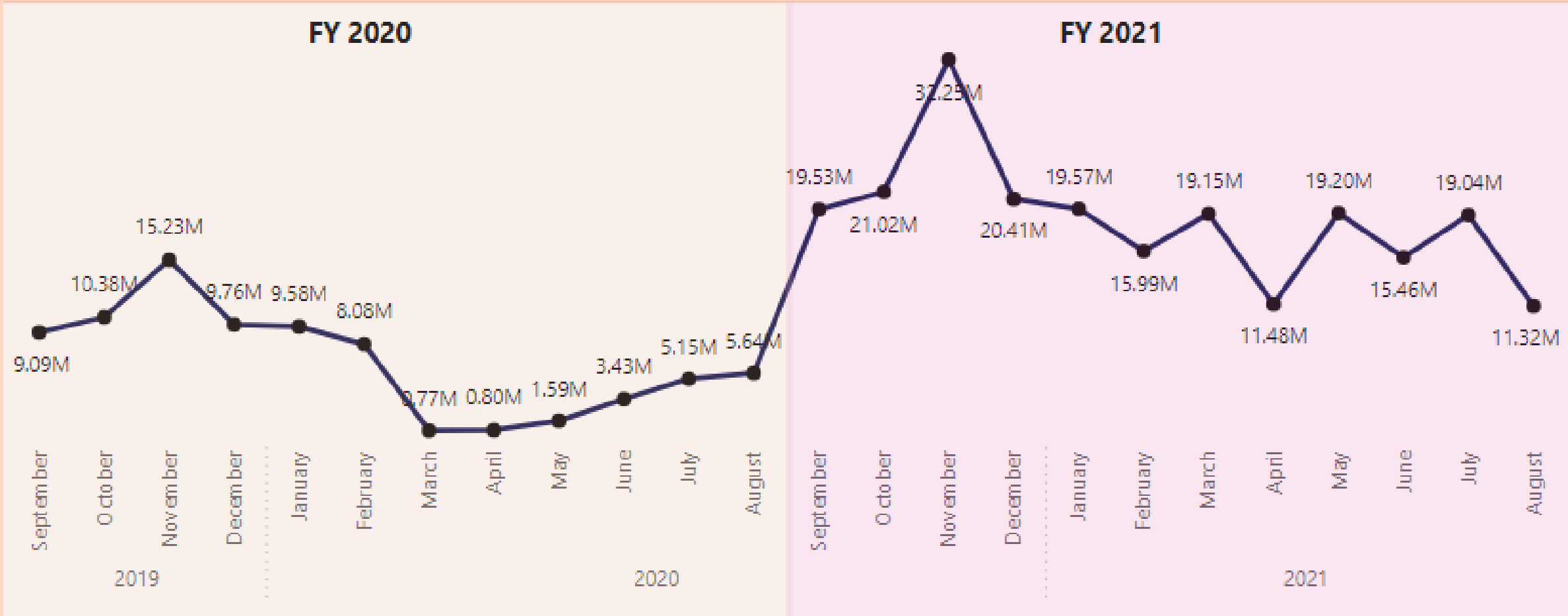
| Month	fiscal_year	Gross_sales_Amount
September (2019)	2020	9092670.34
October (2019)	2020	10378637.60
November (2019)	2020	15231894.97
December (2019)	2020	9755795.06
January (2020)	2020	9584951.94
February (2020)	2020	8083995.55
March (2020)	2020	766976.45
April (2020)	2020	800071.95
May (2020)	2020	1586964.48
June (2020)	2020	3429736.57
July (2020)	2020	5151815.40
August (2020)	2020	5638281.83
September (2020)	2021	19530271.30
October (2020)	2021	21016218.21
November (2020)	2021	32247289.79
December (2020)	2021	20409063.18
January (2021)	2021	19570701.71
February (2021)	2021	15986603.89
March (2021)	2021	19149624.92
April (2021)	2021	11483530.30
May (2021)	2021	19204309.41
June (2021)	2021	15457579.66
July (2021)	2021	19044968.82
August (2021)	2021	11324548.34

Insights

- The lowest Gross sales total for both fiscal years is in March(2020).
- The highestGross sales total for both fiscal years is inNovember (2020).
- 73.8%ofthe total Gross sales figure is in FY2021

8. 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

Quarters	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

Total sold quantity in FY 2020 by Quarter
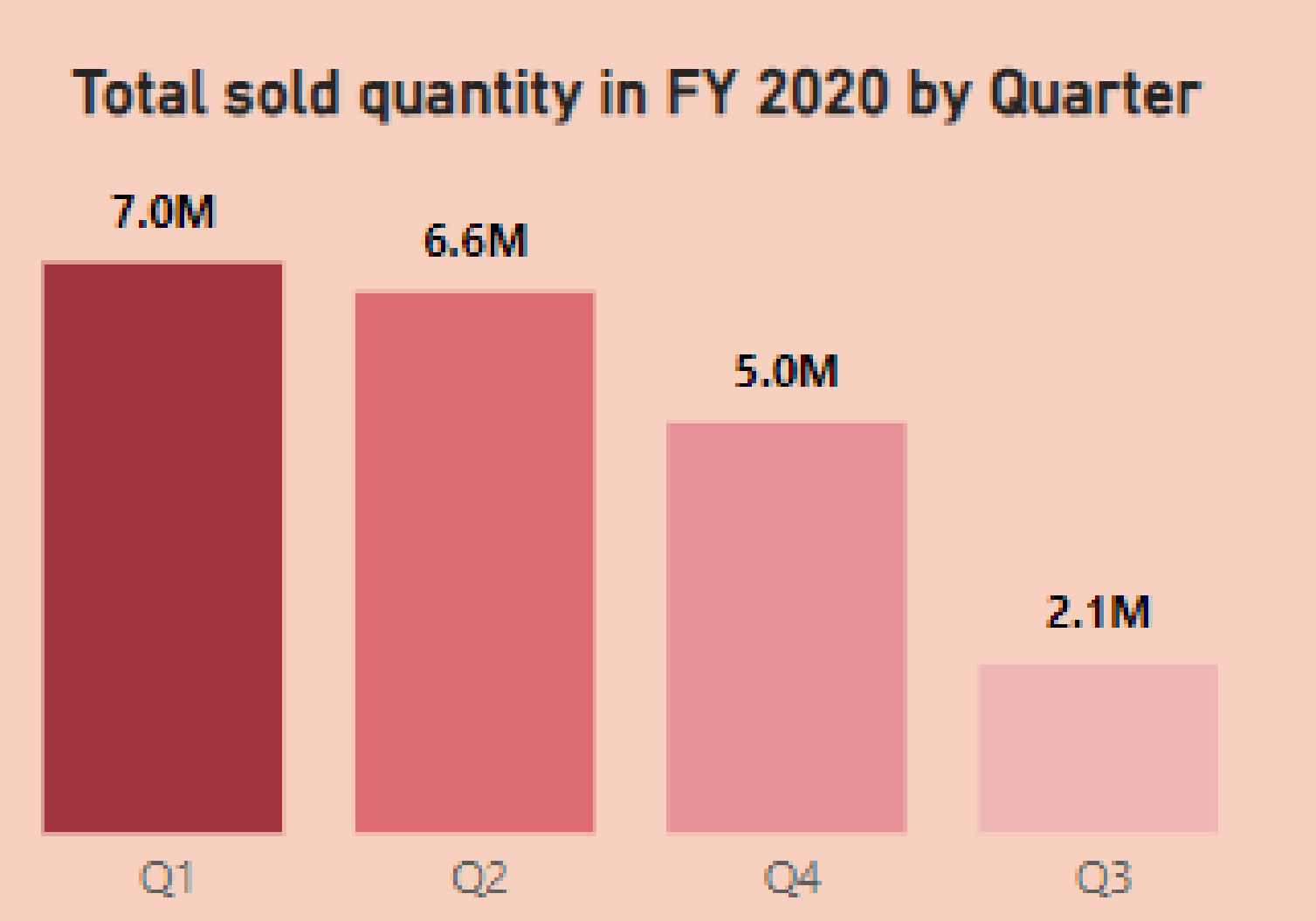
- Quarter 1 of FY2020 saw the most units sold overall, while Quarter3 had the fewest.
- The highest and lowest overall sold quantity is in December and March.
- Quarter1 accounts for approximately 34% ofthe total sold quantity for FY2020

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

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

Gross sales and contribution percentages by Channels for FY 2021

Distributor 297.18M (11.31%)

Direct
406.69M (15.47%)

Retailer 1924.17M (73.22%)
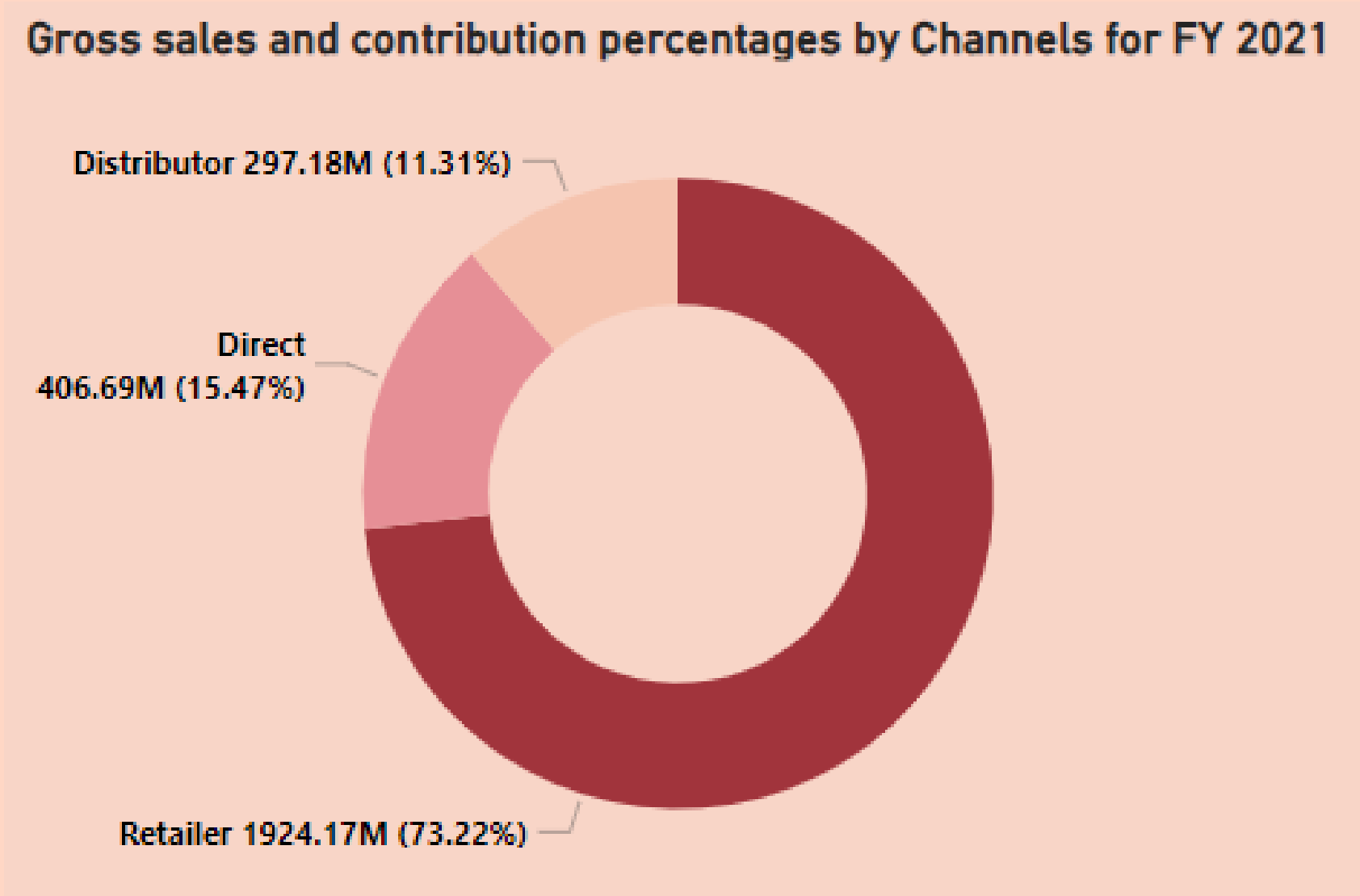
- Channel: "Retailer " helped bring maximum sales to the company with 73.22% as the contribution percentage.
- Channel: "Distributor " makes the least contribution at a percentage of11.31%

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,
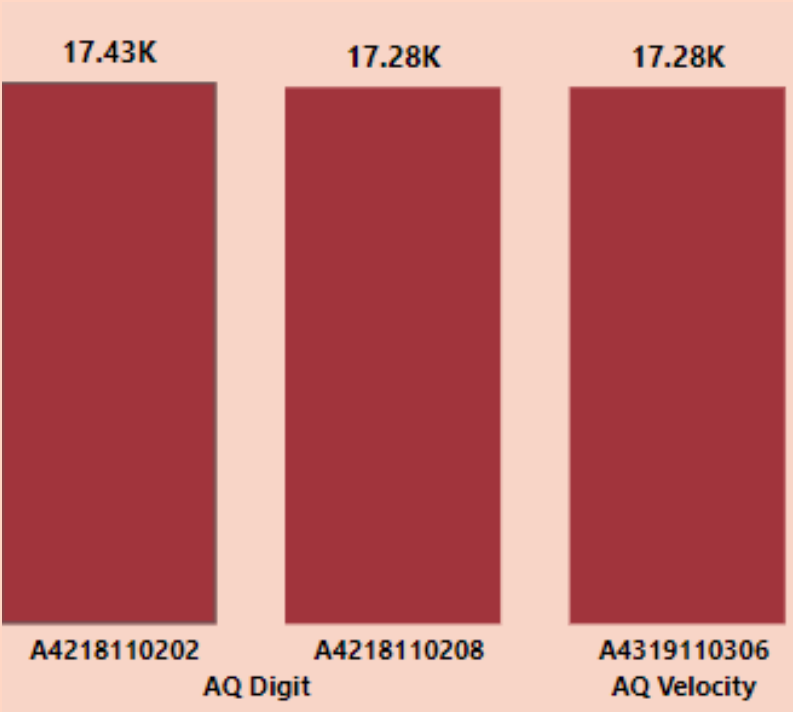division
product_code
product
total_sold_quantity
rank_order

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
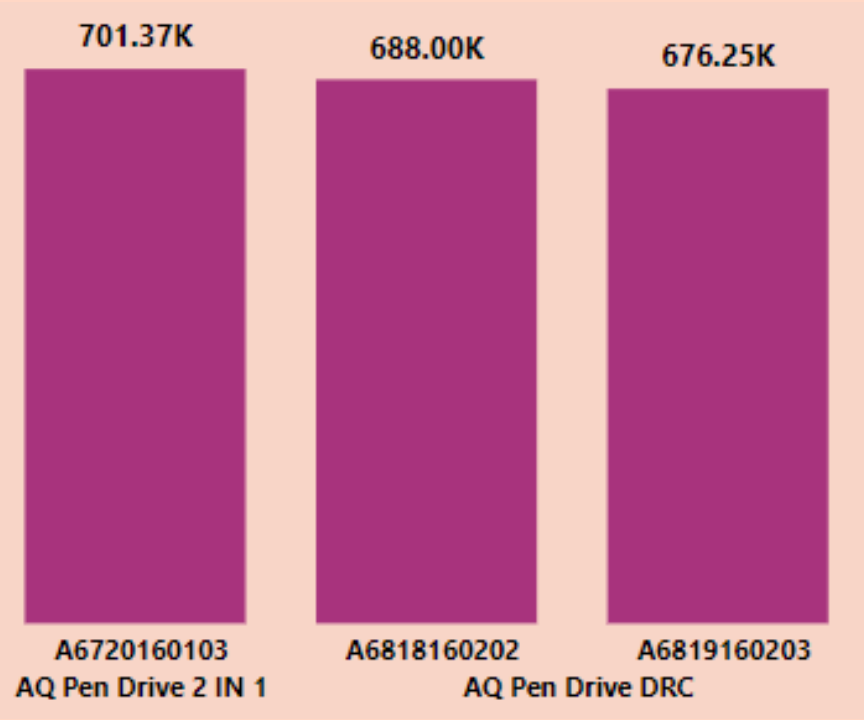
N & S
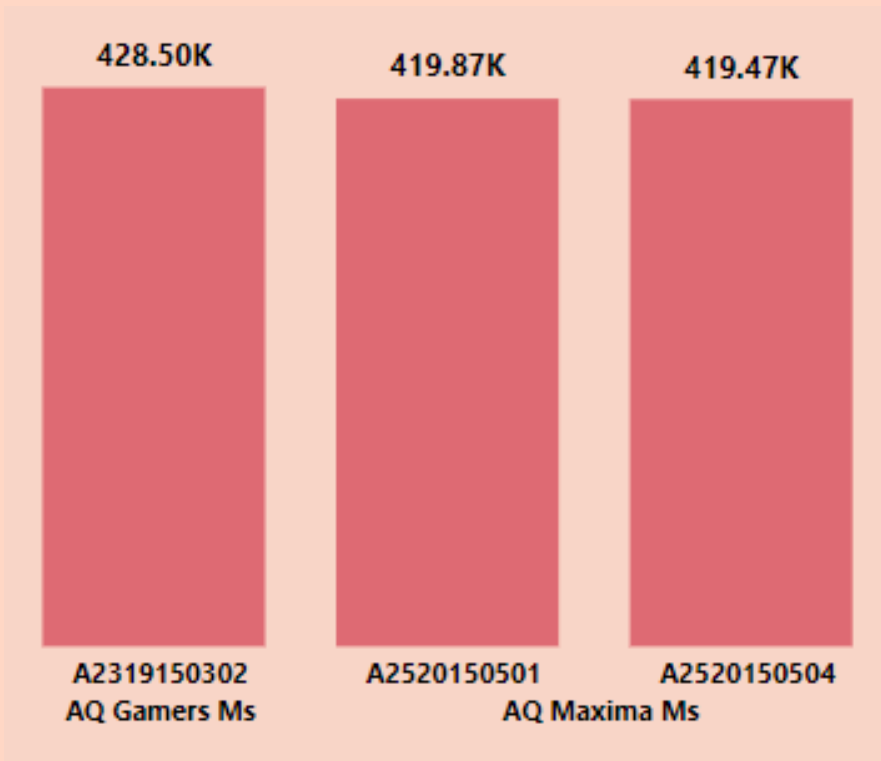
P &A

PC

Every division has a product with differentvariants that appears twice in the top three products by division list.

THANK YOU