



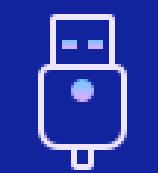
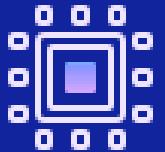
# Ad\_Hoc Insights

Consumer Goods



CREATED BY

RISHABH MOHAN





# WHY?

Objectives

# WHAT?

Company's detail and market

# HOW?

Data, Requests, and Tools

# Objectives

Tony Sharma

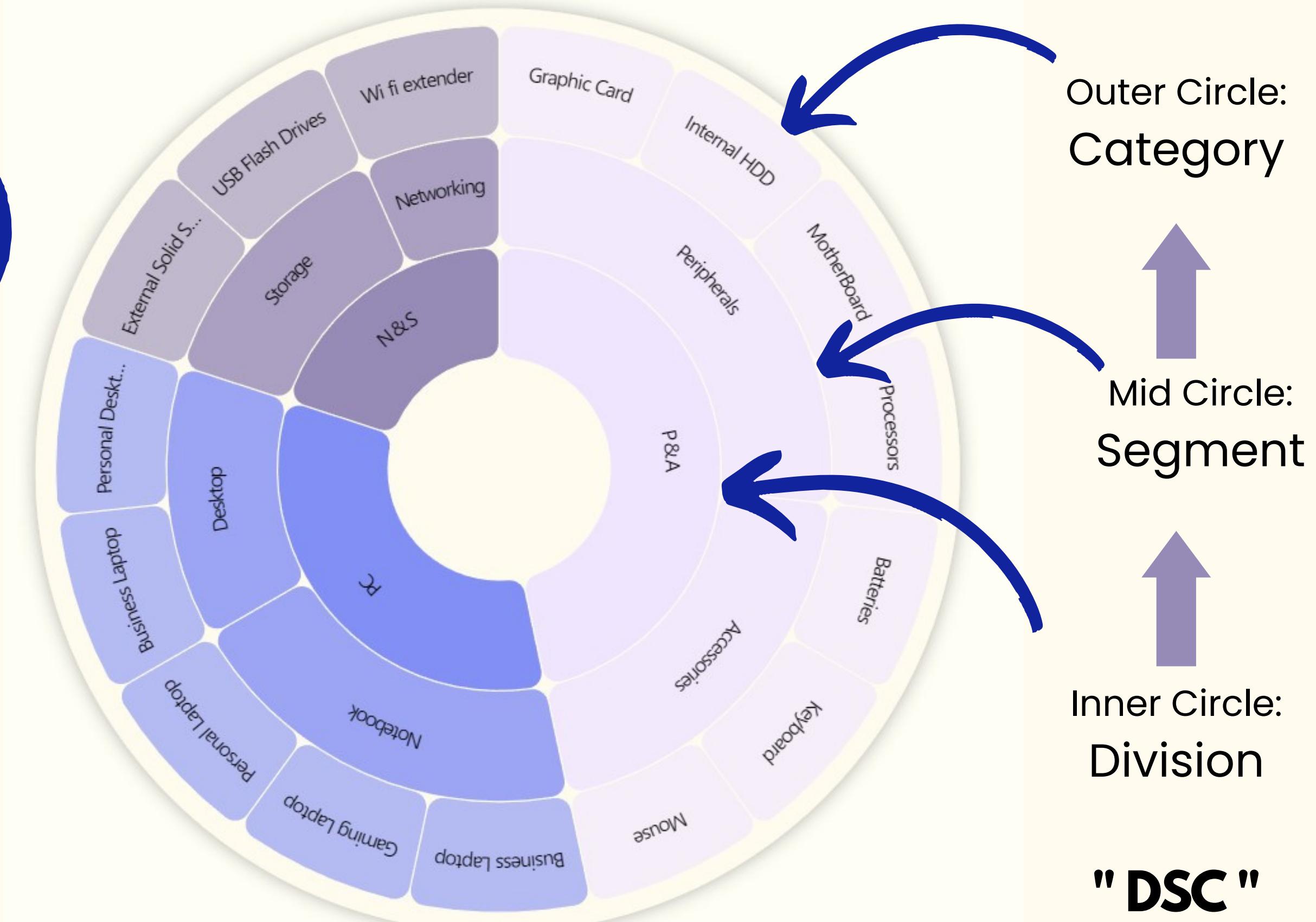
- **Atliq Hardware** (fictitious corporation) is one of the major computer hardware manufacturers in India, with a strong presence in other nations.
- Nevertheless, the management did note that they **do not have sufficient insights** to make prompt, wise, and data-informed judgments.
- Plan to **expand** the data analytics team by adding junior data analysts.
- To assess candidates, **Data analytics director, Tony Sharma** plans to conduct a **SQL challenge** to evaluate both tech and soft skills.
- The company seeks insights for **10 ad hoc** requests.



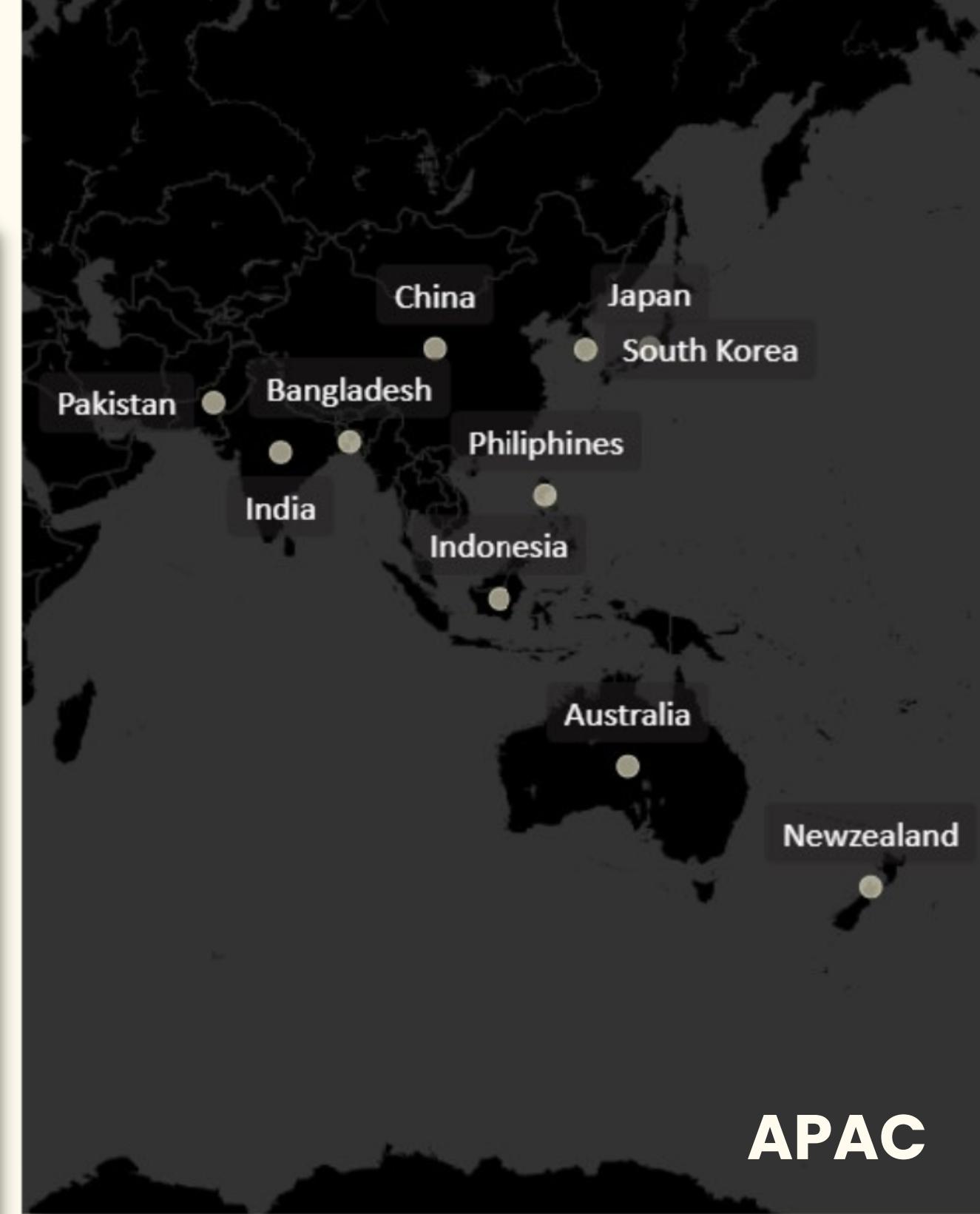
**WHAT?**

# Company Details

Atliq Hardware is a computer hardware and accessory manufacturer.

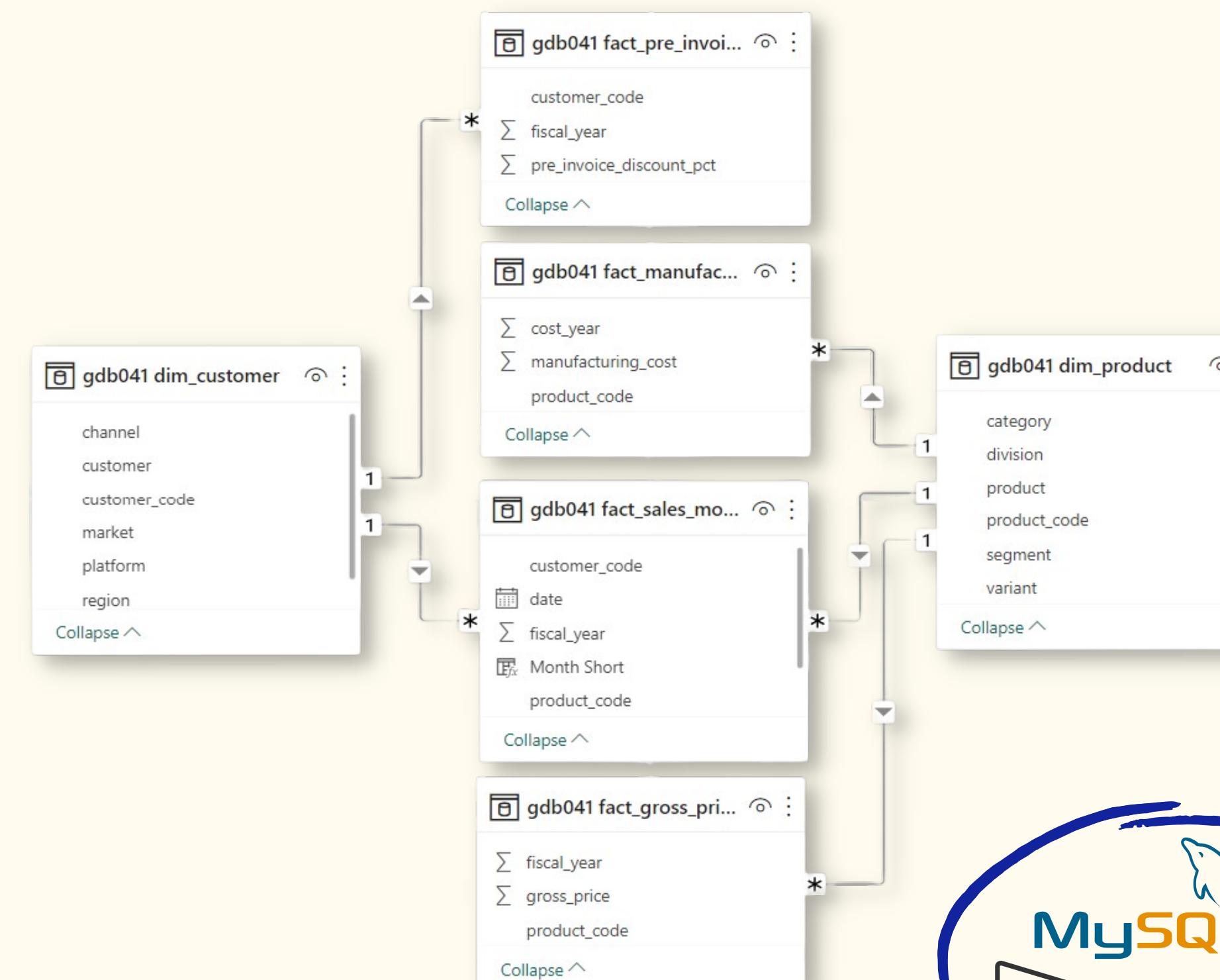


# Company's Market



**Atliq Hardware**

# Data, Requests, and Tools



For Analysis and Visualization

**Codebasics SQL Challenge**

**Requests:**

- Provide the list of markets in which customer "Atiq 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 "Atiq 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

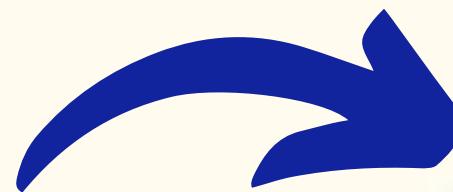
9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,

channel  
gross\_sales\_min  
percentage

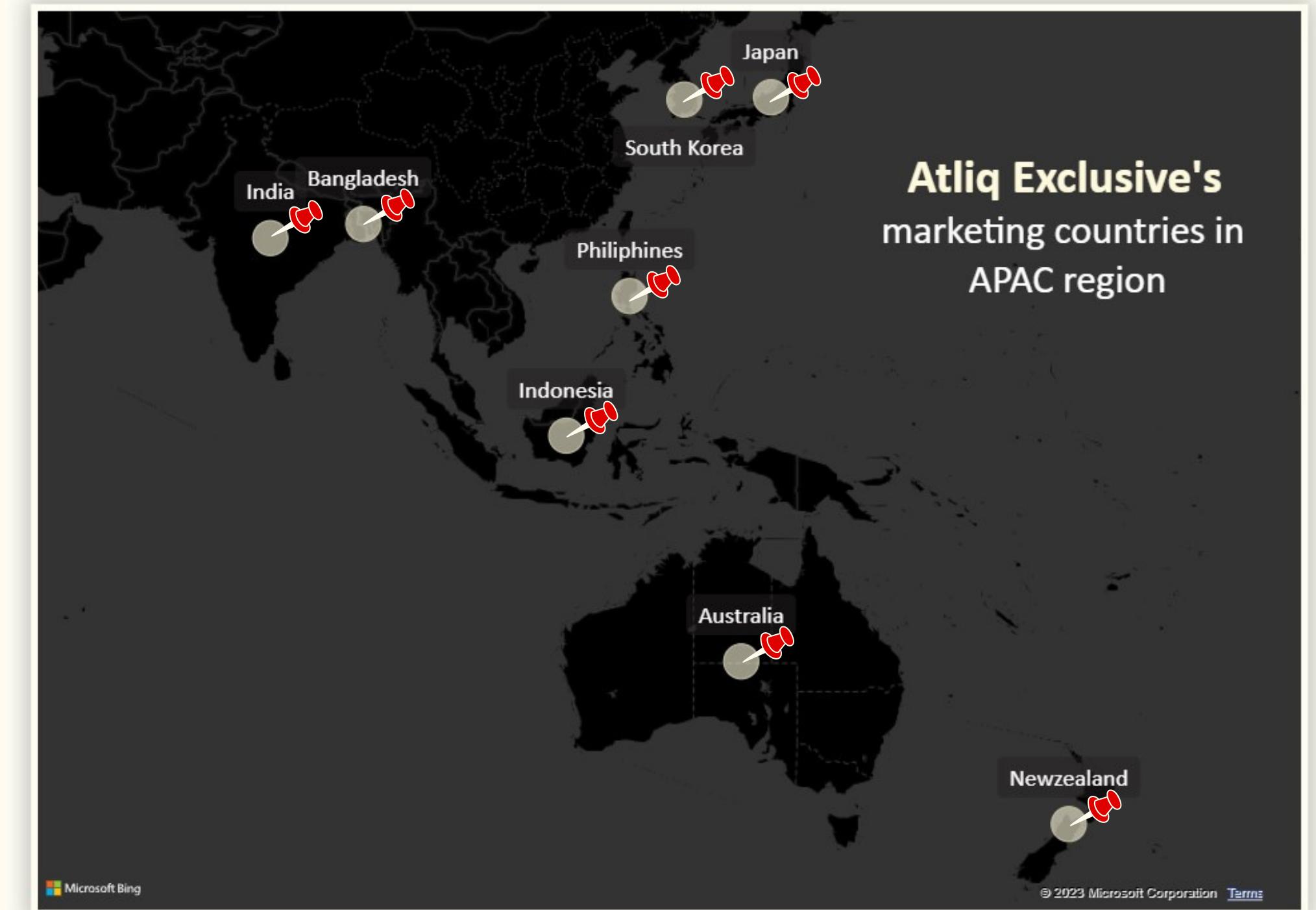
10. Get the Top 3 products in each division that have a high total\_sold\_quantity in the fiscal year 2021? The final output contains these fields,

division  
product\_code

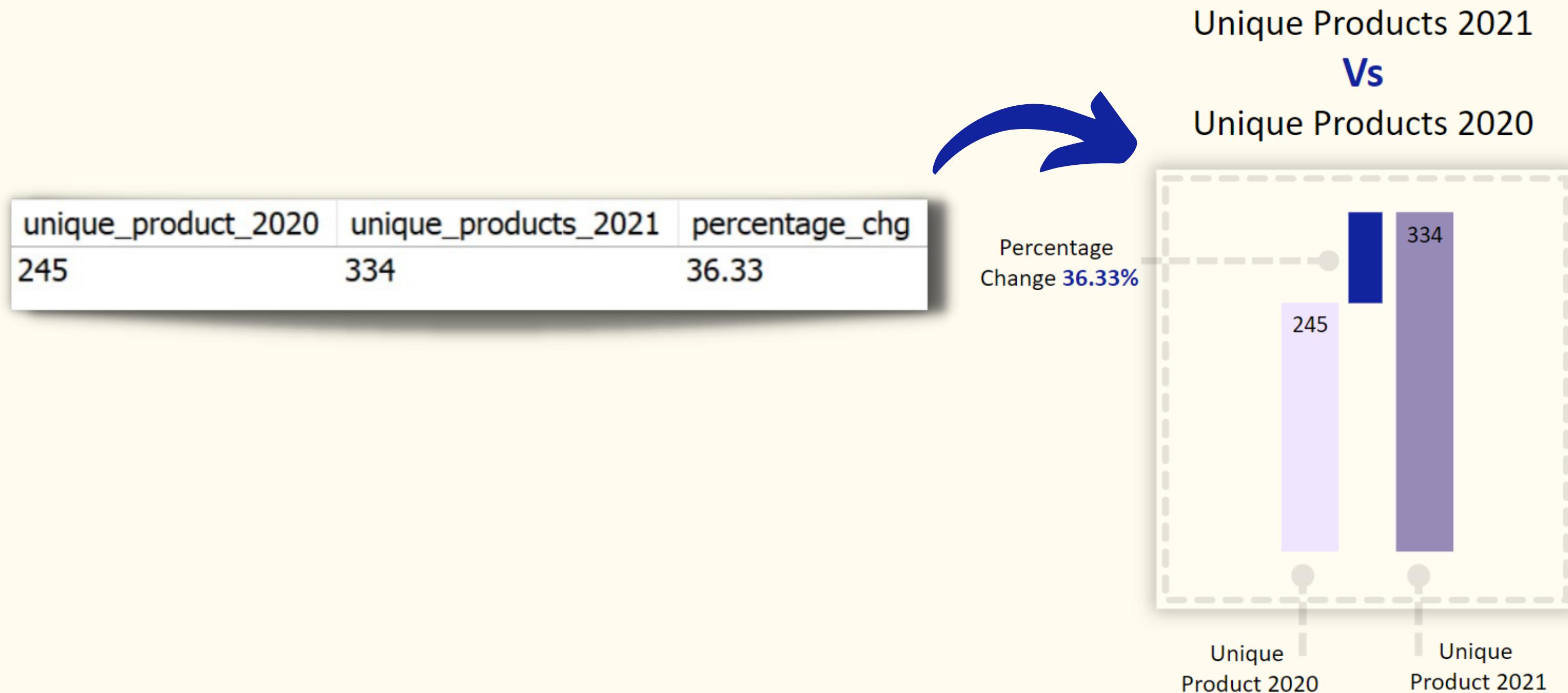
1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.



market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea



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

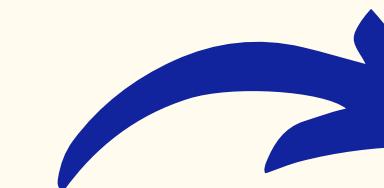


## Insight:

- Demand and production both **increased**.

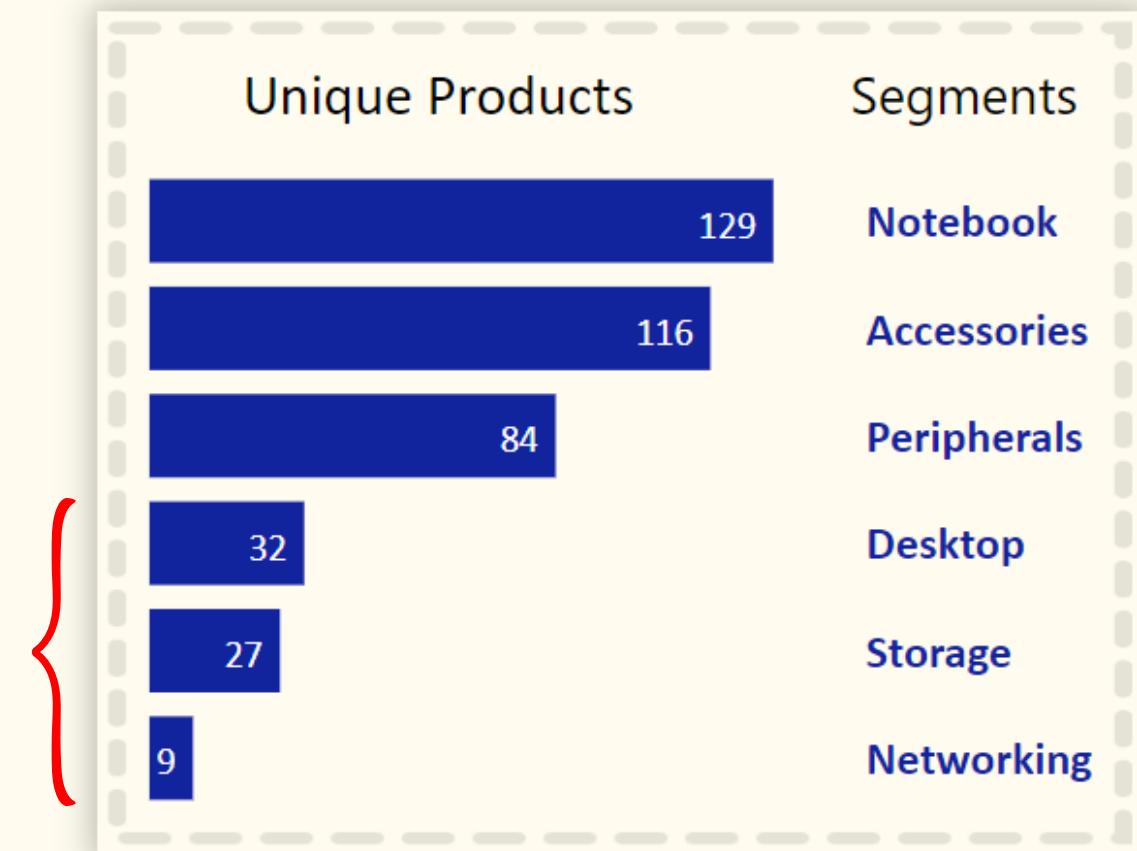
3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,

segment  
product\_count



Unique **product counts** for each **segment**

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



Alarming

## Insights:

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

Desktop  
Storage  
Networking

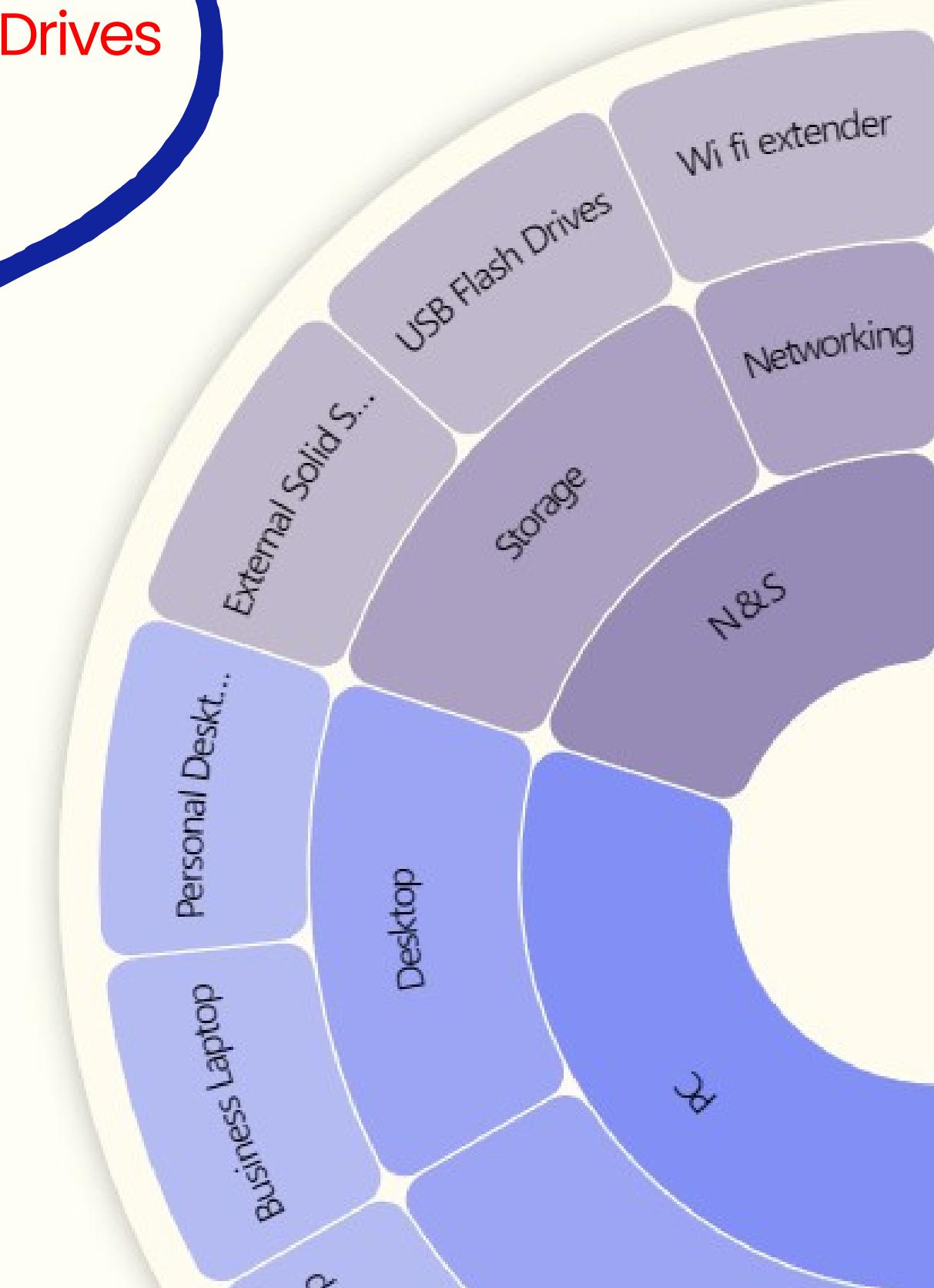
Segment	AVG MC	AVG GS	Gross Margin
Peripherals	\$540.92	\$1,814.41	70.19%
Accessories	\$543.74	\$1,816.42	70.07%
Notebook	\$674.68	\$2,255.44	70.09%
Desktop	\$767.44	\$2,553.72	69.95%
Storage	\$897.70	\$2,986.82	69.94%
Networking	\$1,473.32	\$4,953.04	70.25%

AVG MC: Average Manufacturing Cost  
AVG GS: Average Gross Sales



## Suggestions :

- Package Deal
- Customer Services
- Free Vouchers
- Student Discount
- Cash Back
- Gift cards
- Memberships



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

Unique product difference per  
**segment** from 2020 to 2021

segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5

Unique product difference per **segment** from 2020 to 2021



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 ↑

## 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
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920



## Insights:

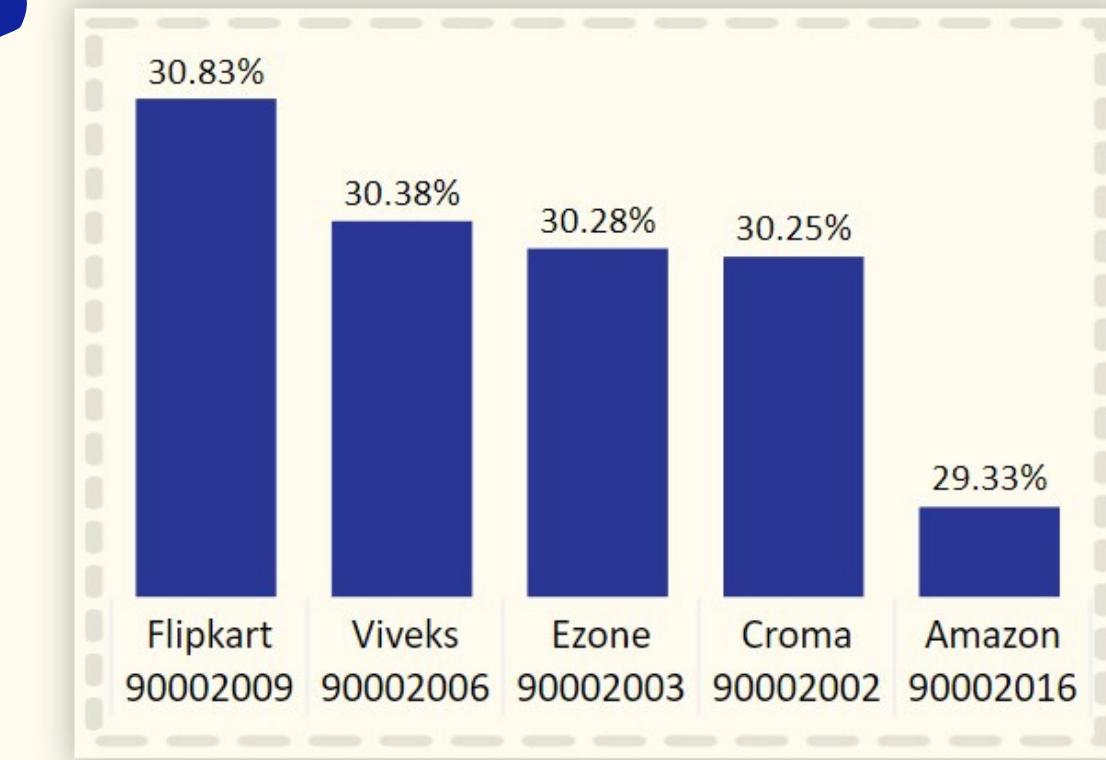
- Mouse: AQ Master wired x1 Ms (**Variant: Standard 1**) has the lowest manufacturing cost.
- Personal Desktop: AQ Home Allin1 Gen2 (**Variant: Plus 3**) has the highest manufacturing cost.

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

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

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933



Customer & Customer code

## Insights:

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

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

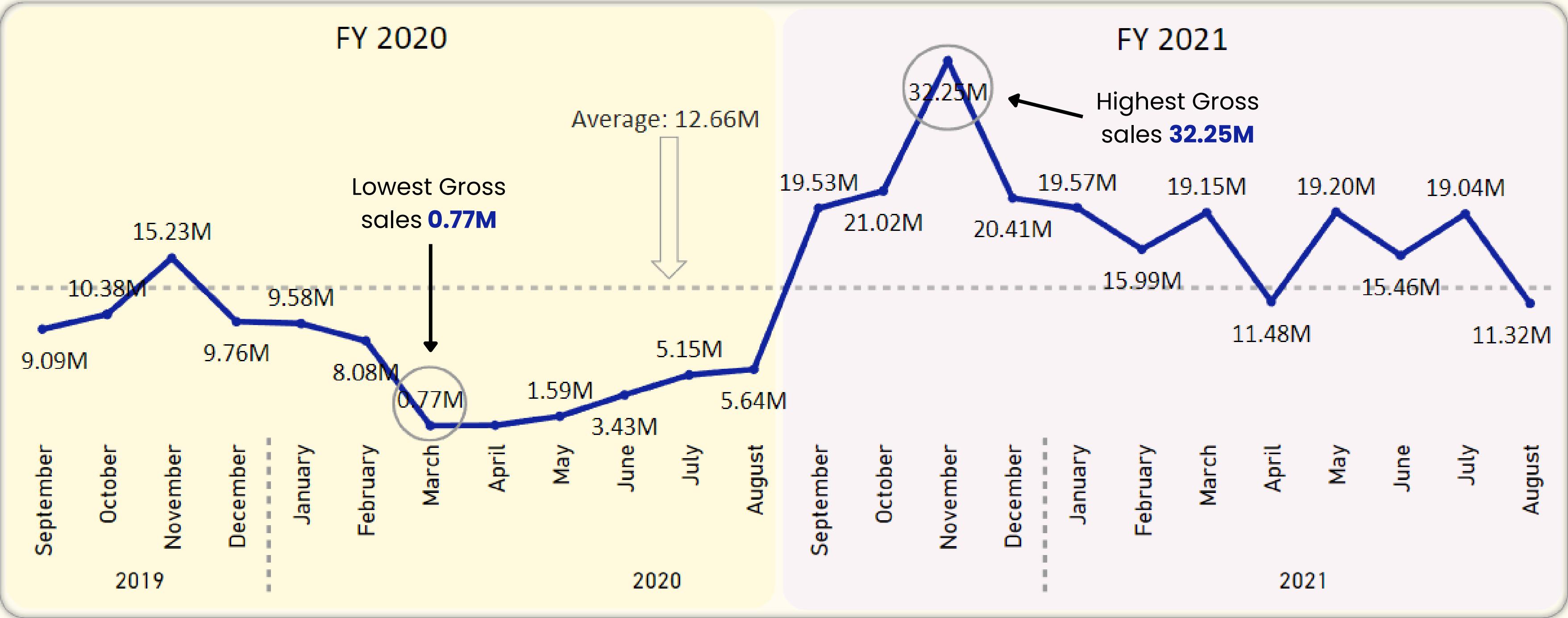
## Insights:

- The **lowest** Gross sales total for both fiscal years is in **March (2020)**.
- The **highest** Gross sales total for both fiscal years is in **November (2020)**.
- **73.8%** of the total Gross sales figure is in **FY 2021**.

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

**FY 2020**  
**79.5 M**

**FY2021**  
**224.4 M**



## Reasons:

- **COVID-19**
- Global Chip shortage

When did the silicon chip shortage start?

From **early 2020**, when the effects of and the mitigation of the COVID-19 pandemic caused disruptions in supply chains and logistics which, coupled with a 13% increase in global demand for PCs owing to some countries' shift to a stay-at-home economy, impacted the availability of key chips necessary for the manufacturing ...

[https://en.wikipedia.org/wiki/2020–present\\_global\\_chip\\_shortage](https://en.wikipedia.org/wiki/2020–present_global_chip_shortage)

2020–present global chip shortage - Wikipedia

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

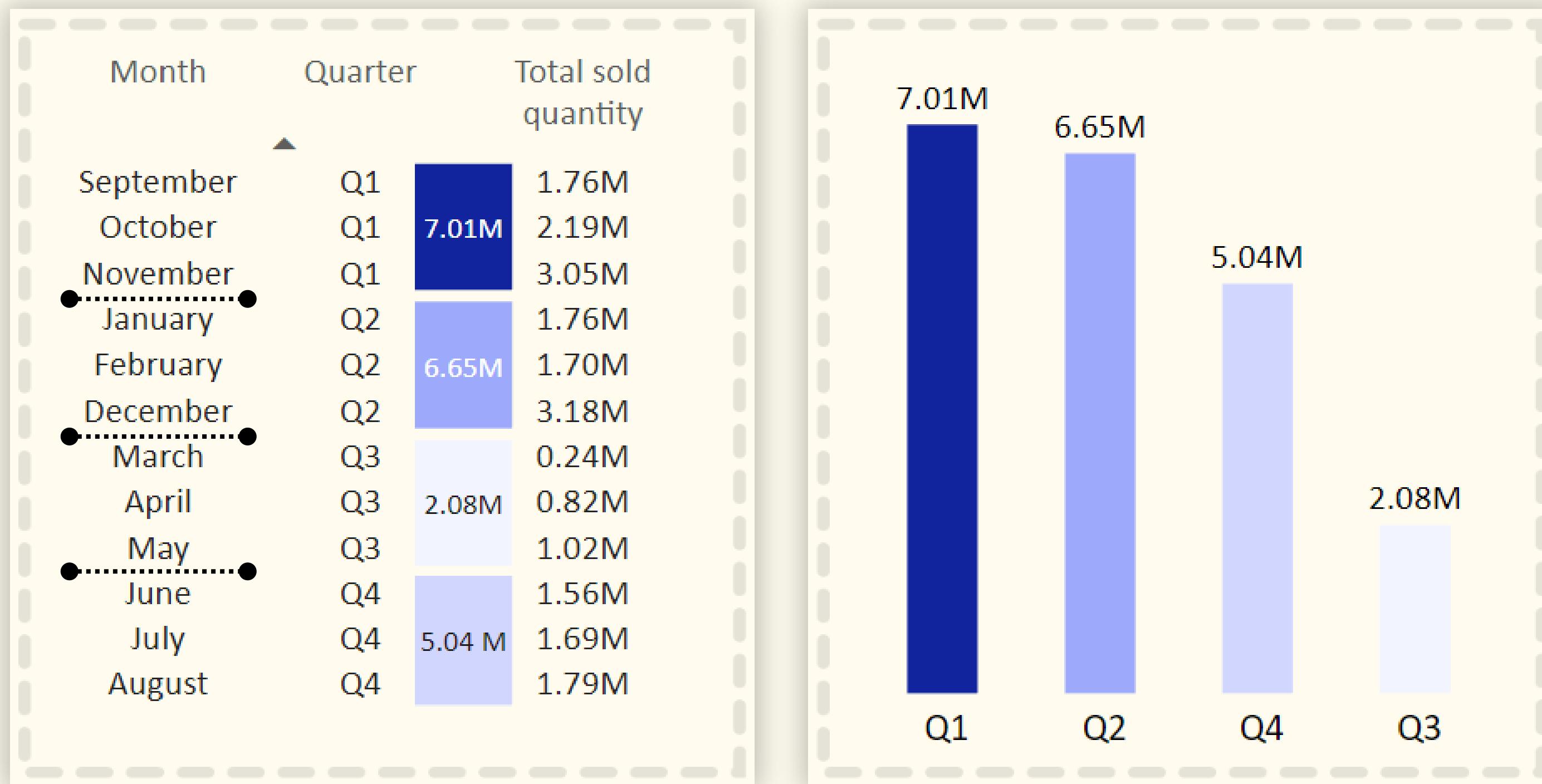
Quarters	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

Quarters	total_sold_quantity
[1] September	1764002
[1] October	2190792
[1] November	3050825
[2] December	3184205
[2] January	1762652
[2] February	1702785
[3] March	238961
[3] April	819956
[3] May	1016170
[4] June	1559773
[4] July	1692575
[4] August	1790193

## Insights:

- **Quarter 1** of FY2020 saw the most units sold overall, while **Quarter 3** had the fewest.
- The highest and lowest overall sold quantity is in **December** and **March**.
- Quarter 1 accounts for approximately **34%** of the total sold quantity for FY2020.

## Total sold quantity in FY 2020 by Quarter



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,

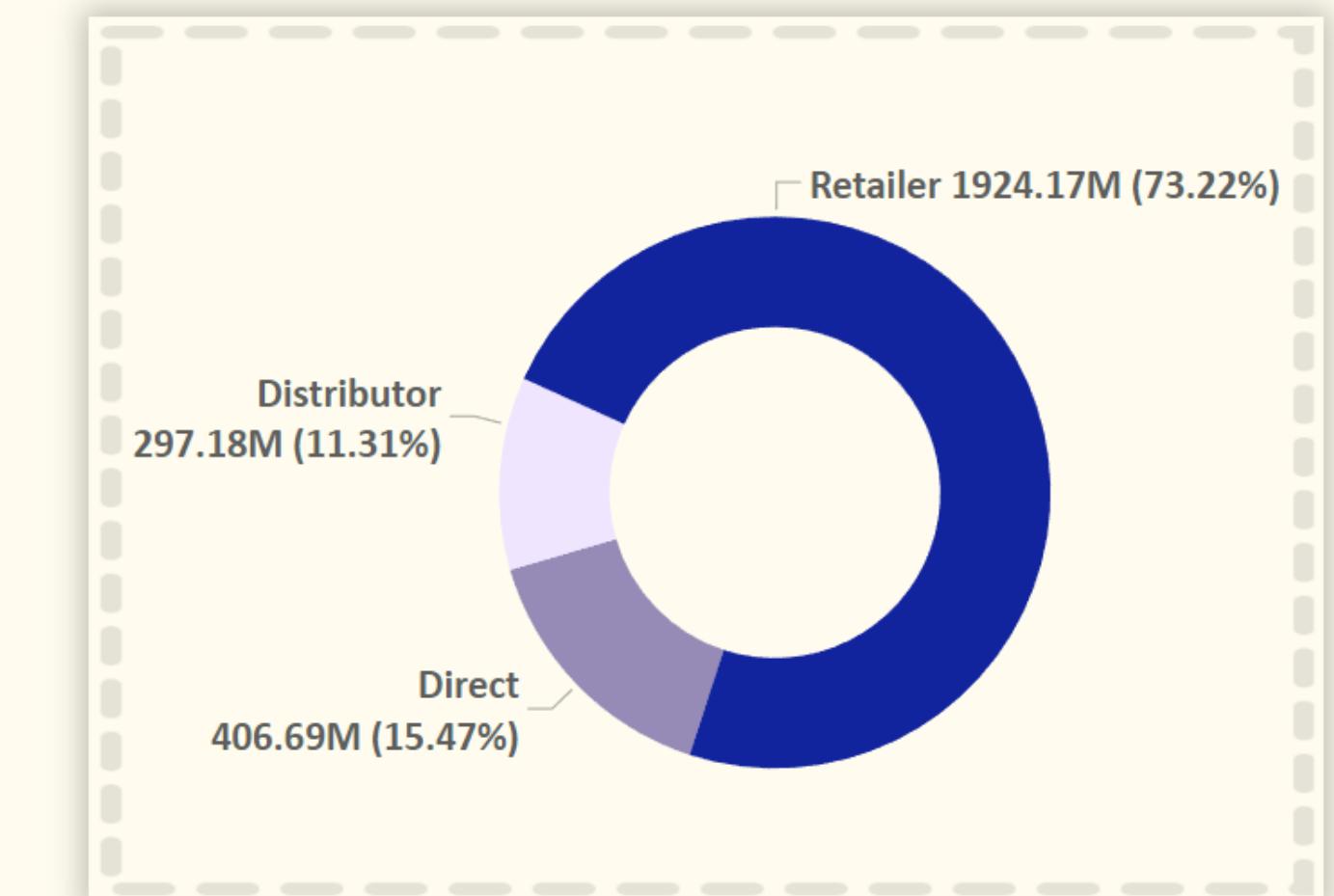
channel  
gross\_sales\_mln  
percentage

Gross sales and contribution percentages by  
**Channels** for FY 2021

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

## Insights:

- 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 of **11.31%**.



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,

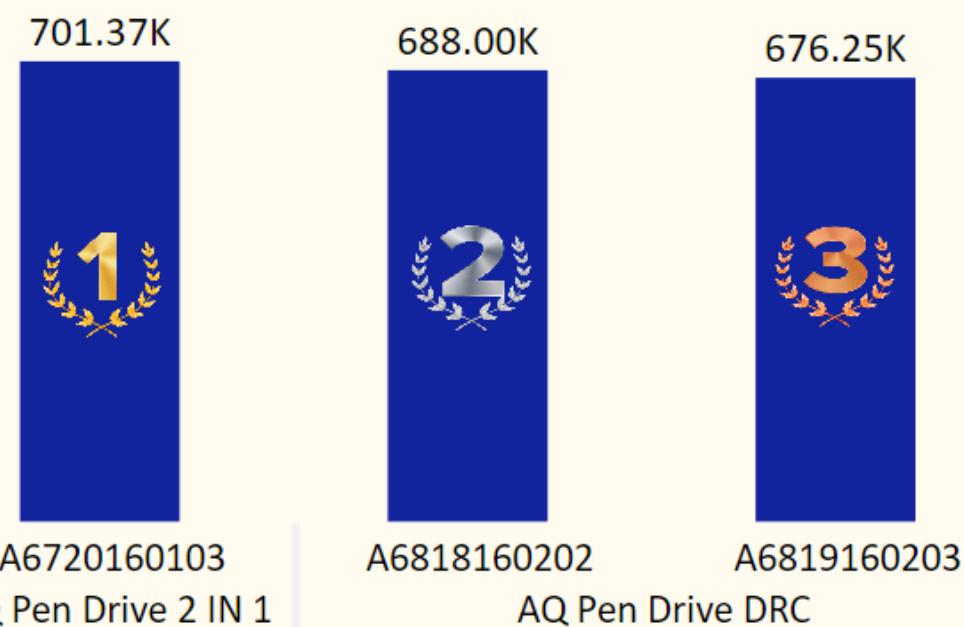
division  
product\_code  
product  
total\_sold\_quantity  
rank\_order

division	product_code	product	Total_sold_quantity	Rank_Order
N & S	A6720160103	AQ Pen Drive 2 IN 1 [Premium]	701373	1
N & S	A6818160202	AQ Pen Drive DRC [Plus]	688003	2
N & S	A6819160203	AQ Pen Drive DRC [Premium]	676245	3
P & A	A2319150302	AQ Gamers Ms [Standard 2]	428498	1
P & A	A2520150501	AQ Maxima Ms [Standard 1]	419865	2
P & A	A2520150504	AQ Maxima Ms [Plus 2]	419471	3
PC	A4218110202	AQ Digit [Standard Blue]	17434	1
PC	A4319110306	AQ Velocity [Plus Red]	17280	2
PC	A4218110208	AQ Digit [Premium Misty Green]	17275	3

## Insight:

- Every division has a product with **different variants** that appears **twice** in the top three products by division list.

Division • N & S

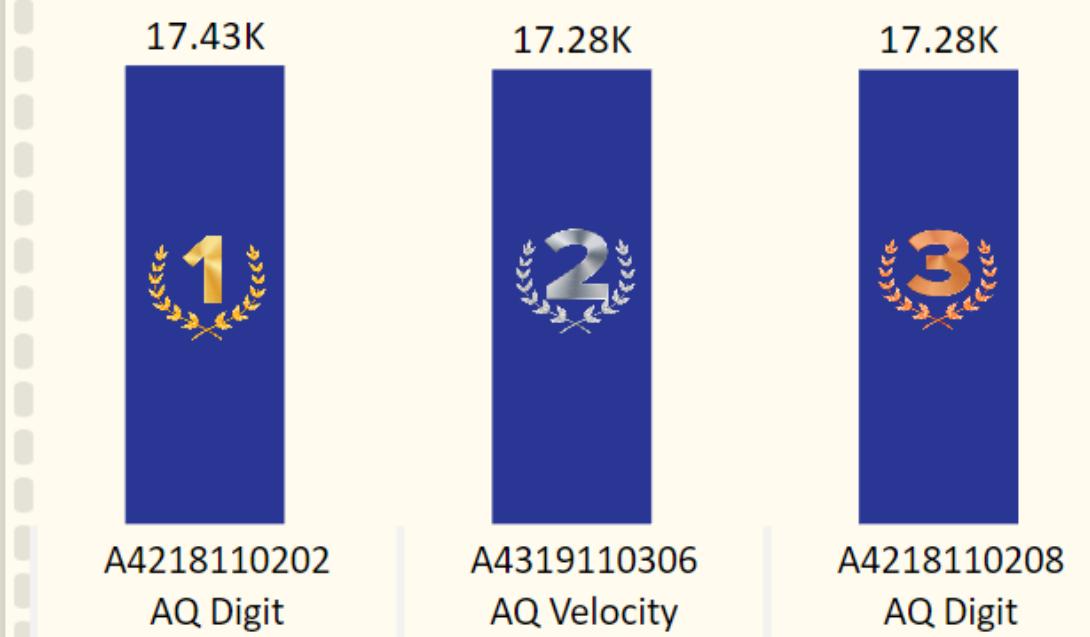


Premium

Plus

Premium

Division • PC

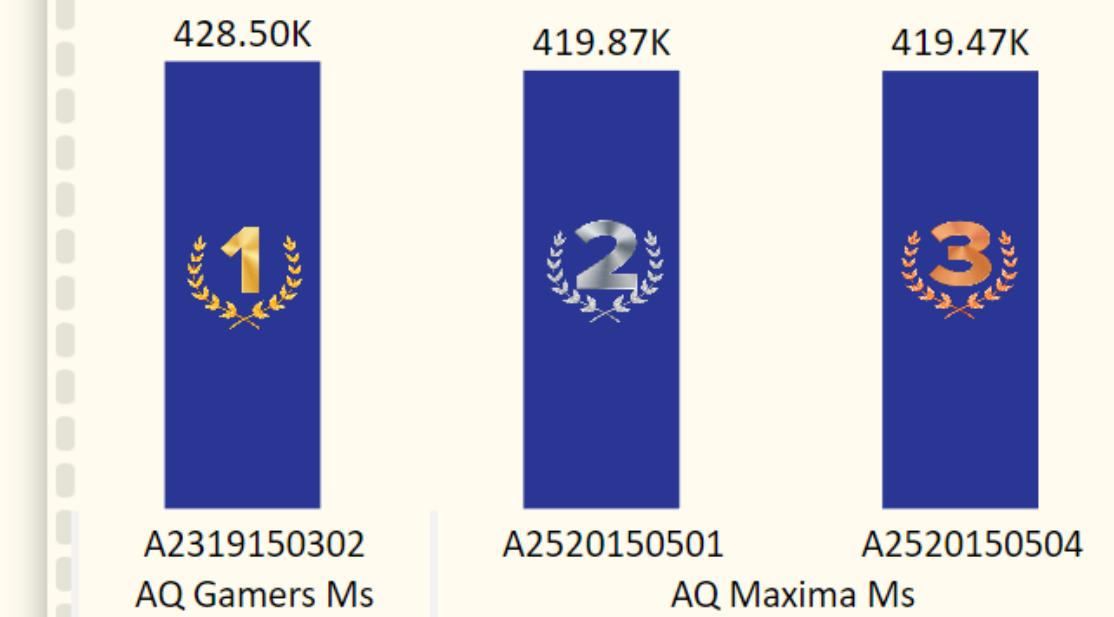


Standard  
Blue

Plus Red

Premium  
Misty Green

Division • P & A



Standard 2   Standard 1   Plus 2

# Thank you!

Rishabh Mohan

rishabhmohan43@gmail.com

[www.linkedin.com/in/-rishabhmohan](https://www.linkedin.com/in/-rishabhmohan)

<https://github.com/Rishabh4303>

