



Codebasics

SQL Project

Ad-hoc Insights for a Consumer
Goods Domain



Presented By: Shamshuddin Mohammad

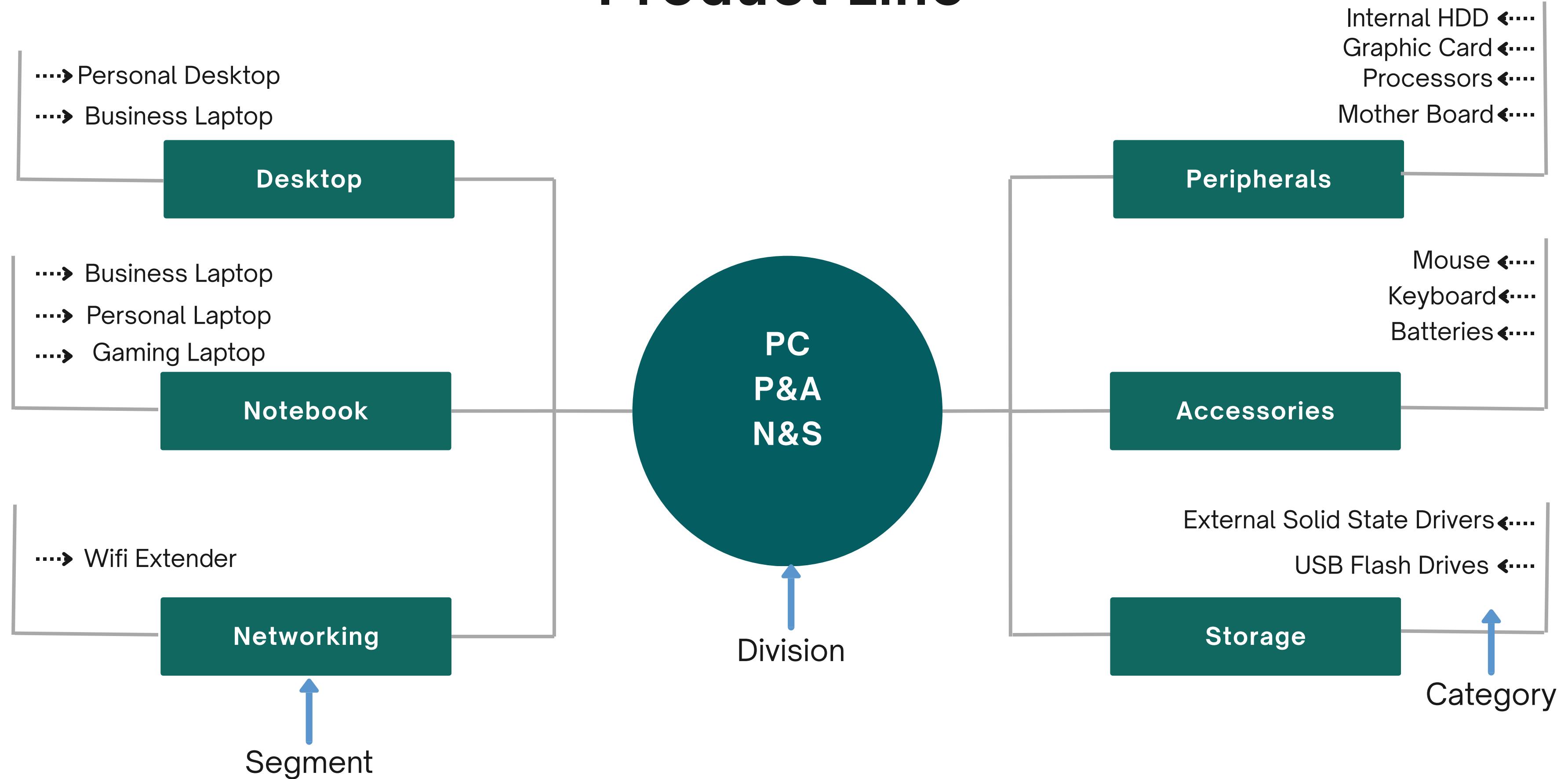


Objectives

- **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**.

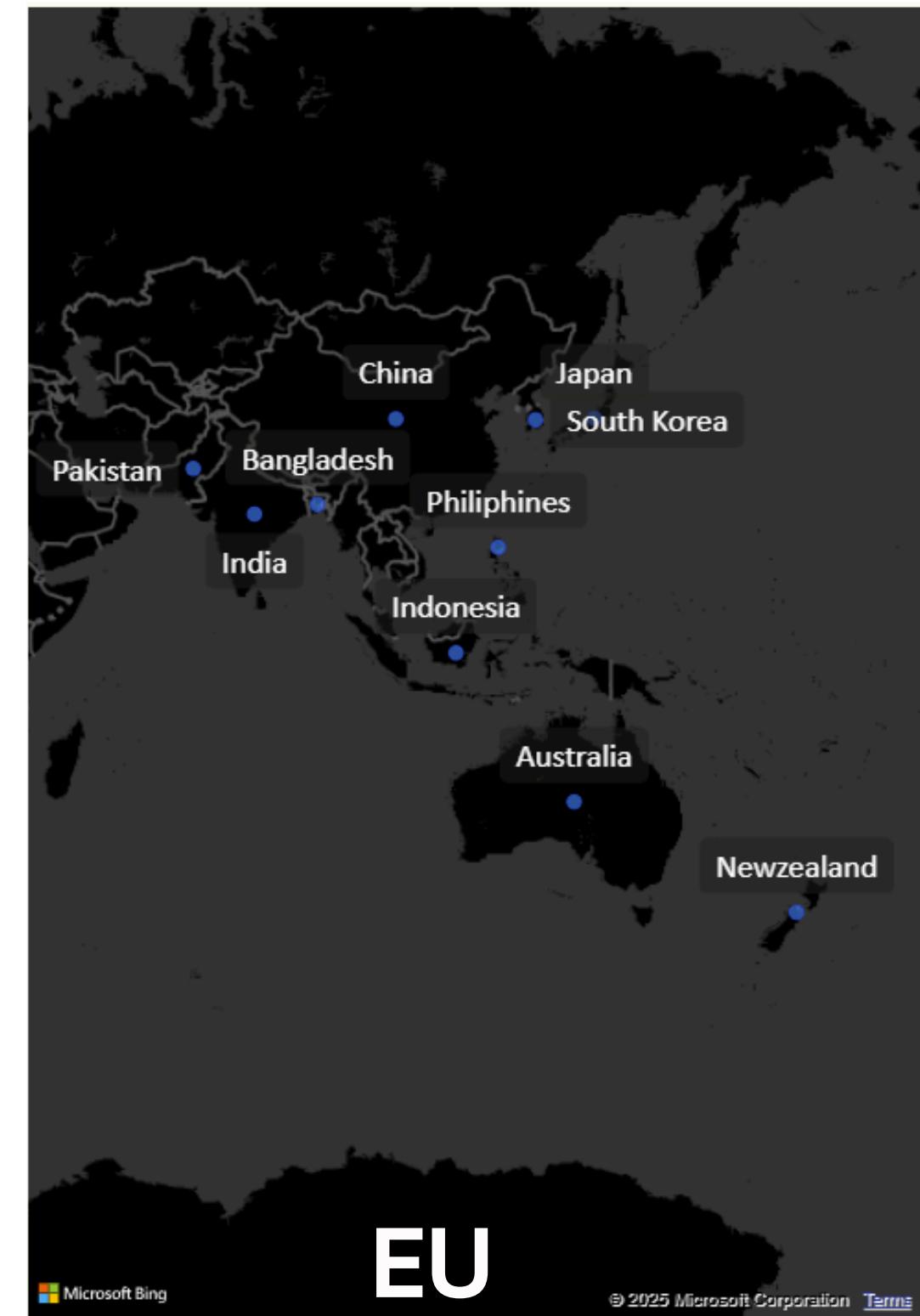
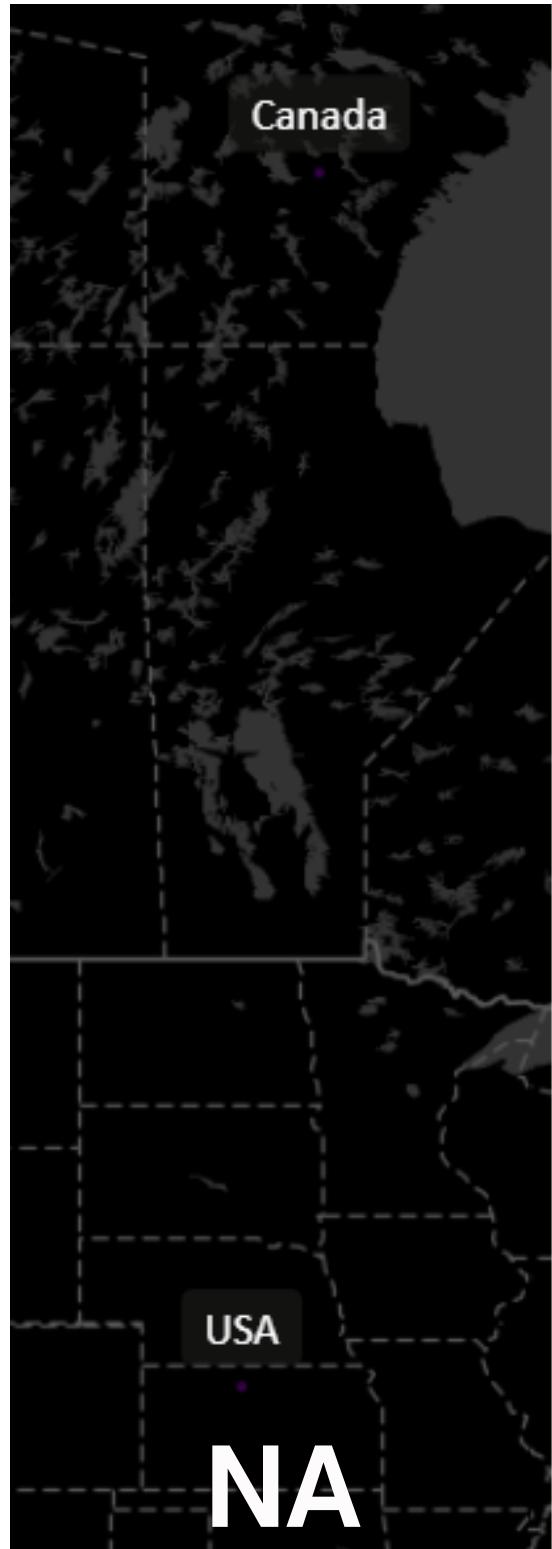


Product Line





Market



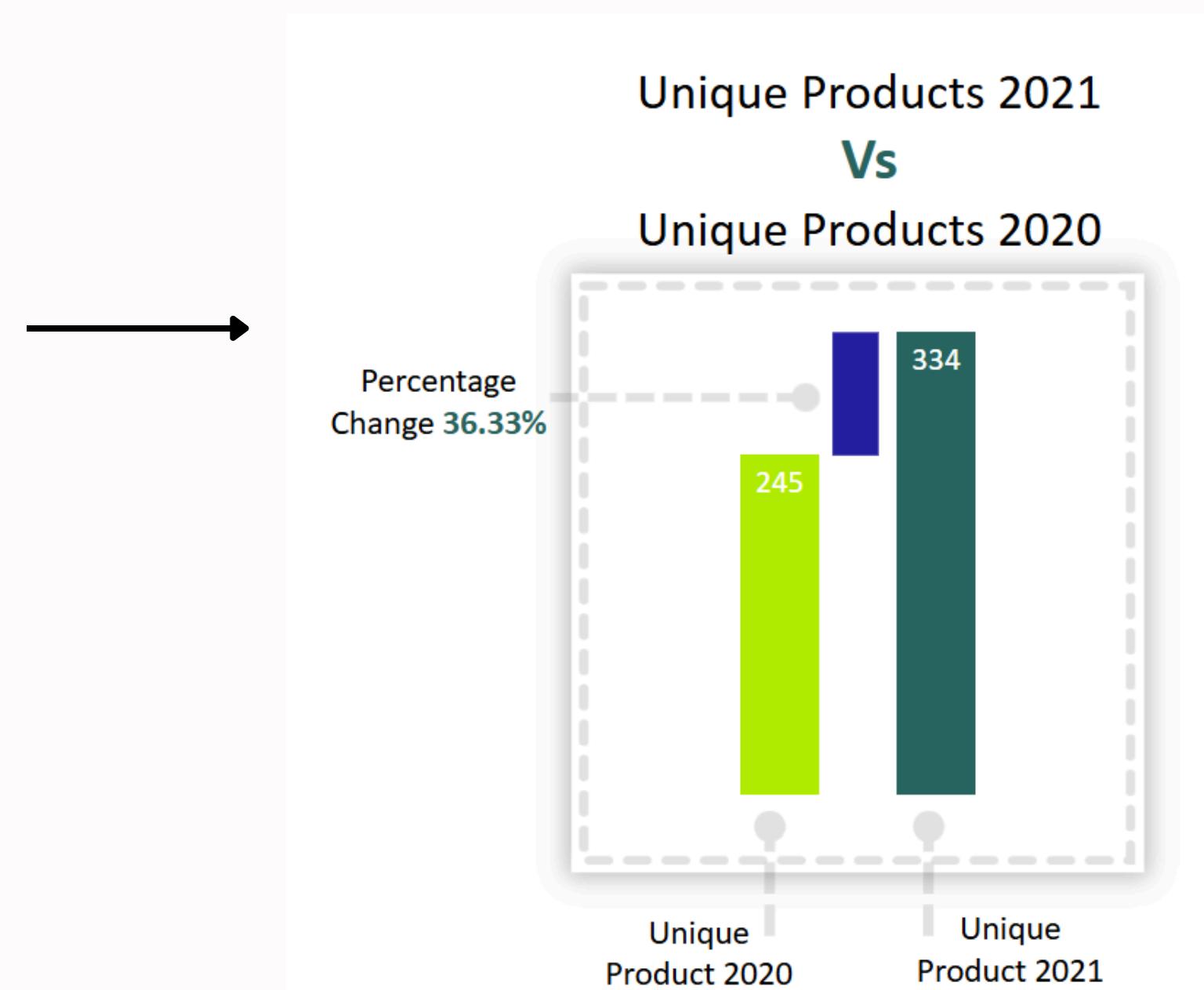
1. Provide the list of markets in which customer "AtliQ Exclusive" operates its business in the APAC region.



Insight: AtliQ Exclusive operates in eight countries within the APAC region, demonstrating a significant regional market presence.

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_product_2020	unique_products_2021	percentage_chg
245	334	36.33



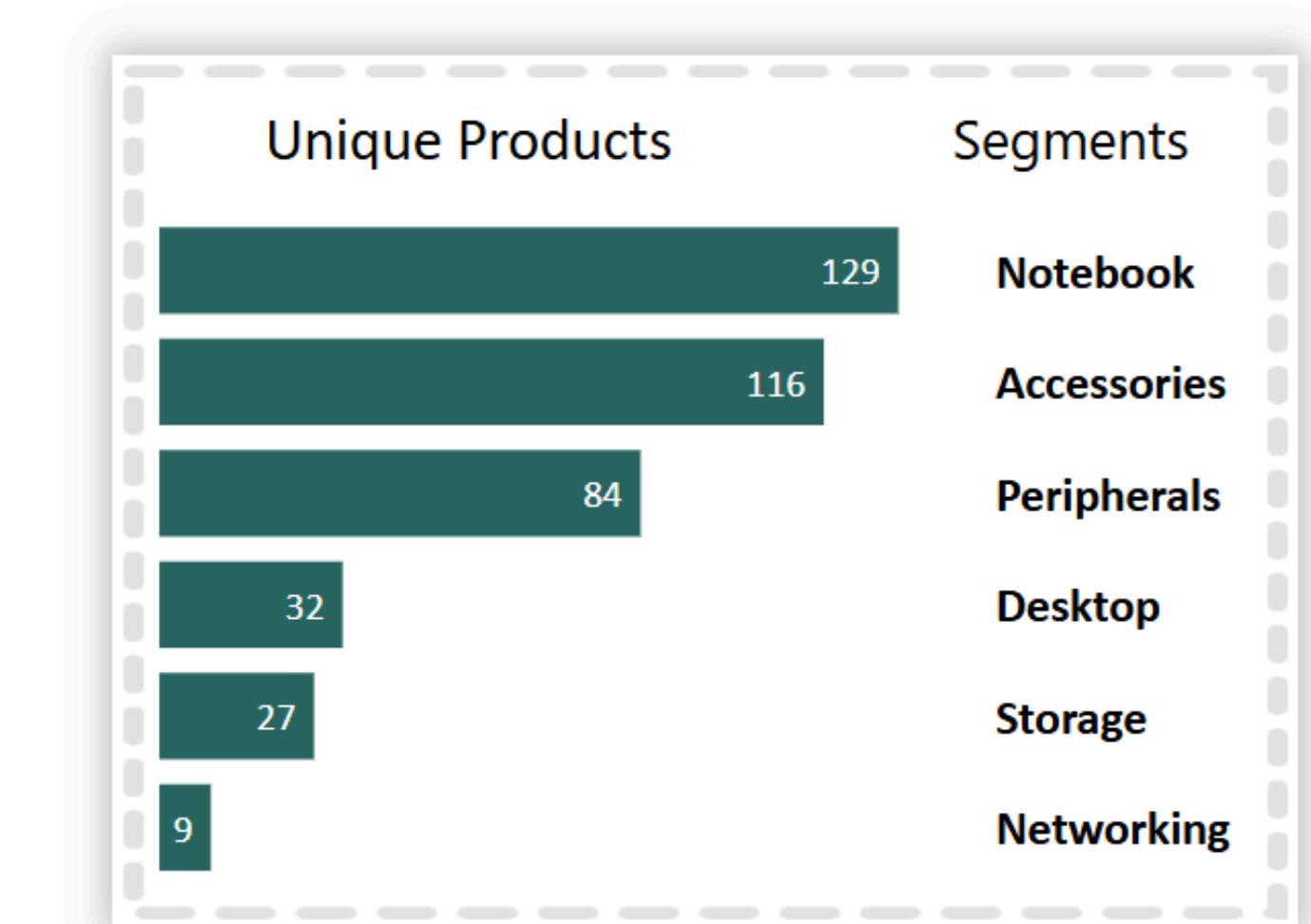
Insight:

1. The number of unique products grew from 245 in 2020 to 334 in 2021, marking a 36.33% increase.
2. This significant increase highlights the company's commitment to innovation and meeting diverse **customer needs**.

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

Unique product counts for each segment



Insight: 1. AtliQ shines in Notebooks, Accessories, and Peripherals segment, accounting for a whopping 82.87% of product variety.

2. Desktops, Storage, and Networking currently hold a minor share (17.13%) of AtliQ's product portfolio.

3. In Desktops, Storage, and Networking segment AtliQ should focus on products that align with current customer trends and industry demands.

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
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 ↑

- Insight:**
1. Accessories have the most increased products from 2020 to 2021, with an increase of 34 new products.
 2. Desktop products production increased drastically by approximately 214% from 2020 to 2021.
 3. Storage and Networking segments are producing the least new products from 2020 to 2021.

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



Insight:

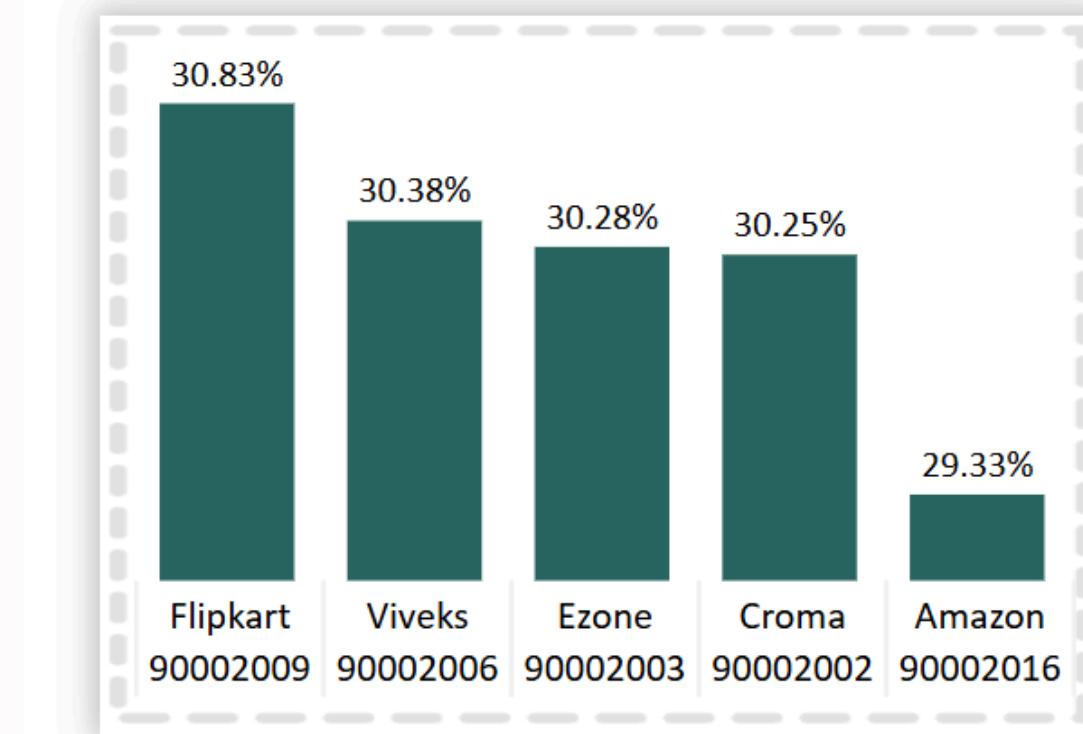
1. Mouse: AQ Master wired x1 Ms (Variant: Standard 1) has the lowest manufacturing cost.
2. Personal Desktop: AQ Home Allin1 Gen2 (Variant: Plus 3) has the highest manufacturing cost.

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 .

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



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



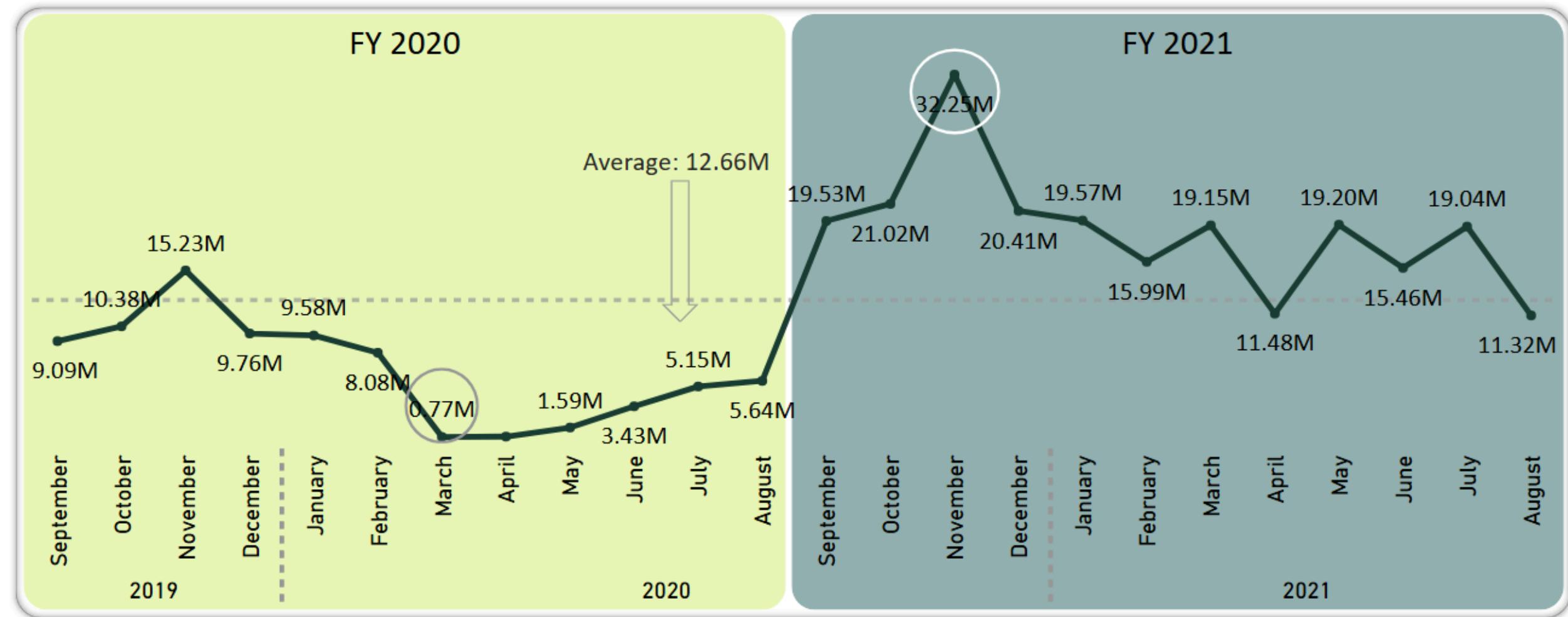
Customer & Customer code

Insight: 1. Flipkart leads the list with the highest average discount percentage at 30.83%.

2. AtliQ has provided relatively uniform discount percentages to its top 5 customers, with a narrow range of discounts from 29.33% to 30.83%.

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



Gross sales amount report for **Atliq Exclusive** by month

Insight:

1. March, April, May recorded the lowest sales in 2020, likely due to the COVID-19 pandemic. Sales began to recover after June 2020.
2. November generated the highest sales for 2020, with around 15.23 million.
3. Sales figures in 2021 show significant growth compared to 2020.
4. In 2021, the lowest sales were in August, accounting for 11.32 million, while the highest sales were in November, reaching 32.25 million.

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



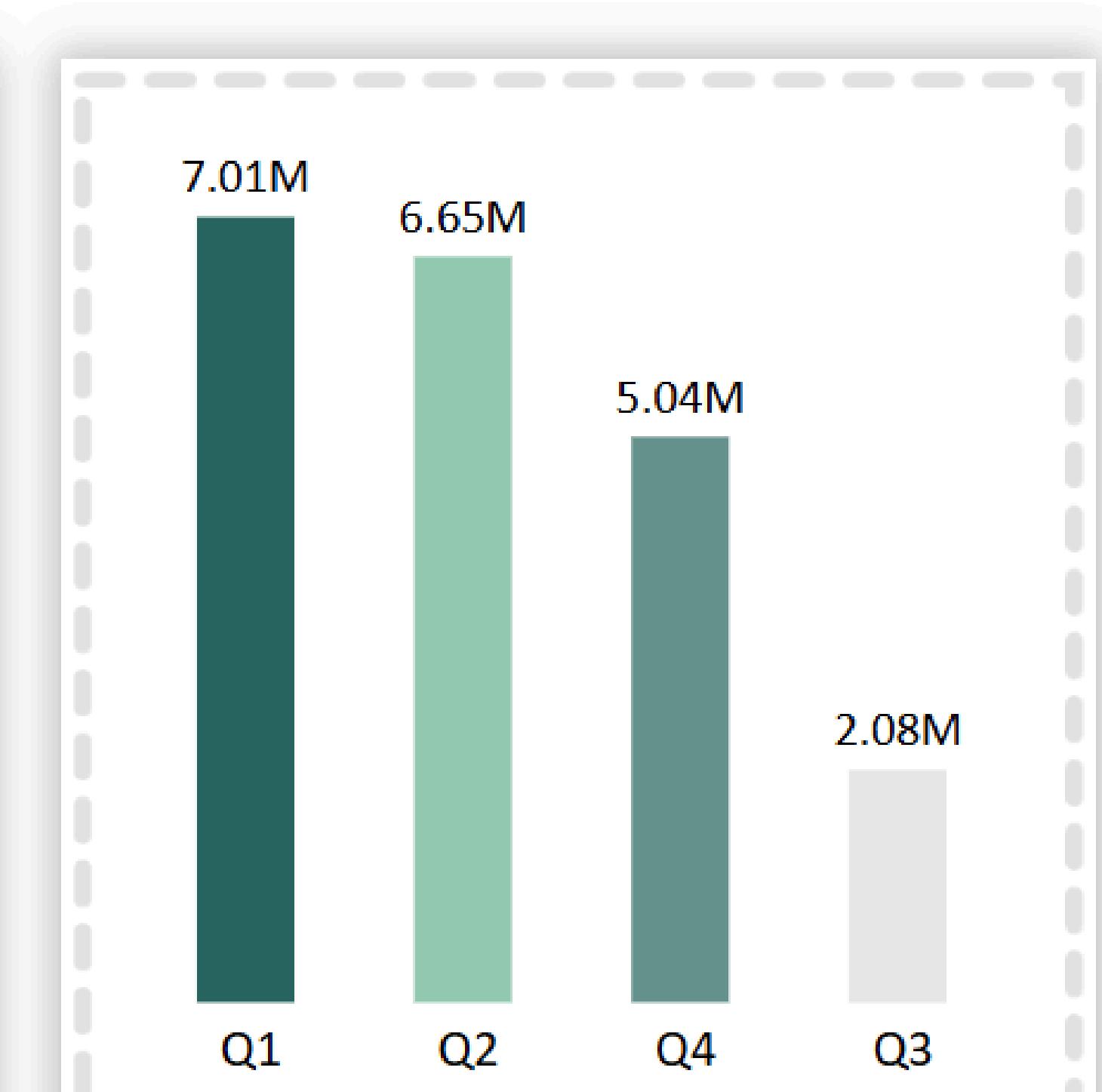
Quarters	total_sold_quantity
[1] September	1764002
[1] October	2190792
[1] November	3050825
[2] December	3184205
[2] January	1762652
[2] February	1702785
[3] March	238961
[3] April	819956
[3] May	1016170
[4] June	1559773
[4] July	1692575
[4] August	1790193

Insight: 1. Q1 (2020) saw the highest sales volume, reaching around 7 million units, indicating strong performance early in the year.

2. AtliQ experienced a significant decline in sales during Q3 (March, April, May), possibly due to the COVID-19 pandemic, reflecting challenging market conditions and shifting consumer behavior.

Total sold quantity in FY 2020 by Quarter

Month	Quarter	Total sold quantity
September	Q1	1.76M
October	Q1	7.01M
November	Q1	2.19M
January	Q2	3.05M
February	Q2	1.76M
December	Q2	6.65M
March	Q3	1.70M
April	Q3	3.18M
May	Q3	0.24M
June	Q3	0.82M
July	Q4	1.02M
August	Q4	1.56M
	Q4	5.04 M
	Q4	1.69M
	Q4	1.79M

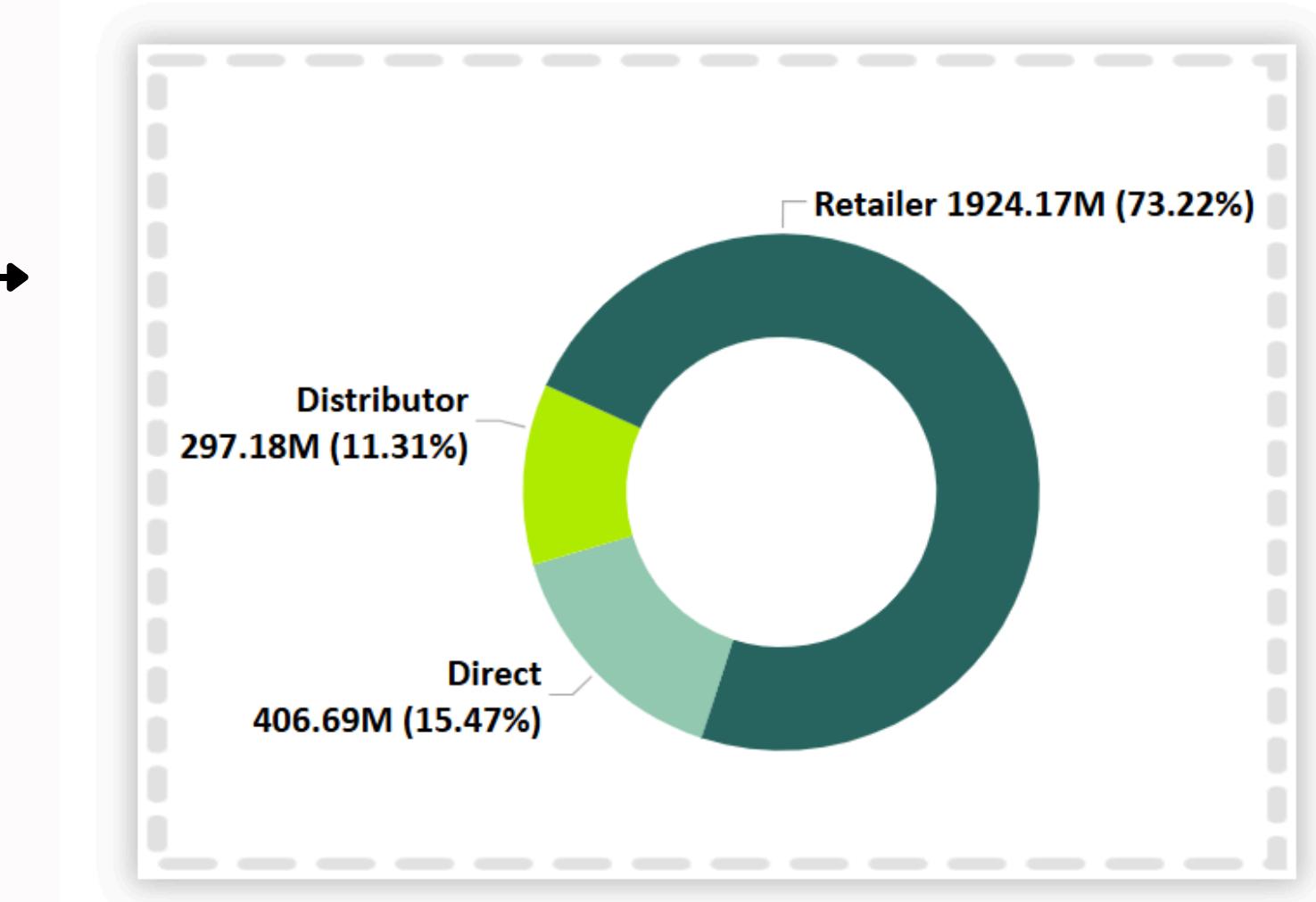


9.Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields, channel, gross_sales_mln, percentage.

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



Insight: 1. The majority of AtliQ's sales come from retailers, accounting for a substantial 73.22% of the total gross sales.

2. Direct and distributor channel together contributes only 26.79% of the total sales.

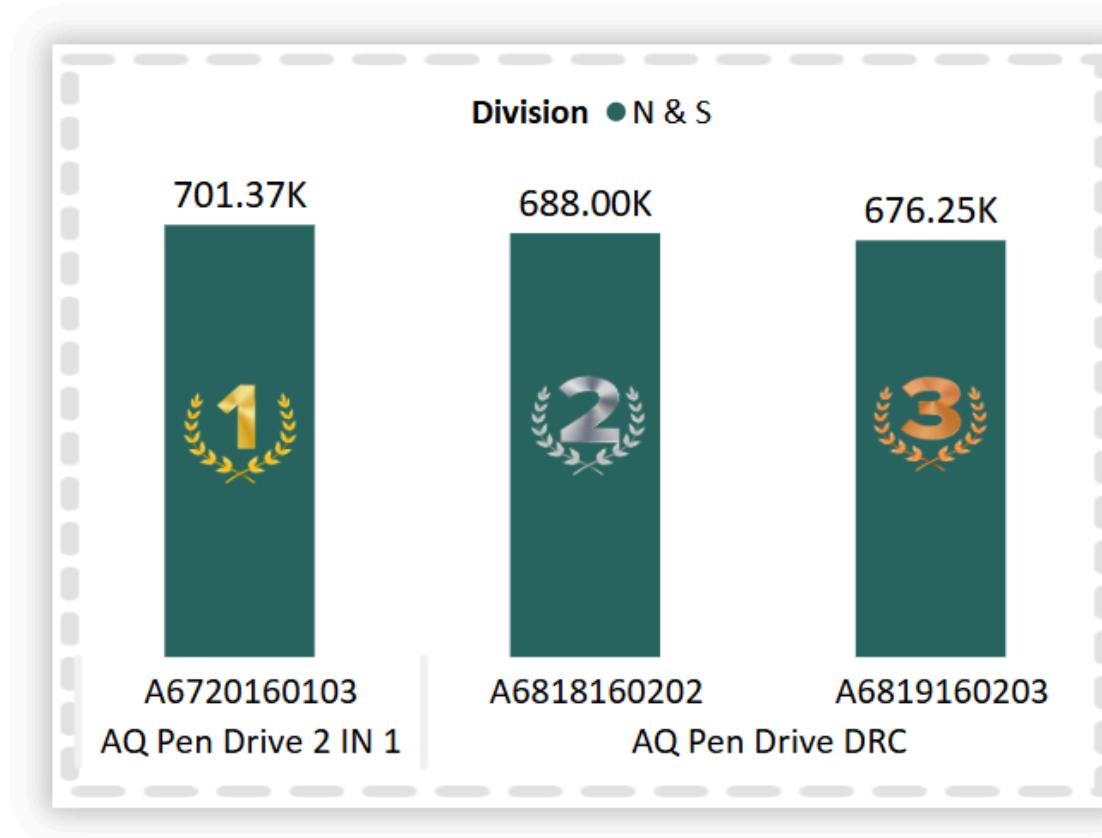
10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, division product_code product total_sold_quantity rank_order.

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

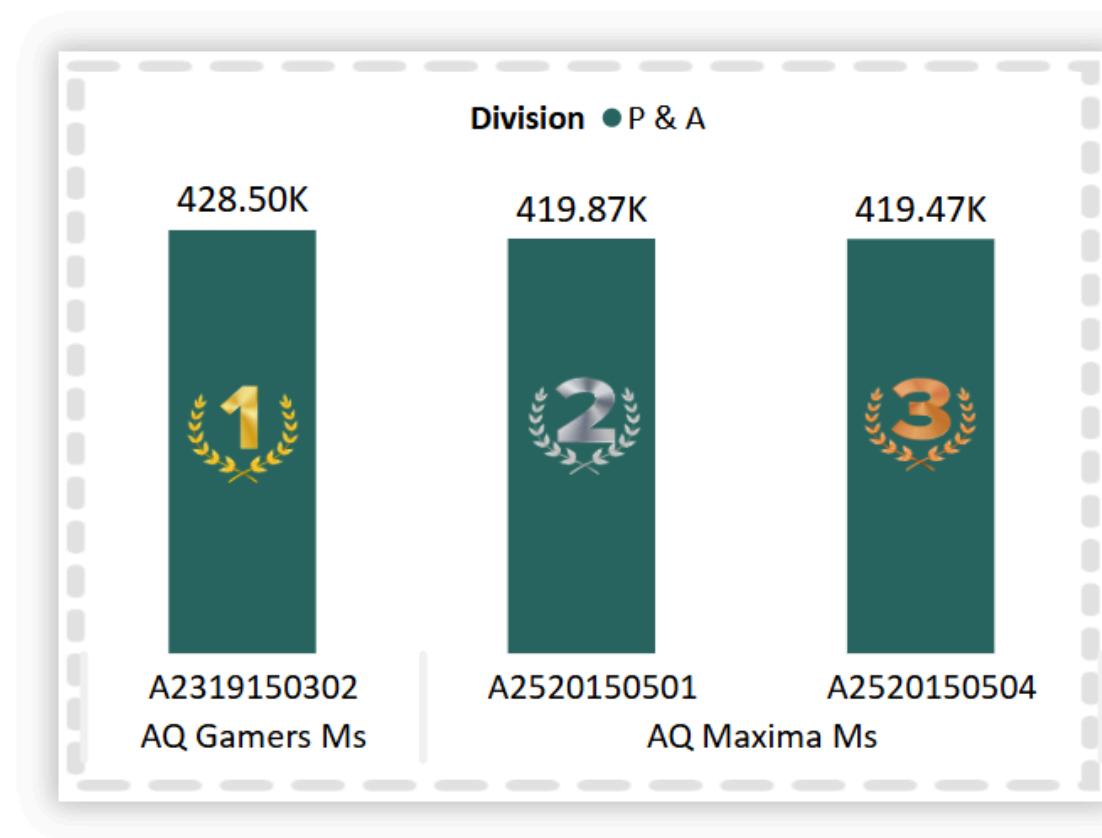
Insight:

1. In the N & S division, pen drives dominate the top three spots, showcasing their popularity and high sales performance.
2. The P & A division's top three products are exclusively mouse, reflecting a clear demand for these devices.
3. The PC division's bestsellers are all personal laptops.

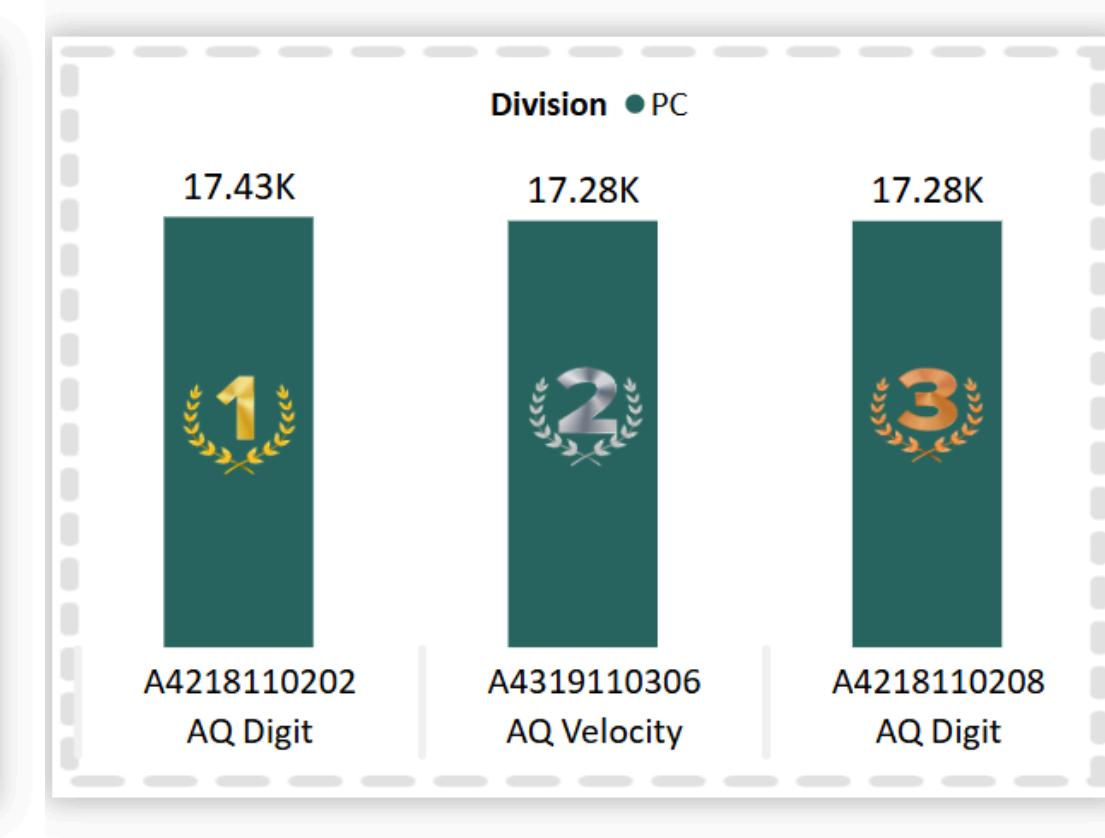
**Top 3 highest-selling products by Division
for FY 2021**



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for FY 2021**



**Top 3 highest-selling products by Division
for FY 2021**



Recommendations

- 1. Focus on desktops, Storage, and Networking segment.**
- 2. Emphasizes multi-channel marketing.**
- 3. Combine pricing strategies with attractive promotions.**
- 4. Continuously improve based on customer feedback.**
- 5. Invest in sales team training for improved performance.**

Thank you!