Consumer Goods Analytics

SQL PROJECT

AGENDA

BACKGROUND/CONTEXT

GETTING FAMILIAR WITH ATLIQ'S BUSINESS – THEIR MARKETS AND PRODUCT LINES

GETTING FAMILIAR WITH THE INPUT DATA

AD-HOC REQUESTS ALONG WITH THE QUERIED RESULTS, VISUALIZATIONS AND INSIGHTS

1. Background/Context

Our Company
Atliq Hardware, an imaginary company, stands out as a premier producer of computer hardware in India.

Background
The leadership observed a lack of sufficient insights for making prompt and intelligent decisions based on data.

Problem
The company requires insights for 10 ad-hoc requests.
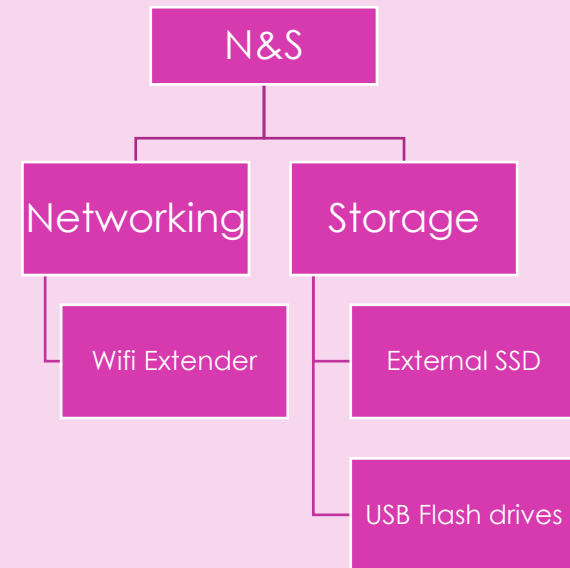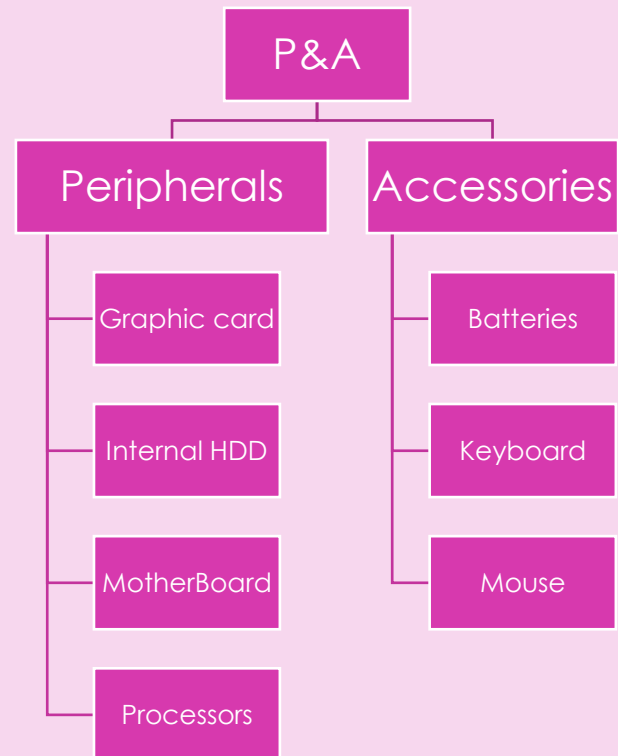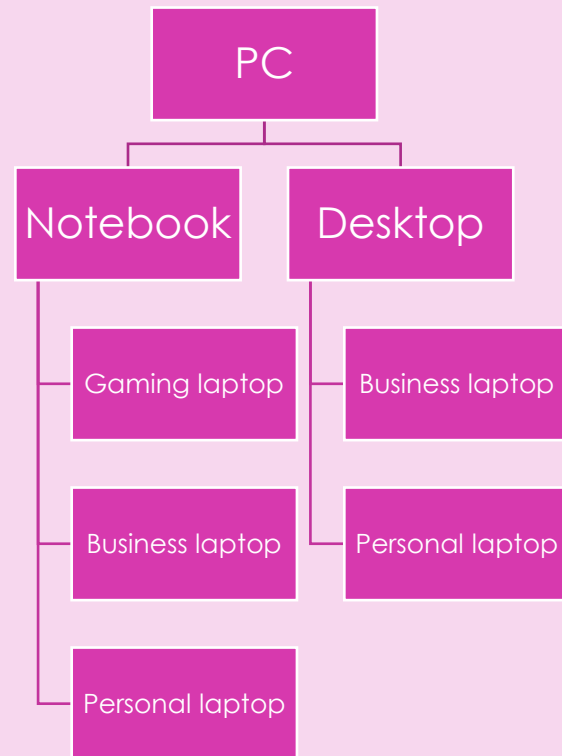
Approach
Execute a SQL query to address these inquiries. Transform the results into visual representations and deliver the insights to the upper-level management.

2. *Getting familiar with Atliq's Business –Their Markets and Product lines*

ATLIQ'S MARKETS

Atliq's Product lines

PC
- Notebook
  - Gaming laptop
  - Business laptop
  - Personal laptop
- Desktop
  - Business laptop
  - Personal laptop

P&A
- Peripherals
  - Graphic card
  - Internal HDD
  - MotherBoard
  - Processors
- Accessories
  - Batteries
  - Keyboard
  - Mouse

N&S
- Networking
  - Wifi Extender
- Storage
  - External SSD
  - USB Flash drives

3. Getting familiar with the input data

- The input data comprises sales data for both fiscal years 2020 and 2021, accompanied by various dimension tables such as customer details, product details, and others.

4. *Ad -hoc requests, queried results, Insights and visualization*
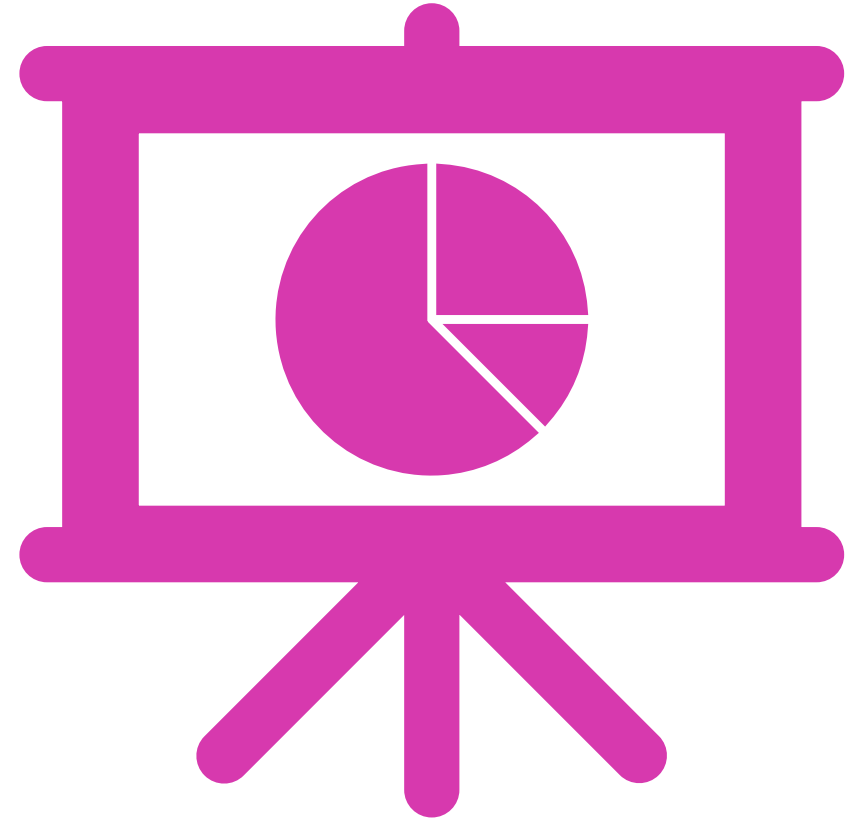
1. Ad -hoc requests

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

Output

market
▶ India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

Insights

- Atliq Exclusive" maintains a strong presence in numerous countries throughout the APAC region, spanning India, Indonesia, Japan, the Philippines, South Korea, Australia, New Zealand, and Bangladesh. This underscores its resilient market position and its ability to adjust effectively to diverse cultural and economic landscapes within the Asia-Pacific region.
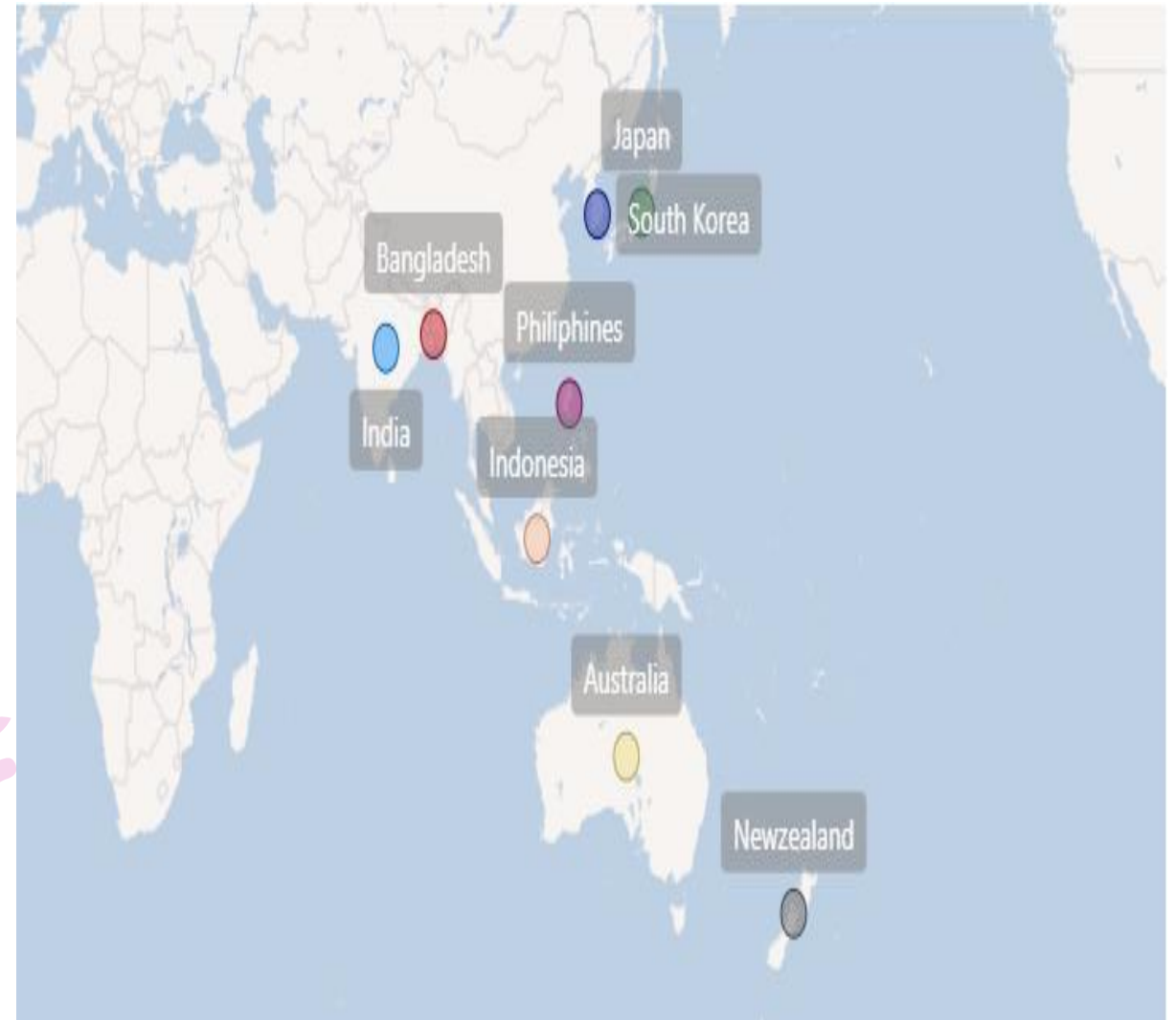
2. Ad -hoc requests

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

Output

unique_products_2020	unique_products_2021	Percentage_chg
245	334	36.33

Insights

- It's a positive indication of our commitment to innovation and product development that we consistently bring new offerings to the market. In the fiscal year 2020, our product lineup comprised 245 items. However, in fiscal year 2021, we experienced a notable surge, witnessing a 36% increase, resulting in a total of 334 products.

UNIQUE_PRODUCTS_2020   UNIQUE_PRODUCTS_2021
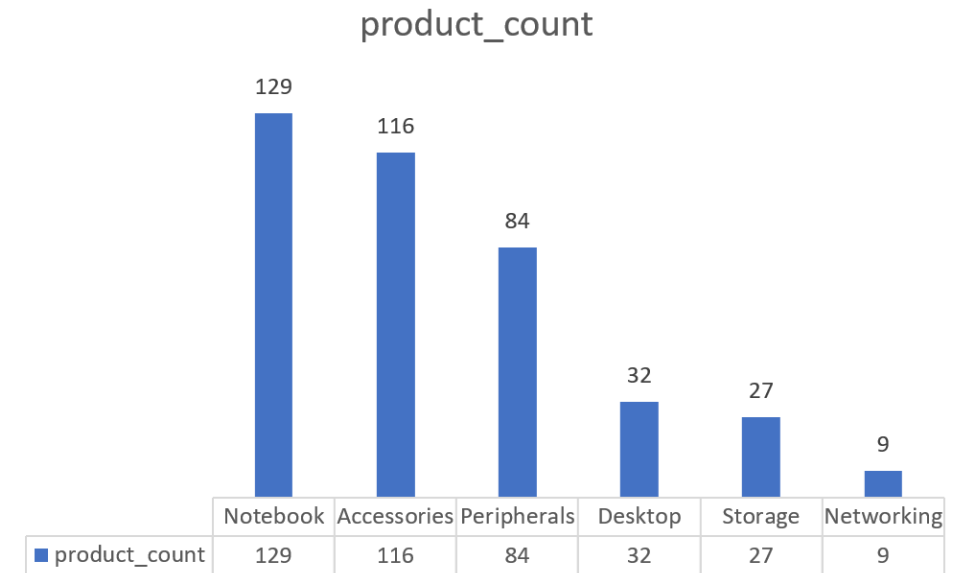
3. Ad -hoc requests

- 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

Output

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

Insights

- Among the segments, the "Notebook" category boasts the largest product count, totaling 129 items.

- Conversely, the "Networking" segment has the smallest product count, comprising only 9 products.

- These findings underscore the diverse product offerings within each segment, showcasing the extensive options available in "Notebook" and "Accessories," while highlighting the more restricted selection in "Networking."

- The range of products across segments caters to a multitude of customer preferences and needs, ensuring a versatile and comprehensive market approach.

product_count

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

4. Ad -hoc requests

- 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

Output

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

Insights

- During 2021, our primary emphasis was on expanding the diversity of our accessories category, with the introduction of 34 new products to the market.
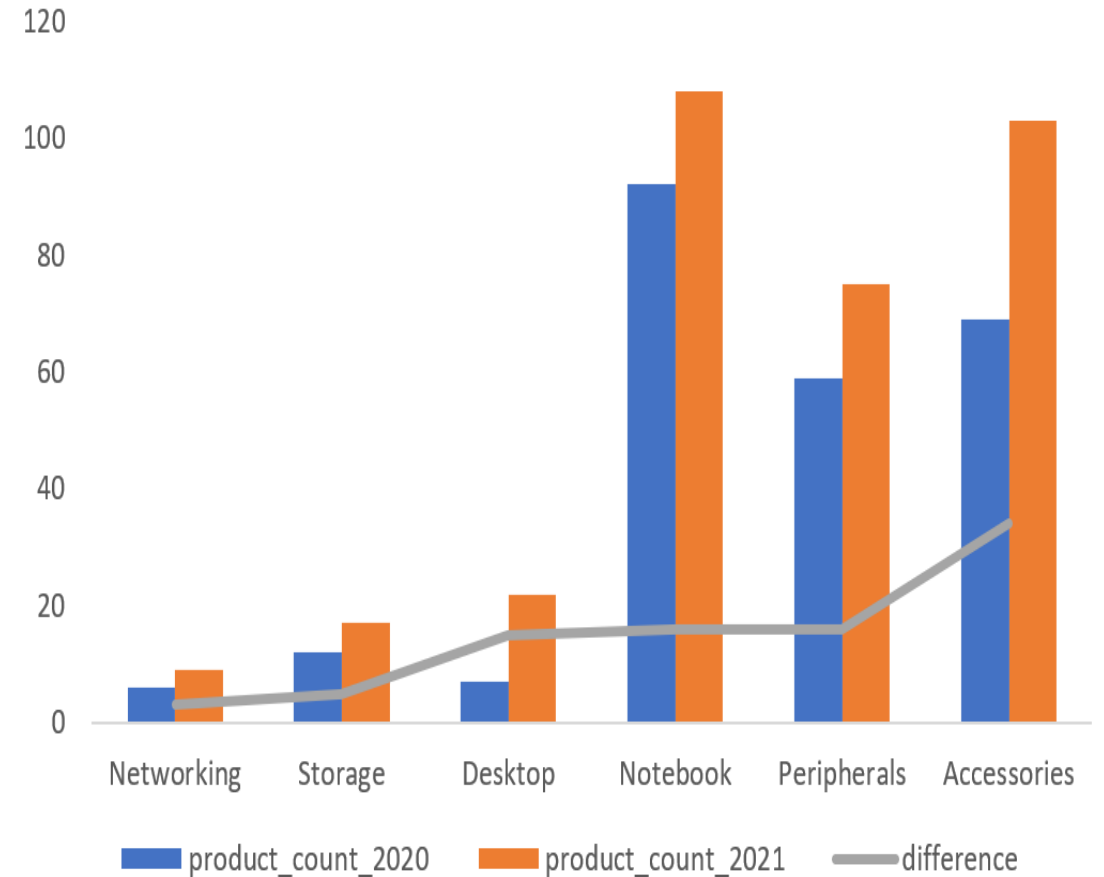
5. Ad -hoc requests

Get the products that have the highest
and lowest manufacturing costs. The
final output should contain these fields:

- product_code
- product
- manufacturing_cost

Output

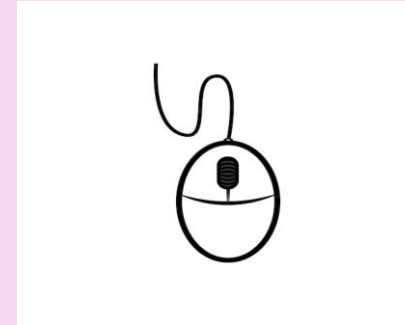| product_code	product	manufacturing_cost
A6121110208	AQ HOME Allin1 Gen 2	263.4207
A2118150101	AQ Master wired x1 Ms	0.8654

Insights

Which of our products has the highest manufacturing cost?

263.54$

AQ HOME Allin1 Gen 2 Personal Desktop

Which of our products has the lowest manufacturing cost?

0.89$

AQ Master wired x1 Ms Mouse

6. Ad -hoc requests

- 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

Insights

- In the year 2021, we provided nearly identical pre-invoice discount rates to our top five customers. Notably, Flipkart received the highest discount among them, standing at 30.83%, highlighting its position as the most discounted customer in the Indian market.

- These findings offer valuable insights for refining discount strategies and gaining a deeper understanding of customer preferences.
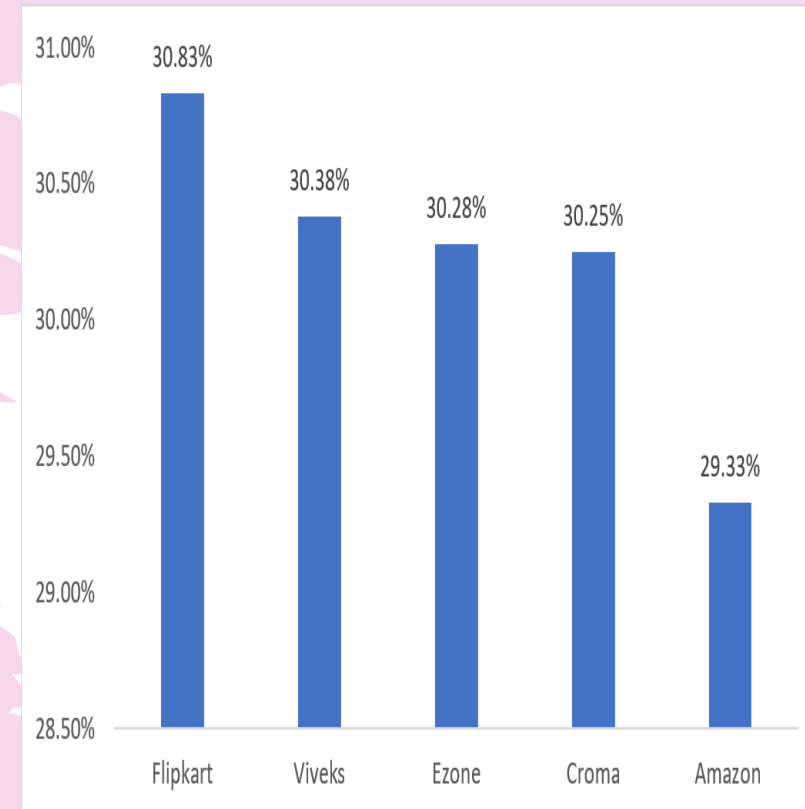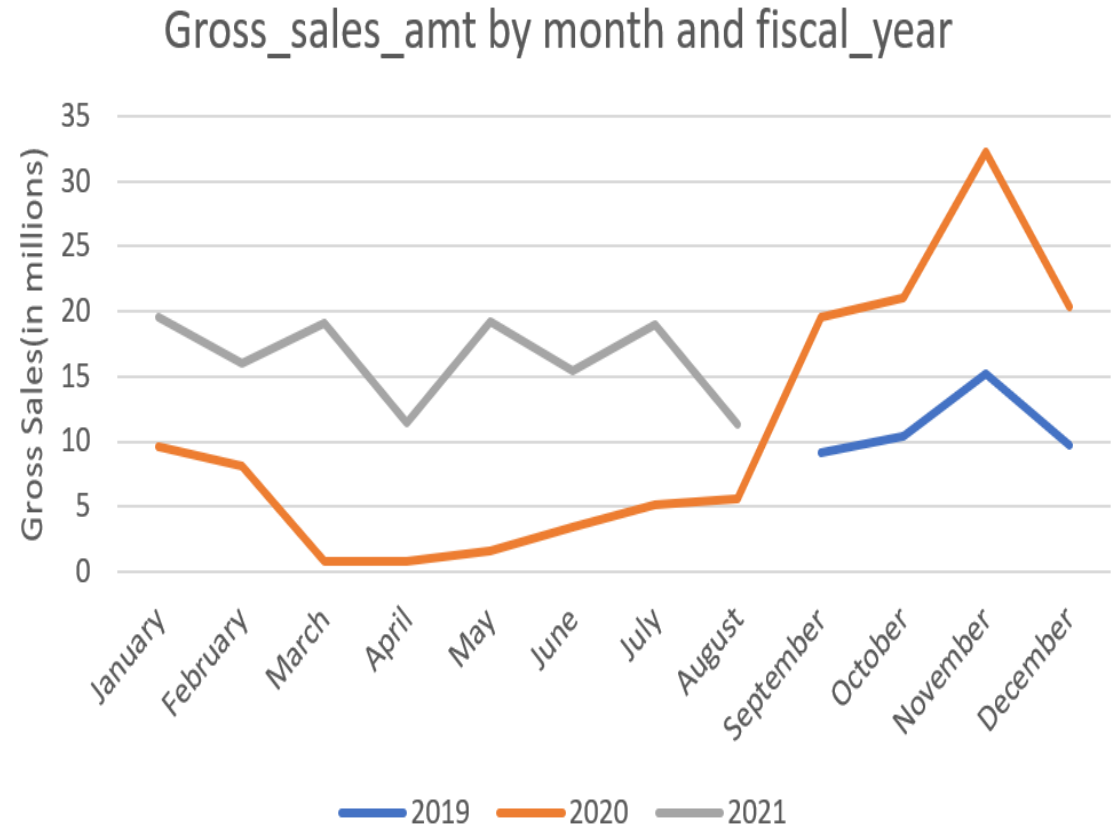
7. Ad -hoc requests

- 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

months	year	gross_sales
September	2019	9.09M
October	2019	10.38M
November	2019	15.23M
December	2019	9.76M
January	2020	9.58M
February	2020	8.08M
March	2020	0.77M
April	2020	0.80M
May	2020	1.59M
June	2020	3.43M
July	2020	5.15M
August	2020	5.64M
September	2020	19.53M
October	2020	21.02M
November	2020	32.25M
December	2020	20.41M
January	2021	19.57M
February	2021	15.99M
March	2021	19.15M
April	2021	11.48M
May	2021	19.20M
June	2021	15.46M
July	2021	19.04M
August	2021	11.32M

Insights

- Atliq Exclusive experienced its peak sales in November 2020, while March 2020 recorded the lowest gross sales. The impact of COVID-19 is apparent in the reduced sales observed between March and August. Nevertheless, a positive trend emerged as sales rapidly rebounded post-August, reaching the highest levels in November—marking the highest point in the past two years.

Gross_sales_amt by month and fiscal_year

8. Ad -hoc requests

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

Output

Quarters	total_sold_qty_in_millions
Q3	2.08
Q4	5.04
Q2	6.65
Q1	7.01

Insights

This further reinforces the earlier observation regarding the impact of COVID-19 on our sales. Specifically, in the third quarter of fiscal year 2020 (encompassing March, April, and May, the peak months of the pandemic), the quantity sold decreased to 2.1 million. However, our recovery commenced swiftly, persisting through the fourth quarter. This early rebound can likely be attributed to the heightened demand for hardware, particularly desktops and notebooks, as a significant number of students initiated or continued their coursework online. Additionally, there was a substantial surge in demand for computer accessories during this period.
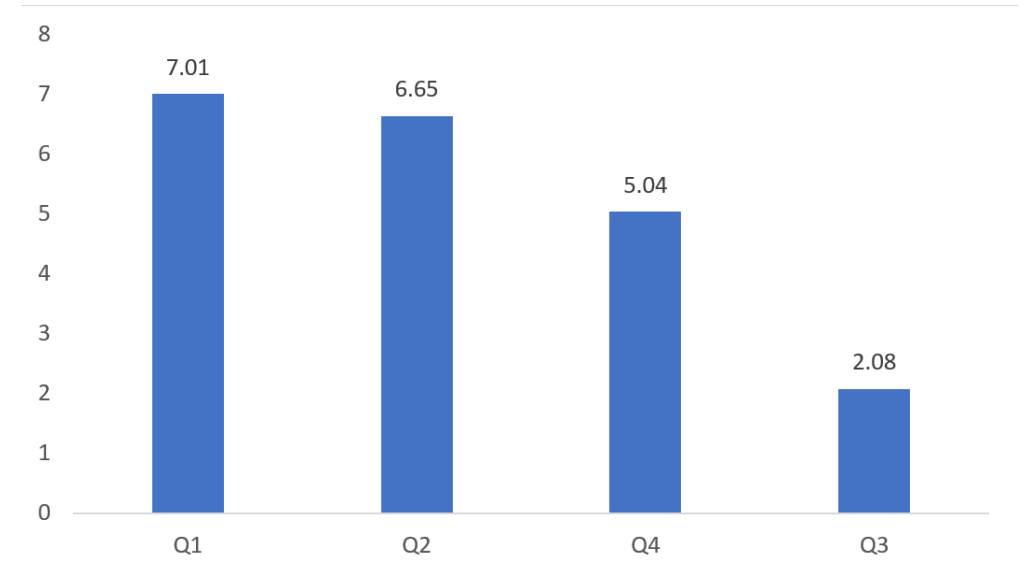
9. Ad -hoc requests

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

Output

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

Insights

- The majority of sales, amounting to 73.22% of gross sales, are attributed to the "Retailer" channel. The "Direct" channel also holds a noteworthy position, comprising 15.47% of gross sales. The "Distributor" channel contributes 11.31% to gross sales. The notable emphasis on the "Retailer" channel indicates its role as the primary revenue driver. To maximize sales further, there is potential for exploring diversification and growth opportunities in the "Direct" and "Distributor" channels.

11.31%

15.48%

73.21%

■ Retailer ■ Direct ■ Distributor
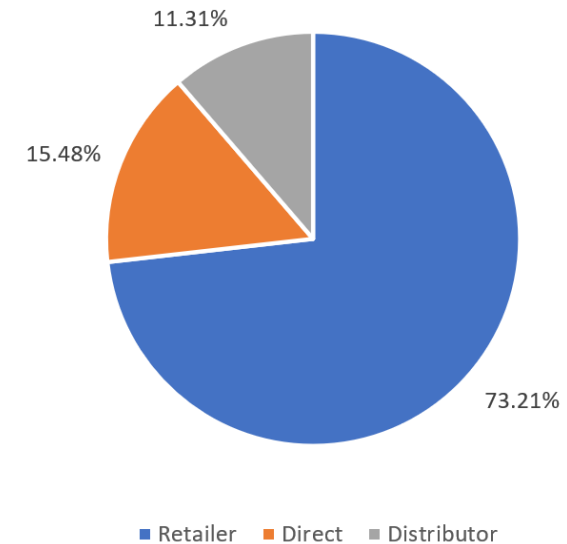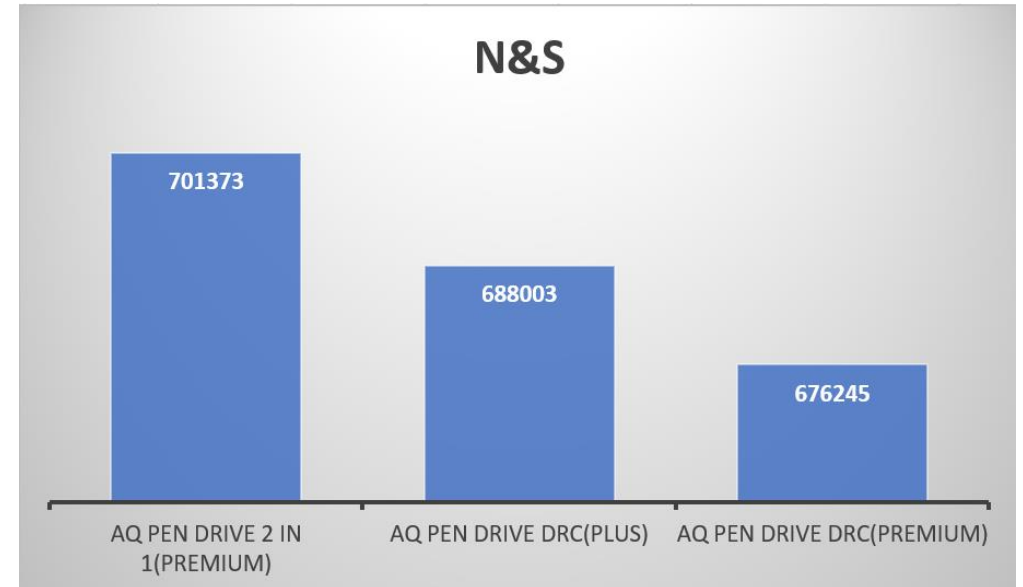
10.Ad -hoc requests

- 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

Output

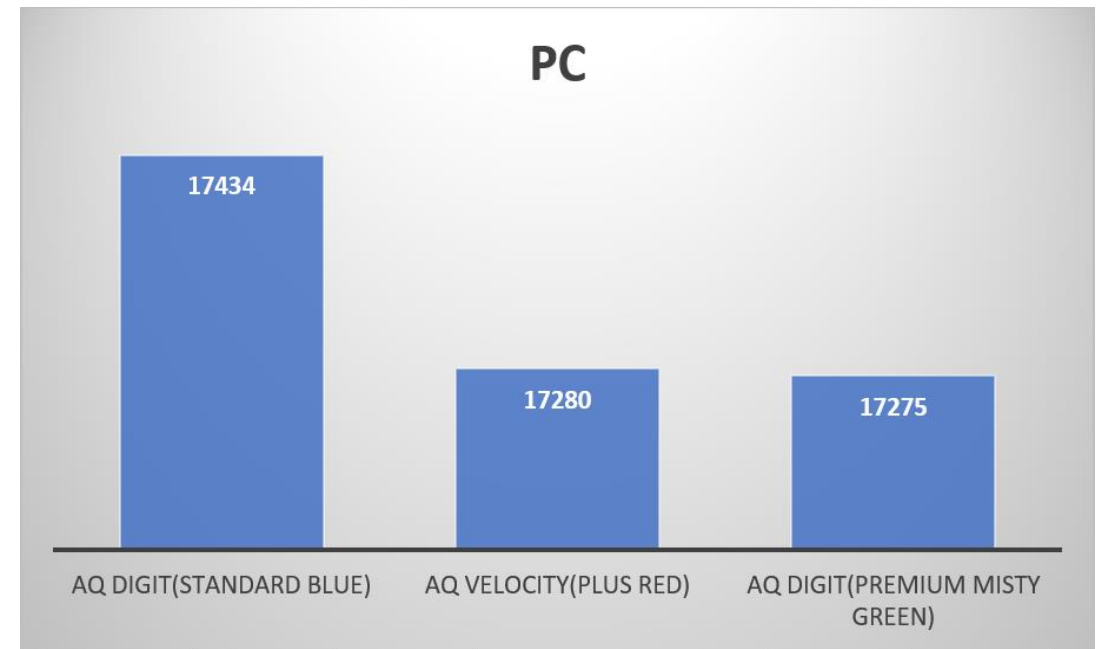| division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1(Premium)	701373	1
N & S	A6818160202	AQ Pen Drive DRC(Plus)	688003	2
N & S	A6819160203	AQ Pen Drive DRC(Premium)	676245	3
P & A	A2319150302	AQ Gamers Ms(Standard 2)	428498	1
P & A	A2520150501	AQ Maxima 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

Insights

- The three best-selling items in N&S comprised pen drives, with a total quantity of approximately 700,000 units.

N&S

701373	688003	676245
AQ PEN DRIVE 2 IN 1(PREMIUM)	AQ PEN DRIVE DRC(PLUS)	AQ PEN DRIVE DRC(PREMIUM)

The three highest-selling items in the P&A category were mice, with a total quantity of approximately 400,000 units.

P&A

428498	419865	419471
AQ GAMERS MS(STANDARD 2)	AQ MAXIMA MS(STANDARD 1)	AQ MAXIMA MS(PLUS 2)
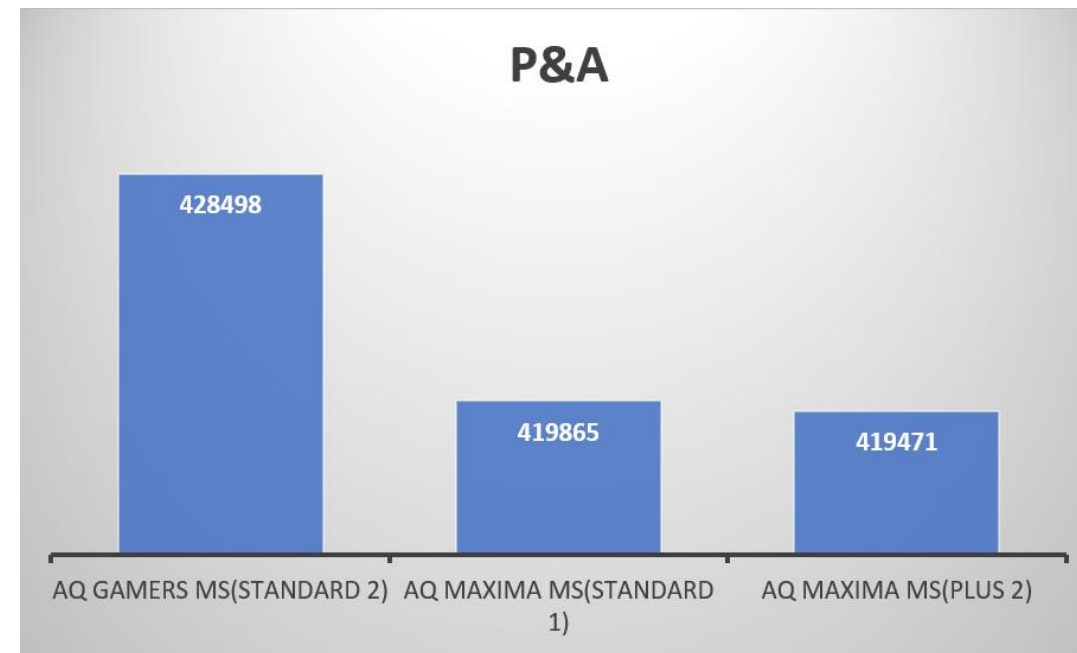
The three highest-selling items within the PC category were personal laptops, with a total quantity of approximately 17,000 units.

END
THANK YOU!