**Atliq Hardwares**

**SQL Project Challenge**

# Ad-Hoc Insights
## Consumer goods

Presented by:
**Hemanath Pagadala**

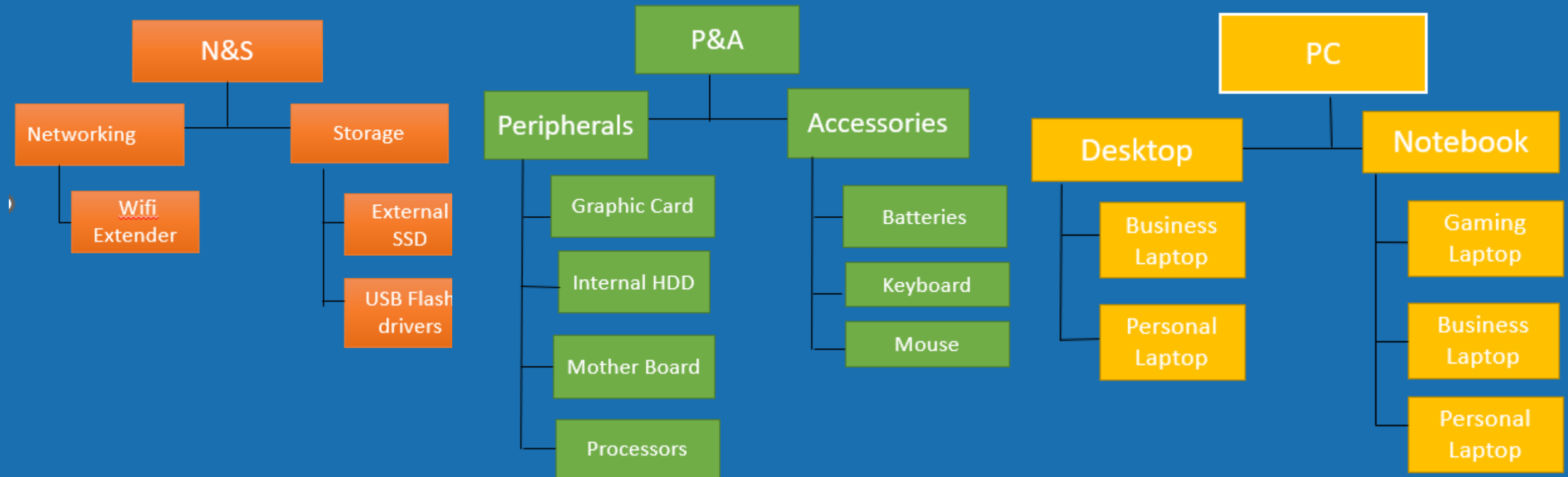# Agenda

Overview about Atilq's Business

Objective

About Data

Ad-hoc requests and Insights

# Company's Details

Atliq Hardware is a computer hardware and accessory manufacturer.

## Atliq's product lines

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

| P&A | | |
|---|---|---|
| Peripherals | | Accessories |
| Graphic Card | | Batteries |
| Internal HDD | | Keyboard |
| Mother Board | | Mouse |
| Processors | | |

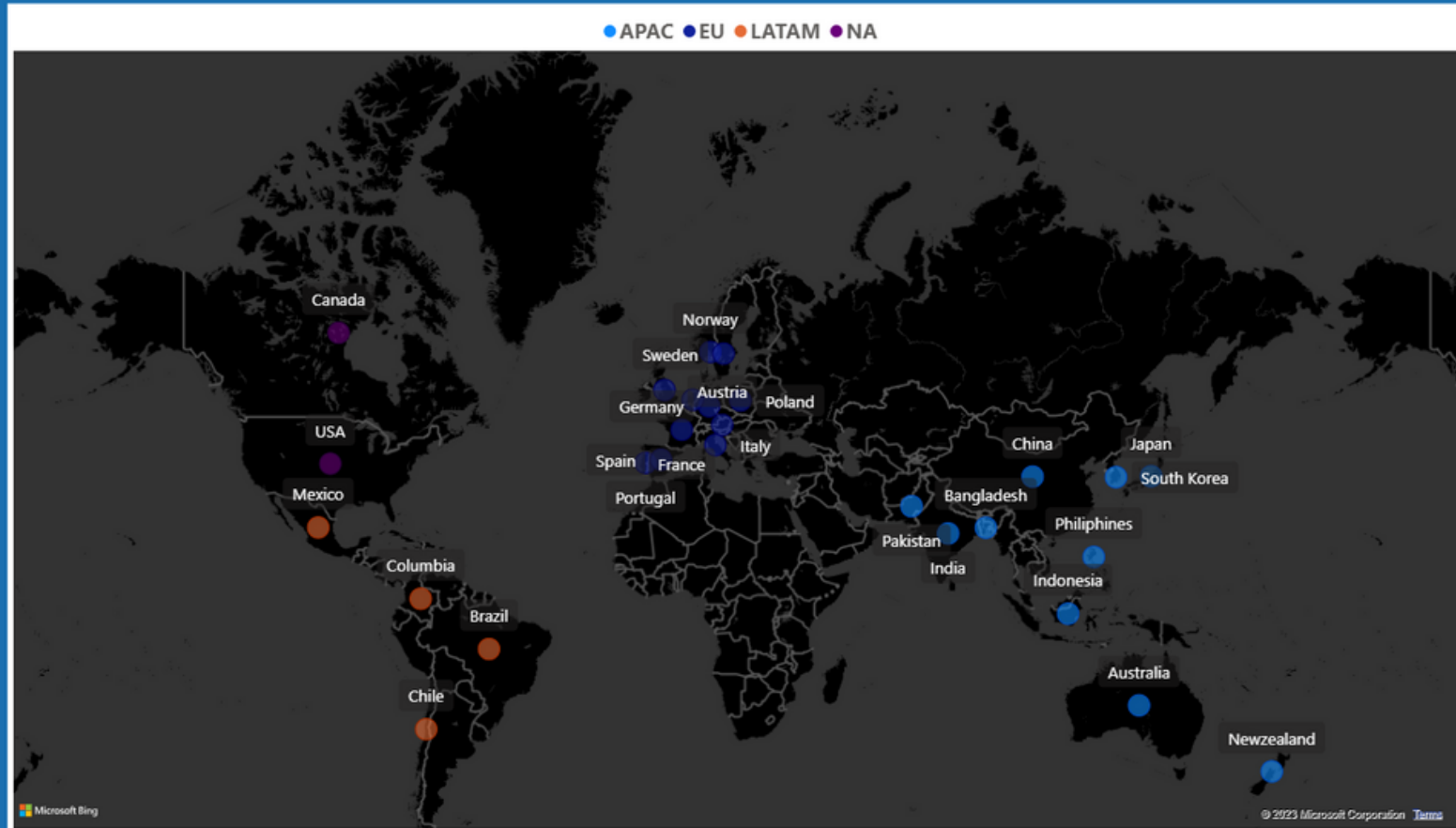| PC | | |
|---|---|---|
| Desktop | | Notebook |
| Business Laptop | | Gaming Laptop |
| Personal Laptop | | Business Laptop |
| | | Personal Laptop |

Fiscal Year starts in September and ends in August.

      Sep 2019 to Aug 2020 --> FY 2020

      Sep 2020 to Aug 2021 --> FY 2021

# Company's Market Presence Worldwide



Operating in four key regions: APAC (Asia Pacific), EU (Europe), NA (North America), and LATAM (Latin America).

# OBJECTIVE

**Problem:**

- The management noticed that they do not get enough insights to make quick and smart data-informed decisions.

**Strategic Approach:**

- The company aims to address 10 ad-hoc requests by extracting valuable insights from its data.
- Execute SQL queries to uncover key insights from the data and transform these findings into impactful visualizations for a clear presentation to top-level management.

# Data ,Requests,Tools
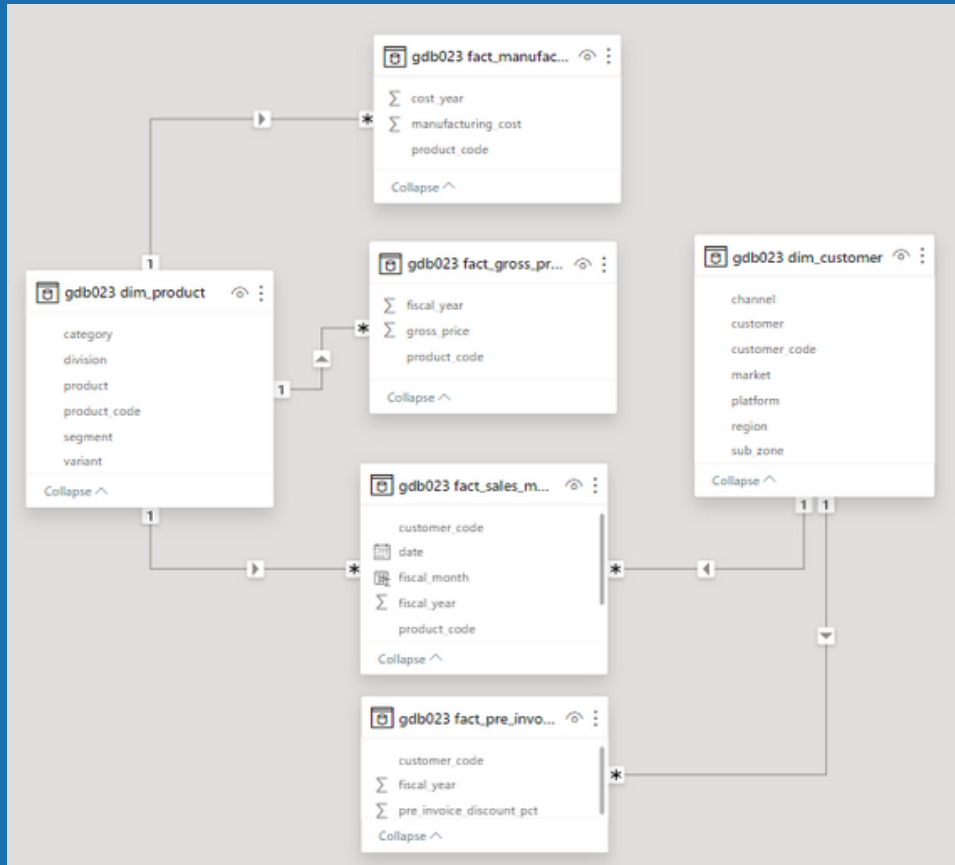


**Codebasics SQL Challenge**

**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.
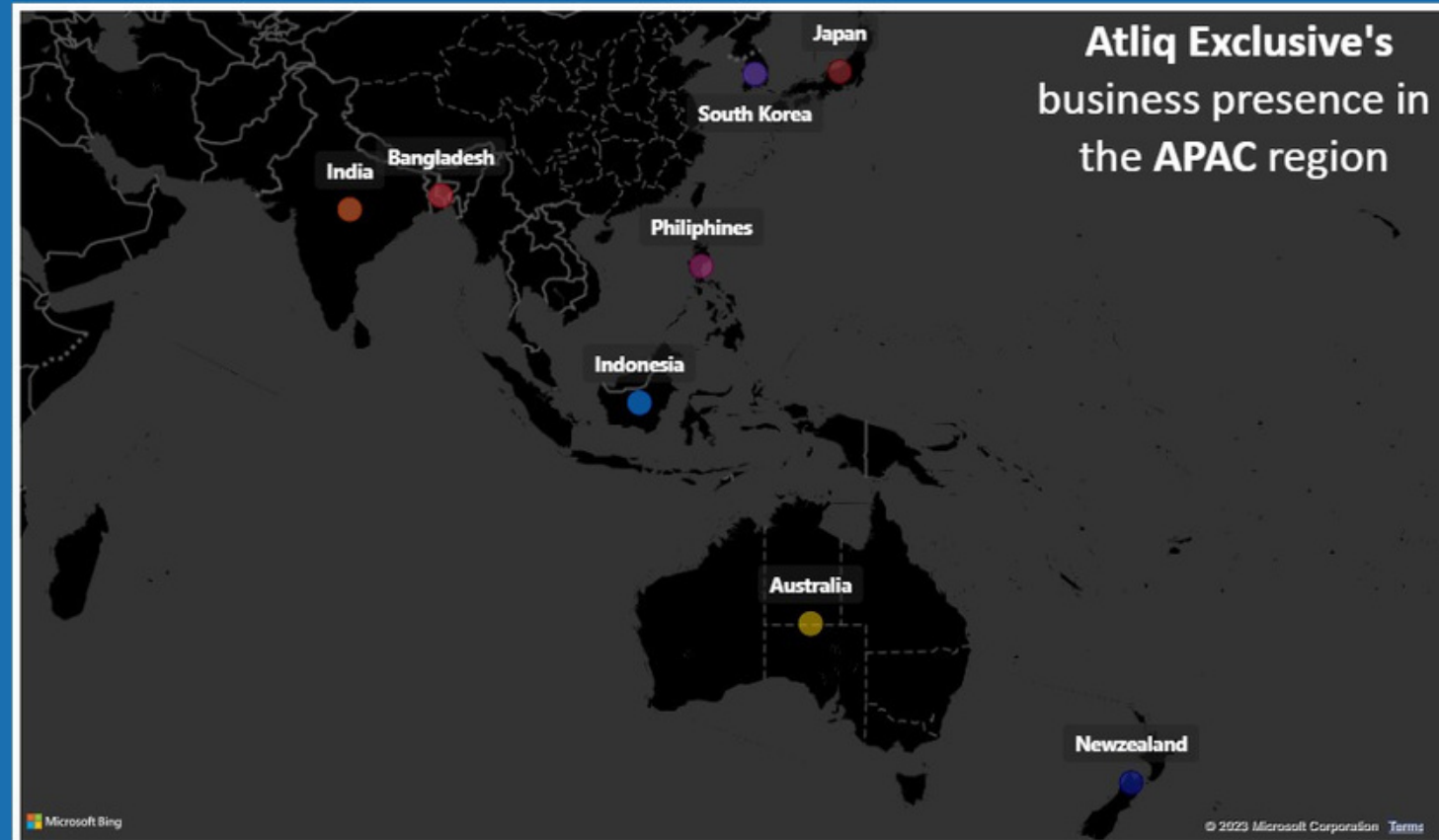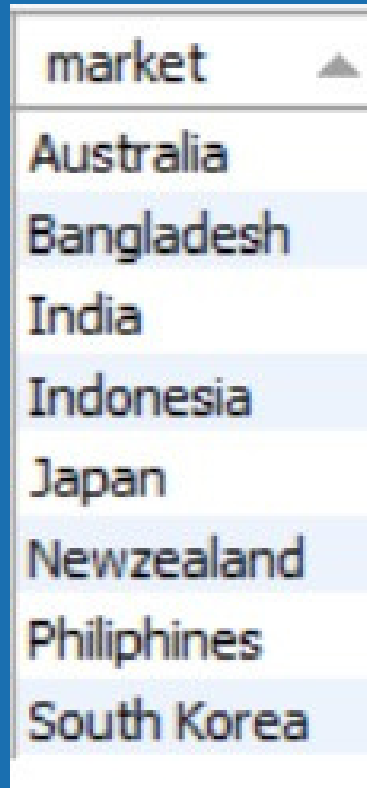
## 2. What is the percentage of unique product increase in 2021 vs 2020? The final output contains these fields,

unique_products_2020
unique_products_2021
percentage_chg

| unique_product_2020 | unique_products_2021 | percentage_chg |
|---|---|---|
| 245 | 334 | 36.33 |

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**Unique Product 2020
vs
Unique Product 2021**

percentage
Change
36.33%

334

245

Unique
Products
2020

Unique
Products
2021
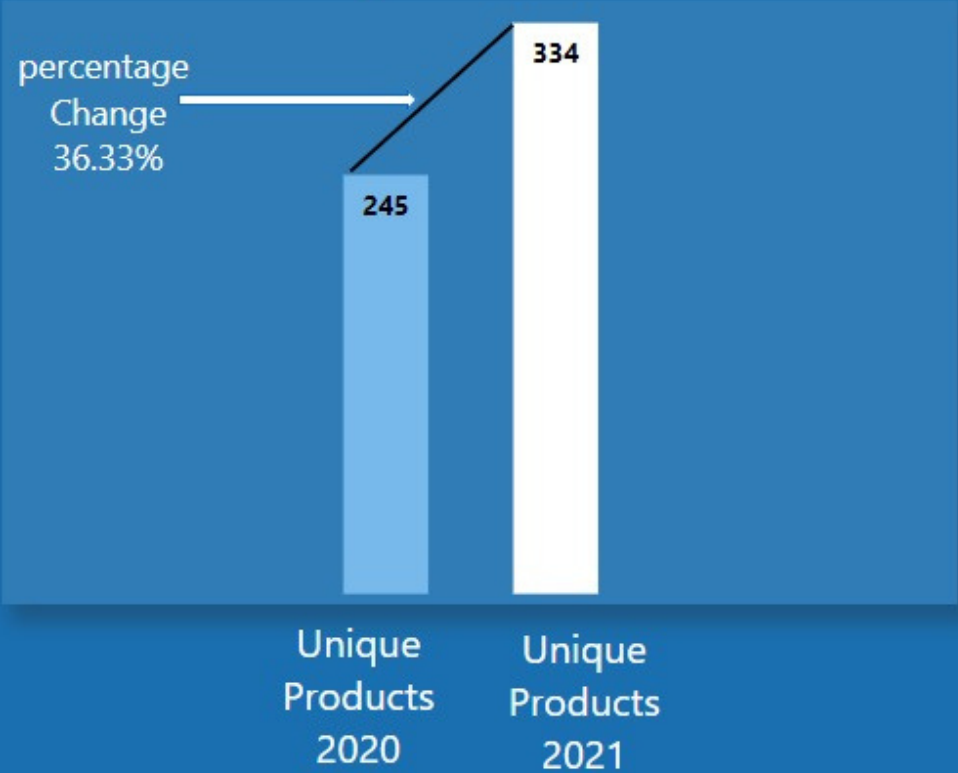
## Insights:

The company's product count grew by 36.33% from FY 2020 to FY 2021, reflecting positive expansion and a proactive approach to meet market demands.

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**

| Segment | Product count |
|---|---|
| Notebook | 129 |
| Accessories | 116 |
| Peripherals | 84 |
| Desktop | 32 |
| Storage | 27 |
| Networking | 9 |
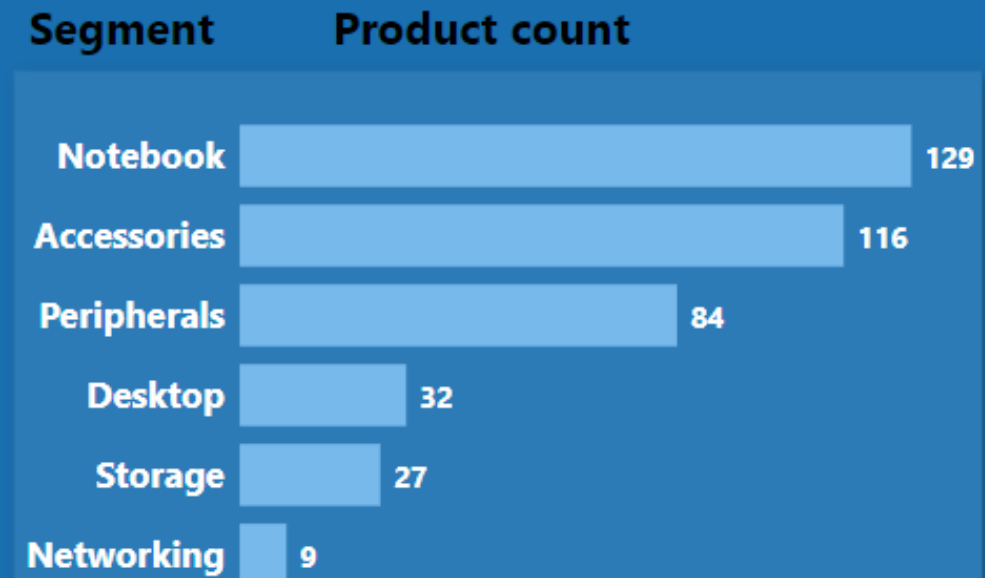
**Insights:**

- Notebooks, Accessories, and Peripherals demonstrate strong production, while Desktops, Storage, and Networking have lower production rates.

# 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 |

**Unique products difference in each segment from 2020 to 2021**

| 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 recorded the highest surge in production among all segments.
- Storage and networking segments are undergoing slower production growth compared to 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

Products having the
**highest** and **lowest**
manufacturing costs

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

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**$240.54**
Highest Manufacturing Cost

**$0.89**
Lowest Manufacturing Cost

**AQ HOME Allin1 Gen 2**
**A6120110206**
Personal Desktop

**AQ Master wired x1 Ms**
**A2118150101**
Mouse

**Insights:**
- **AQ HOME Allin 1 Gen 2** (Plus 3) has the highest manufacturing cost of **$240.54.**
- **AQ Master wired x1 Ms** (Standard 1) has the lowest manufacturing cost of **$0.89.**

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_pct |
|---|---|---|
| 90002009 | Flipkart | 0.3083 |
| 90002006 | Viveks | 0.3038 |
| 90002003 | Ezone | 0.3028 |
| 90002002 | Croma | 0.3025 |
| 90002016 | Amazon | 0.2933 |
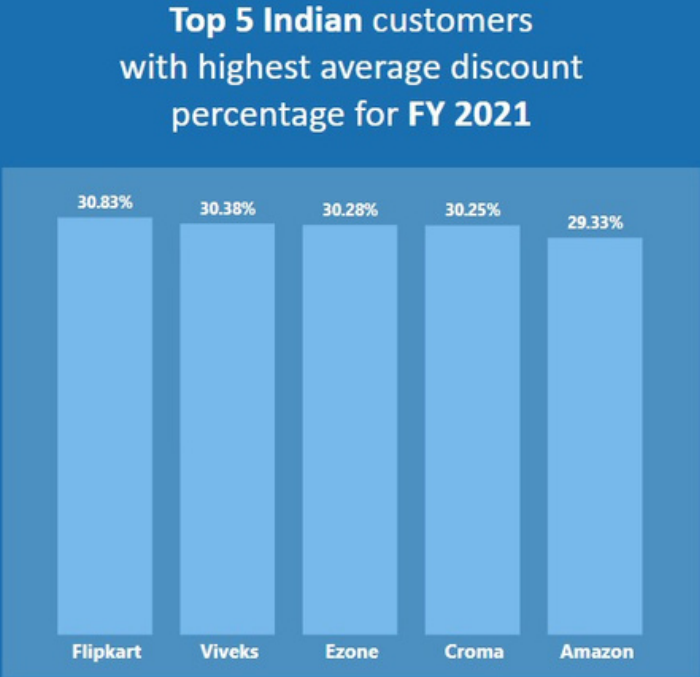
**Insights:**
- The highest average pre-invoice discount was given to **Flipkart**.
- The least average pre-invoice discount was given to **Amazon.**

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

| month_name | calender_year | gross_sales_amount_millions |
|---|---|---|
| September | 2019 | 4.50 |
| October | 2019 | 5.14 |
| November | 2019 | 7.52 |
| December | 2019 | 4.83 |
| January | 2020 | 4.74 |
| February | 2020 | 4.00 |
| March | 2020 | 0.38 |
| April | 2020 | 0.40 |
| May | 2020 | 0.78 |
| June | 2020 | 1.70 |
| July | 2020 | 2.55 |
| August | 2020 | 2.79 |
| September | 2020 | 12.35 |
| October | 2020 | 13.22 |
| November | 2020 | 20.46 |
| December | 2020 | 12.94 |
| January | 2021 | 12.40 |
| February | 2021 | 10.13 |
| March | 2021 | 12.14 |
| April | 2021 | 7.31 |
| May | 2021 | 12.15 |
| June | 2021 | 9.82 |
| July | 2021 | 12.09 |
| August | 2021 | 7.18 |



Gross sales amount report for **Atliq Exclusive** for each month
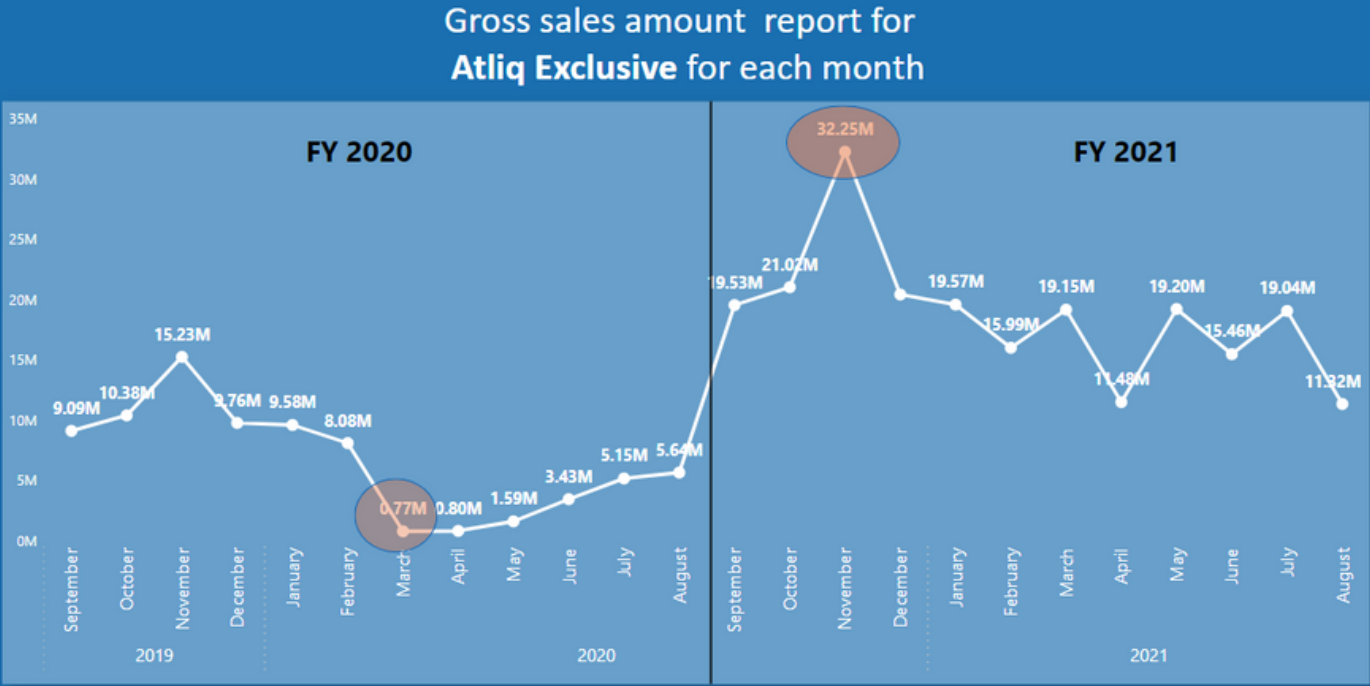
# Insights

## COVID-19 Impact in March 2020:

- Gross sales were notably low in March 2020, amounting to 0.77 million.
- This decline happened because of the COVID-19 pandemic, showing the widespread economic difficulties during that time.

## Post-Pandemic Recovery and Peak Sales in November 2020:

- Following the pandemic, sales demonstrated a steady recovery.
- The highest gross sales of 32.35 million were recorded in November 2020, indicating a strong recovery in consumer demand and market conditions.
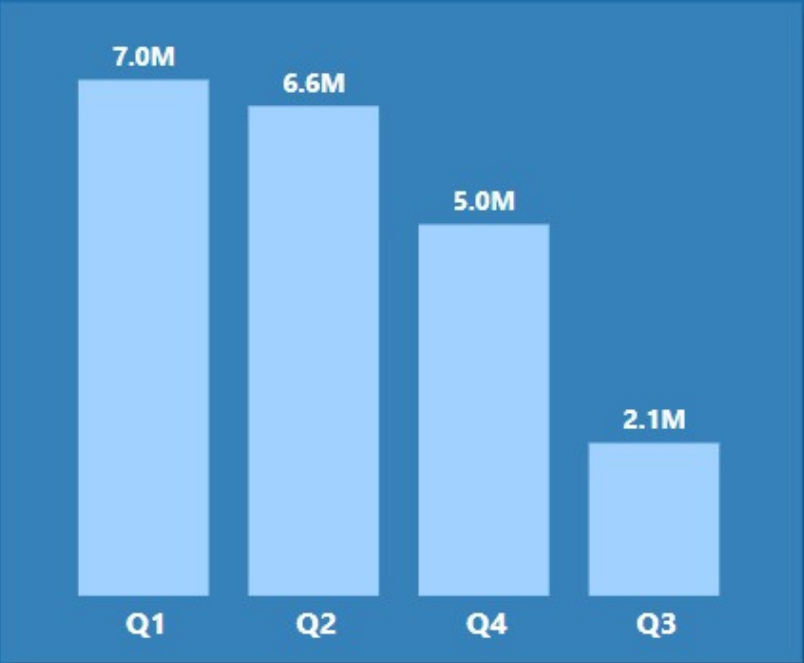
8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,

Quarter

total_sold_quantity

| Quarters | total_sold_quantity |
|----------|---------------------|
| Q1 | 7005619 |
| Q2 | 6649642 |
| Q4 | 5042541 |
| Q3 | 2075087 |

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Total sold quantity by **Quarter** in **FY 2020**

| Quarter | Total sold quantity |
|---|---|
| ⊟ Q1 | **7.01M** |
| November | 3.05M |
| October | 2.19M |
| September | 1.76M |
| ⊟ Q2 | **6.65M** |
| December | 3.18M |
| January | 1.76M |
| February | 1.70M |
| ⊟ Q4 | **5.04M** |
| August | 1.79M |
| July | 1.69M |
| June | 1.56M |
| ⊟ Q3 | **2.08M** |
| May | 1.02M |
| April | 0.82M |
| March | 0.24M |
| **Total** | **20.77M** |

## Insights :

- Q1 FY 2020 started strong with 7.01 million units sold, indicating strong consumer demand.
- Q3 experienced the lowest sales at 2.08 million units, mainly due to the COVID-19 onset and supply chain disruptions.
- March sales sharply dropped to 0.24 million units, influenced by the pandemic's impact on consumer behavior and supply chain.
- Q1 played a crucial role, making a substantial contribution to FY 2020's overall sales.

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,
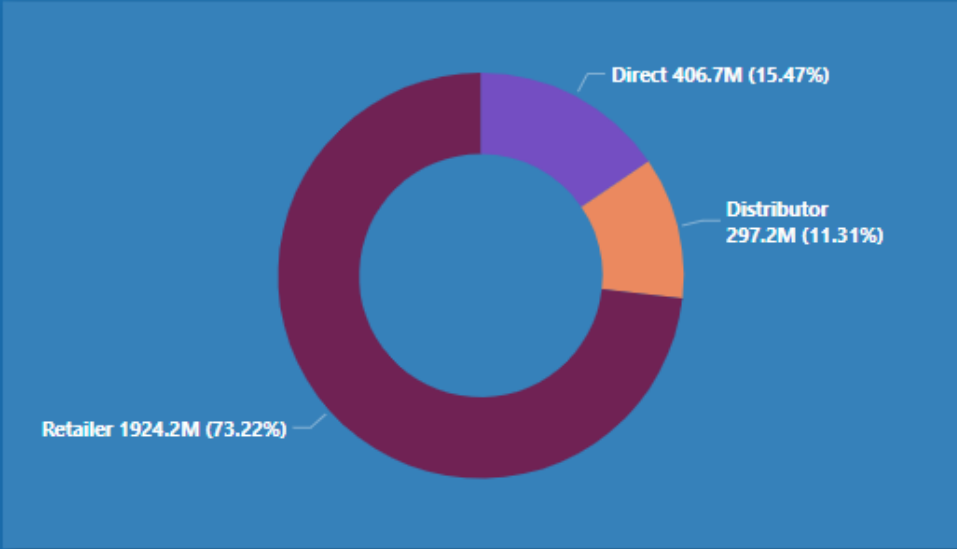
channel
gross_sales_mln
percentage

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

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

Direct 406.7M (15.47%)

Distributor 297.2M (11.31%)

Retailer 1924.2M (73.22%)

**Insights:**

- In FY 2021, the retailer channel significantly contributed to gross sales, reaching 1924.17 million, representing 73.22% of the grand total.
- The distributor channel, while making a meaningful contribution, accounted for a comparatively lower percentage of the grand total, with sales amounting to 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 | product_rank |
|---|---|---|---|---|
| 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 |

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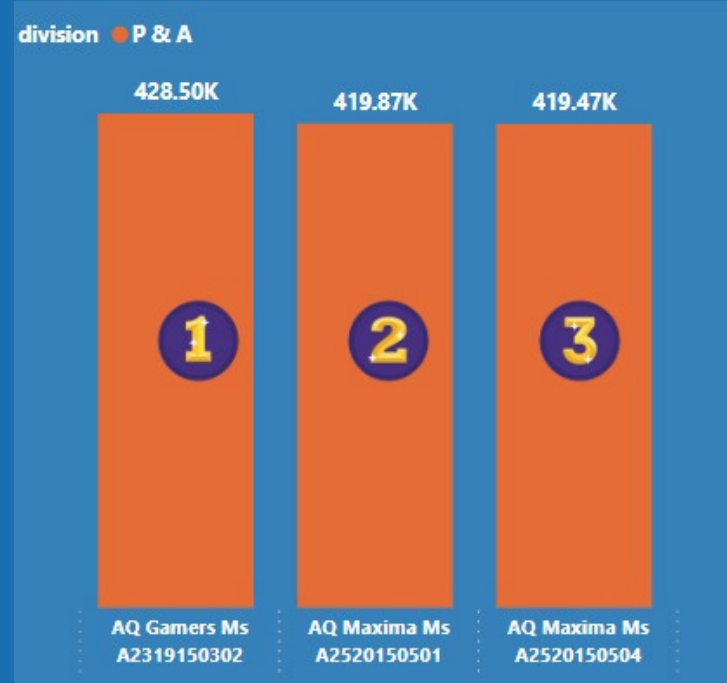
**Insights :**
- Identifying the top three products in each division offers a straightforward view of the high-performing items in each category.

# Thank You