# Consumer Goods Ad_Hoc Insights

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# Project Overview & Problem Statement

Atliq Hardware, a prominent computer hardware producer in India with a growing international presence, specializes in selling computers and accessories.

The management has identified a need for better insights to facilitate quick, data-driven decisions. To address this, Tony Sharma, the Data Analytics Director, is looking to expand the team by recruiting junior data analysts.

He has launched a SQL challenge to evaluate their technical and soft skills. The company is now seeking insights for 10 specific business requests as part of this initiative.

This project is a part of the Codebasics data analytics boot camp.

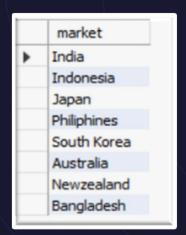# Markets in the APAC Region Where 'AtliQ Exclusive' Operates

**Question 1**

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

**SQL Output**

| market |
| --- |
| India |
| Indonesia |
| Japan |
| Philiphines |
| South Korea |
| Australia |
| Newzealand |
| Bangladesh |

AtliQ Exclusive conducts its business across 8 markets in the APAC region.

# Year-over-Year Growth % in Unique Products for '2021 vs 2020'

**Question 2**

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

**SQL Output**

| unique_products_2020 | unique_products_2021 | percentage_chng |
| --- | --- | --- |
| 245 | 334 | 36.33 |

In 2021, the unique product count increased from 245 to 334, reflecting a growth of 36.33% compared to the previous year.

**Question 3**

Provide a report with all the unique product counts for each segment and sort them in descending order of product counts

**SQL Output**

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

Among the 6 segments, Notebook had the highest number of unique products, while Networking had the fewest.

## Question 4

Which segment had the most increase in unique products in 2021 vs 2020?

### SQL Output

| 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 |

In 2021, Notebooks added 16 new unique products, bringing the total to 108. However, Accessories added 34 products, reaching 103, securing the top spot in growth.

## Question 5

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

**SQL Output**

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

'AQ HOMEAllin1Gen2' had the Highest manufacturing cost at 240.54.
'AQ Master wired x1Ms'had the Lowest manufacturing cost with 0.89,

## Question 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.

**SQL Output**

| customer_code | customer | average_discount_percentage |
|---|---|---|
| 90002009 | Flipkart | 0.308 |
| 90002006 | Viveks | 0.304 |
| 90002002 | Croma | 0.303 |
| 90002003 | Ezone | 0.303 |
| 90002016 | Amazon | 0.293 |

In the Indian market in 2021, Flipkart recorded the highest average pre-invoice discount percentage at 0.308, while Amazon had the lowest at 0.293.

# Monthly Gross Sales Report for 'AtliQ Exclusive'

## Question 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.

## SQL Output

### FY 2020

| Month | fiscal_year | gross_sales_amount |
|---|---|---|
| November | 2020 | 15.23 M |
| October | 2020 | 10.38 M |
| December | 2020 | 9.76 M |
| January | 2020 | 9.58 M |
| September | 2020 | 9.09 M |
| February | 2020 | 8.08 M |
| August | 2020 | 5.64 M |
| July | 2020 | 5.15 M |
| June | 2020 | 3.43 M |
| May | 2020 | 1.59 M |
| April | 2020 | 0.80 M |
| March | 2020 | 0.77 M |

### FY 2021

| Month | fiscal_year | gross_sales_amount |
|---|---|---|
| November | 2021 | 32.25 M |
| October | 2021 | 21.02 M |
| December | 2021 | 20.41 M |
| January | 2021 | 19.57 M |
| September | 2021 | 19.53 M |
| May | 2021 | 19.20 M |
| March | 2021 | 19.15 M |
| July | 2021 | 19.04 M |
| February | 2021 | 15.99 M |
| June | 2021 | 15.46 M |
| April | 2021 | 11.48 M |
| August | 2021 | 11.32 M |

Across both fiscal years, "AtliQ Exclusive" sold 618,954 products. In Nov 2020 (FY 2021), it achieved high gross sales of 32.25 million, while in Mar 2020 (FY 2020), it sold 16,799 products with low gross sales of 0.77million.

## Question 8

In which quarter of 2020, got the maximum total_sold_quantity?

**Output**

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

In 2020, Quarter 1 recorded the highest sold quantity at 7 million.
While Quarter 3 had the lowest with 2 million.

## Question 9

Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

### Output

| channel | gross_sales_mln | percentage |
|---|---|---|
| Retailer | 1924.17 | 73.00 |
| Direct | 406.69 | 15.00 |
| Distributor | 297.18 | 11.00 |

In 2021, among the 3 channels, retailers generated the highest gross sales contributing 73.23%, followed by direct sales with 15.47%.

# Top 3 Best-Selling Products by Division 'FY 2021'

## Question 10

Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

## Output

| division | product_code | product | total_sold_qty | 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 |

In 2021, the N & S division led in sold quantity. Notably, products are repeated in this division as "AtliQ Hardware" sells multiple variants of similar items, like the "AQ Pen Drive DRC," which appears twice.