

# **Codebasics challenge #4: Provide insights to Management in Consumer Goods Domain**

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# OBJECTIVE

- ❖ Help the management team to gain more insights so as to make quick and smart data-informed decisions.
- ❖ Check 'ad-hoc-requests.pdf' - there are **10 ad-hoc requests** for which the business needs insights.
- ❖ Run **SQL query** to answer these requests

# ABOUT DATASET

- ❖ The dataset includes:
  - **4 fact tables:** sales monthly, manufacturing cost, pre invoice deductions, gross price which have measurable metrics.
  - **2 dimension tables:** Customer and Product details.
- ❖ Fiscal year for Atliq Hardwares starts from 1st September and ends on 31st August each year
- ❖ Sales data is available for Fiscal year 2020 and 2021

# 10 AD-HOC REQUESTS

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

**RESULT:**



Market
India
Indonesia
Japan
Philippines
South Korea
Australia
New Zealand
Bangladesh

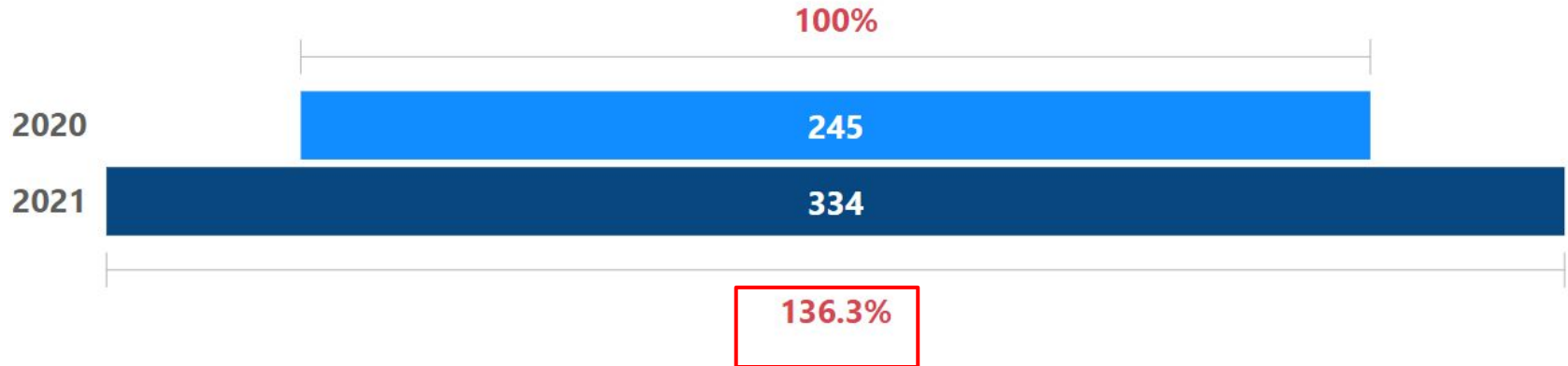
**REQUEST 2:** What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields: *unique\_products\_2020*, *unique\_products\_2021*, *percentage\_chg*

**RESULT:**

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.3265%

# INSIGHTS

The number of unique products increased. In FY 2020, Atliq Hardwares only has **245** unique products in total. But in **2021**, it increased by **36.3%** to **334** products.



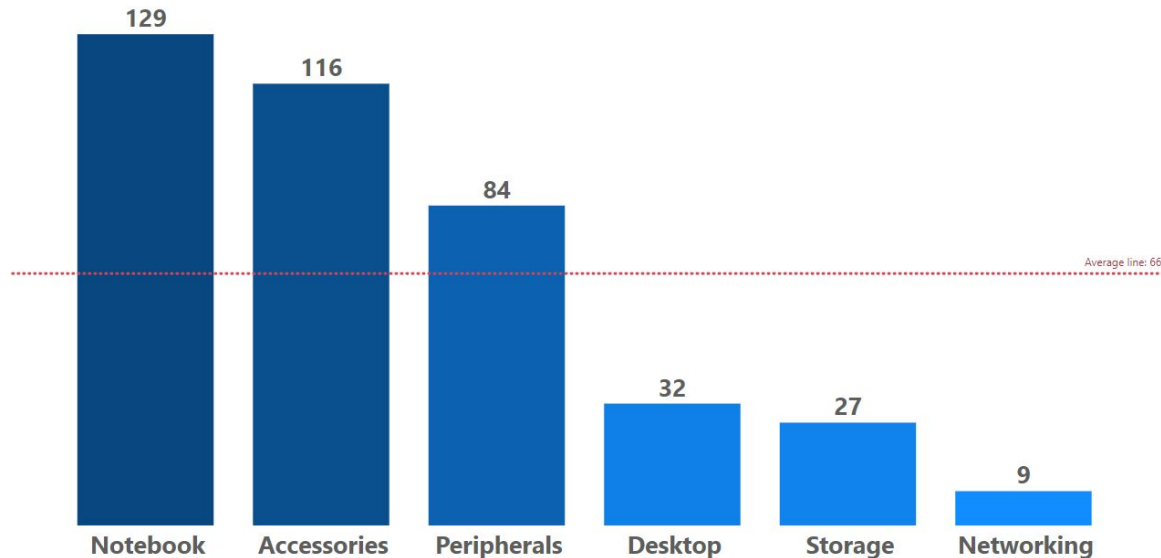
**REQUEST 3:** Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields: ***segment & product\_counts***

**RESULT:**

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

# INSIGHTS

Atliq Hardwares offers a wider variety of products in the three categories of **Notebooks, Accessories, and Peripherals**. But other segments, including **Desktop, Storage, and Networking**, where the proportion of unique products is much smaller than the average (**66 unique products**), need to **diversify their product offerings.**





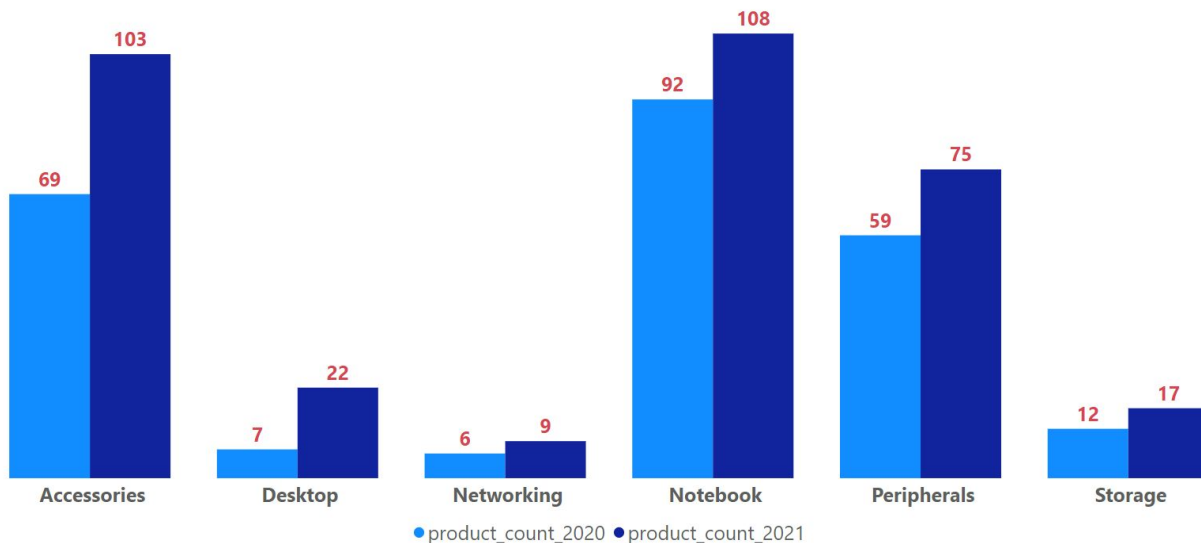
**REQUEST 4:** Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields: ***segment***, ***product\_count\_2020***, ***product\_count\_2021***, ***difference***

**RESULT:**

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

# INSIGHTS

The fact that there are more product launches across all segments is encouraging. As can be observed, **from 2020 to 2021**, the **Accessories** unique product quantity increased the highest (**34** products). With **108** goods, **Notebook** continues to have the most unique products in this period.



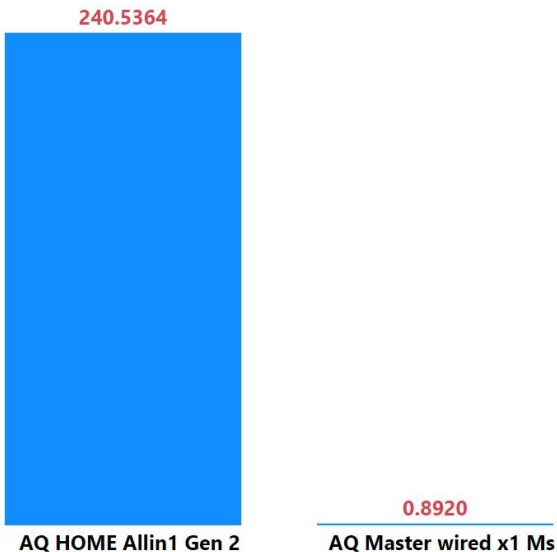
**REQUEST 5:** Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields: ***product\_code, product, manufacturing\_cost***

**RESULT:**

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

# INSIGHTS

- **AQ HOME Allin1 Gen 2** (240.5364\$), a product in the **Personal Desktop** category, has the highest manufacturing cost.
- **AQ Master wired x1 Ms** (0.892\$), a product in the **Mouse** category, has the lowest manufacturing cost.



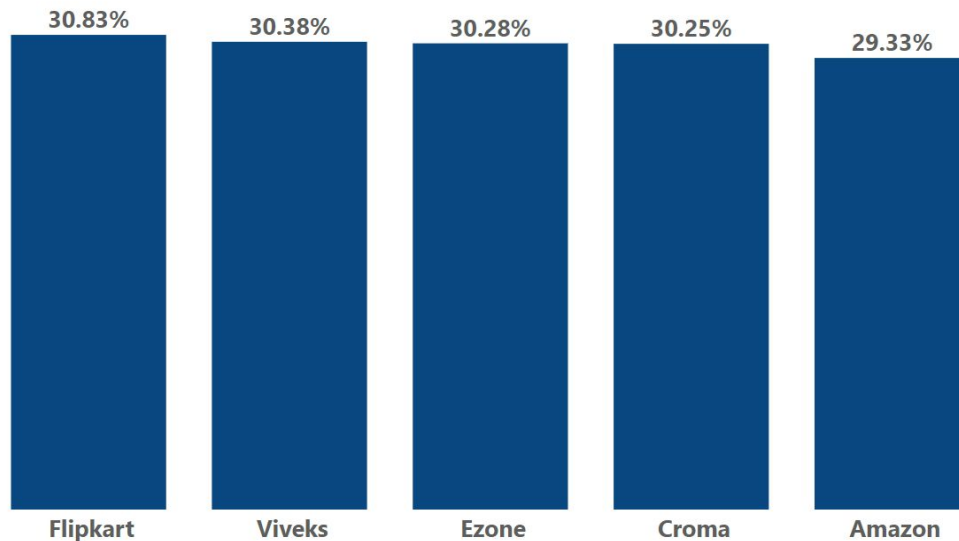
**REQUEST 6:** Generate a report which contains the top 5 customers who received an average high pre\_invoice\_discount\_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields: *customer\_code, customer, average\_discount\_percentage*

**RESULT:**

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 **2021**, the **average pre-invoice discounts percentage** is basically the same for the **Top 5 customers** of **India** market. **Flopkart** received the largest discounts out of those, amounting to **30.83%**.



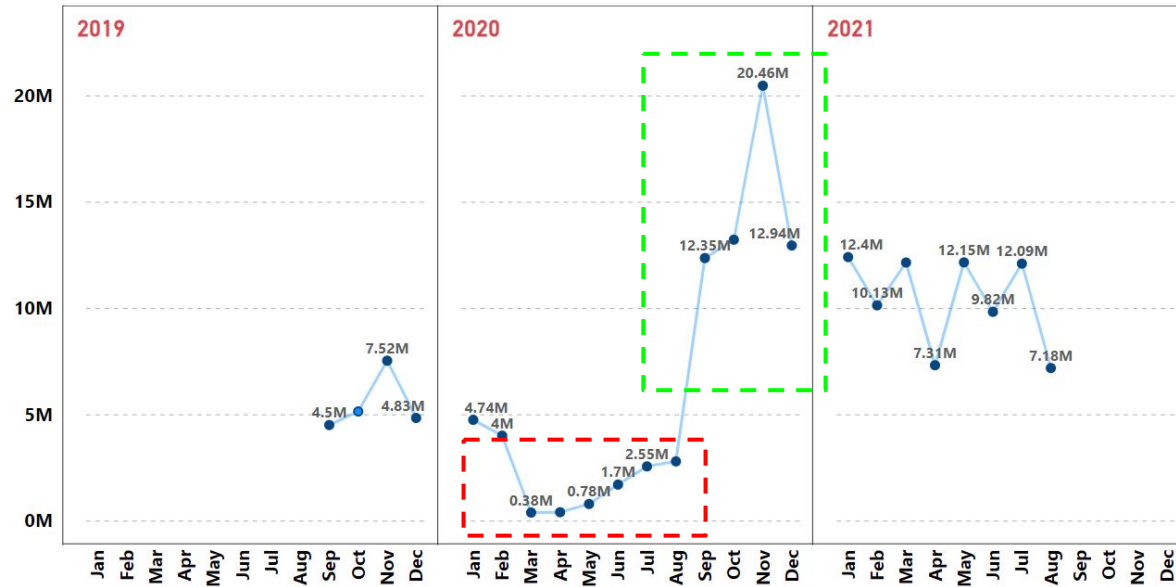
**REQUEST 7:** Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions. The final report contains these columns:  
***Month, Year, Gross sales Amount***

**RESULT:**

month	year	Gross_sales_Amount
9	2019	2223.8251
10	2019	649.292
11	2019	3084.137
12	2019	1168.7256
1	2020	2613.4003
2	2020	438.2721
3	2020	48.6969
4	2020	113.6261
5	2020	64.9292
6	2020	438.2721
7	2020	1201.1902
8	2020	649.292
9	2020	4726.2104
10	2020	5660.0181
11	2020	914.7504
12	2020	1619.8705
1	2021	2267.8187
2	2021	3315.9702
3	2021	3068.2253
4	2021	686.0628
5	2021	3563.7151
6	2021	2344.0479
7	2021	3449.3713
8	2021	495.4898

# INSIGHTS

While **November 2020** recorded the greatest gross sales for **Atliq Exclusive**, **March 2020** had the worst performance. After declining in March, **Gross sales** began to increase from **August** and reached its peak in the **final two months of 2020**.





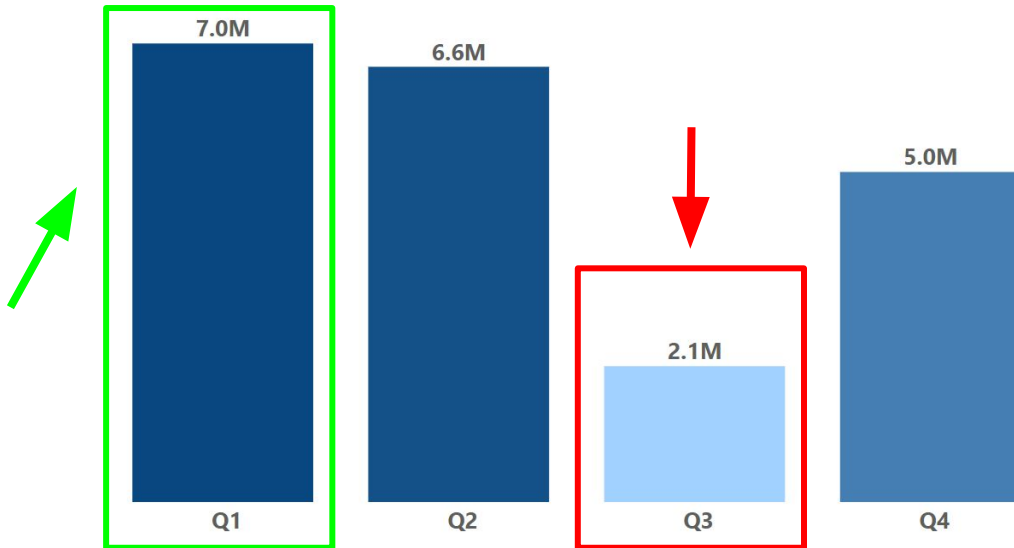
**REQUEST 8:** In which quarter of 2020, got the maximum total\_sold\_quantity? The final output contains these fields sorted by the total\_sold\_quantity: *quarter, total\_sold\_quantity*

**RESULT:**

quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

# INSIGHTS

- With a total sales amount of roughly **7 millions**, the **1st quarter** of FY 2020 (**September, October, and November**) began with the maximum total.
- It was recorded with the lowest total sales quantity in the **3rd quarter** of FY 2020 (**March, April, and May**). But the 4th quarter quickly saw a recovery.



In which quarter of 2020, got the maximum total\_sold\_quantity?

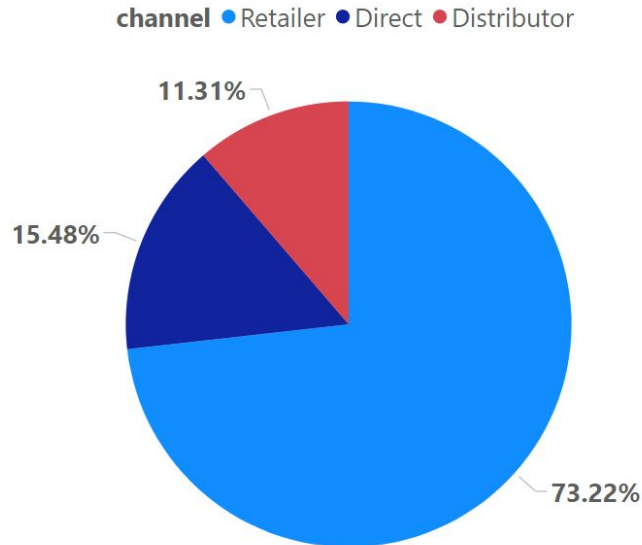
**REQUEST 9:** Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields: ***channel***, ***gross\_sales\_mln***, ***percentage\_of\_contribution***

**RESULT:**

channel	gross_sales_mln	percentage_of_contribution
Retailer	1924.17	73.22%
Direct	406.69	15.48%
Distributor	297.18	11.31%

# INSIGHTS

**73.22%** of the total sales in the **FY 2021** were made through the **Retailers** channel, which accounted for the majority of the revenue. **Direct** and **Distributor** both contribute a lower percentage, **15.48%** and **11.31%**, respectively.



Which channel helped to bring more gross sales in the fiscal year 2021?

**REQUEST 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*

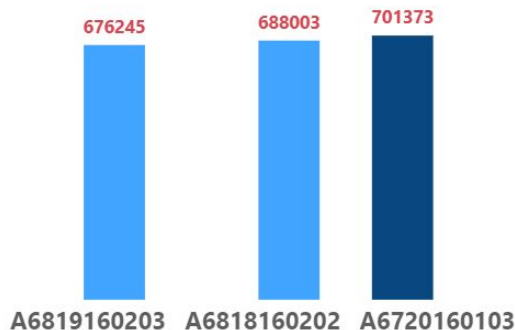
## RESULT:

division	product_code	product	total_sold_quantity	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

# INSIGHTS

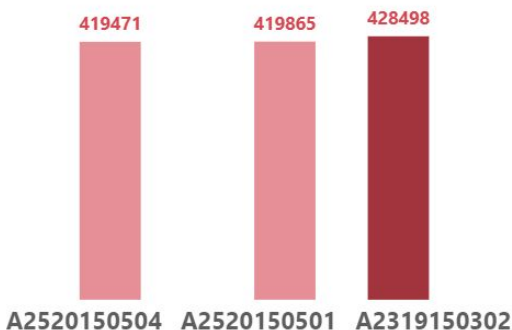
- The **AQ Pen Drive 2 IN 1** is the best-selling item for the **N & S** division, with around **701,373** units sold overall in FY 2021. Two **AQ Pen Drive DRC** goods are listed after that.
- With **428,498** units sold, **AQ Gamers Ms** is **P&A** division's best-selling product. It is followed by two **AQ Maxima Ms** items.
- For **PC** division, best-selling product is AQ Digit PC with **17,434** unit sold. As can be seen, the company should take some strategies to improve sales in **PC** division.

**N & S (Top 3 products)**



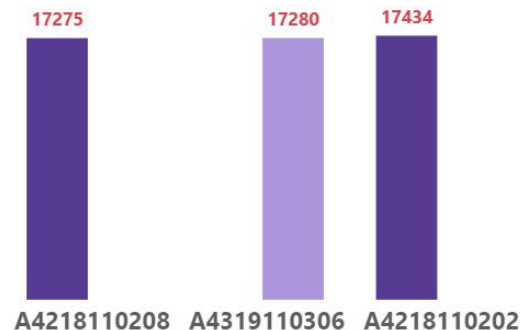
Product ● AQ Pen Drive 2 IN 1 ● AQ Pen Drive DRC

**P & A (Top 3 products)**



Product ● AQ Gamers Ms ● AQ Maxima Ms

**PC (Top 3 products)**



Product ● AQ Digit ● AQ Velocity



**THANK YOU  
FOR WATCHING**