AGENDA

1. INTRODUCTION & BUSINESS CONTEXT

2. BUSINESS DOMAIN OVERVIEW

3. DATA EXPLORATION & UNDERSTANDING

4. INSIGHT GENERATION VIA SQL QUERIES VISUALIZATION & STRATEGIC RECOMMENDATIONS

Company Details

Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.

Problem

The management noticed that they do not get enough insights to make quick and smart data-informed decisions. They want to expand their data analytics team by adding several junior data analysts. Tony Sharma, their data analytics director wanted to hire someone who is good at both tech and soft skills. Hence, he decided to conduct a SQL challenge which will help him understand both the skills.

Task

Need 10 ad hoc requests for which the business needs insights.

Solution

I will run SQL queries and get the answers and later create visualization to understand insights better.
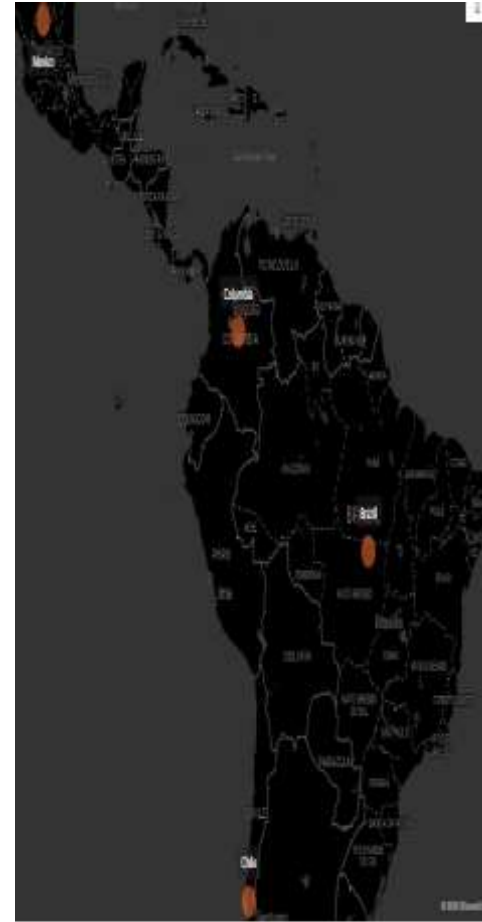
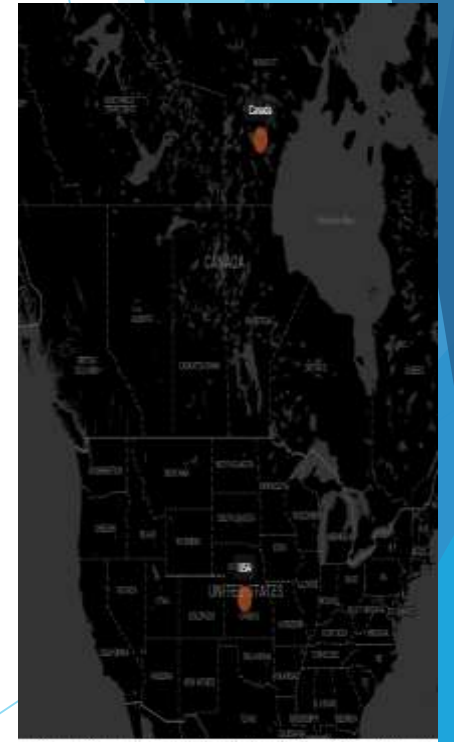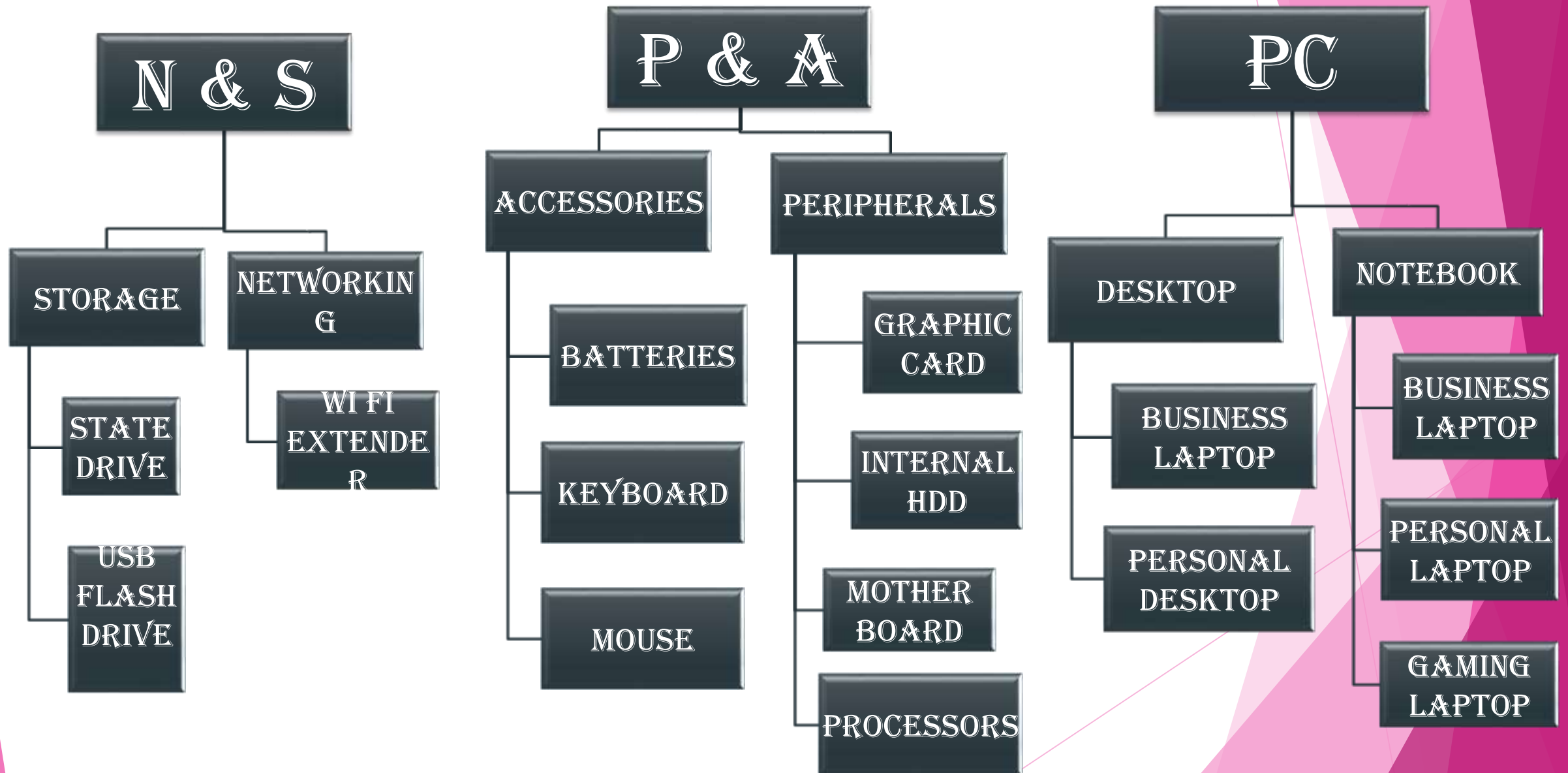# BUSINESS DOMAIN OVERVIEW

Atliq's Markets

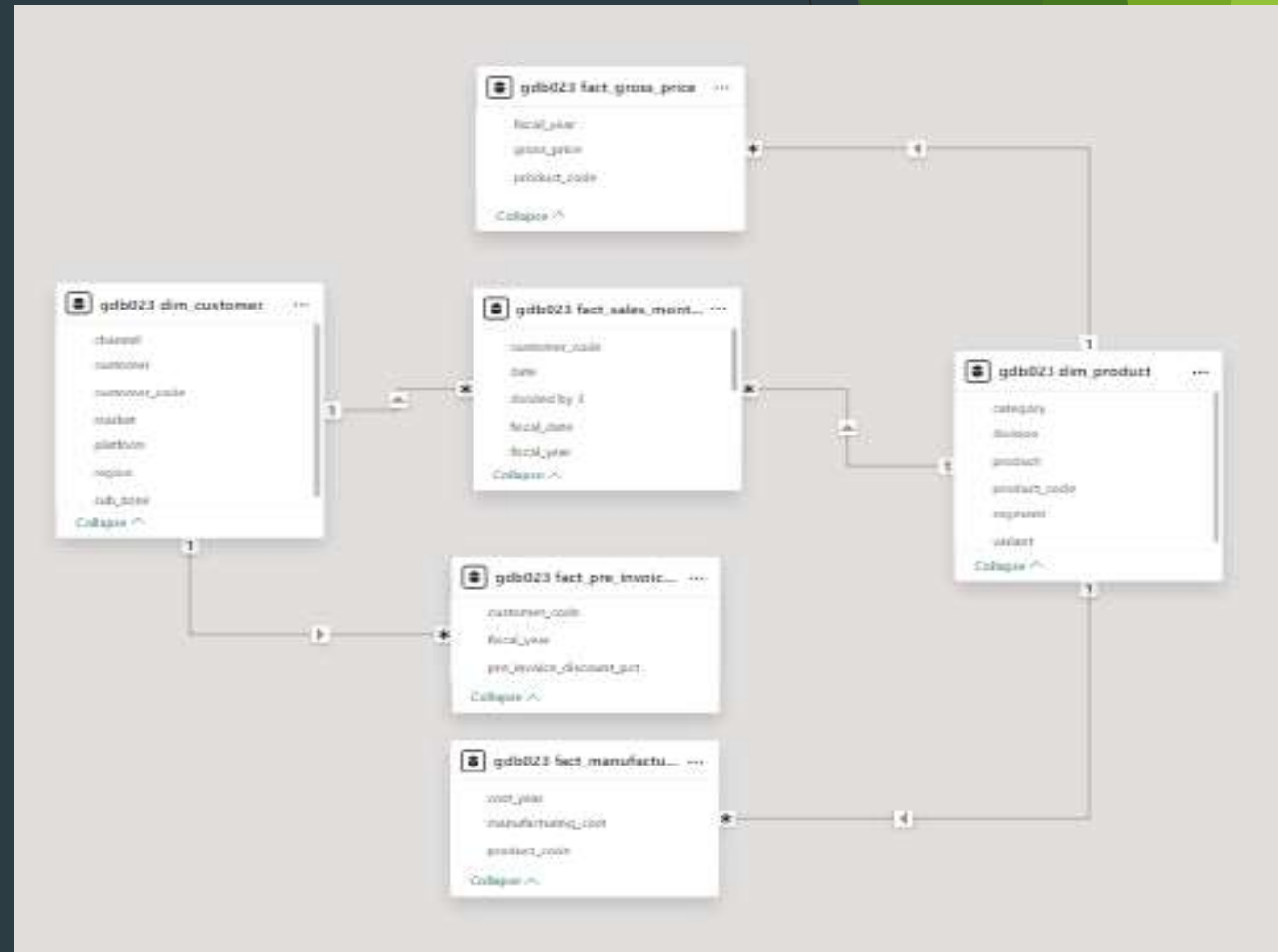
EU   APAC   LATAM   NA

Atliq's Product Lines

There are two dimension table and four fact tables like dim_customer,fact_sales_monthly etc.

INSIGHT GENERATION VIA SQL QUERIES VISUALIZATION & STRATEGIC RECOMMENDATIONS

We will fetch Ad hoc request, fetching the results through SQL, fetch insights and visualization

REQUEST 1

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

OUTPUT

market
India
Indonesia
Japan
Philipines
South Korea
Australia
Newzealand
Bangladesh

INSIGHTS AND VISUALIZATON

The customer named Atliq Exclusive operates 8 major markets in the APAC region

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

OUTPUT

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

INSIGHTS AND VISUALIZATION

Here you can see that in the fiscal year 2020, there were 245 unique products. In 2021, the count increased to 334, reflecting a 36.33% increase. This indicates that Atliq is consistently driving innovation.
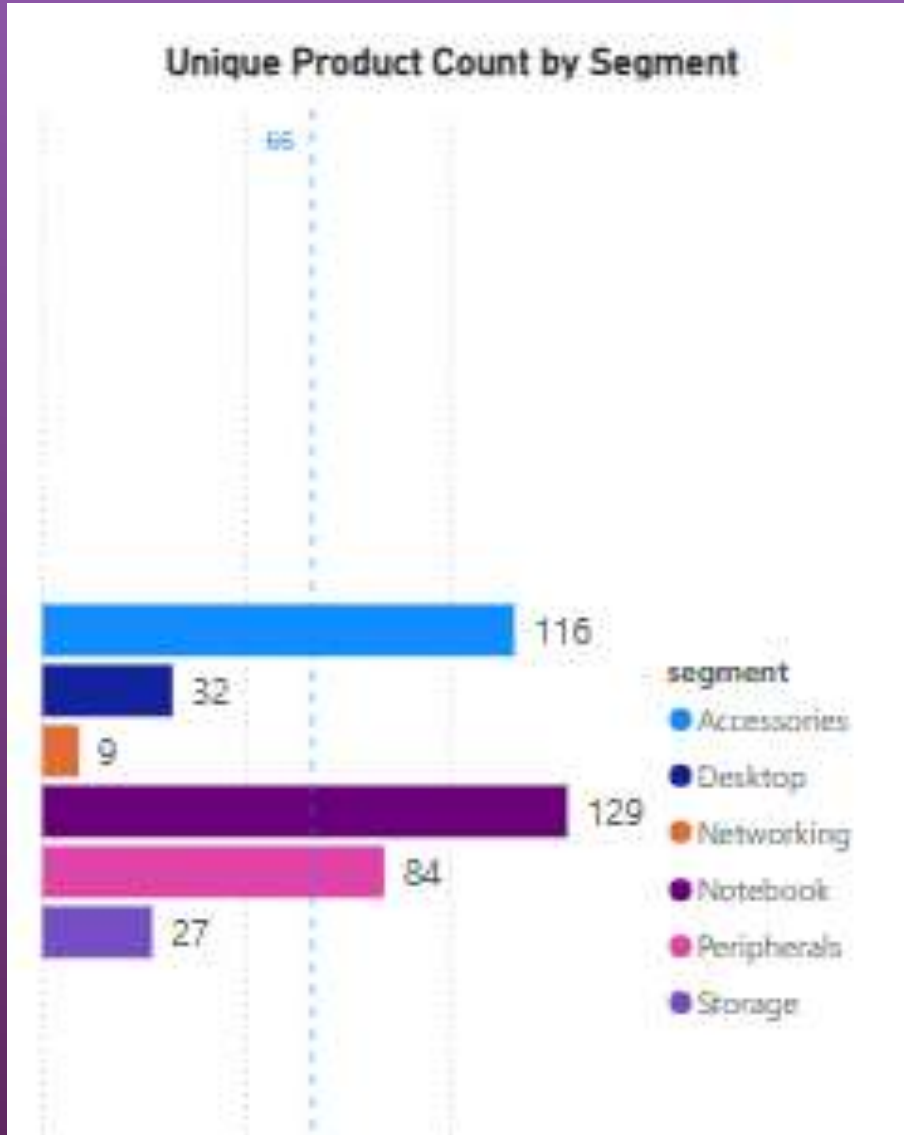
REQUEST 3

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_count

OUTPUT

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

INSIGHTS AND VISUALIZATION

Unique Product Count by Segment

Atliq can provide you a wide range of segment of unique products. You can see Notebook segment has the most unique product count with **129** count and Networking segment has the least unique product count with **9** unique product

REQUEST 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

OUTPUT

segment	uni_product_count_2020	uni_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

INSIGHTS AND VISUALIZATION

Unique Product Difference Per Segment From 2020 to 2021

segment	unique_product_count_2020	unique_product_count_2021	diffe_between_unique_product_2021and 2020
Notebook	92	108	16 ⬆
Accessories	69	103	34 ⬆
Peripherals	59	75	16 ⬆
Storage	12	17	5 ⬆
Desktop	7	22	15 ⬆
Networking	6	9	3 ⬆
Total	245	334	89

For 2021 we mostly focusing on the Accessories segment as we innovate 34 new products on this section. While Networking segment got the least focus with only 3 new products has been introduced for this segment.

INSIGHTS AND VISUALIZATION

Products that have the highest and lowest manufacturing costs

240.54
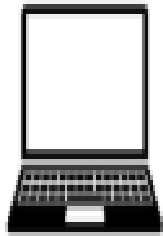
AQ HOME Allin 1 Gen 2

0.89

AQ Master wired x1 Ms

AQ HOME Allin1 Gen 2 that is a Personal Laptop has the highest manufacturing cost with $240.54 and AQ Master wired x1 Ms that is a Mouse has the lowest manufacturing cost with $0.89.
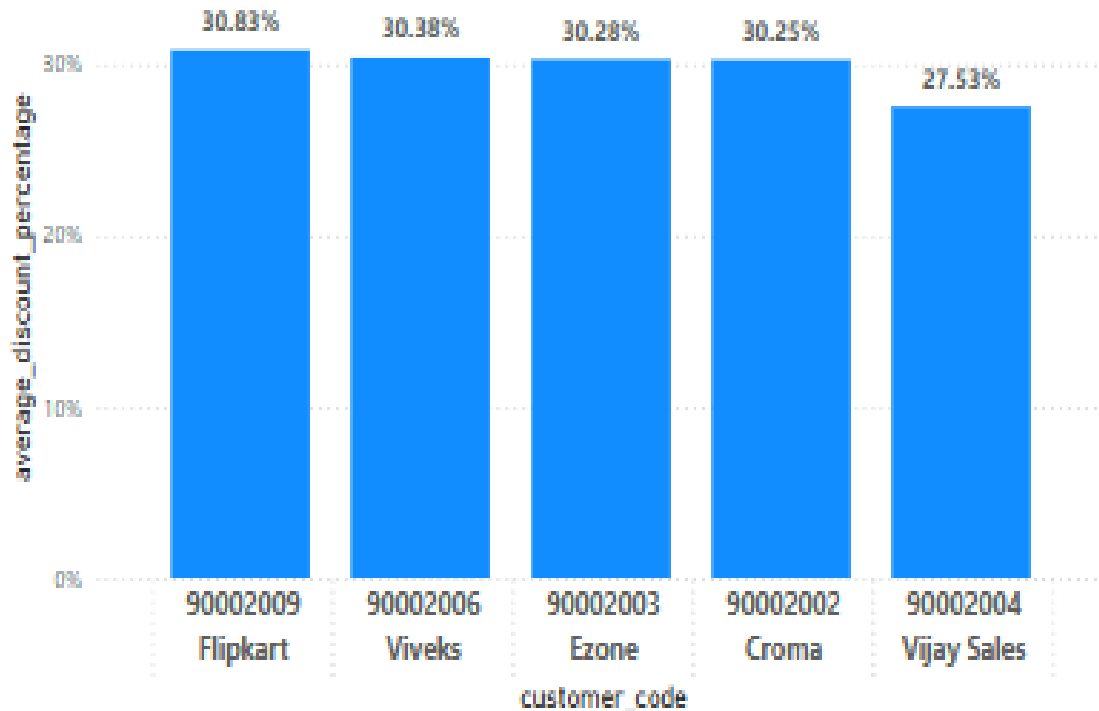
REQUEST 6

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

OUTPUT

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.30830000
90002006	Viveks	0.30380000
90002003	Ezone	0.30280000
90002002	Croma	0.30250000
90002016	Amazon	0.29330000

INSIGHTS AND VISUALIZATION

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

For 2021 we offered nearly equal pre invoice discounts to our top 5 customer for the Indian market. Flipkart is getting the highest discount on pre invoice that is 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

OUTPUT

month_no	month_name	f_year	Gross_sales_Amount
9	September	2019	9.09M
10	October	2019	10.38M
11	November	2019	15.23M
12	December	2019	9.76M
1	January	2020	9.58M
2	February	2020	8.08M
3	March	2020	0.77M
4	April	2020	0.80M
5	May	2020	1.59M
6	June	2020	3.43M
7	July	2020	5.15M
8	August	2020	5.64M

9	September	2020	19.53M
10	October	2020	21.02M
11	November	2020	32.25M
12	December	2020	20.41M
1	January	2021	19.57M
2	February	2021	15.99M
3	March	2021	19.15M
4	April	2021	11.48M
5	May	2021	19.20M
6	June	2021	15.46M
7	July	2021	19.04M
8	August	2021	11.32M

INSIGHTS AND VISUALIZATION

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

Here you can see our sale is decreased on April and August 2020 because of Covid-19 but the good thing is the sale is really bounced back after the August.

INSIGHTS AND VISUALIZATION

Total sold quantity in FY 2020 by Quarter

Quarter	Month	Sum of sold_quantity
Q1	September	1.76M
Q1	October	2.19M
Q1	November	3.05M
Q2	January	1.76M
Q2	February	1.70M
Q2	December	3.18M
Q3	March	0.24M
Q3	April	0.82M
Q3	May	1.02M
Q4	June	1.56M
Q4	July	1.69M
Q4	August	1.79M
Total		**20.77M**
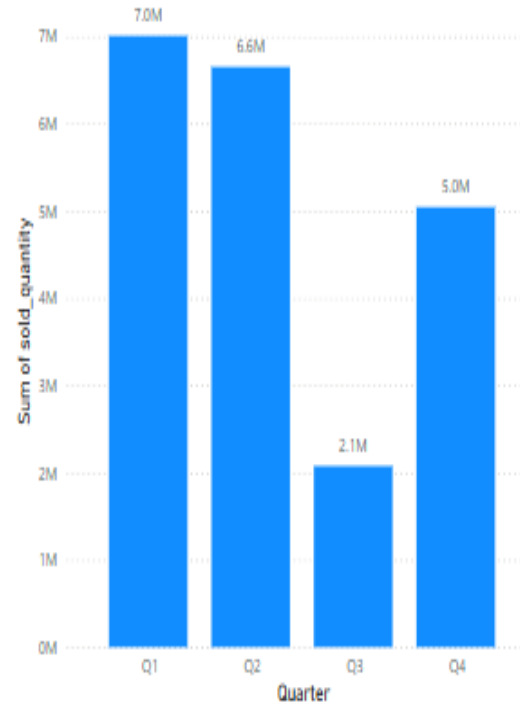
Here you can see Quarter 1 has the highest sales 7.0 Millions sales and Quarter 3 has the lowest sales with 2.1 Million the reason is Quarter 3 falls in March, April, May so due to Covid-19 sales are decreased in this Quarter. But the good thing is sales are again increased in Quarter 4.

INSIGHTS AND VISUALIZATION

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

Gross_sales_amount by channel

0.3bn (11.31%)

0.41bn (15.47%)

1.92bn (73.22%)

channel
- Retailer
- Direct
- Distributor
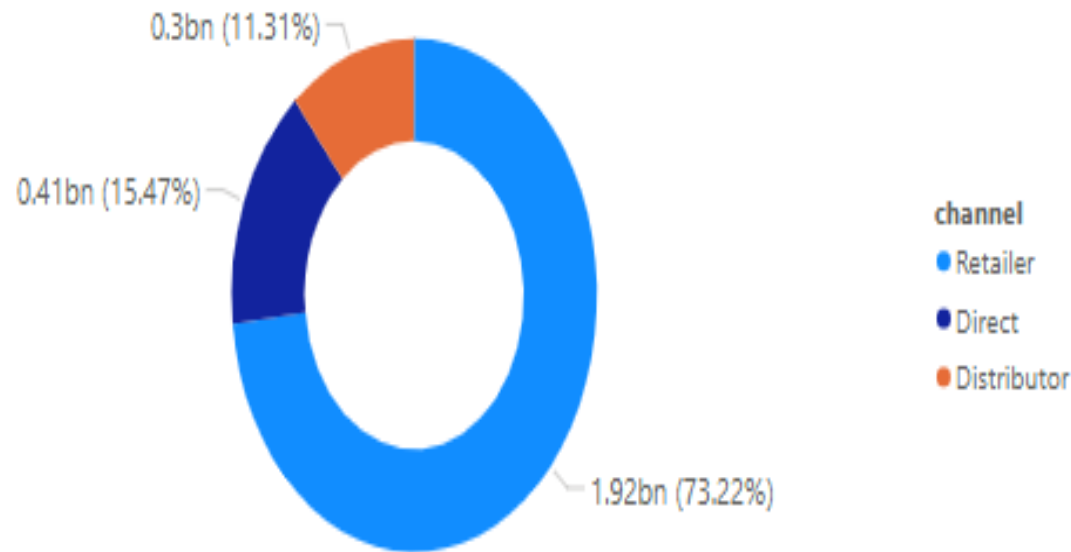
For fiscal year 2021 majority of our sales happened through Retailer that is nearly 74% and a very small portion of the sales means rest of the 26% sales happened through the Direct and Distributor channel.

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
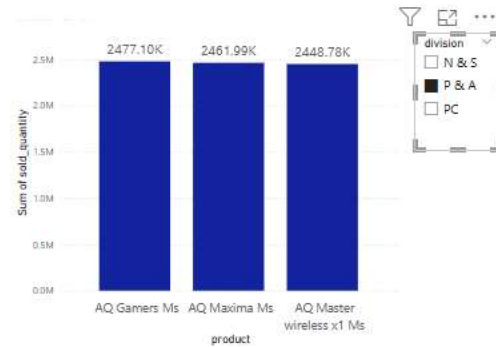
OUTPUT

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 AND VISUALIZATION

Here you can see top 3 highest selling products bt the Division for 2021.