Consumer Goods Ad_Hoc Insights Project

Introduction

Atliq Hardware, a top computer hardware manufacturer in India with a global customer base, aims to analyze its product sales to support data-driven decision-making.

1. List of markets in APAC region for "Atliq Exclusive"

Request 1

Limit to 2000 rows

```
1 •  SELECT distinct(market) from dim_customer where customer="Atliq Exclusive"
2    and region="APAC";
```

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

2. Percentage of Unique Product Increase in 2021 vs 2020

- I utilized Common Table Expressions (CTEs) to determine the number of unique products for the years 2020 and 2021 separately. After that, I computed the percentage change between these two counts.

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

3. Unique Product Counts by segment

- In this query, I used CTE, grouped the data by segment, and used count(distinct product_code) to find the number of unique products in each segment, then sorted the results in descending order.

Request 3

Limit to 2000 rows

```
1  with cte1 as (
2      SELECT segment,
3      count(distinct(product_code)) as product_count
4      FROM dim_product
5      group by segment
6  )
7
8  select * from cte1
9  order by product_count desc;
```

4. Segment with the most increase in unique products (2021 vs 2020)

- Here, I used an sql query that defines two CTEs to determine the number of unique products per segment for the years 2020 and 2021. It then computes the change in product count between these years and ranks the segments by the highest increase in unique products.

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

5. Products with Highest and Lowest Manufacturing costs

- In this sql query, I combined the dim_product and fact_manufacturing_cost tables and used subqueries to identify the highest and lowest manufacturing costs.

```
select p.product_code, product, manufacturing_cost
from dim_product p
join fact_manufacturing_cost m
using (product_code)
where manufacturing_cost = (select min(manufacturing_cost) from fact_manufacturing_cost)
or manufacturing_cost = (select max(manufacturing_cost) from fact_manufacturing_cost);
```

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

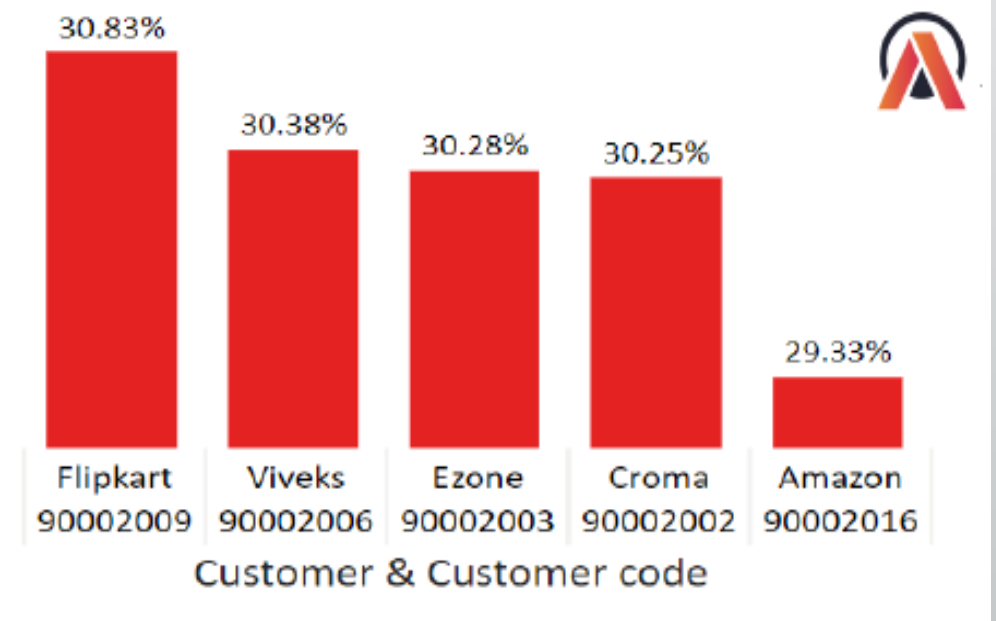
6. Top 5 Customers with High Pre-Invoice Discount in 2021 (Indian Market)

- This query combines the fact_pre_invoice_deductions and dim_customer tables, computes the average discount per customer, and restricts the results to those in the Indian market for FY 2021.

Request 6

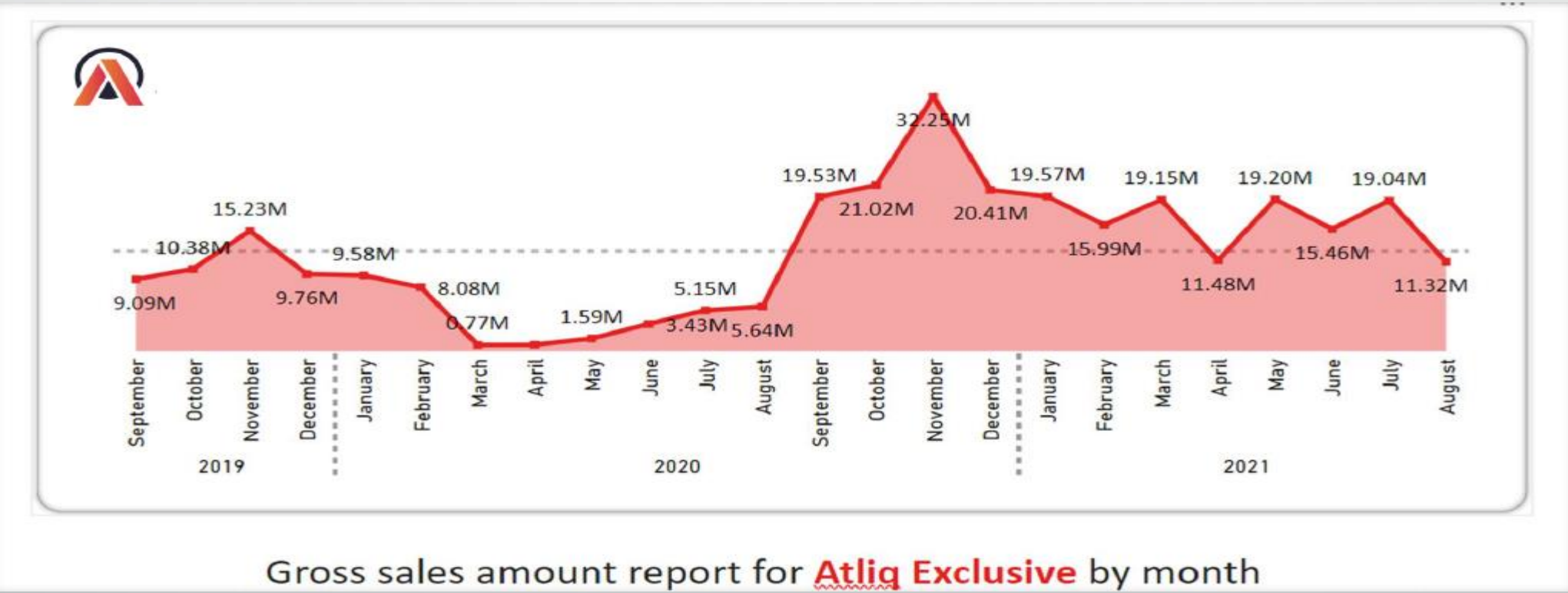
Limit to 2000 rows

```
1  select c.customer_code, c.customer,
2  round(avg(pre_invoice_discount_pct),3) as average_discount_percentage
3  from dim_customer c
4  join fact_pre_invoice_deductions f
5  using (customer_code)
6  where fiscal_year=2021 and market="India"
7  group by c.customer_code, c.customer
8  order by average_discount_percentage desc
9  limit 5;
```



7. Gross Sales Amount for "Atliq Exclusive" by Month

- Here, I used an sql query to compute gross sales by multiplying gross price with the quantity sold for each month, and then grouped the results by year and month.



8. Quarter with Maximum Total Sold Quantity in 2020

- Here I used an sql query which utilizes a CASE statement to categorize months into quarters and sums up the sold quantities for each quarter in 2020. It then orders the results to identify the quarter with the highest sales volume.

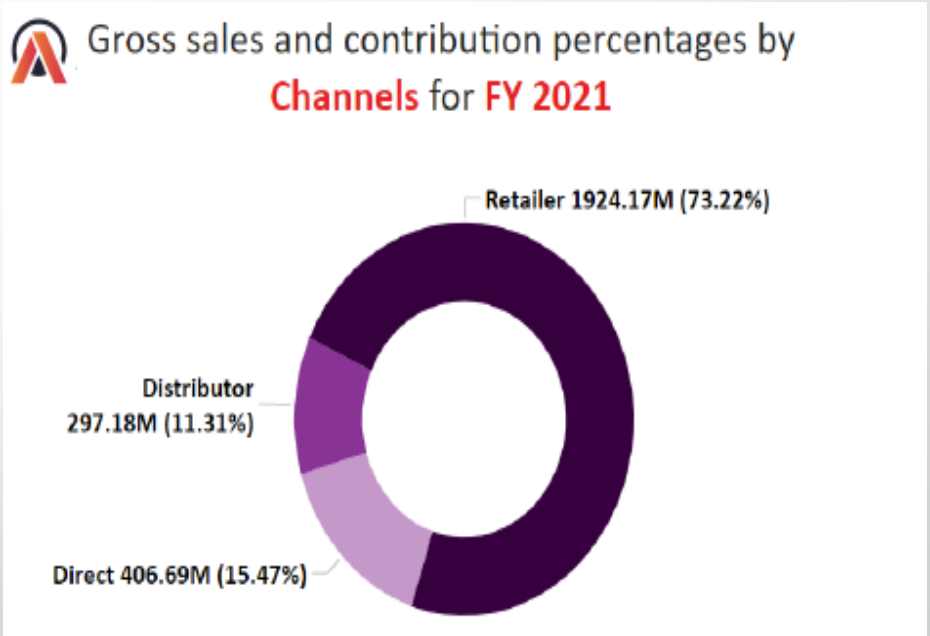
9. Channel with Highest Gross Sales in 2021

Request 9

Limit to 2000 rows

```sql
with cte as (
    select
        c.channel,
        sum(s.sold_quantity*g.gross_price)/1000000 as gross_sales_mln
    from fact_sales_monthly s
    join fact_gross_price g
    using (product_code,fiscal_year)
    join dim_customer c
    using (customer_code)
    where s.fiscal_year=2021
    group by c.channel
)

select *,
gross_sales_mln*100/sum(gross_sales_mln) over() as percentage
from cte;
```



10. Top 3 Products in Each Division with High Total Sold Quantity in 2021

- Here, I used the RANK() window function to order products within each division based on their total sold quantities and then retrieved the top 3 products from every division.

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