Consumer Goods Ad_Hoc Insights

Presented by : Srilekha Reddy Kandula

Agenda

- About Company
- Objectives
- Entity Relationship Diagram (ERD)
- Ad-Hoc Requests

Meet **AtliQ Hardware**

- **Atliq Hardware:** Computer component manufacturer based in India.
- Global market presence.
- Initiated data-driven decision-making through analytics.
- Ad hoc business queries assigned to junior data analysts.
- SQL used for data extraction and analysis

Objectives

1

Analyze Atliq Hardware’s business performance using SQL

2

To assist the company in making data-driven decisions by responding to specific ad hoc business queries.

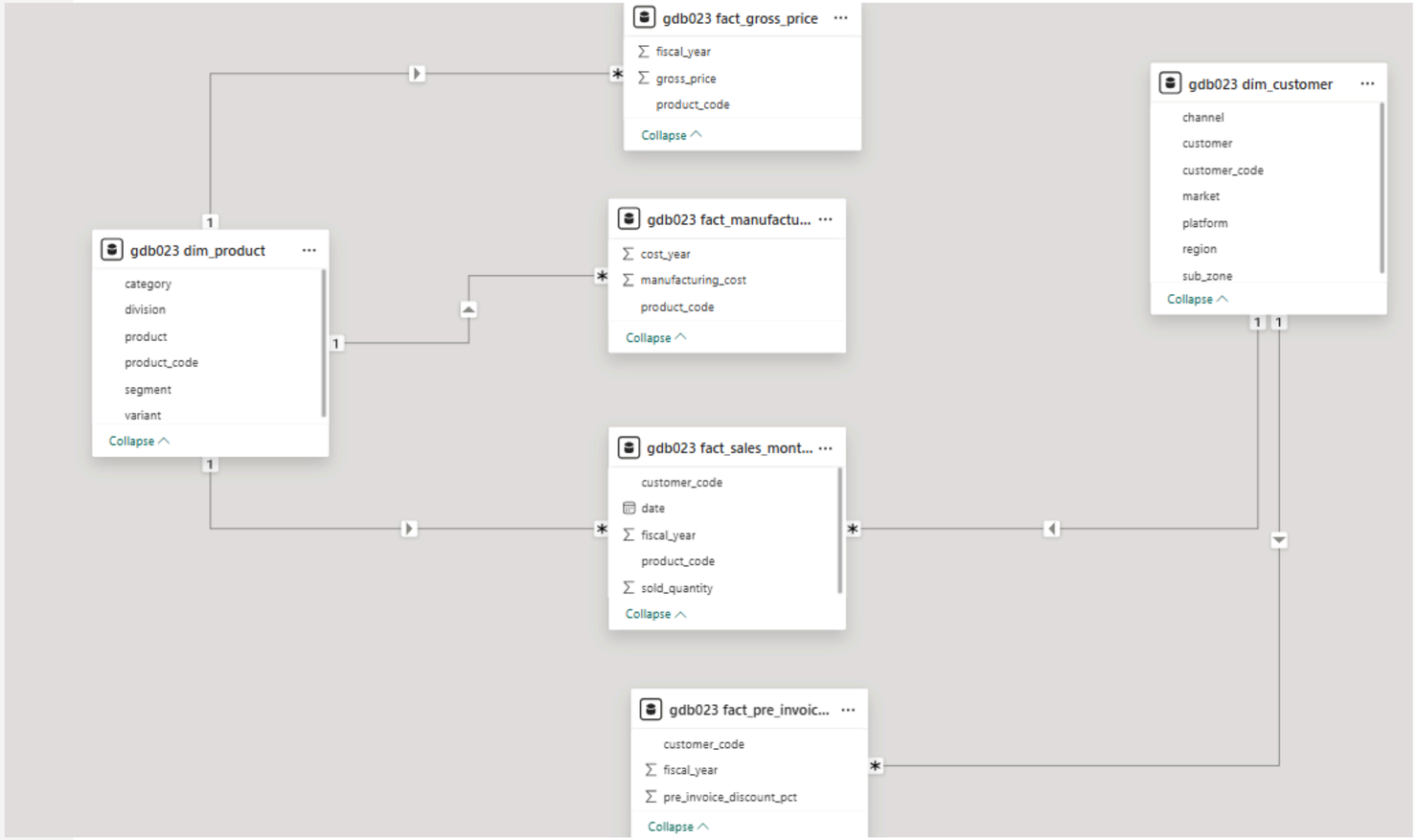
3

To provide actionable insights using SQL-based data analysis on key operational and sales data.

4

To support the company's management and stakeholders in understanding trends, performance metrics, and improvement areas.

Entity Relationship Diagram (ERD)

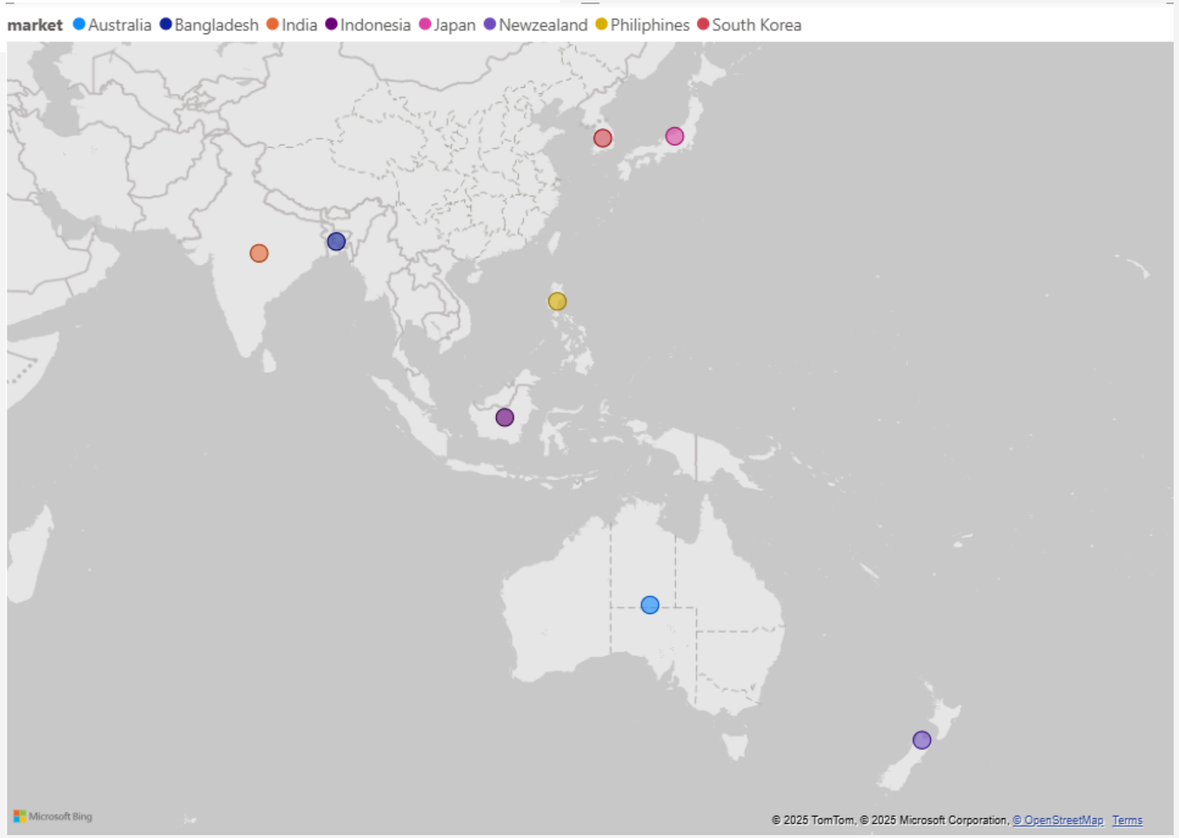


Requests 1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

```sql
select market
from dim_customer
where customer = "Atliq Exclusive" and region = "APAC"
```

Result Grid

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh
India

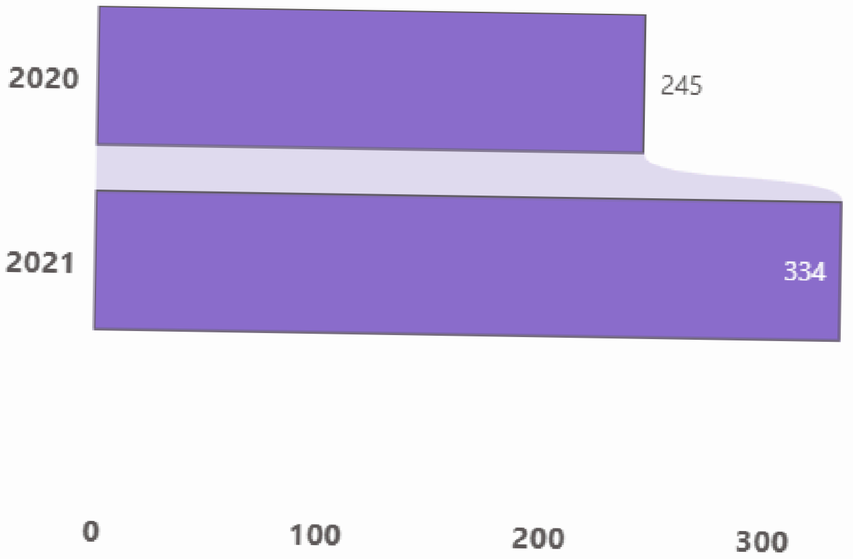


Requests 2 : What is the percentage of unique product increase in 2021 vs. 2020? The

```sql
with cte1 as (select count(distinct(product_code)) as unique_products_2020
from fact_sales_monthly
where fiscal_year = 2020),
cte2 as (select count(distinct(product_code)) as unique_products_2021
from fact_sales_monthly
where fiscal_year = 2021)
select *,(unique_products_2021-unique_products_2020)*100/sum(unique_products_2020) as percentage_chg
from cte1
cross join cte2
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.3265



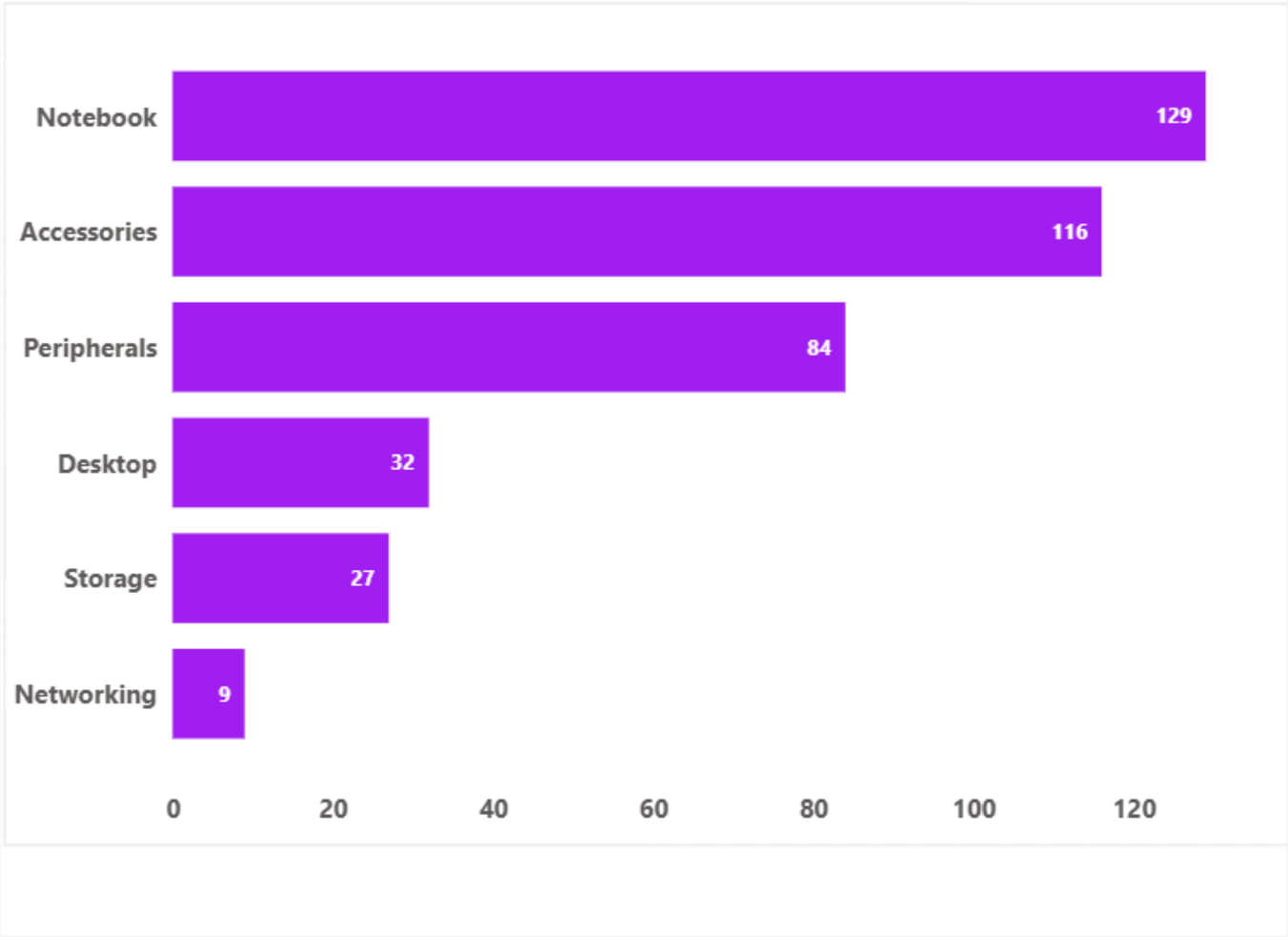
Insights : Unique Product sales have increased remarkably 36.32% in fiscal year 2021 compare to the previous year

Request 3 : Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

```
select segment,count(distinct product_code) as product_count
from dim_product
group by segment
order by product_count desc
```

Result Grid | Filter Rows:

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



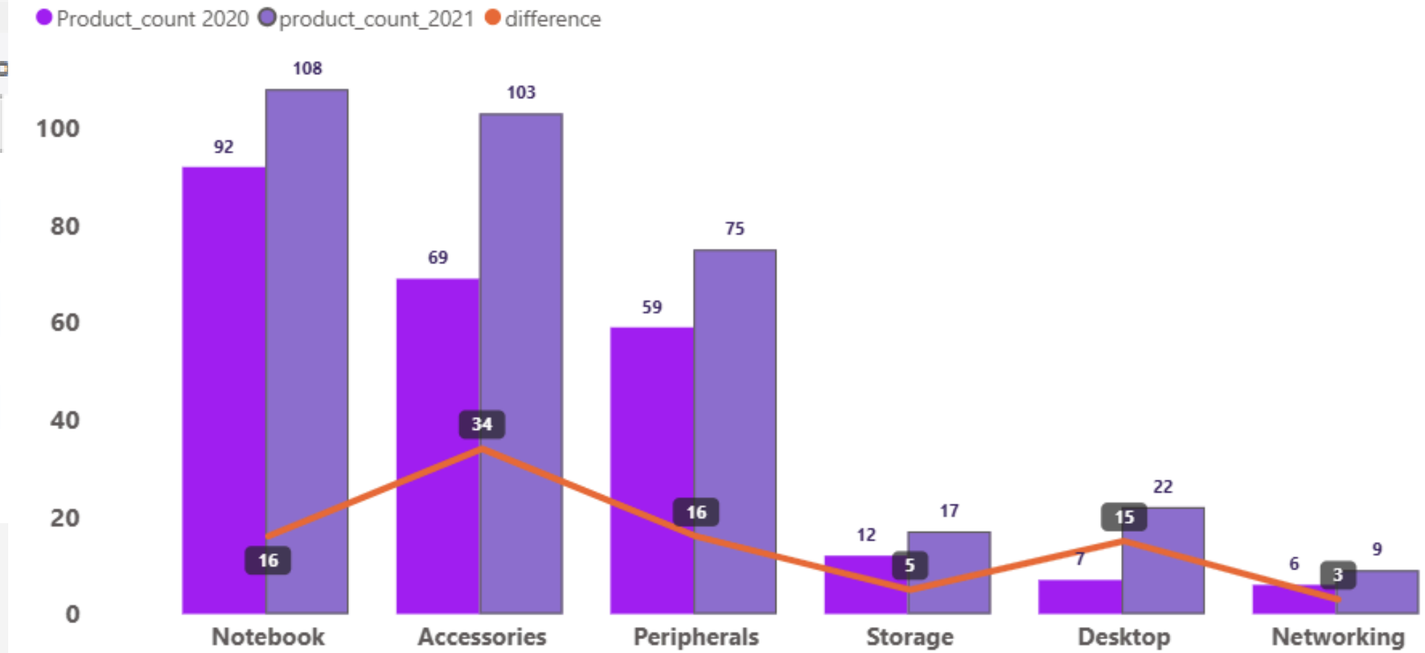
Insights: Notebook segment have highest number of products compare to other segments

Request 4:Follow-up: Which segment had the most increase in unique products in
2021 vs 2020?

```sql
with cte1 as (select p.segment,count(distinct p.product_code) as product_count_2020
from fact_sales_monthly f
join dim_product p
on p.product_code = f.product_code
where fiscal_year = 2020
group by p.segment),
cte2 as (
select p.segment,count(distinct p.product_code) as product_count_2021
from fact_sales_monthly f
join dim_product p
on p.product_code = f.product_code
where fiscal_year = 2021
group by p.segment)
select c.segment,c.product_count_2020,t.product_count_2021,(t.product_count_2021-c.product_count_2020) as difference
from cte1 c
join cte2 t
on  c.segment = t.segment
group by segment
order by difference desc
```

Result Grid | Filter Rows: | Export: | Wrap Cell Co

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



Insights: All product segments showed growth from 2020 to 2021, indicating an overall expansion in Atliq Hardware's offerings.

Accessories saw the highest increase (+34), followed by Notebooks and Peripherals (+16 each).

The Desktop segment tripled its product count, showing notable strategic growth despite smaller base numbers.

Request 5. Get the products that have the highest and lowest manufacturing costs.

```
select m.product_code,p.product,m.manufacturing_cost
from fact_manufacturing_cost m
join dim_product p
on m.product_code = p.product_code
where manufacturing_cost in((select max(manufacturing_cost) from fact_manufacturing_cost),
(select min(manufacturing_cost) from fact_manufacturing_cost))
order by manufacturing_cost DESC
```

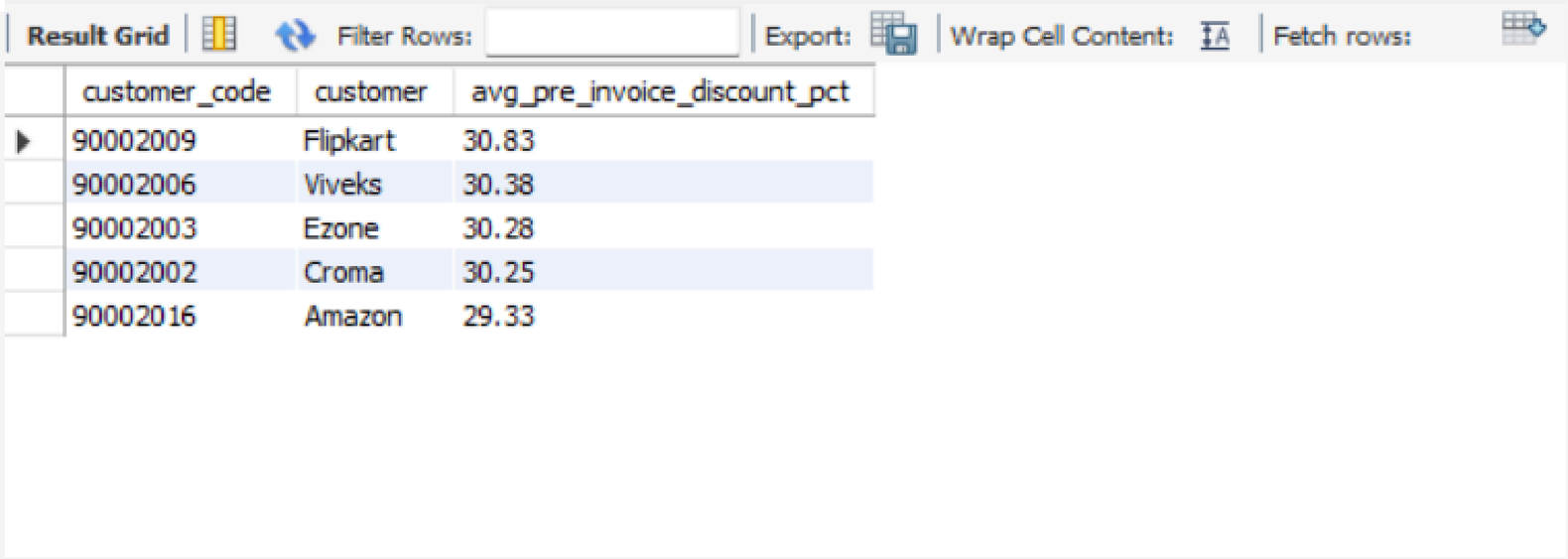
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

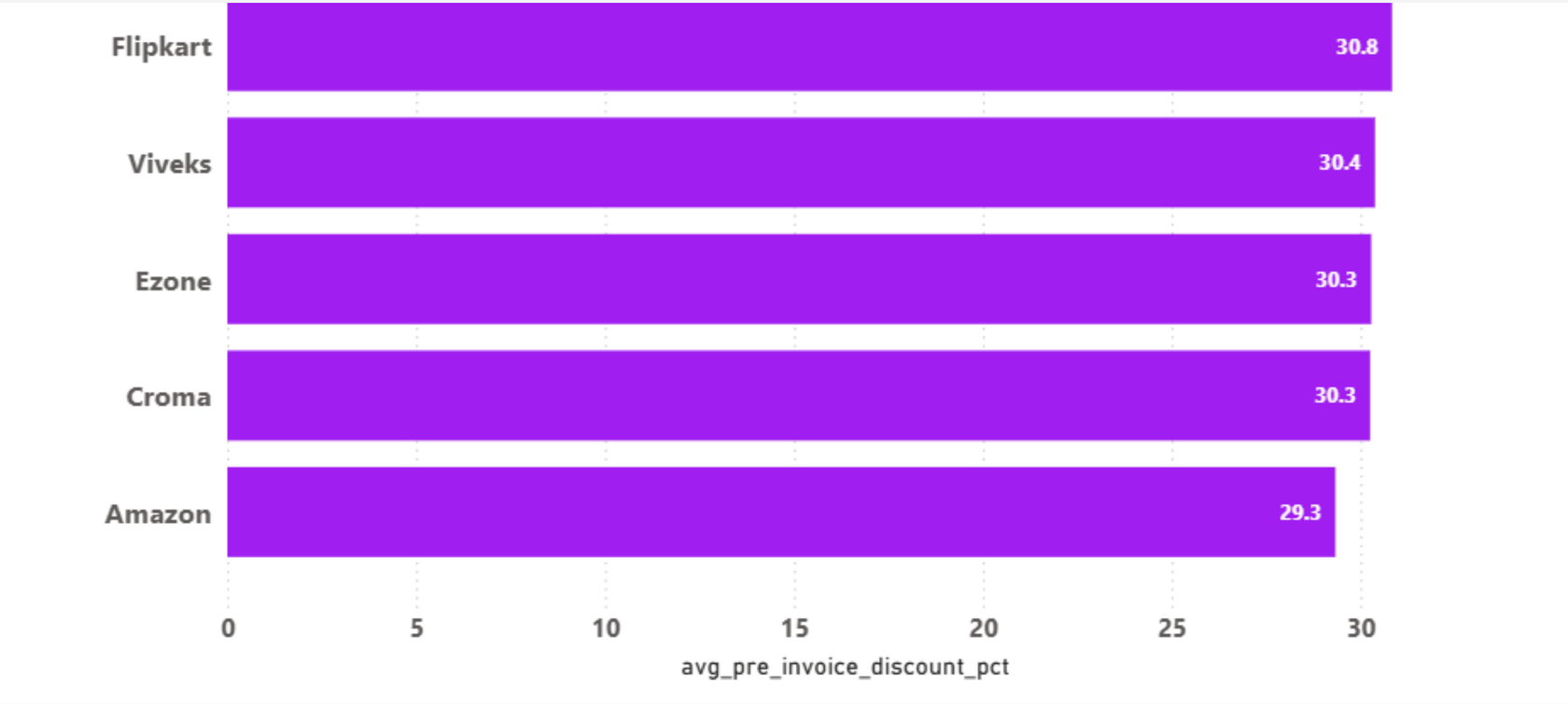
- **Insights:**AQ HOME Allin1 Gen 2 has a high manufacturing cost of ₹240.54, likely due to complex components or advanced features.
- AQ Master wired x1 Ms has a very low cost of ₹0.89, indicating it’s a simple, low-cost peripheral .

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.

```sql
select f.customer_code , c.customer ,round(avg(f.pre_invoice_discount_pct*100),2) as avg_pre_invoice_discount_pct
from fact_pre_invoice_deductions f
join dim_customer c
on c.customer_code = f.customer_code
where f.fiscal_year = 2021 and c.market = "India"
group by customer_code
order by avg_pre_invoice_discount_pct DESC
limit 5
```



customer_code	customer	avg_pre_invoice_discount_pct
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33



Insights: Flipkart received the highest average pre-invoice discount (30.83%), while Amazon received the lowest (29.33%) among the top customers.

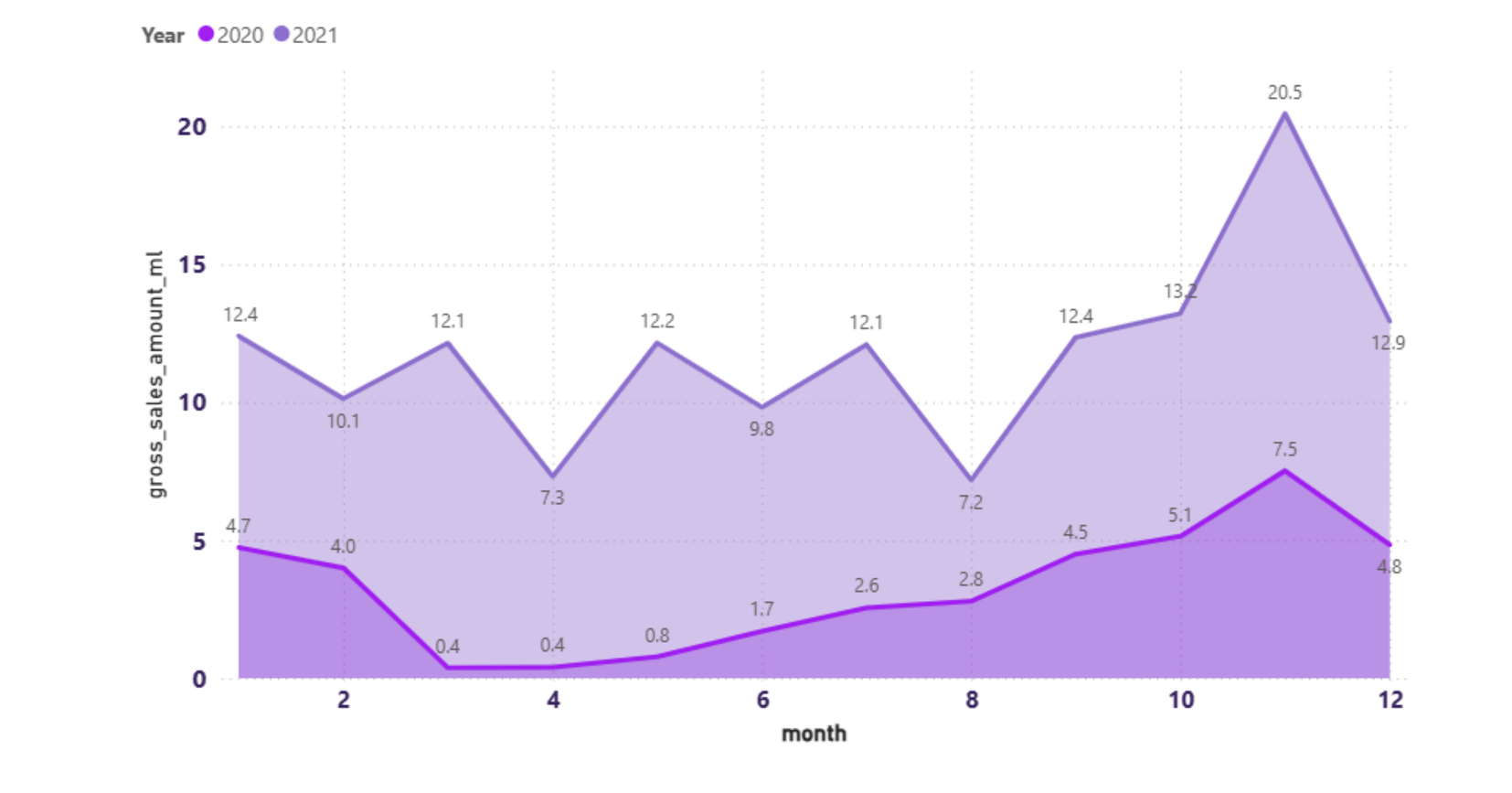
Request 7. Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions.

```
select  month(s.date) as month,s.fiscal_year as Year ,round(sum(g.gross_price*s.sold_quantity)/1000000,2) as gross_sales_amount_ml
from dim_customer c
join fact_sales_monthly s
on c.customer_code = s.customer_code
join fact_gross_price g
on g.product_code = s.product_code and
g.fiscal_year = s.fiscal_year
where c.customer = "Atliq Exclusive"
group by  month ,Year
order by Year DESC
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

month	Year	gross_sales_amount_ml
9	2021	12.35
10	2021	13.22
11	2021	20.46
12	2021	12.94
1	2021	12.40
2	2021	10.13
3	2021	12.14
4	2021	7.31
5	2021	12.15
6	2021	9.82
7	2021	12.09
8	2021	7.18
9	2020	4.50

Result 2



Insights: Overall sales improved sharply from 2020 to 2021 .

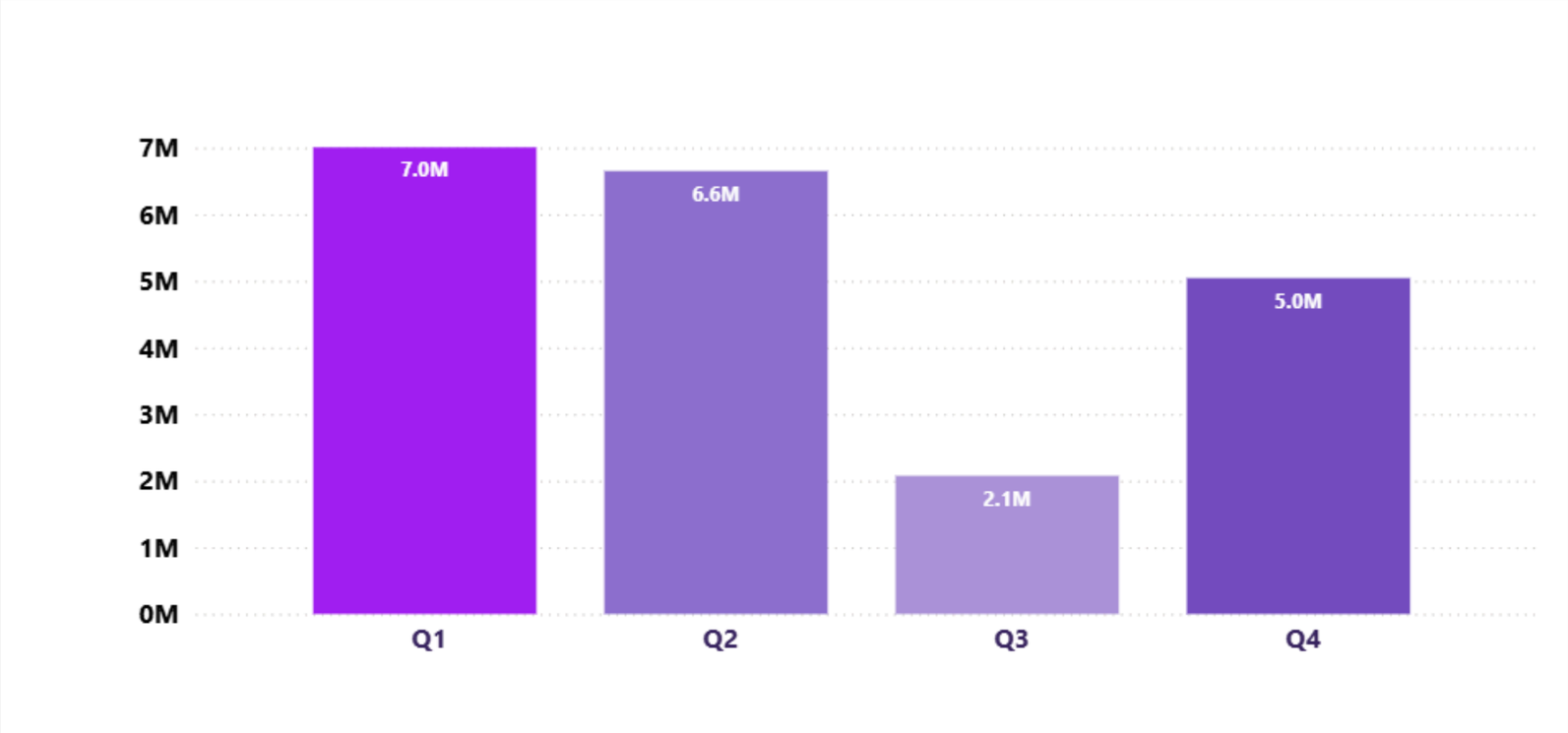
- The highest sales were recorded in November (₹20.5M) and May 2021 (₹12.15M), suggesting strong Q1 and Q3 performance.
- The lowest recorded month was March 2020 (₹0.38M) — likely due to initial pandemic impact.
- Consistent Recovery: From April 2020 onwards, sales steadily increased month-over-month, showing clear recovery and growth into 2021.

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,

```sql
select
case
when month(date) IN (9,10,11) then "Q1"
when month(date) IN (12,1,2) then "Q2"
when month(date) IN (3,4,5) then "Q3"
else "Q4"
end as quarter, sum(sold_quantity) as total_sold_quantity
from fact_sales_monthly
where fiscal_year = "2020"
group by quarter
order by total_sold_quantity DESC
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087



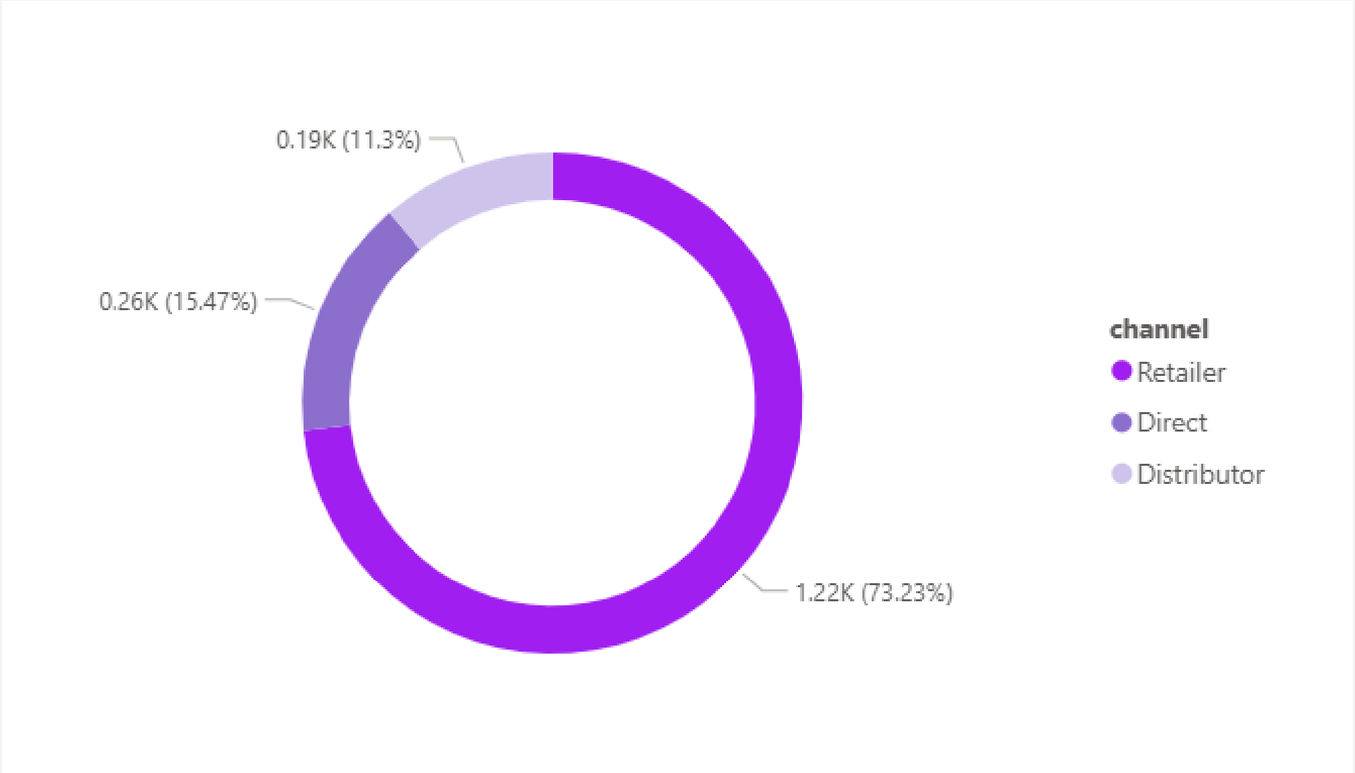
Insights: in Q1 i.e sep to dec in 2020 we have maximum quantity sold.
sales decreased in Q3 i.e march - may due to pandemic.
and sales gradually increased in Q4.

Request 9: Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

```sql
with cte1 as (select c.channel,round(sum(g.gross_price*s.sold_quantity)/1000000,2) as gross_sales_in_ml
from dim_customer c
join fact_sales_monthly s
on c.customer_code = s.customer_code
join fact_gross_price g
on g.product_code = s.product_code and
g.fiscal_year = s.fiscal_year
where s.fiscal_year = 2021
group by c.channel
)
select *,gross_sales_in_ml*100/sum(gross_sales_in_ml)  over () as pct_share_by_region
from cte1 c
order by gross_sales_in_ml desc
```

Result Grid | Filter Rows: | Export:

channel	gross_sales_in_ml	pct_share_by_region
Retailer	1219.08	73.233852
Direct	257.53	15.470612
Distributor	188.03	11.295535



Insights: Retailer helped in bringing more sales with 73.23% contribution where as direct and distributor channels combined contributed 26.79%

Request 10 : Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

```sql
with cte1 as (select p.division,s.product_code,p.product,sum(s.sold_quantity) as total_sold_quantity
from dim_product p
join fact_sales_monthly s
on p.product_code = s.product_code
where s.fiscal_year = "2021"
group by p.product_code),
cte2 as  (select *, rank() over (partition by division order by total_sold_quantity desc) as rank_order
from cte1)
select * from cte2
where rank_order <=3
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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 : In N&S division top sales are pen drives.
where as in P & A division all the top product sales are mice.

Thank You