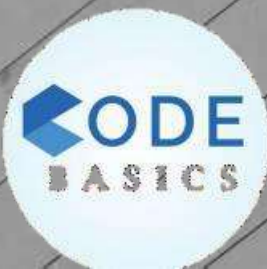# CONSUMER GOODS AD_HOC INSIGHTS

Created By
MEET MODI

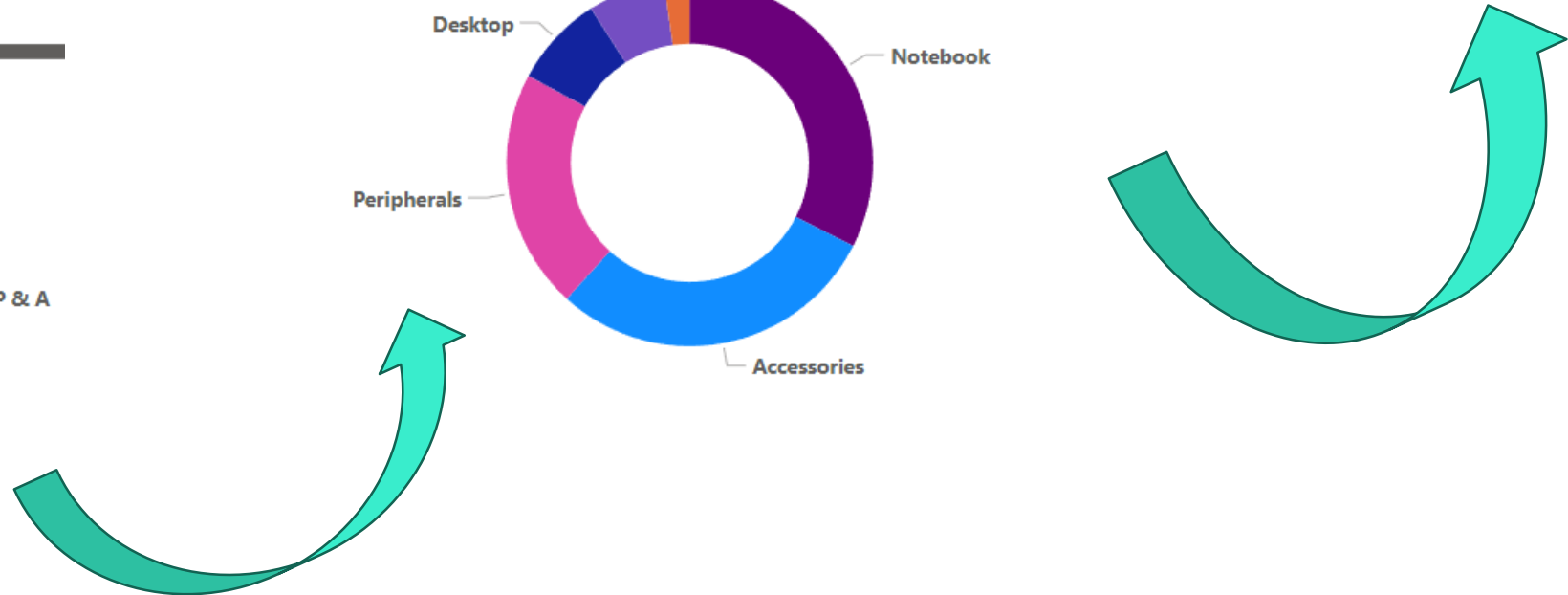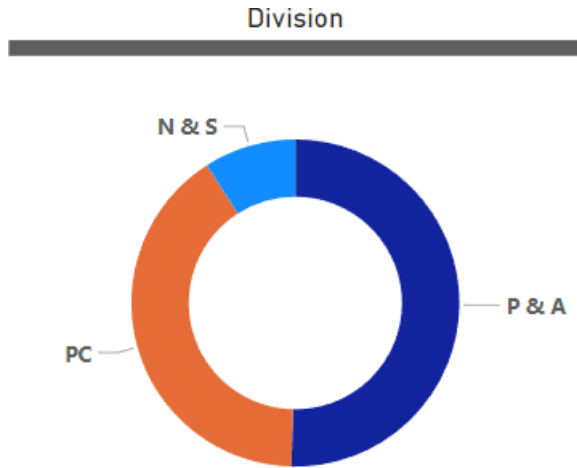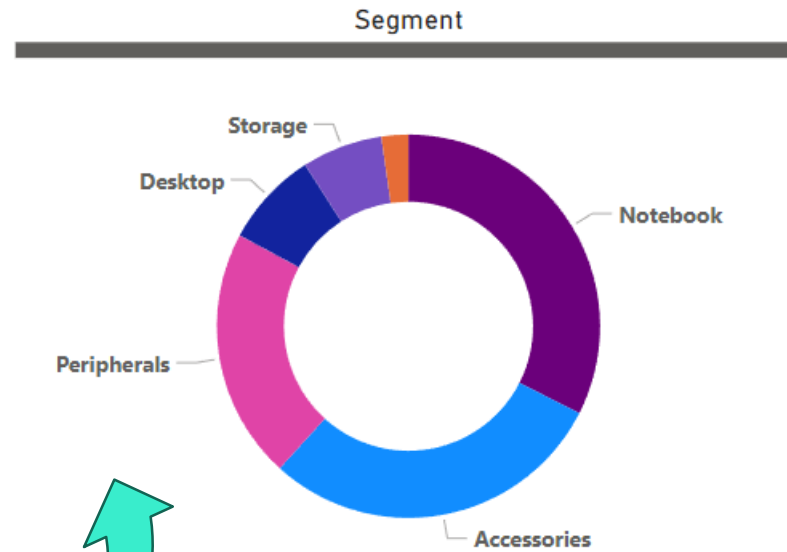# AGENDA

- INTRODUCTION
- OBJECTIVE
- DATA & REQUESTS
- 10 AD_HOC REQUEST
- INSIGHTS

INTRODUCTION

About Company

Atliq Hardware is a prominent computer hardware producer based in India, holding a leading position not only in the Indian market but also in various other countries.

Category

- Internal HDD
- External Solid State Drives
- Personal Desktop
- Processors
- MotherBoard
- Batteries
- Graphic Card
- Gaming Laptop
- Personal Laptop
- Keyboard
- Mouse
- Business Laptop

Segment

- Storage
- Desktop
- Peripherals
- Notebook
- Accessories

Division

- N & S
- PC
- P & A
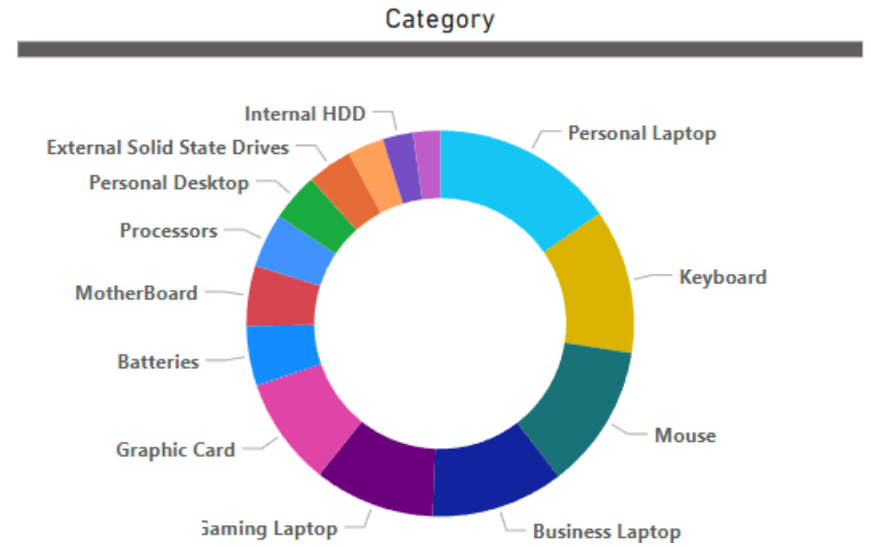
OBJECTIVES

- Atliq Hardware, a fictional corporation, stands out as a   major computer hardware manufacturer in India and has a   robust global presence.

- Despite its prominence, the management recognizes   a need for more timely and informed decisions backed by data insights.

- There's a Strategic initiative to enhance the data analytics team by onboarding junior data analysts

- In order to evaluate potential candidates comprehensively , Tony Sharma, the Director of Data Analytics, plan to organize a SQL challenge will assess both Technical Skills and Soft Skills.

- The company has identified 10 specific ad hoc requests for which they are seeking valuable insights.

DATA AND REQUEST

Data Model

Tools Used
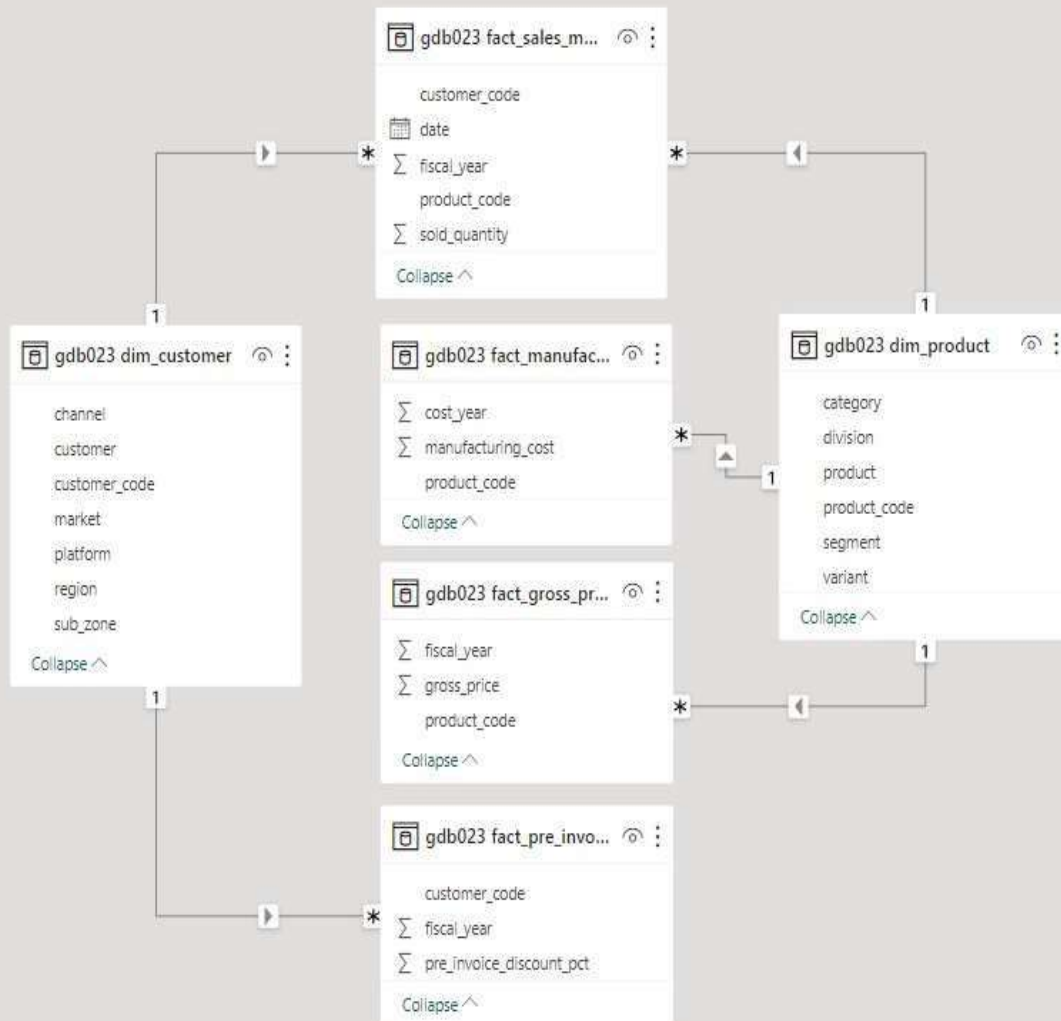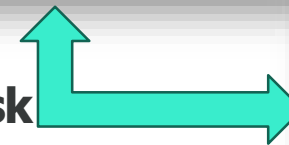

Codebasics SQL Challenge

Requests:

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

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

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

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

5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
   - product_code
   - product
   - manufacturing_cost

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

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

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

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

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

Ad_Hoc Task

Request 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"
group by market
order by market;
```

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

APAC_Market_List

Australia ● Bangladesh ● India ● Indonesia ● Japan ● Newzealand ● Philiphines ● South Korea
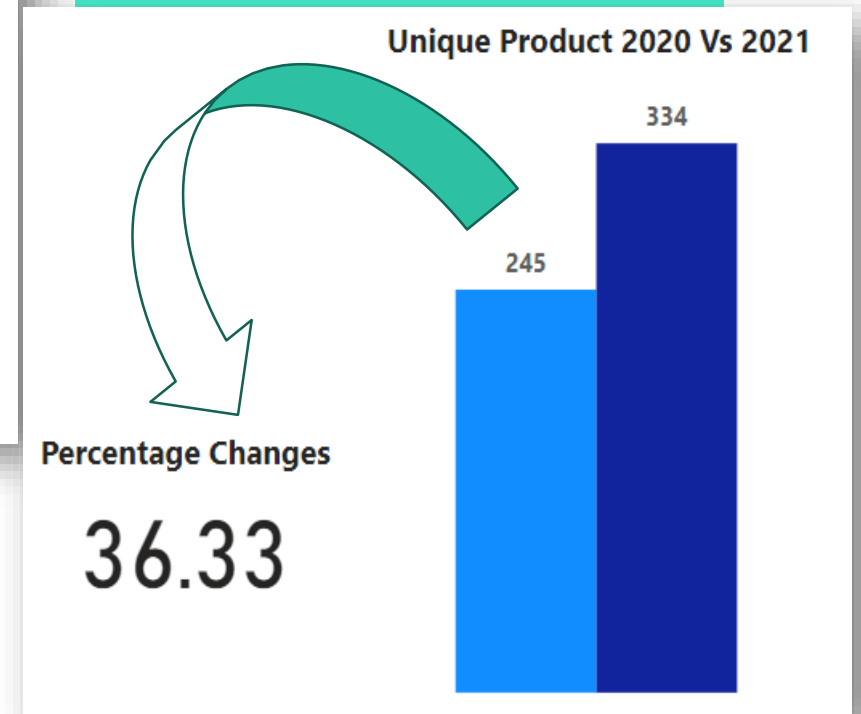
Request 2:
What is the percentage of unique product increase in 2021 vs. 2020?

```sql
With cte20 as

       ( Select Count(product_code) as Unique_Products_2020
         From fact_manufacturing_cost as f
         Where cost_year=2020),

cte21 as

       (Select Count(product_code) as Unique_Products_2021
        From fact_manufacturing_cost as f
        Where cost_year=2021)

Select *,
       Round((Unique_Products_2021-Unique_Products_2020)*100/Unique_Products_2020,2) as Percentage_Chg
From cte20
Cross Join
cte21 ;
```

Unique_Products_2020	Unique_Products_2021	Percentage_Chg
245	334	36.33

Unique Product 2020 Vs 2021

334

245

Percentage Changes

36.33

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

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

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

Product_count by segment

Segment	Count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9
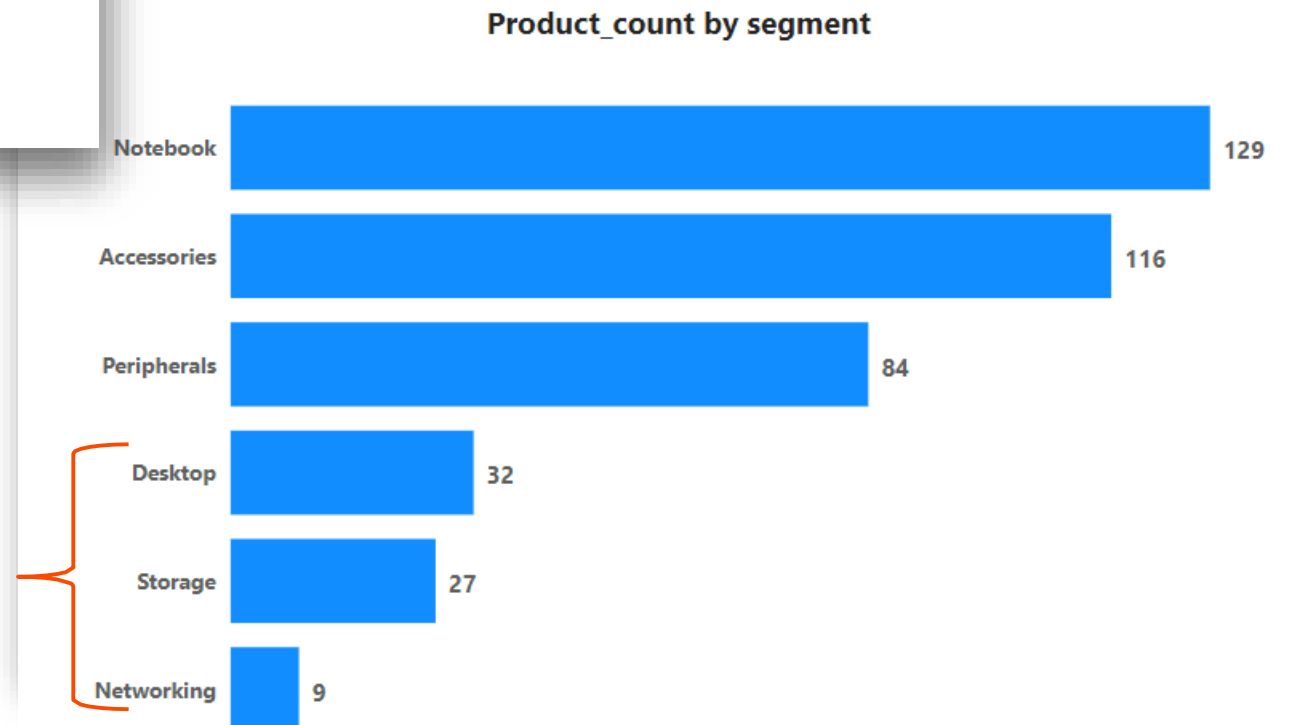
Request 4:
Follow-up: which segment had the most increase in unique products in 2021 vs 2020?

```sql
with cte1 as(
select  dp.segment as A,count(distinct fs.product_code) as B
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment , fs.fiscal_year
having fs.fiscal_year=2020
),

 cte2 as(
select  dp.segment as C,count(distinct fs.product_code) as D
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment, fs.fiscal_year
having fs.fiscal_year= 2021
)

select cte1.A as segment,cte1.B as product_code_2020,
       cte2. D as product_code_2021,(cte2.D-cte1.B ) as difference
from cte1,cte2
where cte1.A=cte2.C;
```

segment	product_code_2020	product_code_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

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
Total	245	334	89

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

```sql
Select
    p.product_code,
    p.product,
    m.manufacturing_cost
From dim_product as p
Join fact_manufacturing_cost as m
Using(product_code)
Where
    manufacturing_cost=(Select Max(manufacturing_cost) from fact_manufacturing_cost) or
    manufacturing_cost=(Select Min(manufacturing_cost) from fact_manufacturing_cost)
Order By manufacturing_cost DESC ;
```

$240.54

A6120110206

Personal Desktop

$0.89

A2118150101

Mouse

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

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 a.customer_code ,

    b.customer,

    CONCAT(ROUND(AVG(pre_invoice_discount_pct)*100,2),'%') AS Average_discount_percentage

FROM fact_pre_invoice_deductions AS a

INNER JOIN

dim_customer AS b

ON a.customer_code = b.customer_code

WHERE market = 'India'

AND fiscal_year = 2021

GROUP BY customer, customer_code

ORDER BY AVG(pre_invoice_discount_pct) DESC

LIMIT 5;
```

customer_code	customer	Average_discount_percentage
90002009	Flipkart	30.83%
90002006	Viveks	30.38%
90002003	Ezone	30.28%
90002002	Croma	30.25%
90002016	Amazon	29.33%
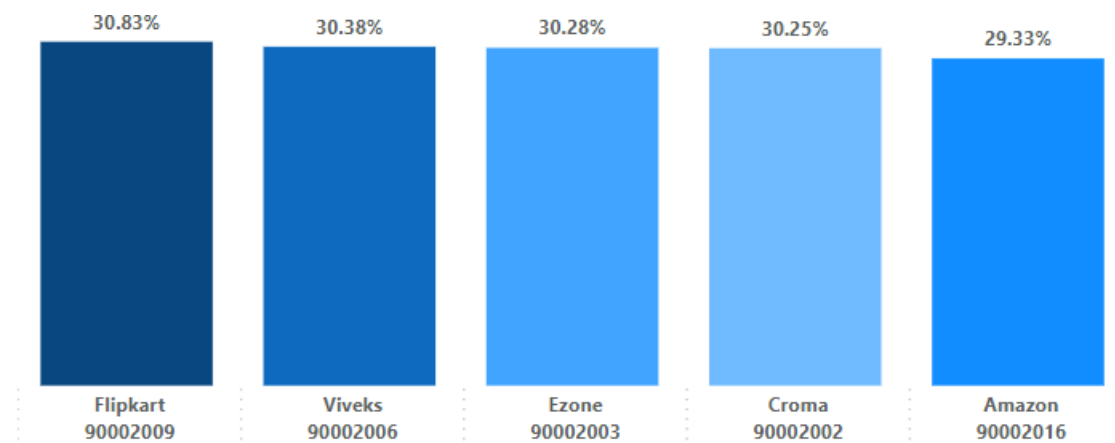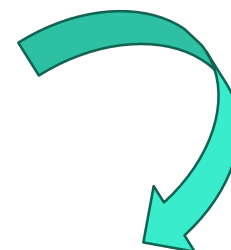
Request 7:
Get the complete report of the gross sales amount for the customer "atliq exclusive" for each month.

```sql
with cte1 as (
select
    monthname(s.date) as A,
    year(s.date) as B ,
    s.fiscal_year,
    (g.gross_price*s.sold_quantity) as C
from fact_sales_monthly s
join fact_gross_price g on s.product_code=g.product_code
join dim_customer c on s.customer_code=c.customer_code
where c.customer="Atliq Exclusive")


select A as month,B as Year, round(sum(C),2) as Gross_sales_amount from cte1
group by month,Year
order by year;
```

month	Year	Sum of Gross_sales_amount
September	2019	9,092,670.34
October	2019	10,378,637.60
November	2019	15,231,894.97
December	2019	9,755,795.06
January	2020	9,584,951.94
February	2020	8,083,995.55
March	2020	766,976.45
April	2020	800,071.95
May	2020	1,586,964.48
June	2020	3,429,736.57
July	2020	5,151,815.40
August	2020	5,638,281.83
September	2020	19,530,271.30
October	2020	21,016,218.21
November	2020	32,247,289.79
December	2020	20,409,063.18
January	2021	19,570,701.71
February	2021	15,986,603.89
March	2021	19,149,624.92
April	2021	11,483,530.30
May	2021	19,204,309.41
June	2021	15,457,579.66
July	2021	19,044,968.82
August	2021	11,324,548.34
Total		**303,926,501.67**

FY 2020

FY 2021

Request 7:
Get the complete report of the gross sales amount for the customer "atliq exclusive" for each month.

32.2M for Nov
Highest Gross
Sales Amount

2.8M for March
Lowest Gross Sales
Amount

Request 8:
In which quarter of 2020, got the maximum 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 quarters,
        round(SUM(sold_quantity)/1000000,2 ) AS total_quantity_sold_mln
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY quarters
ORDER BY total_quantity_sold DESC;
```

	quarters	total_quantity_sold
▶	Q1	7.01
	Q2	6.65
	Q4	5.04
	Q3	2.08
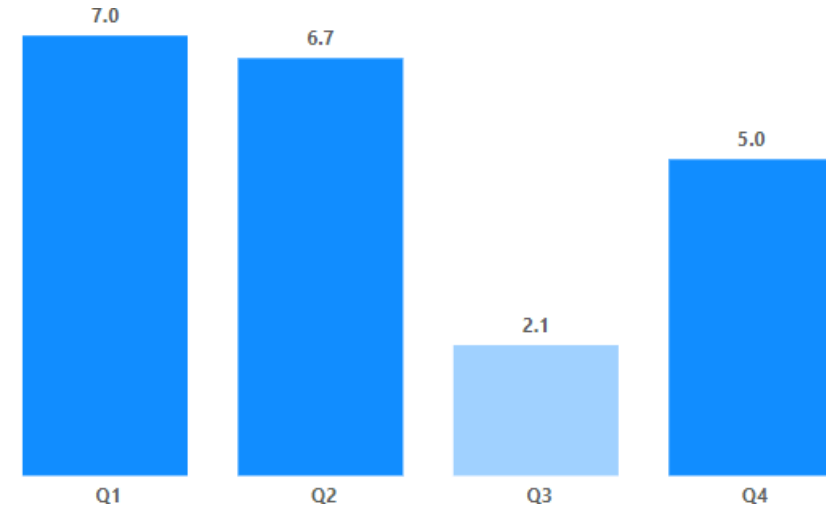
Request 9:
Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?.

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

2.97K (11.31%)

4.07K (15.47%)

channel
- Retailer
- Direct
- Distributor

19.24K (73.22%)
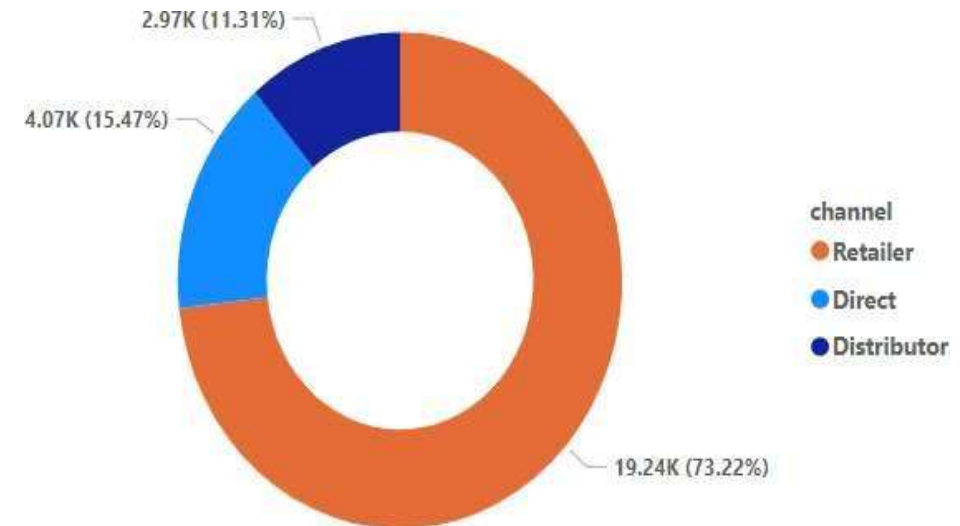
channel	gross_sales_mln	percentage
▶ Retailer	1219.08	73.23%
Direct	257.53	15.47%
Distributor	188.03	11.30%

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,

    rank() over(partition by division order by sum(s.sold_quantity) desc) as rank_order

from fact_sales_monthly s

join dim_product p on s.product_code=p.product_code

where s.fiscal_year=2021

group by p.product,division,s.product_code)


select * from cte1

where rank_order in (1,2,3);
```
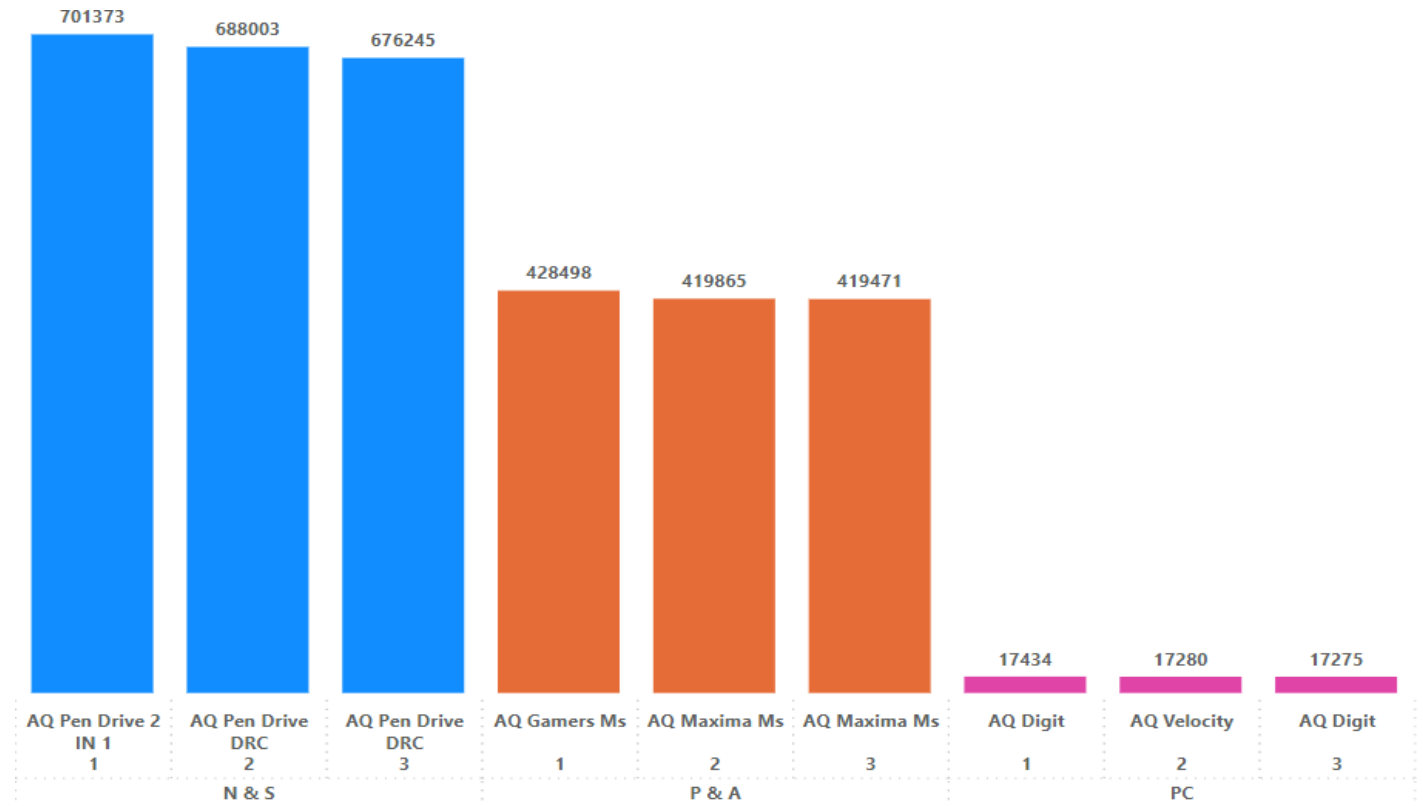

division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2

INSIGHTS

- Our unique product experienced a remarkable **36.33%** increase in sales during the fiscal year 2021 compared to the previous year.

- The **top-selling** product in our portfolio is the **Notebook**, while the **Networking product** line shows the **lowest sales figures**.

- Among our product manufacturing costs, **Desktops have the highest expenditure**, whereas **Mouse** production costs are the **lowest.**

- During FY2021**, Flipkart** made the highest customer contribution with an impressive **30.83%**, whereas **Amazon's** customer contribution was at its lowest, with a figure of **29.33%**.

- During the **lowest sales** period, which was in March 2020, we achieved sales of **2.8 million** units. However, in November 2021, we experienced our **highest sales** contribution with a record of **32.2 million** units sold.

THANK YOU

How to rich me ?

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