AtliQ
Hardware

AD-HOC INSIGHTS

Domain : Consumer Goods

Agenda

Overview

Ad-Hoc Queries and Visualizations

Data Model

Closing Remarks and Links

Overview

About AtliQ

- AtliQ Hardware is a leading computer hardware manufacturer based in India, renowned for its strong global presence. The company is committed to innovation and expansion, particularly in data analytics, aiming to strengthen insights and support strategic decision-making.
- To achieve this, AtliQ Hardware is actively scaling its data analyst team, enhancing its ability to transform data into actionable business intelligence for sustained growth

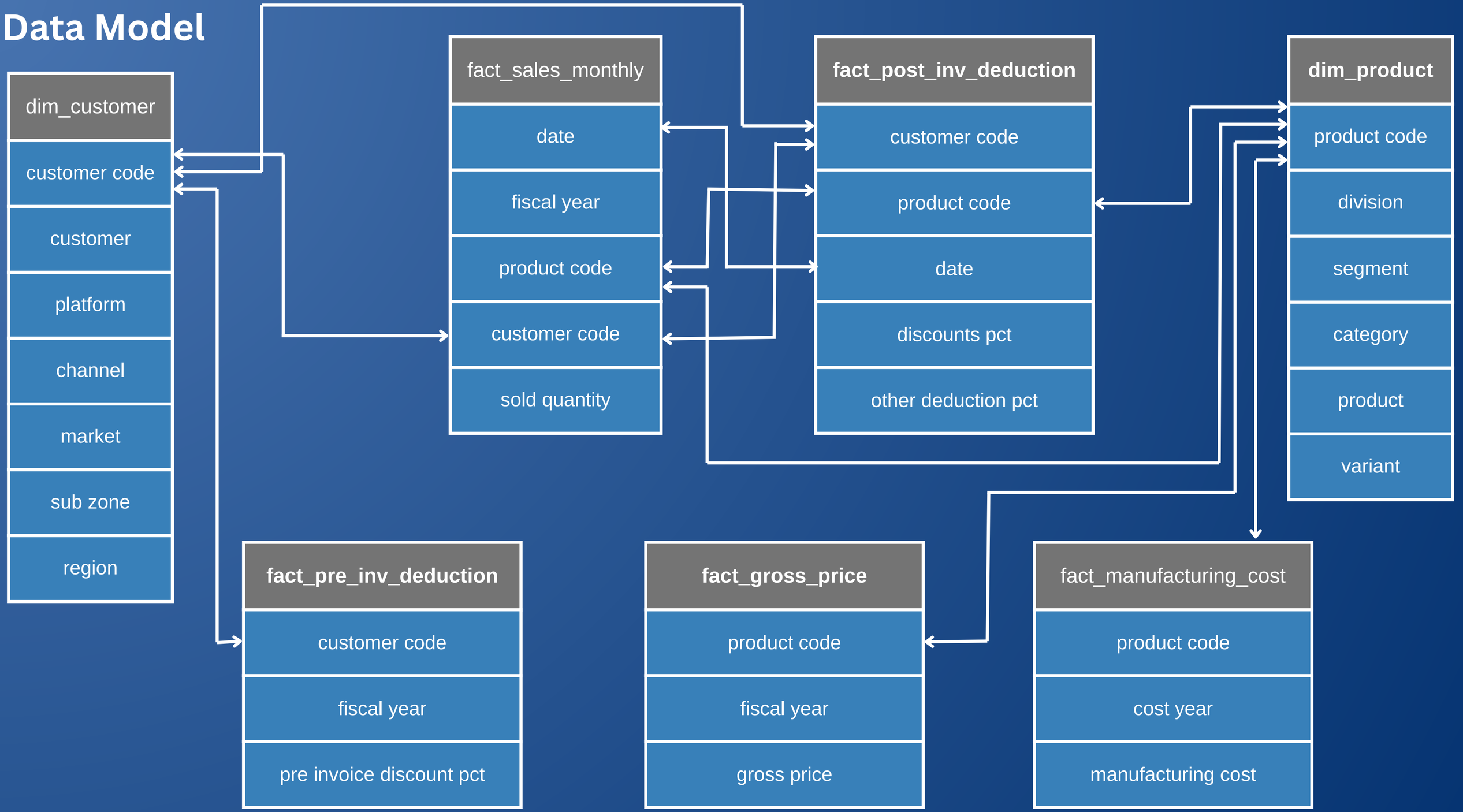
Objective

- Atliq Hardware has initiated a SQL-based challenge to evaluate candidates for its analyst role, aiming to assess problem-solving abilities and data-driven decision-making skills.
- The challenge is designed to generate key business insights and required reports, ensuring candidates can leverage structured queries to drive informed strategic decisions effectively.

Key Points

- AtliQ follow the fiscal year from September to August
- Tools used in this submission are :
  MySQL for Query Execution &
  Power BI for Data Visualizations

Data Model


dim_customer
customer code
customer
platform
channel
market
sub zone
region
fact_sales_monthly
date
fiscal year
product code
customer code
sold quantity
fact_post_inv_deduction
customer code
product code
date
discounts pct
other deduction pct
dim_product
product code
division
segment
category
product
variant
fact_pre_inv_deduction
customer code
fiscal year
pre invoice discount pct
fact_gross_price
product code
fiscal year
gross price
fact_manufacturing_cost
product code
cost year
manufacturing cost

Ad - Hoc
Queries and Visualizations

PROVIDE THE LIST OF MARKETS IN THE APAC REGION IN WHICH "ATLIQ EXCLUSIVE" OPERATES ITS BUSINESS.

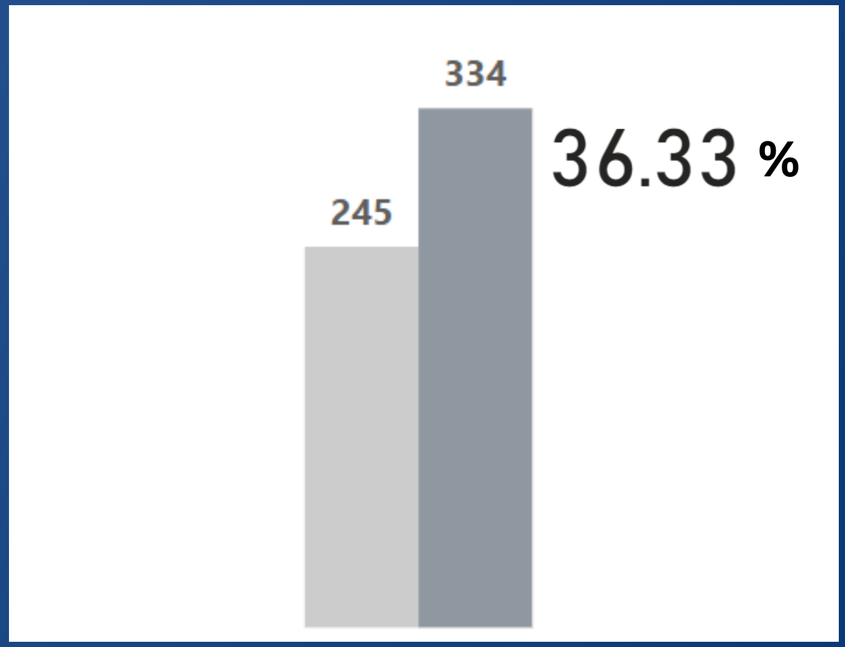
```sql
select market
from dim_customer
where customer ='Atliq Exclusive'
and region = 'APAC';
```

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

WHAT IS THE PERCENTAGE INCREASE OF UNIQUE PRODUCTS SOLD IN 2021 COMPARED TO 2020.

```sql
with products as
                (
                 select count(distinct (case when fiscal_year=2020 then product_code end)) as unique_products_2020,
                        count(distinct (case when fiscal_year=2021 then product_code end)) as unique_products_2021
                 from fact_sales_monthly
                )
select *,
       round((unique_products_2021 - unique_products_2020)*100/unique_products_2020,2) as percentage_change
from products ;
```

	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.33

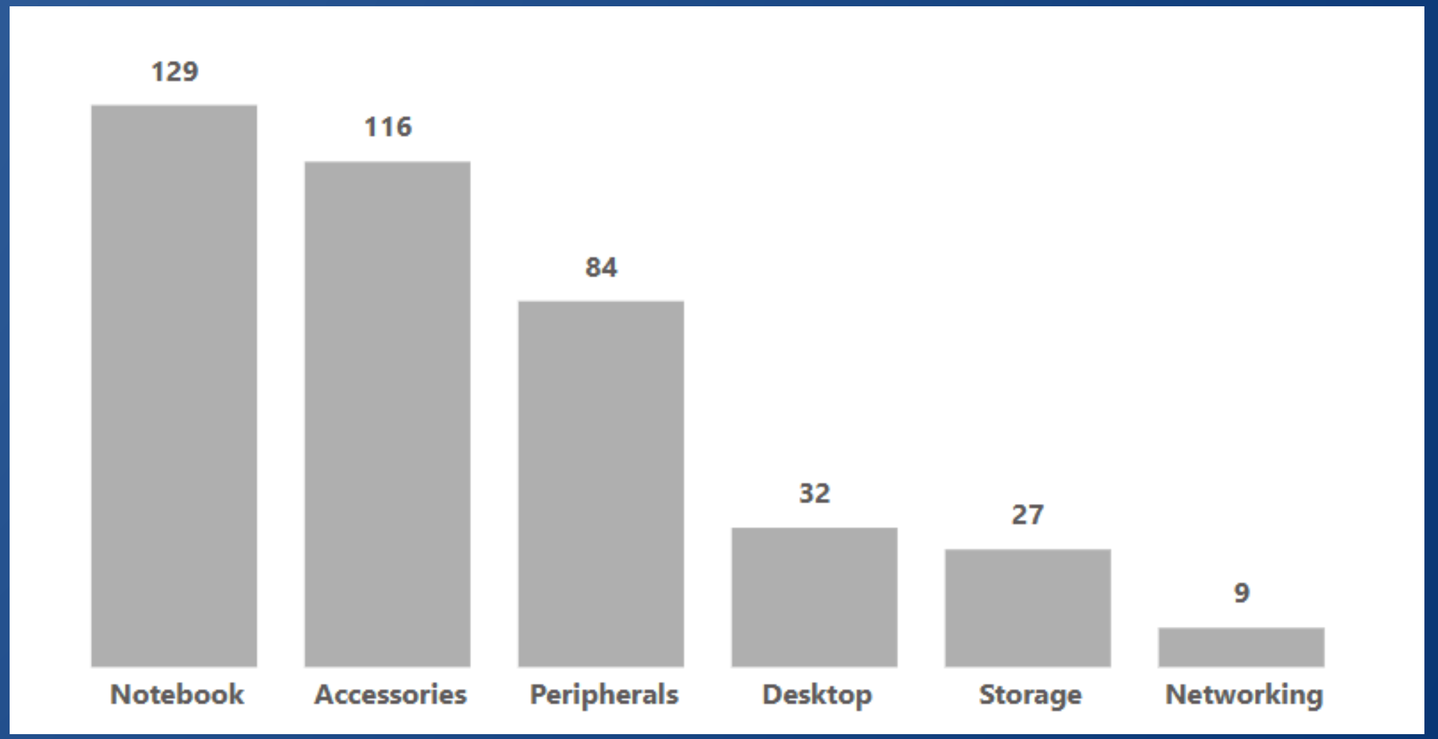


PROVIDE A REPORT WITH COUNT OF UNIQUE PRODUCTS FOR EACH SEGMENT IN DESCENDING ORDER.

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

Result Grid | Filter Rows:

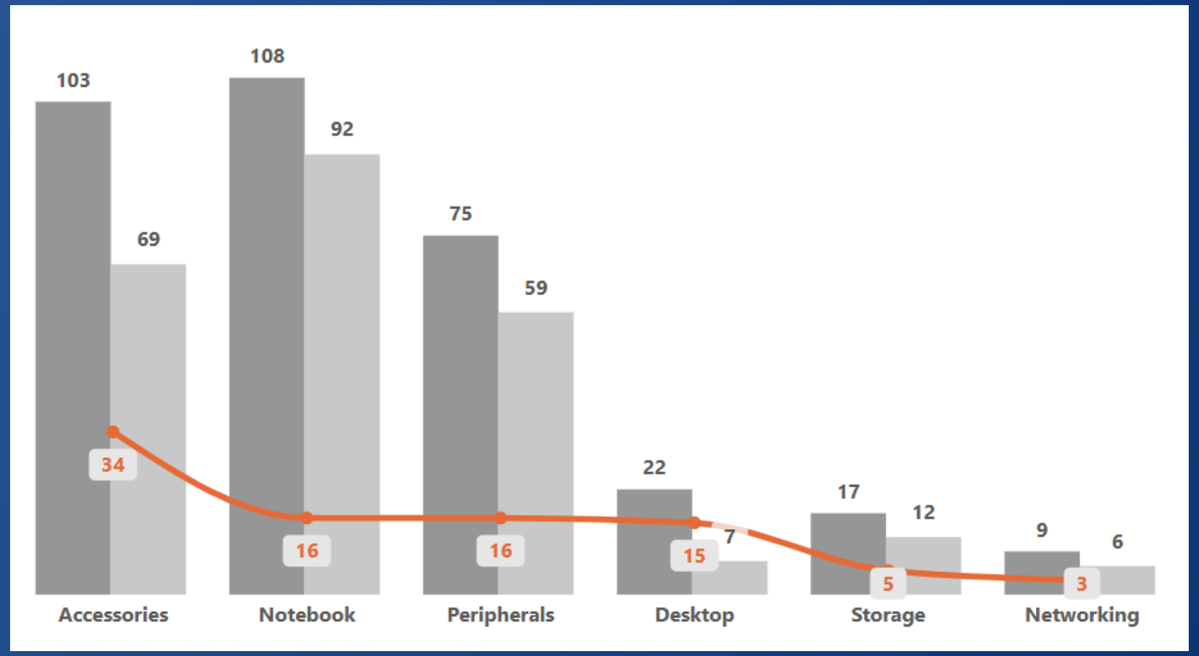
segment	product_count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9



WHICH SEGMENT HAD THE MOST INCREASE SALES OF UNIQUE PRODUCTS IN 2021 VS 2020.

```sql
with product_20 as
                ( select segment, count(distinct p.product_code) as product_count_2020
                  from dim_product p
                  join fact_sales_monthly s  on p.product_code = s.product_code
                  where s.fiscal_year = 2020
                  group by segment
                ),
     product_21 as
                ( select segment, count(distinct p.product_code) as product_count_2021
                  from dim_product p
                  join fact_sales_monthly s  on p.product_code = s.product_code
                  where s.fiscal_year = 2021
                  group by segment
                )
select p1.segment, p1.product_count_2020, p2.product_count_2021,
       (product_count_2021 - product_count_2020) as difference
from product_20 p1
join product_21 p2  on p1.segment = p2.segment
order by difference desc;
```

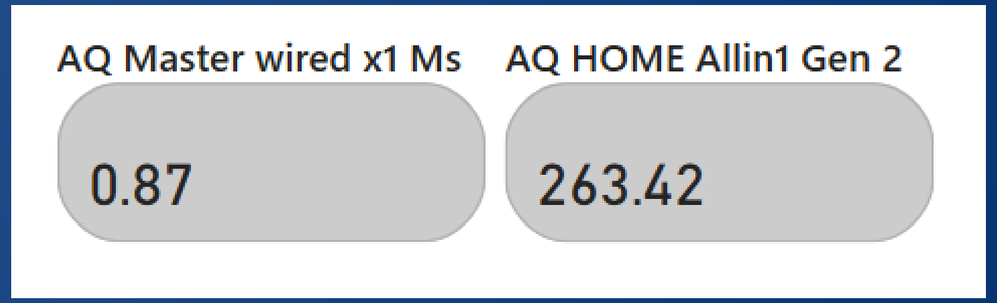
segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3



GET THE PRODUCTS THAT HAVE THE HIGHEST AND LOWEST MANUFACTURING COSTS.

```sql
select c.product_code, p.product, c.manufacturing_cost
from fact_manufacturing_cost c
join dim_product p on c.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)
                            );
```

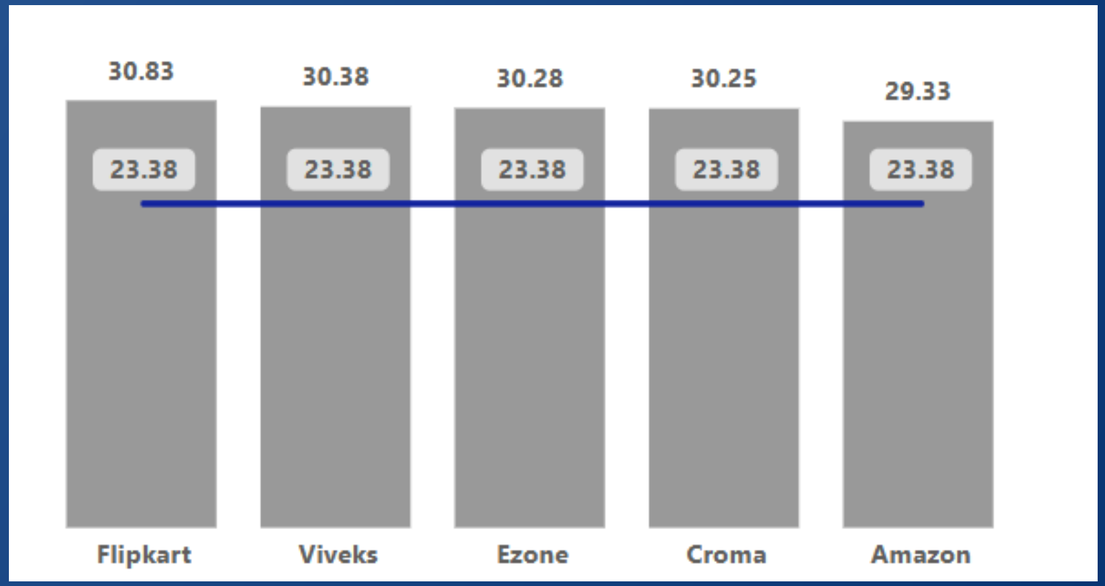
	product_code	product	manufacturing_cost
▶	A2118150101	AQ Master wired x1 Ms	0.8654
	A6121110208	AQ HOME Allin1 Gen 2	263.4207



GENERATE A REPORT FOR TOP 5 CUSTOMERS IN INDIAN MARKET FOR FISCAL YEAR 2021 WHO RECEIVED THE PRE_INVOICE_DISCOUNT_PCT MORE THAN THE AVERAGE PRE_INVOICE_DISCOUNT_PCT

```sql
select p.customer_code, c.customer, round((p.pre_invoice_discount_pct*100),2) as disctount_percent
from fact_pre_invoice_deductions p
join dim_customer c on p.customer_code = c.customer_code
where fiscal_year = 2021
and c.market = 'India'
and pre_invoice_discount_pct >= ( select avg(pre_invoice_discount_pct)
                                  from fact_pre_invoice_deductions
                                )
order by p.pre_invoice_discount_pct desc
limit 5;
```

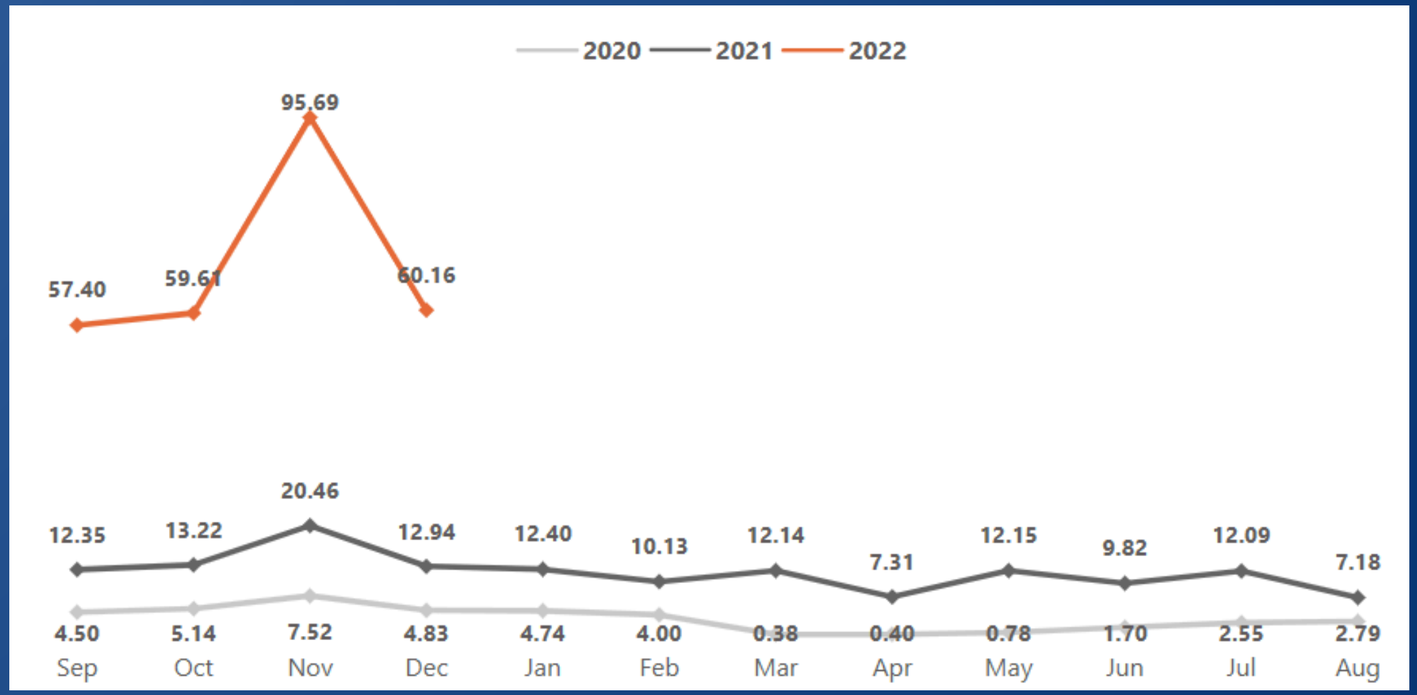
customer_code	customer	disctount_percent
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33



GENERATE A REPORT FOR "ATLIQ EXCLUSIVE" HAVING THE GROSS SALES AMOUNT OF EACH MONTH FOR FISCAL YEAR 2020 AND ONWARDS.

```sql
select monthname(date) as month, year(date) as year, fiscal_year, customer,
       round(sum(gross_sales)/1000000,2) as gross_sales
from gross_sales_amount
where customer= 'Atliq Exclusive'
and fiscal_year >= 2020
group by monthname(date), year(date), fiscal_year, customer;
```

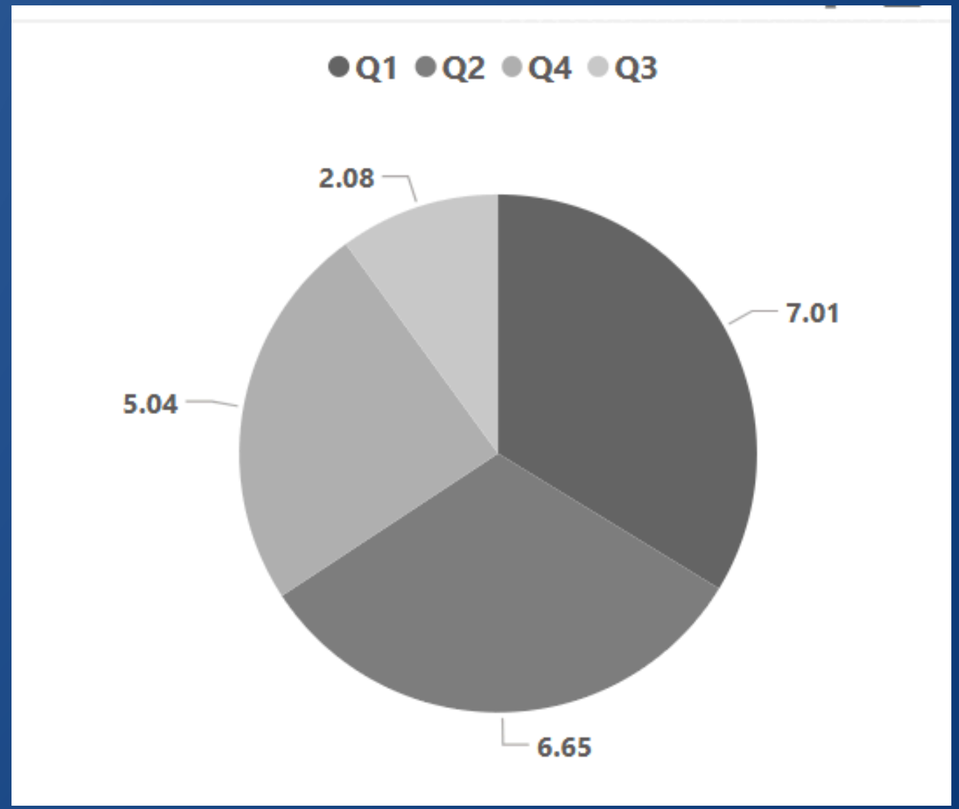
month	year	fiscal_year	customer	gross_sales
September	2019	2020	Atliq Exclusive	4.50
October	2019	2020	Atliq Exclusive	5.14
November	2019	2020	Atliq Exclusive	7.52
December	2019	2020	Atliq Exclusive	4.83
January	2020	2020	Atliq Exclusive	4.74
February	2020	2020	Atliq Exclusive	4.00
March	2020	2020	Atliq Exclusive	0.38
April	2020	2020	Atliq Exclusive	0.40
May	2020	2020	Atliq Exclusive	0.78
June	2020	2020	Atliq Exclusive	1.70
July	2020	2020	Atliq Exclusive	2.55
August	2020	2020	Atliq Exclusive	2.79



WHICH QUARTER OF 2020, OBSERVED THE MAXIMUM TOTAL_SOLD_QUANTITY

```sql
select get_fiscal_qtr(date) as quarter, round(sum(sold_quantity)/1000000,2) as total_sold_qty
from fact_sales_monthly
where fiscal_year = 2020
group by get_fiscal_qtr(date)
order by total_sold_qty desc ;
```

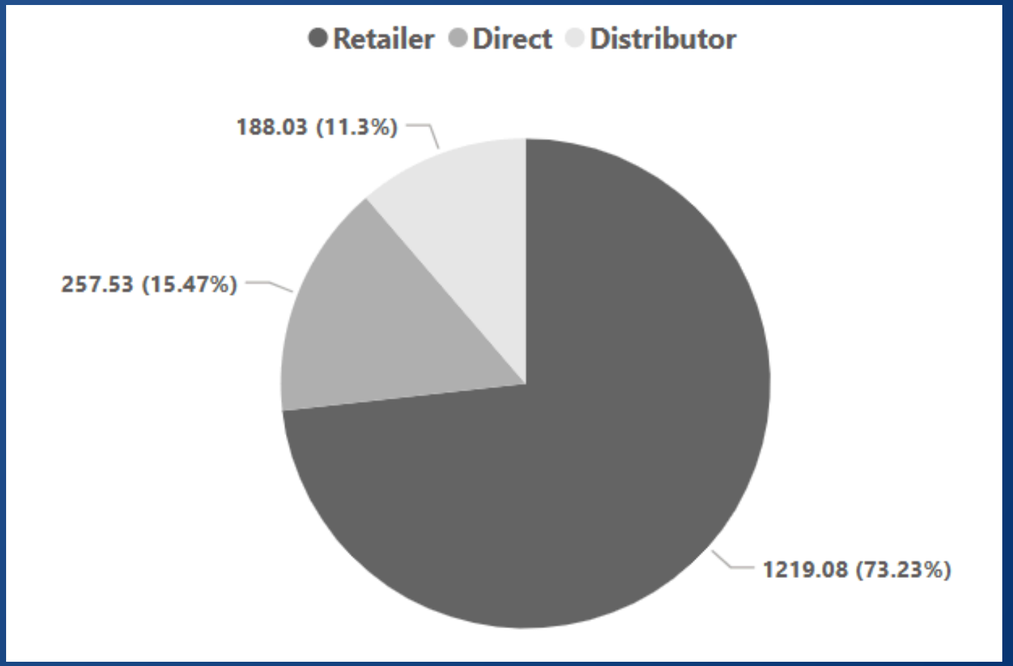
quarter	total_sold_qty
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08



GENERATE A REPORT FOR THE GROSS SALES FOR THE FISCAL YEAR 2021 BASED ON THE CHANNEL AND WITH PERCENTAGE CONTRIBUTION.

```sql
with channel_gs as
                ( select c.channel, round(sum(gross_sales)/1000000,2) as total_gross_sales
                  from gross_sales_amount gs
                  join dim_customer c on gs.customer_code = c.customer_code
                  where fiscal_year = 2021
                  group by c.channel
                )
select *,
       round(total_gross_sales*100/sum(total_gross_sales) over(),2) as percentage_contribution
from channel_gs;
```

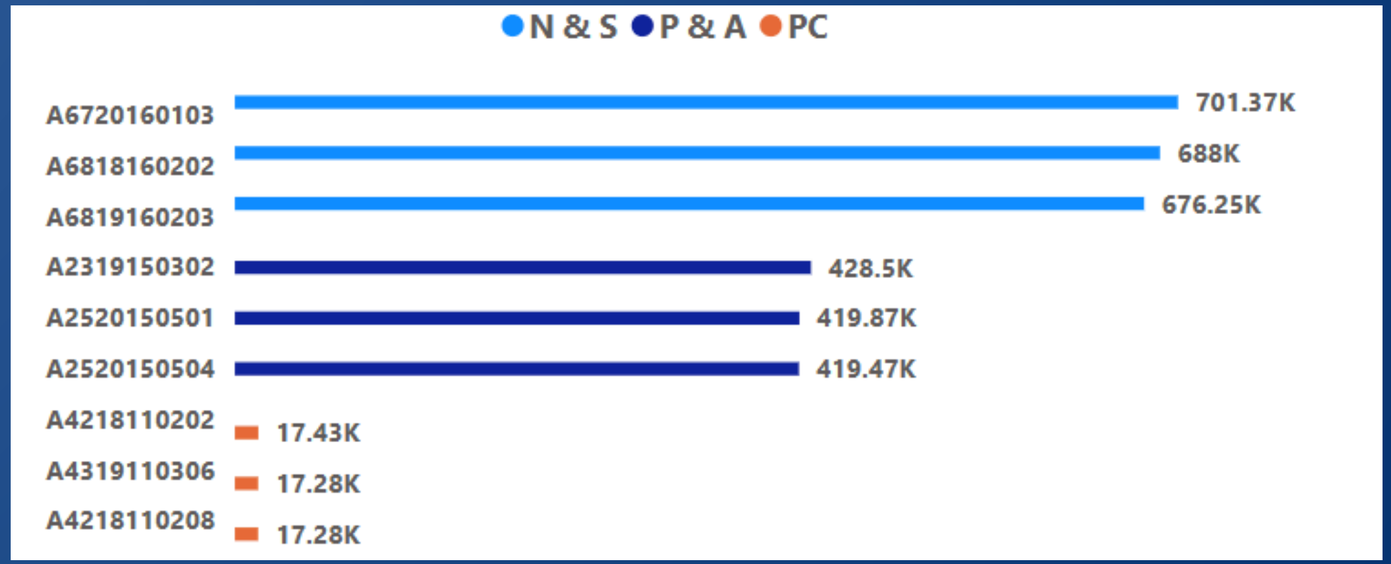
channel	total_gross_sales	percentage_contribution
Direct	257.53	15.47
Distributor	188.03	11.30
Retailer	1219.08	73.23



GET THE TOP 3 PRODUCTS IN EACH DIVISION HAVING HIGHEST TOTAL_SOLD_QUANTITY FOR THE FISCAL_YEAR 2021.

```sql
with sold_qty as
                ( select product_code, sum(sold_quantity) as total_sold_qty
                  from fact_sales_monthly s
                  where s.fiscal_year = 2021
                  group by product_code
                ),
    order_qty as
                ( select p.division, s.product_code, p.product, s.total_sold_qty,
                         dense_rank() over(partition by division order by total_sold_qty desc) as d_rank
                  from sold_qty s
                  join dim_product p on s.product_code = p.product_code
                )
select *
from order_qty
where d_rank <= 3;
```

division	product_code	product	total_sold_qty	d_rank
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



Thank You

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Github : https://github.com/DhingraShubham

Portfolio : https://codebasics.io/portfolio/Shubham-Dhingra