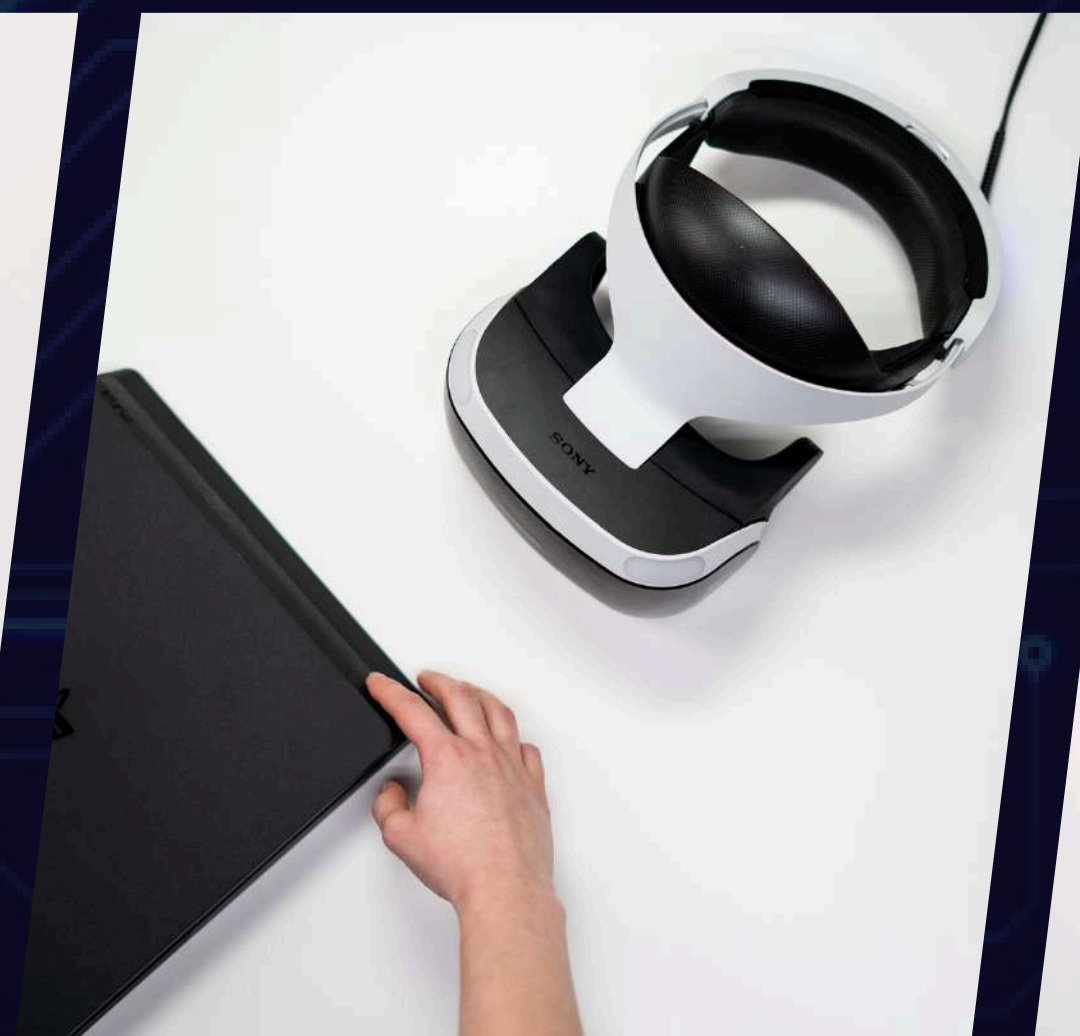# Resume Project Challenge #4

OUR PROJECT

CONSUMER GOODS ANALYSIS

AGENDA

01

PROBLEM STATEMENT

02

BUSINESS MODEL

03

DATA SET

04

AD-HOC INSIGHTS

ABOUT ATLIQ

*Atliq Hardware (fictitious company) is one of the major computer
hardware manufacturers in India, with a
strong presence in other
nations.*

PROBLEM STATEMENT

01 The management did note that they do not have sufficient insights to make prompt, wise, and data-informed judgments.

02 They needed quick and data informed descisions to saty competetive in ever evolving market.
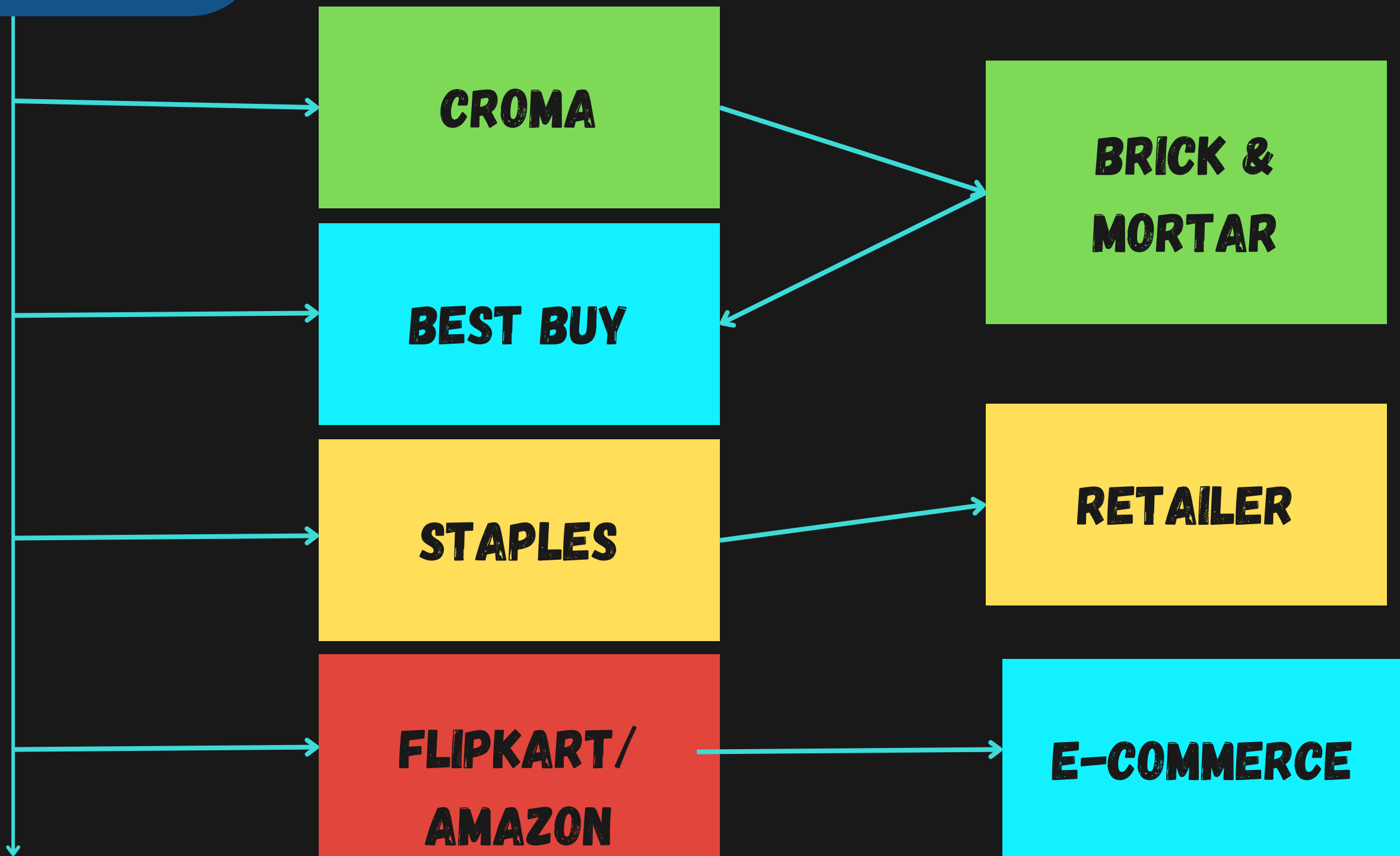
>>>

OUR MISSION

In this project I have worked with a data related to consuemer goods.
The goal is to help the management to get insights into 10 ad-hoc request
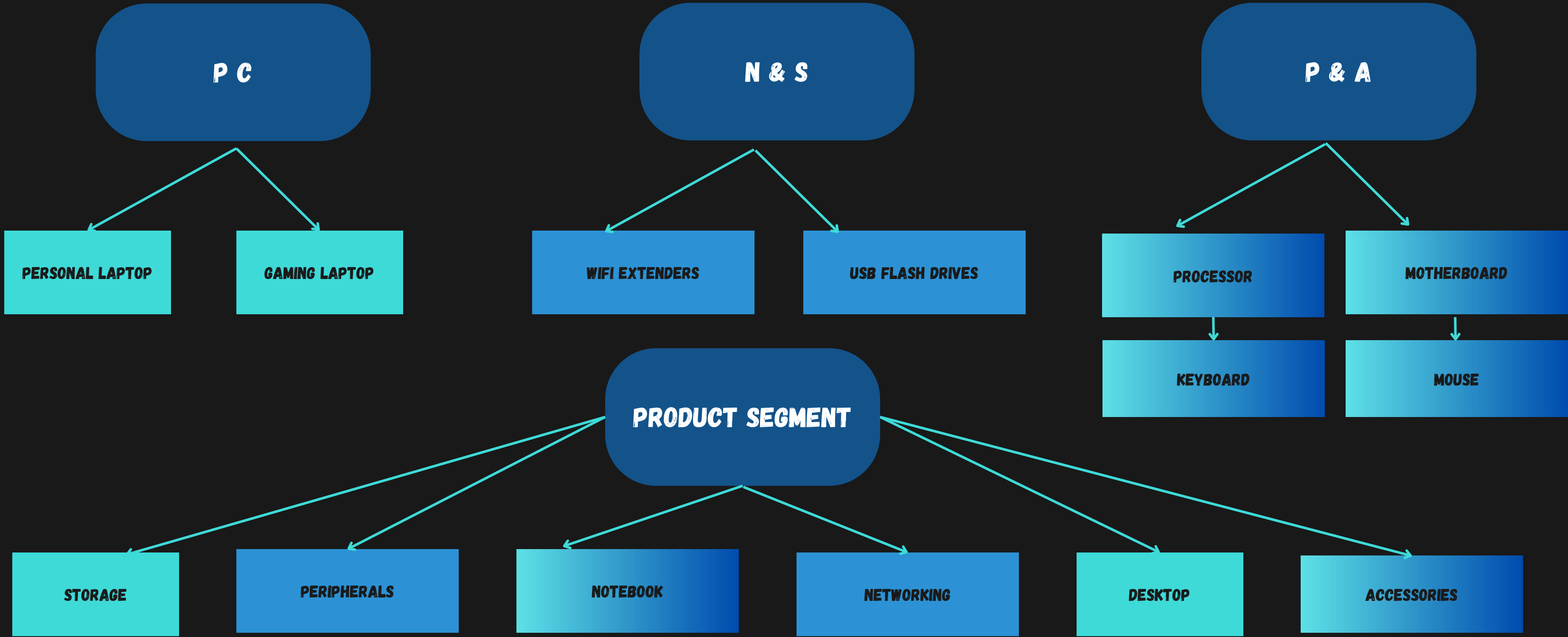using SQL queries.

BUSINESS MODEL

Customers

CROMA

BEST BUY

STAPLES

FLIPKART/ AMAZON

BRICK & MORTAR

RETAILER

E-COMMERCE

PRODUCT DIVISION

PC

N & S

P & A

PERSONAL LAPTOP

GAMING LAPTOP

WIFI EXTENDERS

USB FLASH DRIVES

PROCESSOR

MOTHERBOARD

KEYBOARD

MOUSE

PRODUCT SEGMENT

STORAGE

PERIPHERALS

NOTEBOOK

NETWORKING

DESKTOP

ACCESSORIES

DATA SET

1. DIM_CUSTOMER

2. DIM_PRODUCT

3. FACT_GROSS_PRICE

4. FACT_SALES_MONTHLY

5. FACT_MANUFACTURING_COST

6. FACT_PRE_INVOICE_DEDUCTION

AD-HOC INSIGHTS

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

QUERY

```sql
1  select distinct market
2  from dim_customer
3  where customer="Atliq Exclusive" and region="APAC"
```

OUTPUT

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

VISUAL PRESENTATION

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

QUERY

```sql
1 • With X as
2       (select count(distinct product_code) as unique_products_2020
3       from fact_sales_monthly where fiscal_year=2020) ,
4
5       Y as
6       (select count(distinct product_code) as unique_products_2021
7       from fact_sales_monthly where fiscal_year=2021)
8
9  select
10 X.unique_products_2020,
11 Y.unique_products_2021,
12 round(((Y.unique_products_2021 - X.unique_products_2020)/X.unique_products_2020)*100,2)
13 as percentage_chng from X , Y;
```
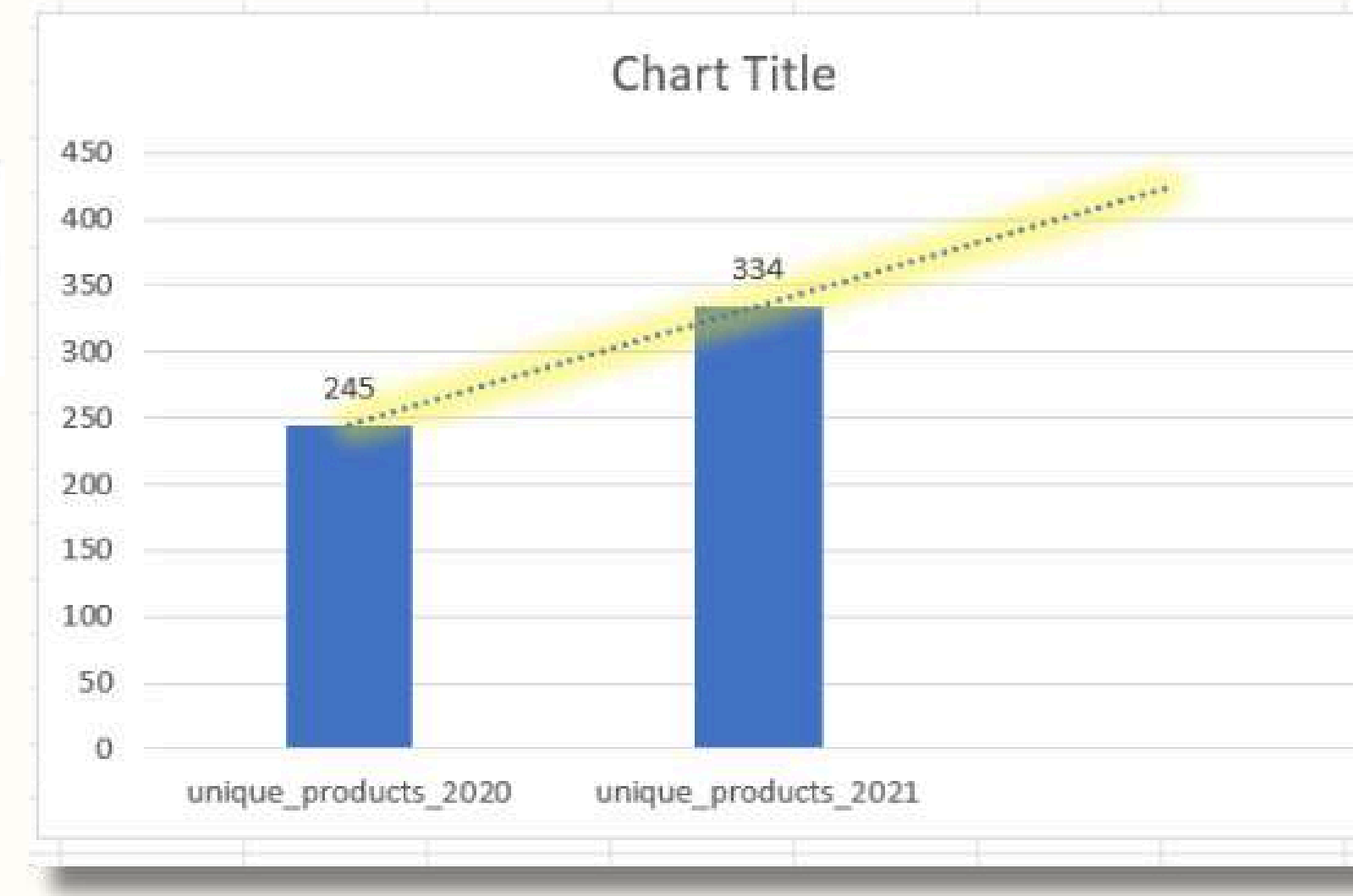
OUTPUT

unique_products_2020	unique_products_2021	percentage_chng
245	334	36.33

CHART VIEW

unique_products_2020	unique_products_2021	percentage_chng
245	334	36.33

Chart Title
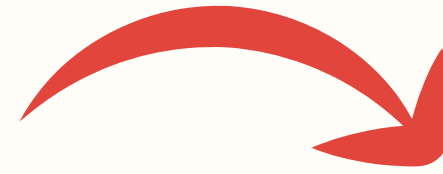
Insights.-

Demand and production both has **increased**

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

QUERY

```sql
1   select segment,
2         count(distinct product_code) as product_count
3   from dim_product
4   group by segment
5   order by product_count desc;
```

OUTPUT

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

CLUSTERED BAR CHART VIEW

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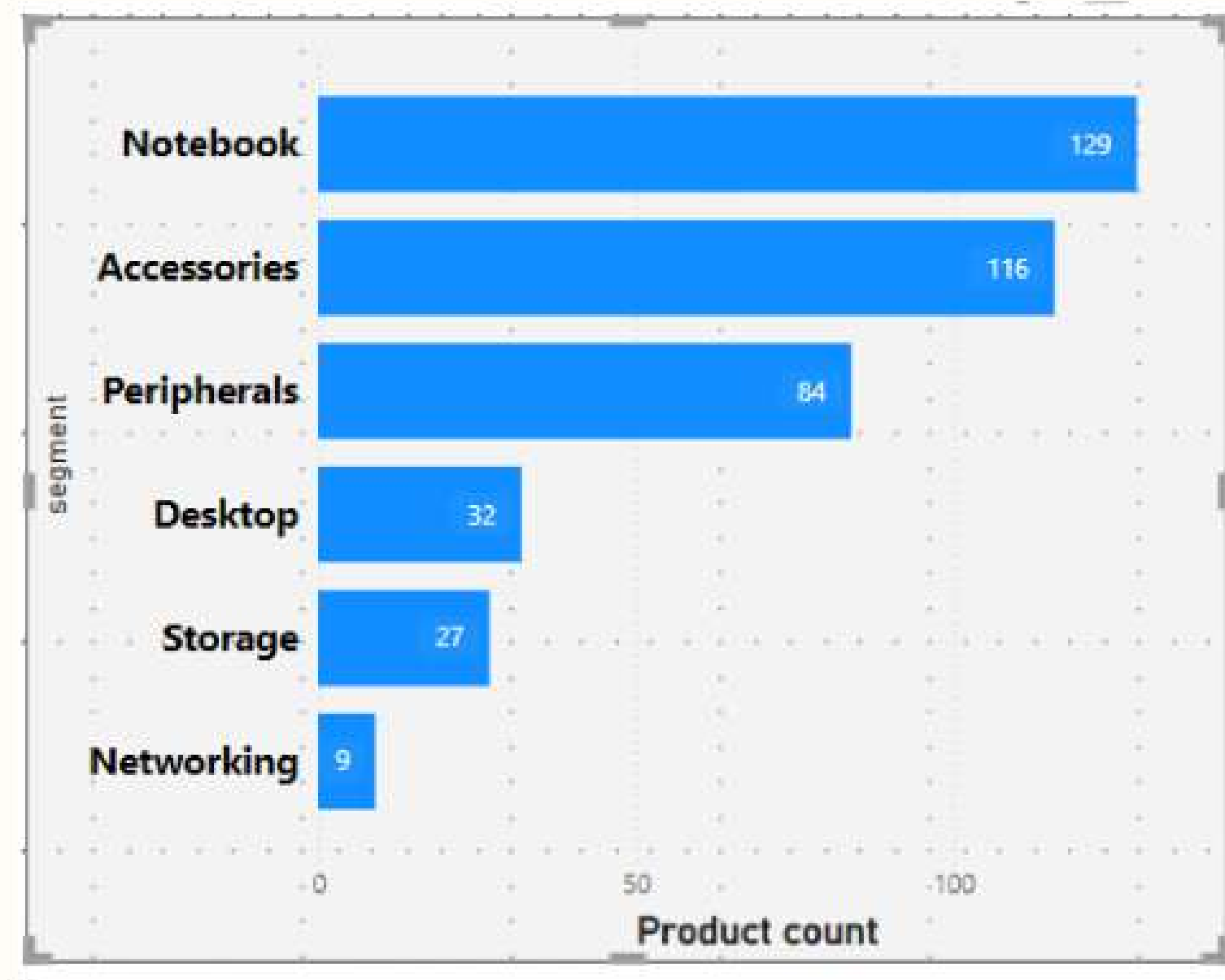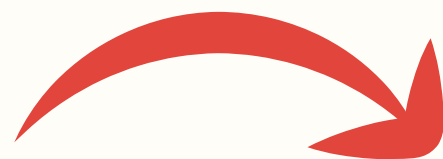
Insights.-

- *Segments. notebooks, accessories, and peripherals are showing significant manufacturing growth as compared to desktops, storage, and networking.*

- *Notebooks, accessories, and peripherals constitute **83%** of the total manufactured product.*

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

QUERY

```sql
1  with X as (SELECT count(distinct s.product_code) as product_count_2020,p.segment
2  from fact_sales_monthly s
3  join dim_product p
4  on s.product_code=p.product_code
5  where s.fiscal_year =2020
6  group by p.segment) ,
7
8  Y as (SELECT count(distinct s.product_code) as product_count_2021,p.segment
9  from fact_sales_monthly s
10 join dim_product p
11 on s.product_code=p.product_code
12 where s.fiscal_year =2021
13 group by p.segment)
14
15 select x.segment,product_count_2020,product_count_2021,
16        abs(x.product_count_2020 - y.product_count_2021) as difference
17 from x
18 join y
19 on x.segment=y.segment
20 order by difference desc;
```

LINE & CLUSTERED COLUMN CHART

OUTPUT

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
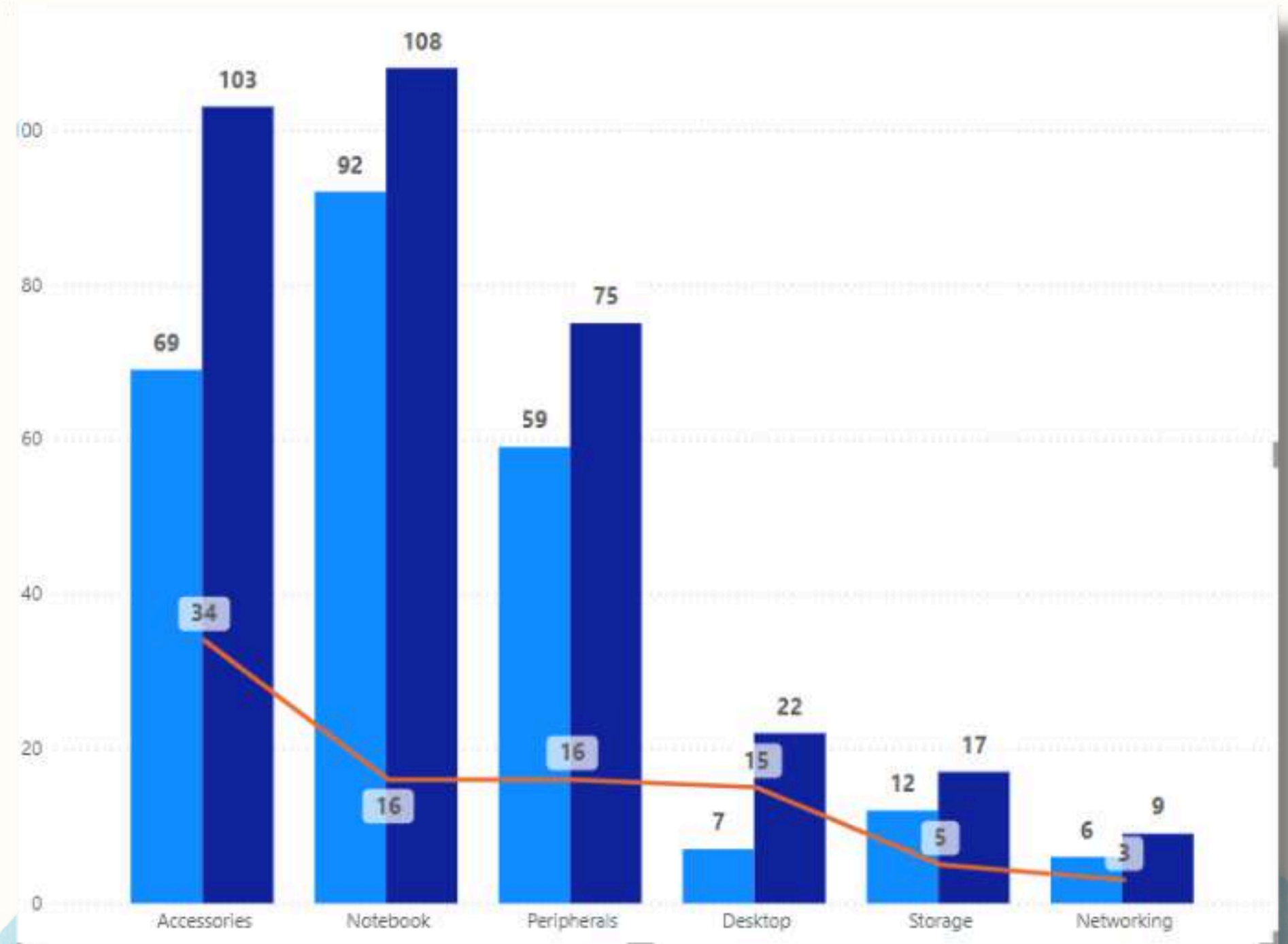
Insights.-

- *Accessories had the largest increase in production.*

- *Storage and networking are experiencing slower production growth than other segments.*

5. GET THE PRODUCTS THAT HAVE THE HIGHEST AND LOWEST MANUFACTURING COSTS. THE FINAL OUTPUT SHOULD CONTAIN THESE FIELDS

product_code product manufacturing_cost

QUERY

```sql
1  select m.product_code , p.product , m.manufacturing_cost
2  from fact_manufacturing_cost m
3  join dim_product p
4  on m.product_code=p.product_code
5  where m.manufacturing_cost = (select max(manufacturing_cost)
6  from fact_manufacturing_cost)
7   or m.manufacturing_cost =(select min(manufacturing_cost)
8  from fact_manufacturing_cost)
9  order by manufacturing_cost desc;
```

OUTPUT

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

$240.54
A6120110206
AQ HOME Allin1 Gen 2

Personal Desktop

$0.89
A2118150101
AQ Master wired x1 Ms

Mouse

Insights.-

- *Mouse. AQ Master wired x1 Ms has the lowest manufacturing cost.*

- *Personal Desktop. AQ Home Allin1 Gen2 has the highest 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

QUERY

```sql
select c.customer_code , c.customer ,
  round(avg(d.pre_invoice_discount_pct)*100,2) as avg_dis_pct
from fact_pre_invoice_deductions d
join dim_customer c
on d.customer_code=c.customer_code
where fiscal_year=2021 and c.market="india"
group by d.customer_code , c.customer
order by avg_dis_pct desc
limit 5;
```

OUTPUT

customer_code	customer	avg_dis_pct
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33
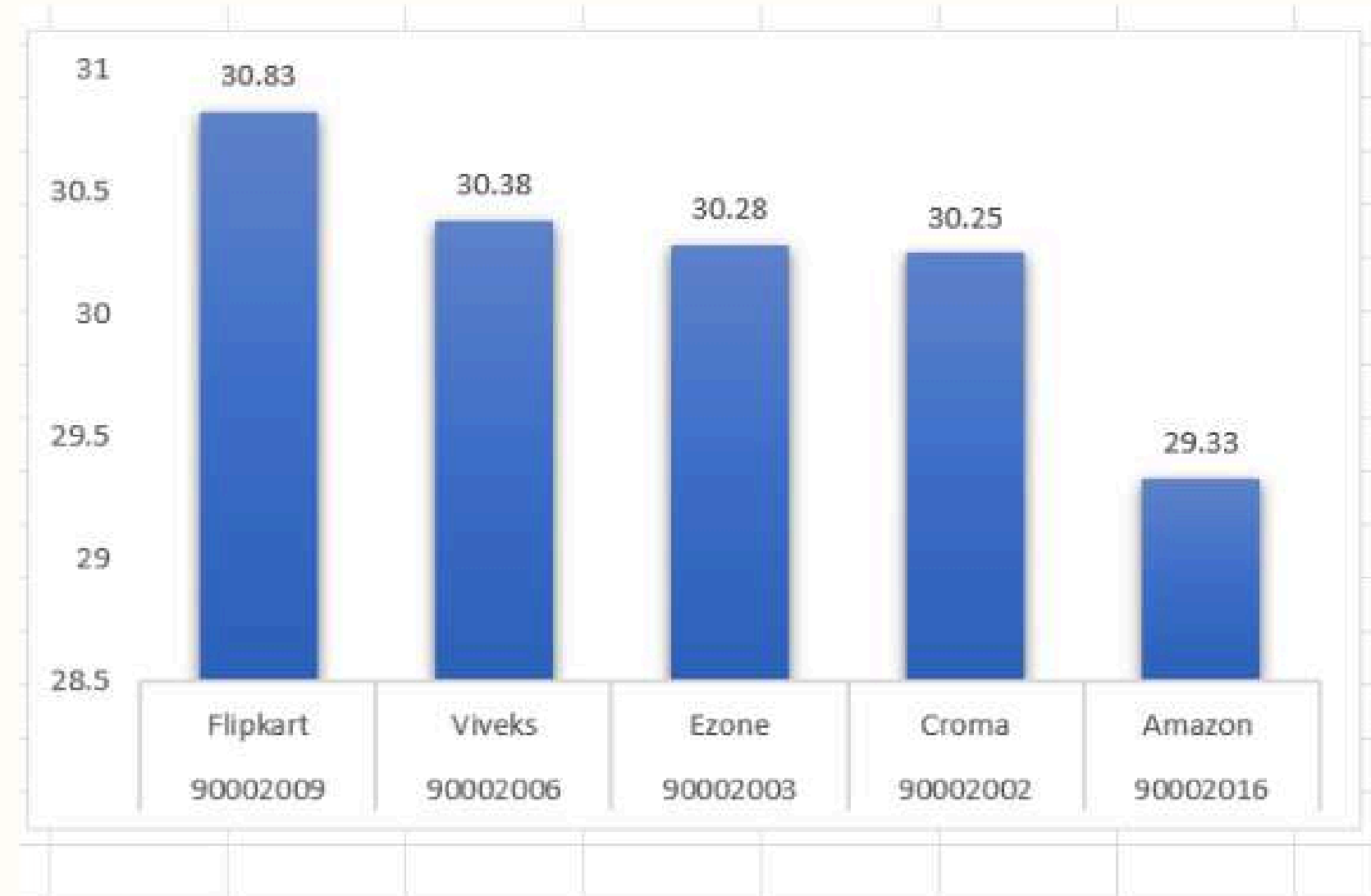
Insights.-

- The **largest** average pre-invoice discount was given to flipkart.
- The **least** average pre-invoice discount was given to Amazon.

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

Month, Year ,Gross sales Amount

QUERY

```sql
select monthname(s.date) as month , s.fiscal_year,
round(sum(g.gross_price*sold_quantity),2)as gross_sales_amt
from fact_sales_monthly s
join dim_customer c using (customer_code)
join fact_gross_price g using (product_code)
where customer="atliq exclusive"
group by monthname(s.date) , s.fiscal_year
order by fiscal_year;
```

month	fiscal_year	gross_sales_amt
September	2020	9092670.34
October	2020	10378637.60
November	2020	15231894.97
December	2020	9755795.06
January	2020	9584951.94
February	2020	8083995.55
March	2020	766976.45
April	2020	800071.95
May	2020	1586964.48
June	2020	3429736.57
July	2020	5151815.40
August	2020	5638281.83
September	2021	19530271.30
October	2021	21016218.21
November	2021	32247289.79
December	2021	20409063.18
January	2021	19570701.71
February	2021	15986603.89
March	2021	19149624.92
April	2021	11483530.30
May	2021	19204309.41
June	2021	15457579.66
July	2021	19044968.82
August	2021	11324548.34

FY 2020

79.5 M

FY 2021

224.4 M

Insights.-

- The lowest Gross sales total for both fiscal years is in March (2020)

- The highest Gross sales total for both fiscal years is in November (2020).

- 73.8% of the total Gross sales figure is in FY 2021.
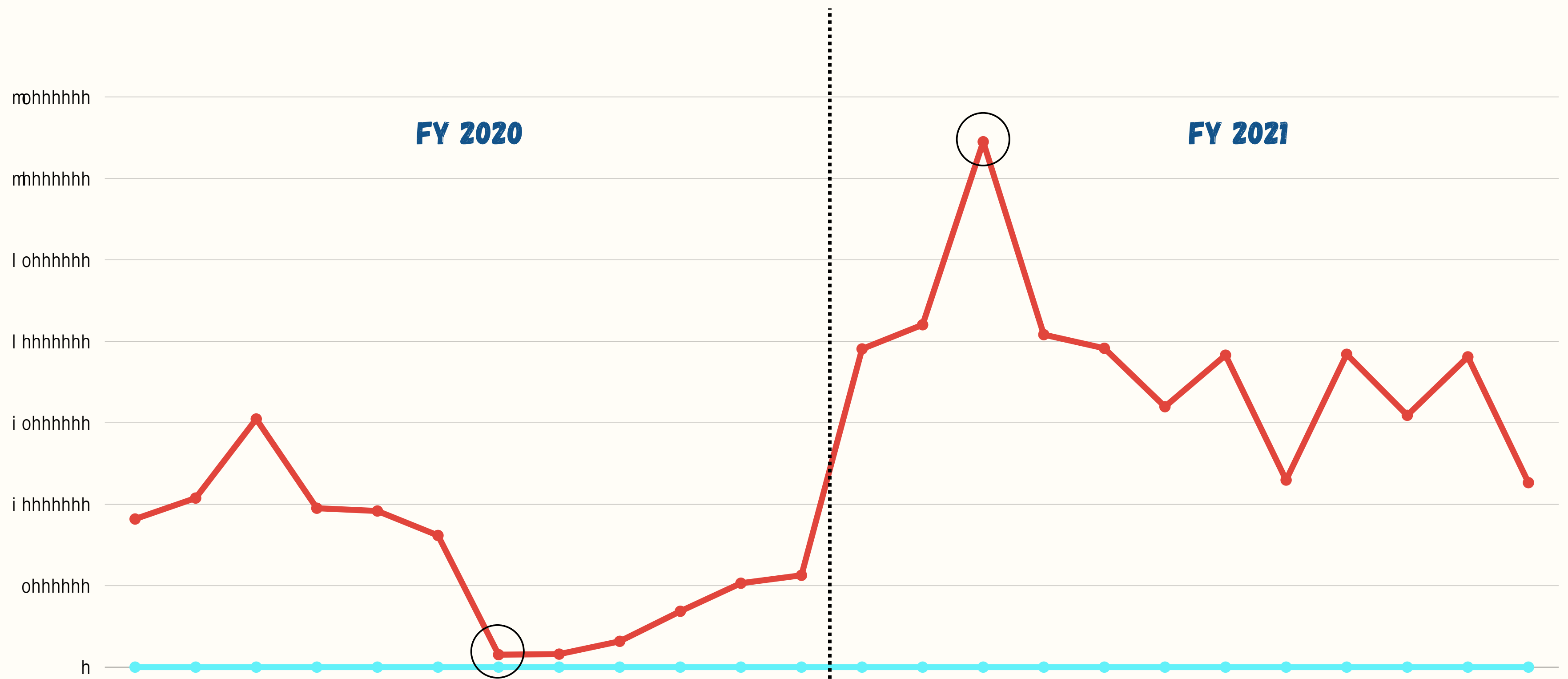
8. IN WHICH QUARTER OF 2020, GOT THE MAXIMUM TOTAL_SOLD_QUANTITY? THE FINAL OUTPUT CONTAINS THESE FIELDS SORTED BY

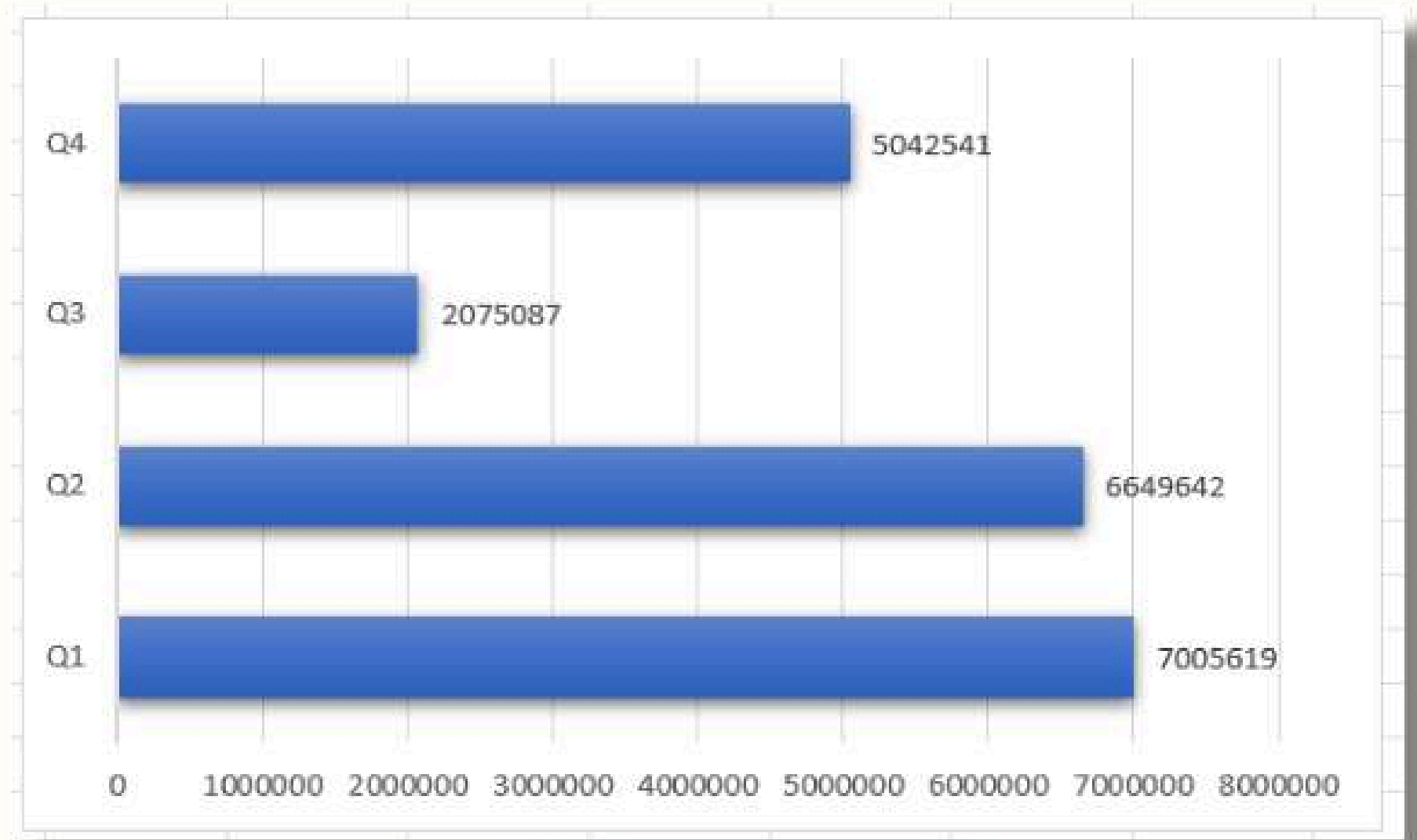total_sold_quantity, Quarter total_sold_quantity

QUERY

```sql
1  SELECT
2  CASE
3      WHEN month(date) in (9,10,11) then 'Q1'
4      WHEN month(date) in (12,1,2) then 'Q2'
5      WHEN month(date) in (3,4,5) then 'Q3'
6      ELSE 'Q4'
7  END AS Quarters,
8  sum(sold_quantity) as total_sold_quantity
9  from fact_sales_monthly
10 where fiscal_year=2020
11 group by Quarters
12 order by total_sold_quantity desc;
13
```

OUTPUT

Quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

Insights.-

- Quarter 1 of FY2020 saw the most units sold overall, while Quarter 3 had the fewest.

- The highest and lowest overall sold quantity is in December and March.

- Quarter 1 accounts for approximately 34% of the total sold quantity for FY2020.

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,
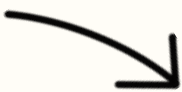
channel, gross_sales_mln ,percentage

QUERY

```sql
1  with X as (select c.channel ,
2  round(sum(g.gross_price*sold_quantity)/100000,2) as gross_sales_mln
3  from fact_sales_monthly s
4  join dim_customer c using(customer_code)
5  join fact_gross_price g using (product_code)
6  where s.fiscal_year=2021
7  group by c.channel)
8
9  select channel , gross_sales_mln,
10 round((gross_sales_mln/(select sum(gross_sales_mln) from x))*100,2) as pct
11 from x
12 order by gross_sales_mln desc;
13
```

channel	gross_sales_mln	pct
Retailer	19241.70	73.22
Direct	4066.87	15.47
Distributor	2971.76	11.31
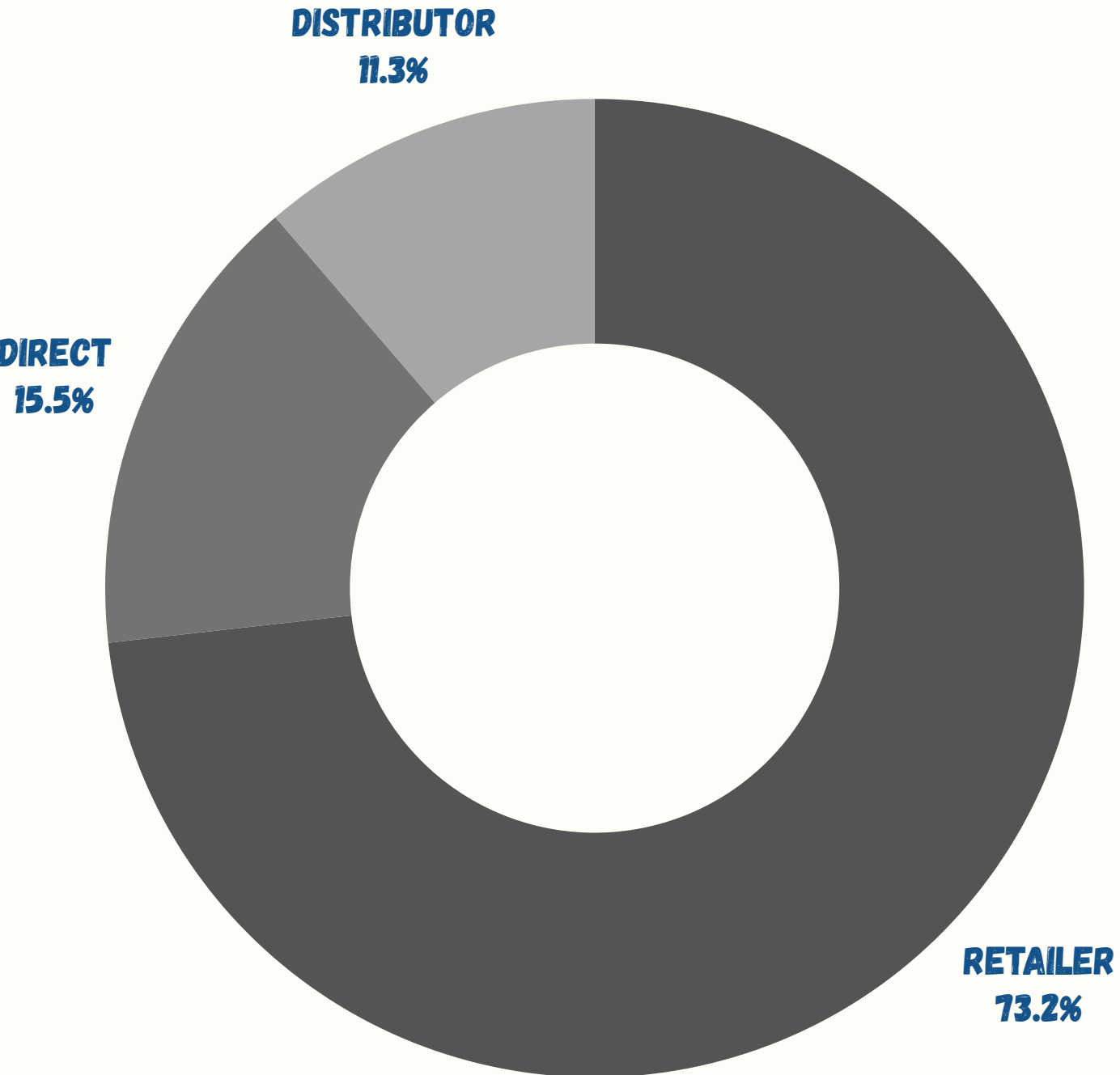
Insights.-

- Channel. "Retailer" helped bring maximum sales to the company with 73.22% as the contribution percentage.
- Channel. "Distributor" makes the least contribution at a percentage of 11.31%.

DISTRIBUTOR
11.3%

DIRECT
15.5%

RETAILER
73.2%

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
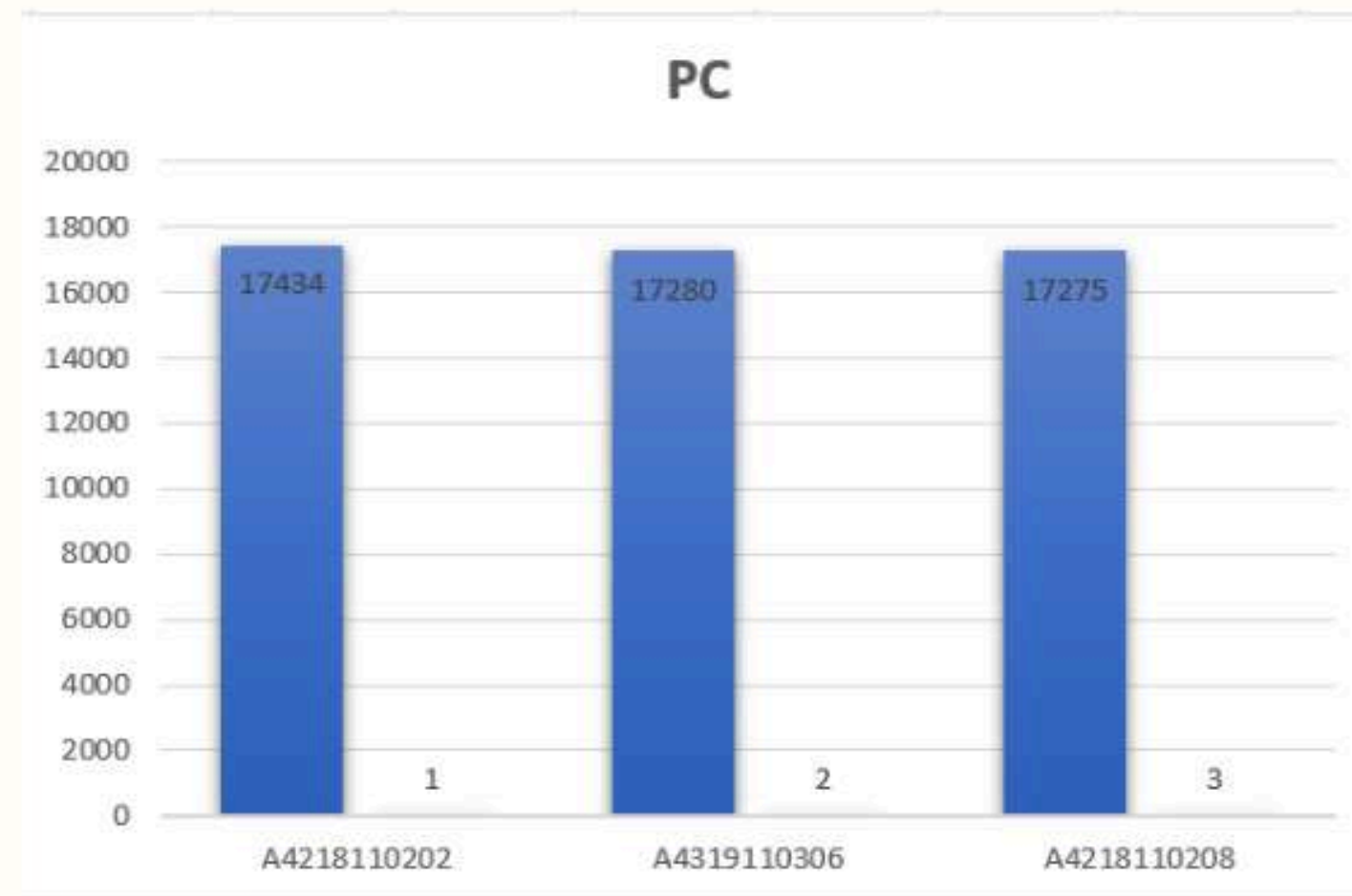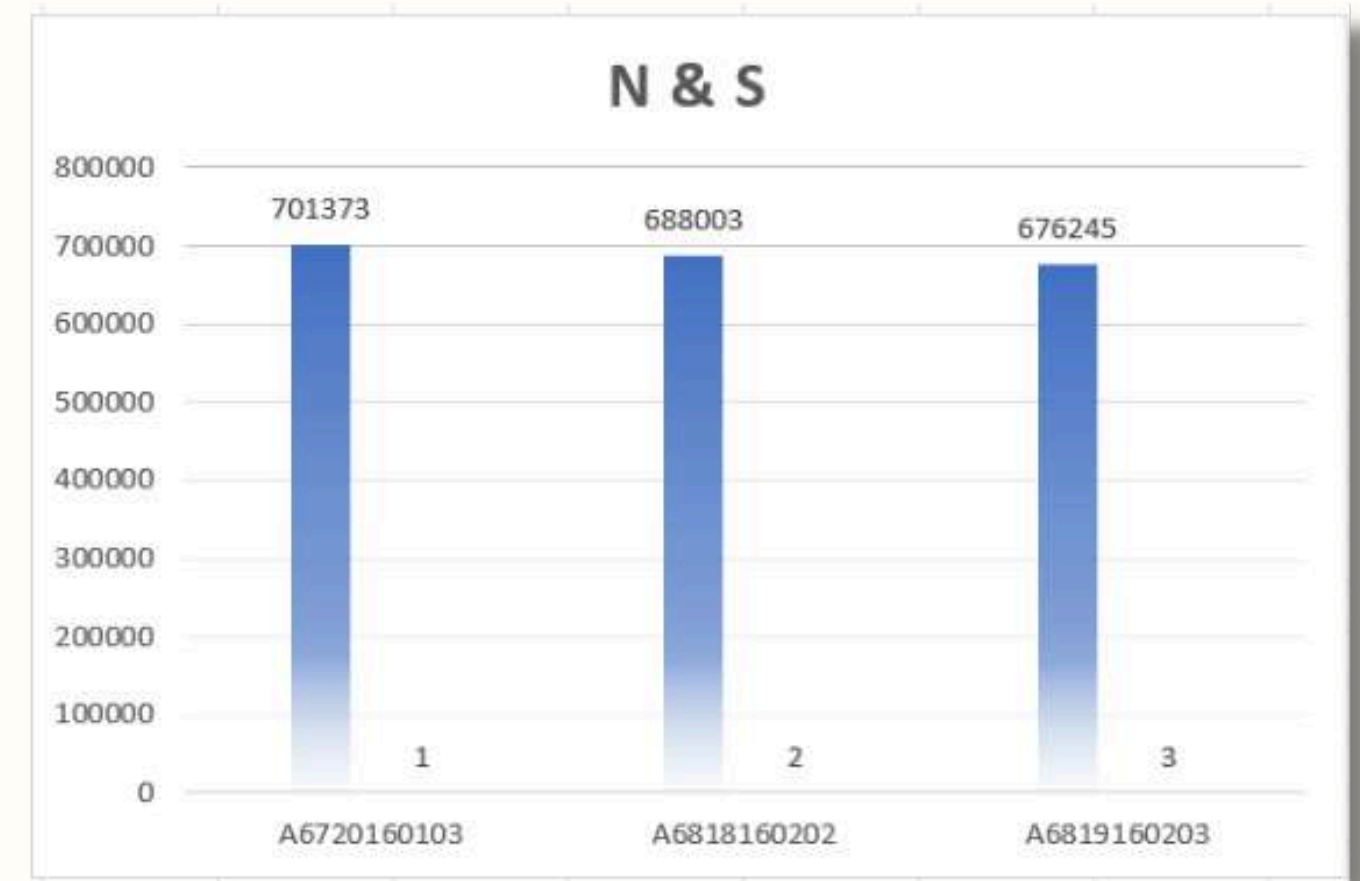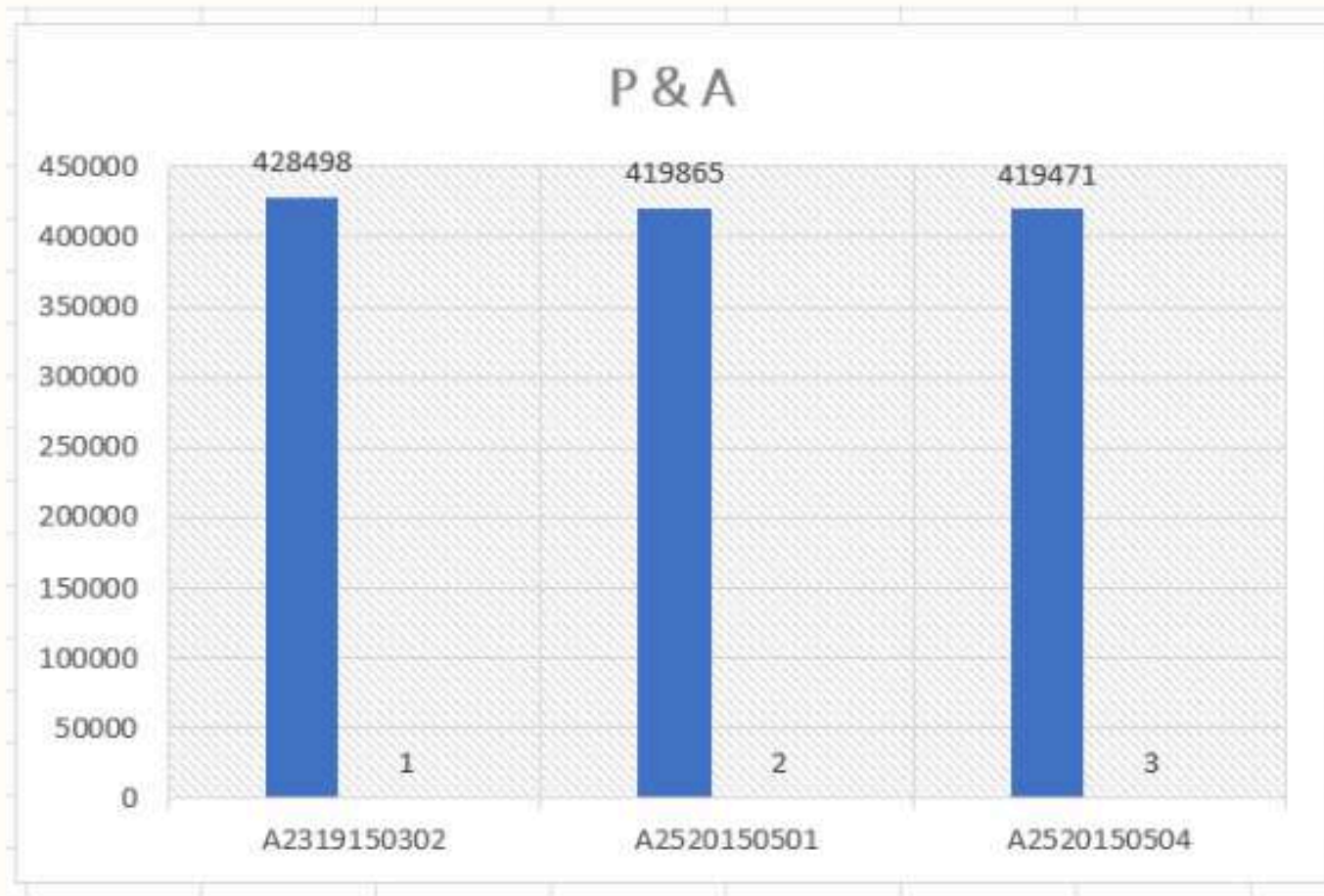
division , product_code

QUERY

```sql
WITH X AS
(SELECT P.division, S.product_code, P.product, SUM(S.sold_quantity) AS Total_sold_quantity,
RANK() OVER (PARTITION BY P.division ORDER BY SUM(S.sold_quantity) DESC) AS 'Rank_Order'
FROM dim_product P JOIN fact_sales_monthly S
ON P.product_code = S.product_code
WHERE S.fiscal_year = 2021
GROUP BY P.division, S.product_code, P.product)
SELECT * FROM X
WHERE Rank_Order IN (1,2,3) ORDER BY division, Rank_Order;
```

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.-

- Every division has a product with different variants that appears twice in the top three products by division list.

P & A

Category	Value
A2319150302	428498
A2520150501	419865
A2520150504	419471

N & S

Category	Value
A6720160103	701373
A6818160202	688003
A6819160203	676245

PC

Category	Value
A4218110202	17434
A4319110306	17280
A4218110208	17275

THANK YOU

Thank you CodeBasics team for organising such premium resume project challenges. I would like to thank Dhaval Sir and Hemanand Sir for their continuous effort and support.
Your expertise and encouragement have been invaluable. Your insights have not only helped me improve the quality of my work but have also contributed significantly to my professional growth.

DHAVAL PATEL

HEMANAND VADIVEL

CODEBASICS TEAM

THANK YOU
FOR WATCHING