



# Consumer Goods Ad-hoc Insights

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Atliq Hardwares

SQL Project Challenge

# AGENDA

- 1)About Atliq Hardware,
- 2)Problem Statement,
- 3)Atliq Product Lines,
- 4)Data Overview - ERD Diagram & Understanding Data,
- 5)10 Ad - Hoc Requests - SQL Query, Output, Insights.



# ATLIQ HARDWARE

- AtliQ Hardware is a **fast-growing global tech company** known for its wide range of **hardware products**, including mice, desktops, laptops, and storage devices.
- These are offered in **Standard, Plus, and Premium variants**, catering to diverse customer needs with a strong focus on quality and innovation.

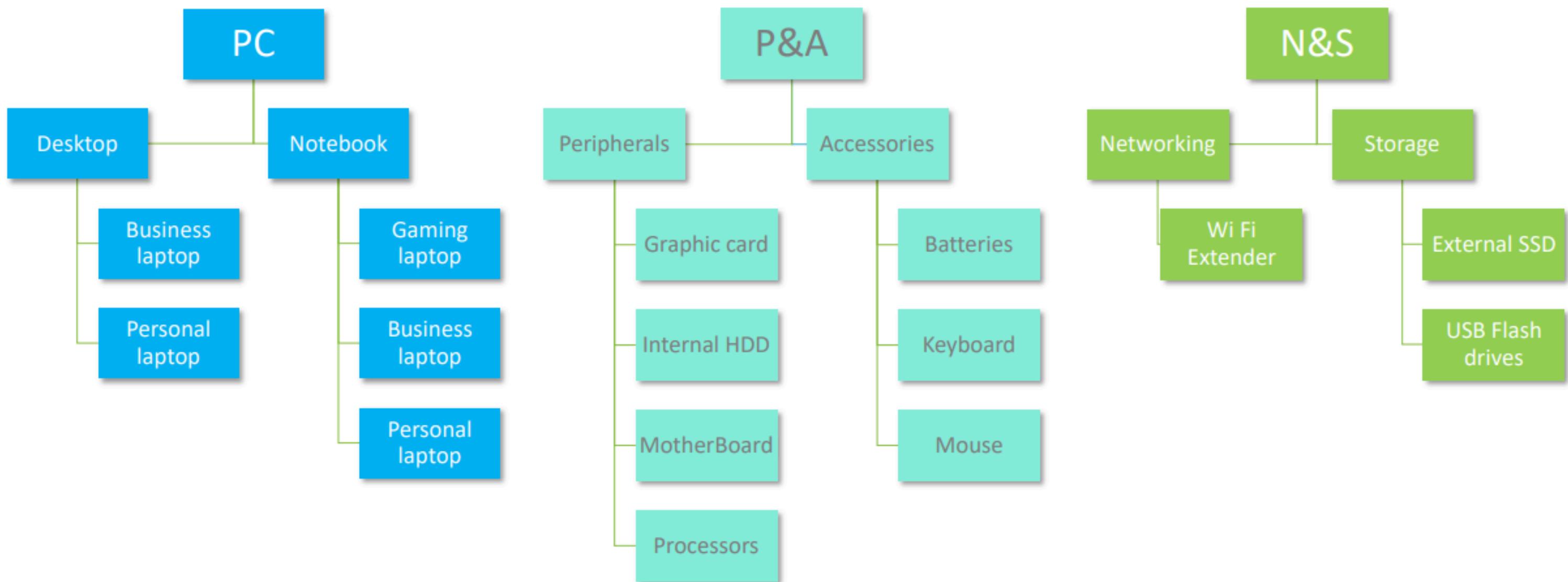


# PROBLEM STATEMENT

- The company is facing challenges in making quick, **data-driven decisions** because the current data systems don't provide useful insights.
- To solve this, the company is growing its data analytics team and has listed **10 specific questions(Ad - Hoc Requests)** that need data insights.

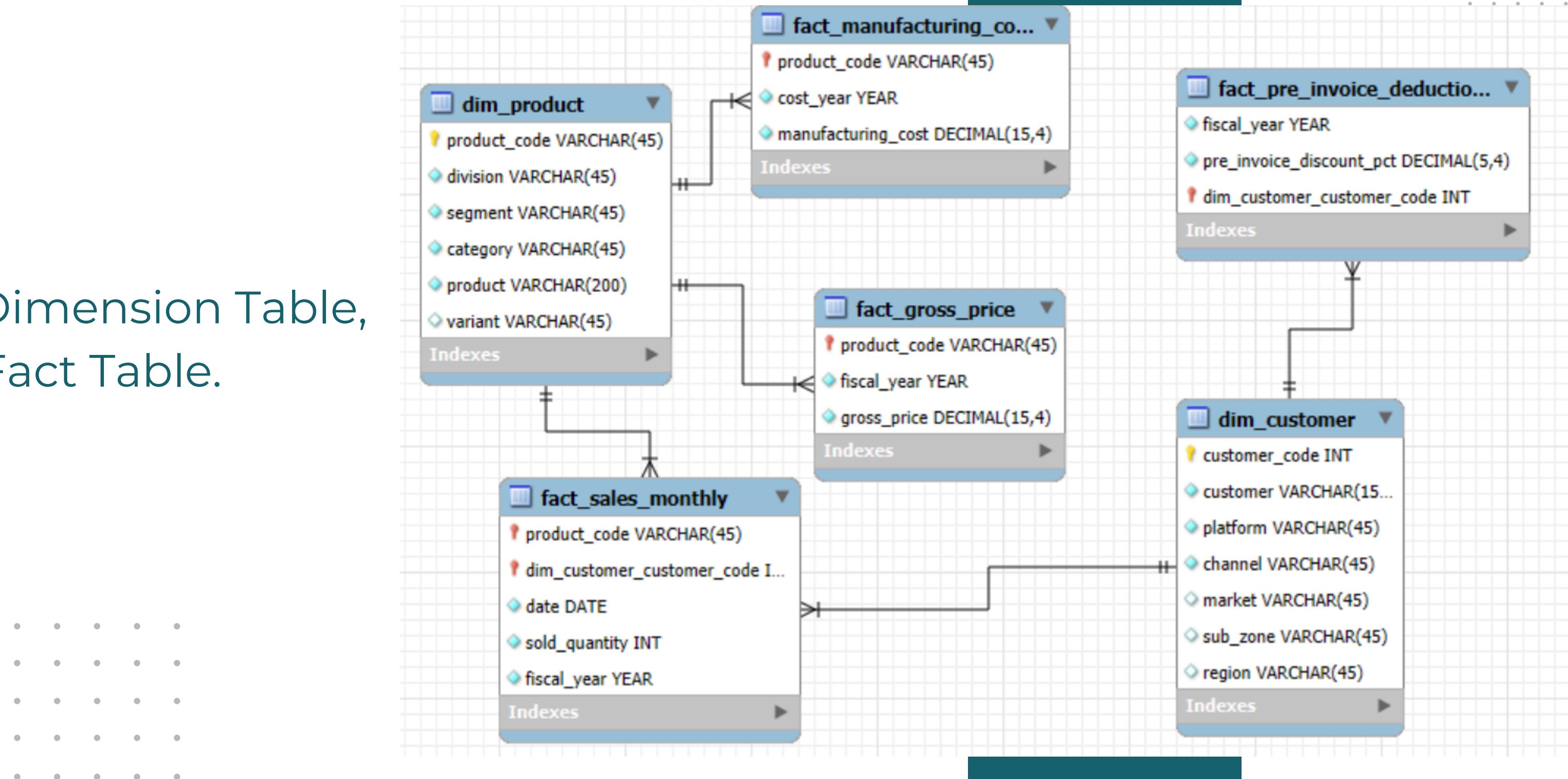


# Atliq's Product lines



# DATA OVERVIEW- ERD DIAGRAM

- 2 - Dimension Table,  
4 - Fact Table.



# UNDERSTANDING DATA



## Fiscal Year

FY 2020 : Sep 2019 -Aug 2020

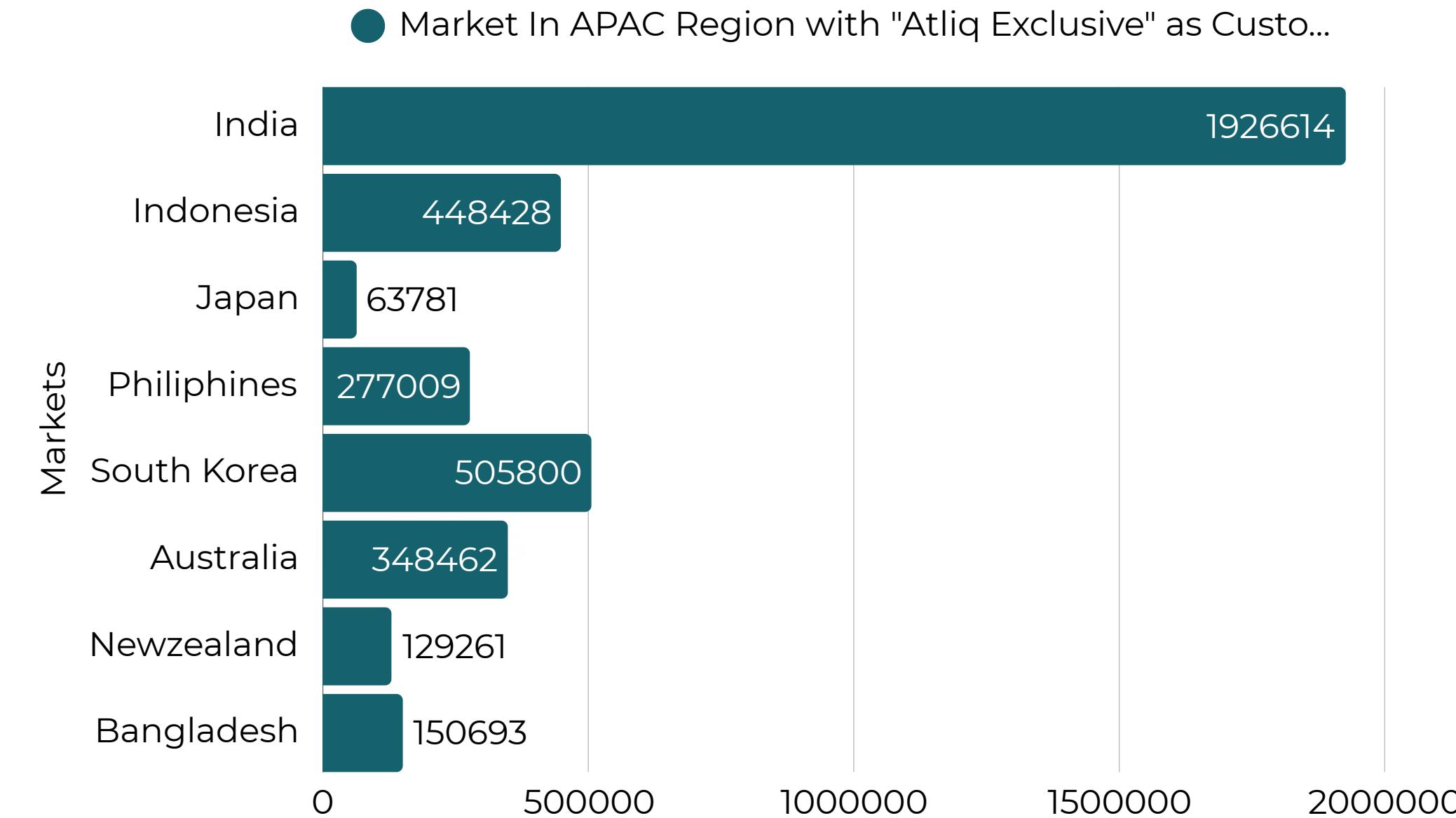
FY 2021 : Sep 2020 -Aug 2021

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

```
select market,sum(sold_quantity) as total_sold_quantity  
from gdb023.fact_sales_monthly fsm  
join dim_customer dc  
on dc.customer_code = fsm.customer_code  
where region = 'APAC' and customer = 'Atliq Exclusive'  
group by market;
```

market	total_sold_quantity
India	1926614
South Korea	505800
Indonesia	448428
Australia	348462
Philippines	277009
Bangladesh	150693
Newzealand	129261
Japan	63781

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



### Insights

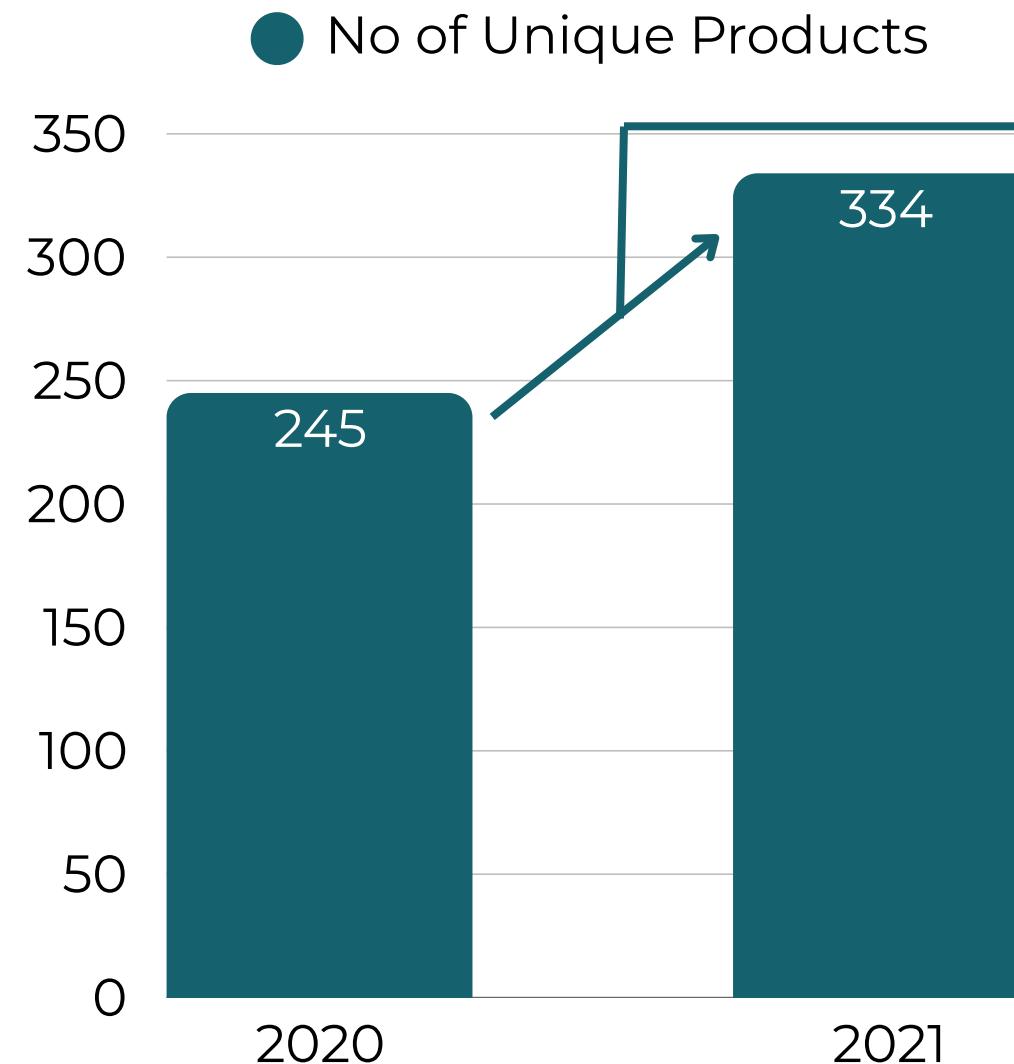
- In the APAC region, ATLIQ Exclusive store has established its presence in 8 major markets.

# WHAT IS THE PERCENTAGE OF UNIQUE PRODUCT INCREASE IN 2021 VS. 2020?

```
with unique_product_2020 as (
  select count(distinct product_code) as unique_product_2020
  from fact_sales_monthly
  where fiscal_year = 2020
),
unique_product_2021 as (
  select count(distinct product_code) as unique_product_2021
  from fact_sales_monthly
  where fiscal_year = 2021
)
select *,
round(((unique_product_2021 - unique_product_2020)*100 / unique_product_2020),2) as percentage_chg
from unique_product_2020, unique_product_2021;
```

unique_product_2020	unique_product_2021	percentage_chg
245	334	36.33

## WHAT IS THE PERCENTAGE OF UNIQUE PRODUCT INCREASE IN 2021 VS. 2020?



**36.33 %  
increase**

### Insights

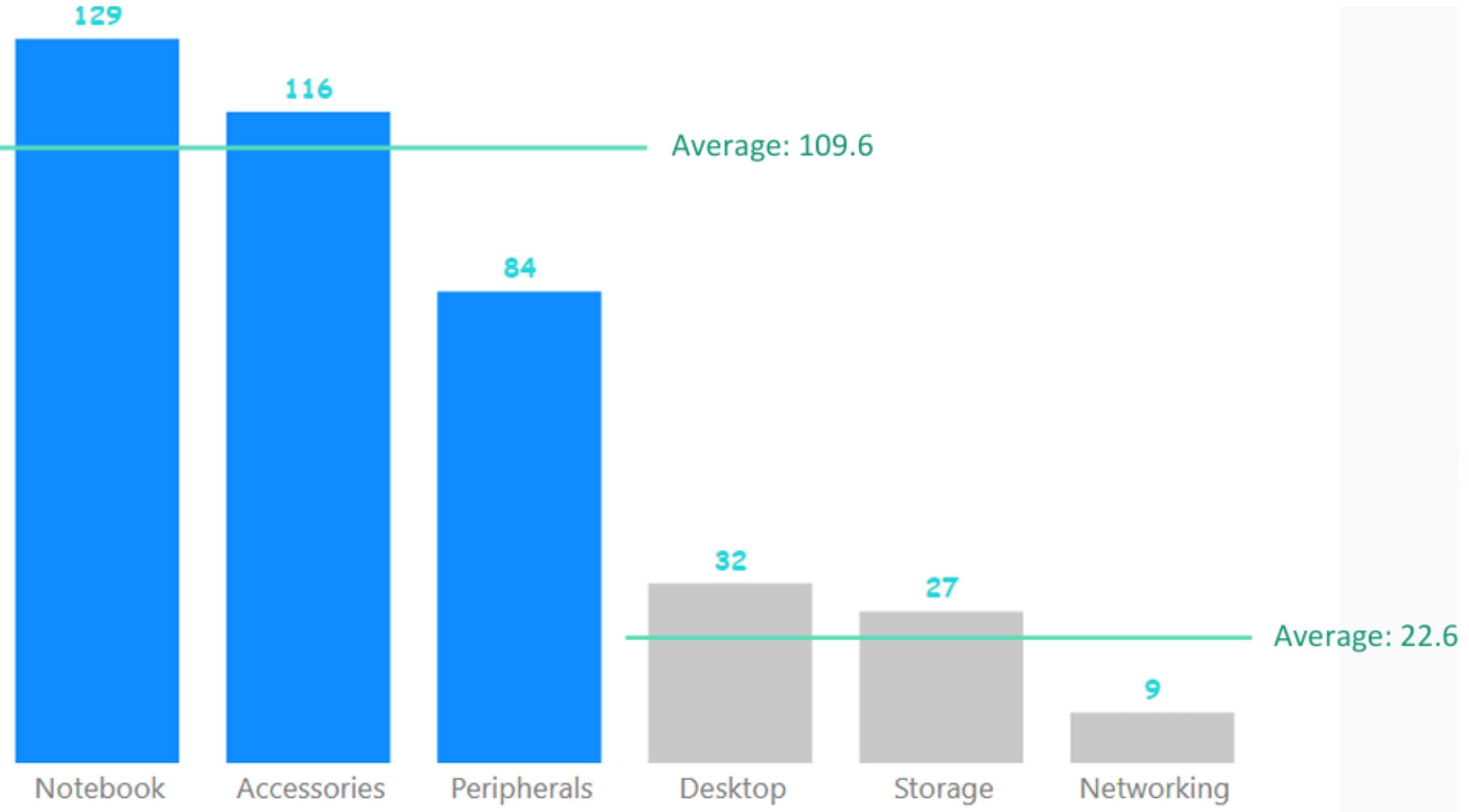
- In FY 2020, we had a total of 245 products, but in FY 2021, our count increased by 36% to 334 products.
- It's a good sign that we are continuously innovating and introducing new products to the market.

**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,  
concat(round(  
(count(distinct(product_code))*100/sum(count(distinct(product_code))))  
over()),2," %") as percentage_contribution  
from gdb023.dim_product  
group by segment  
order by product_count desc;
```

segment	product_count	percentage_contribution
Notebook	129	32.49 %
Accessories	116	29.22 %
Peripherals	84	21.16 %
Desktop	32	8.06 %
Storage	27	6.80 %
Networking	9	2.27 %

## PROVIDE A REPORT WITH ALL THE UNIQUE PRODUCT COUNTS FOR EACH SEGMENT AND SORT THEM IN DESCENDING ORDER OF PRODUCT COUNTS.



### Insights

- Notebook, Peripherals, and Accessories, with an average of 110 products in each segment. (80%)
- Desktop, Networking, and Storage segments, where there are just an average of only 23 products per segment(20%)

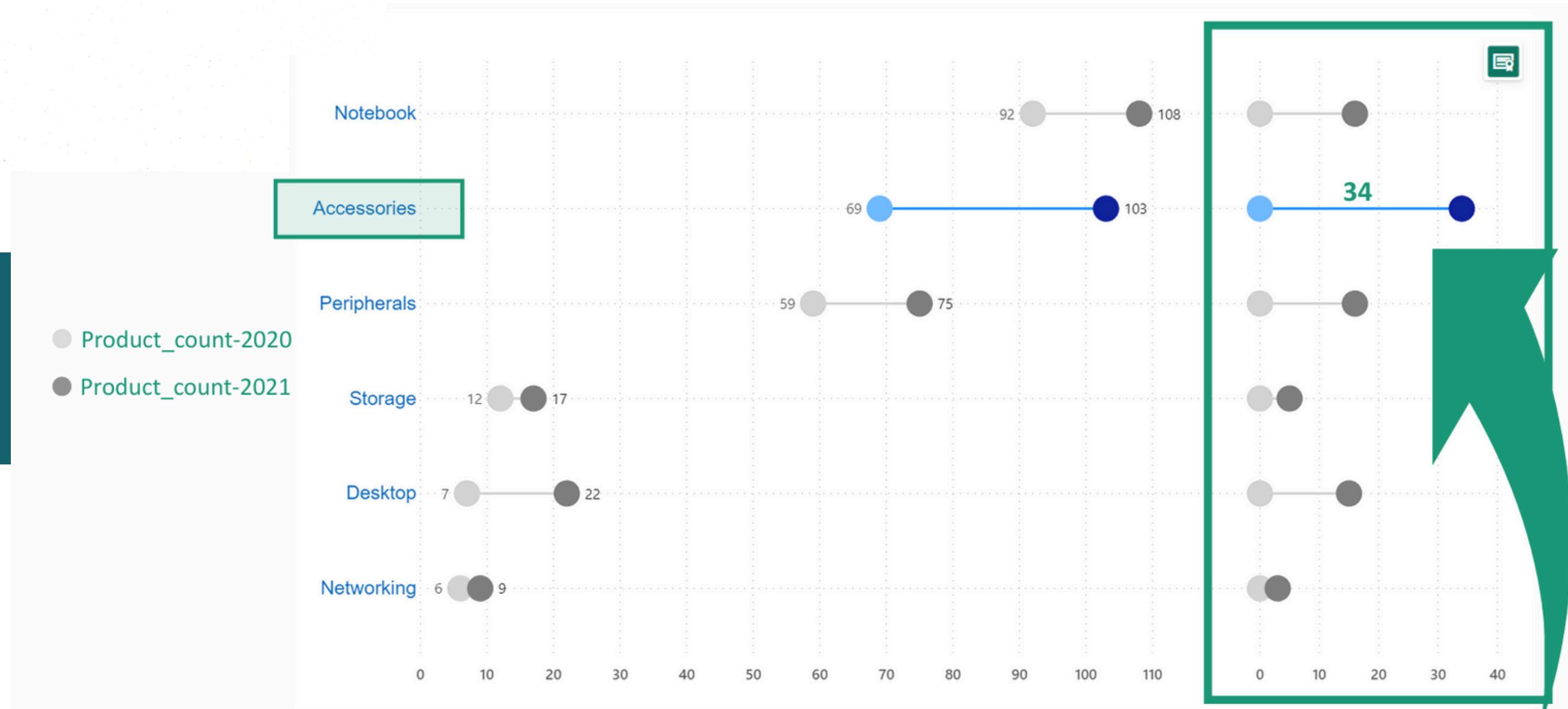
# WHICH SEGMENT HAD THE MOST INCREASE IN UNIQUE PRODUCTS IN 2021 VS 2020?

```

with cte1 as (SELECT segment,fiscal_year,
count(distinct(fsm.product_code)) as cnt_of_products
FROM gdb023.fact_sales_monthly fsm
join dim_product p
on p.product_code = fsm.product_code
group by segment,fiscal_year)
select fy2020.segment,
fy2020.cnt_of_products as product_count_2020,
fy2021.cnt_of_products as product_count_2021,
fy2021.cnt_of_products-fy2020.cnt_of_products as difference,
concat(round((fy2021.cnt_of_products-fy2020.cnt_of_products)*100
/ fy2020.cnt_of_products ,2)," %")
as percentage_increase
from cte1 as fy2020
join cte1 as fy2021
on fy2020.segment = fy2021.segment
where fy2020.fiscal_year = 2020 and fy2021.fiscal_year = 2021
order by difference desc
    
```

segment	product_count_2020	product_count_2021	difference	percentage_increase
Accessories	69	103	34	49.28%
Notebook	92	108	16	17.39%
Peripherals	59	75	16	27.12%
Desktop	7	22	15	214.29%
Storage	12	17	5	41.67%
Networking	6	9	3	50.00%

# WHICH SEGMENT HAD THE MOST INCREASE IN UNIQUE PRODUCTS IN 2021 VS 2020?



In 2021, Company introduced 34 new products to the market in accessories, mainly focusing on diversifying accessories segment.

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

```
select mc.product_code,product,manufacturing_cost
from fact_manufacturing_cost mc
join dim_product p
on p.product_code = mc.product_code
where manufacturing_cost in
(SELECT max(manufacturing_cost) FROM gdb023.fact_manufacturing_cost)
union
select mc.product_code,product,manufacturing_cost
from fact_manufacturing_cost mc
join dim_product p
on p.product_code = mc.product_code
where manufacturing_cost in
(SELECT min(manufacturing_cost) FROM gdb023.fact_manufacturing_cost)
```

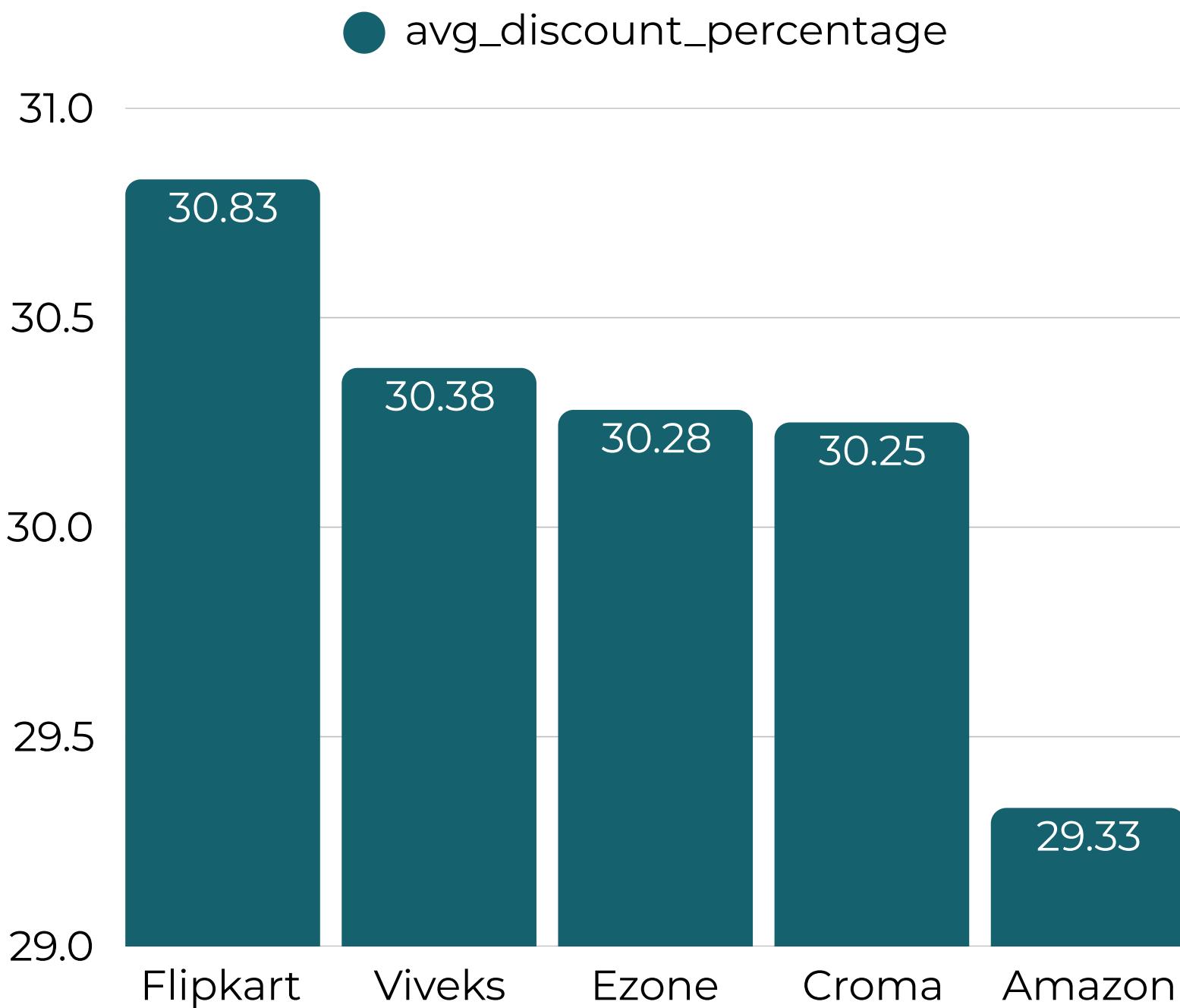
product_code	product	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920

## 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.

```
select c.customer_code, customer,
round(avg(pre_invoice_discount_pct)*100,2) as average_discount_percentage
from gdb023.fact_pre_invoice_deductions fpid
join dim_customer c
on c.customer_code = fpid.customer_code
where fiscal_year = 2021 and market = "India"
group by customer_code, customer
order by average_discount_percentage 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

**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.**



In 2021, we offered nearly equal pre-invoice discount percentages to each of our top 5 customers, given that Flipkart is the most discounted customer in the Indian market, which equals 30.83%.

# GET THE COMPLETE REPORT OF THE GROSS SALES AMOUNT FOR THE CUSTOMER “ATLIQ EXCLUSIVE” FOR EACH MONTH.

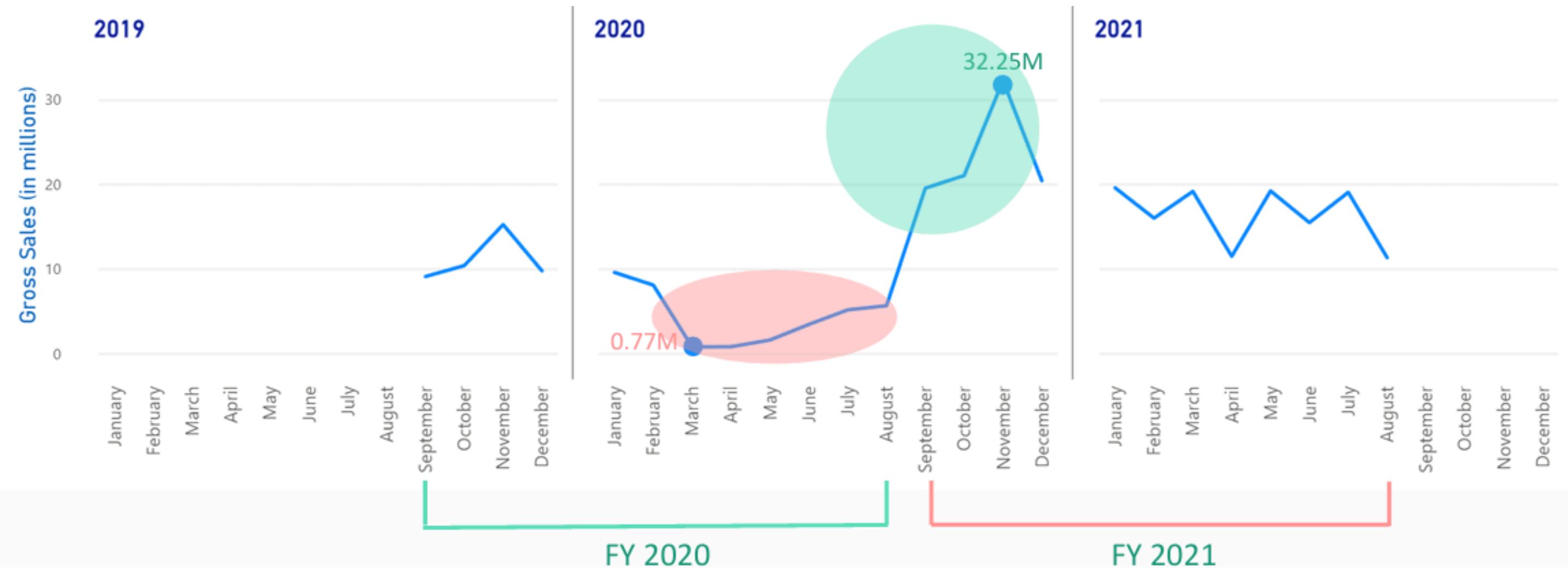
```

select monthname(date) as month,
       year(date) as year,
       round(sum(sold_quantity * gross_price)/1000000,2) as gross_sales_Amount
  from gdb023.fact_sales_monthly fsm
 join dim_customer c
   on c.customer_code = fsm.customer_code
 join fact_gross_price fgp
   on fgp.product_code = fsm.product_code and fgp.fiscal_year = fsm.fiscal_year
 where customer = 'Atliq Exclusive'
 group by monthname(date),year(date)

```

month	year	gross_sales_Amount
September	2019	4.50
October	2019	5.14
November	2019	7.52
December	2019	4.83
January	2020	4.74
February	2020	4.00
March	2020	0.38
April	2020	0.40
May	2020	0.78
June	2020	1.70
July	2020	2.55
August	2020	2.79
September	2020	12.35
October	2020	13.22
November	2020	20.46
December	2020	12.94
January	2021	12.40
February	2021	10.13
March	2021	12.14
April	2021	7.31
May	2021	12.15
June	2021	9.82
July	2021	12.09
August	2021	7.18

## GET THE COMPLETE REPORT OF THE GROSS SALES AMOUNT FOR THE CUSTOMER “ATLIQ EXCLUSIVE” FOR EACH MONTH.



For AtliqExclusive, November 2020 marked the highest sales, and March 2020 marked the lowest gross sales. It's very evident that the lower sales between March and August are because of COVID-19. However, it's a very good sign that the sales increased quickly after August and reached the highest level since the last two years in November.

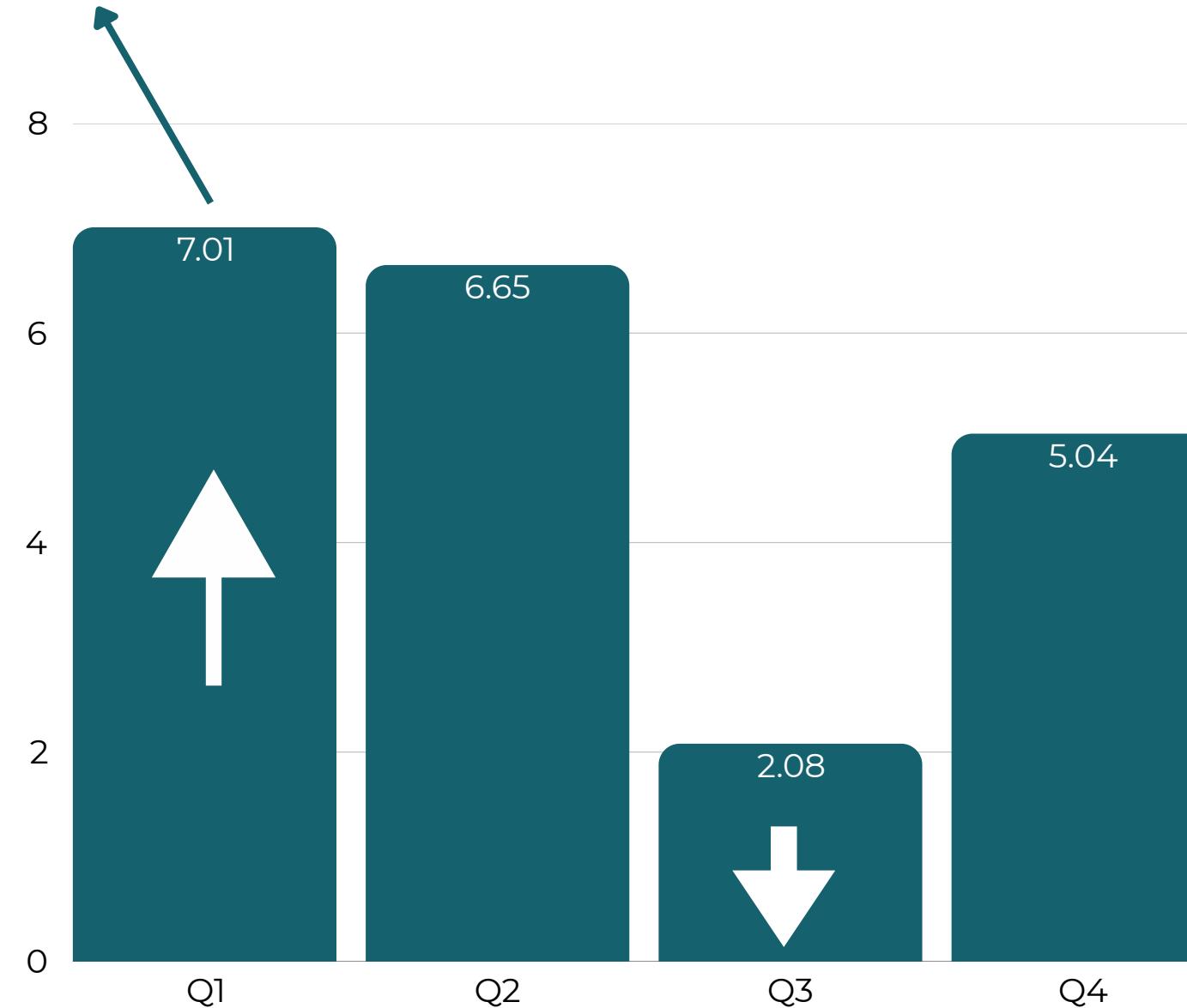
## GET THE COMPLETE REPORT OF THE GROSS SALES AMOUNT FOR THE CUSTOMER “ATLIQ EXCLUSIVE” FOR EACH QUARTER.

```
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'  
when month(date) in (6,7,8) Then 'Q4'  
end as quarters,  
round((sum(sold_quantity)/1000000),2)  
as total_sold_quantity_millions  
FROM gdb023.fact_sales_monthly  
where fiscal_year = 2020  
group by quarters  
order by total_sold_quantity_millions desc;
```

quarters	total_sold_quantity_millions
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08

## IN WHICH QUARTER OF 2020, GOT THE MAXIMUM TOTAL\_SOLD\_QUANTITY?

Quarter 1 has the maximum total sold quantity



- The sold quantity decreased to 2.1 million in quarter 3 of FY 2020, which was actually March, April, and May when COVID-19 was at its peak.
- Recovery Phase Q4 - Online Mode

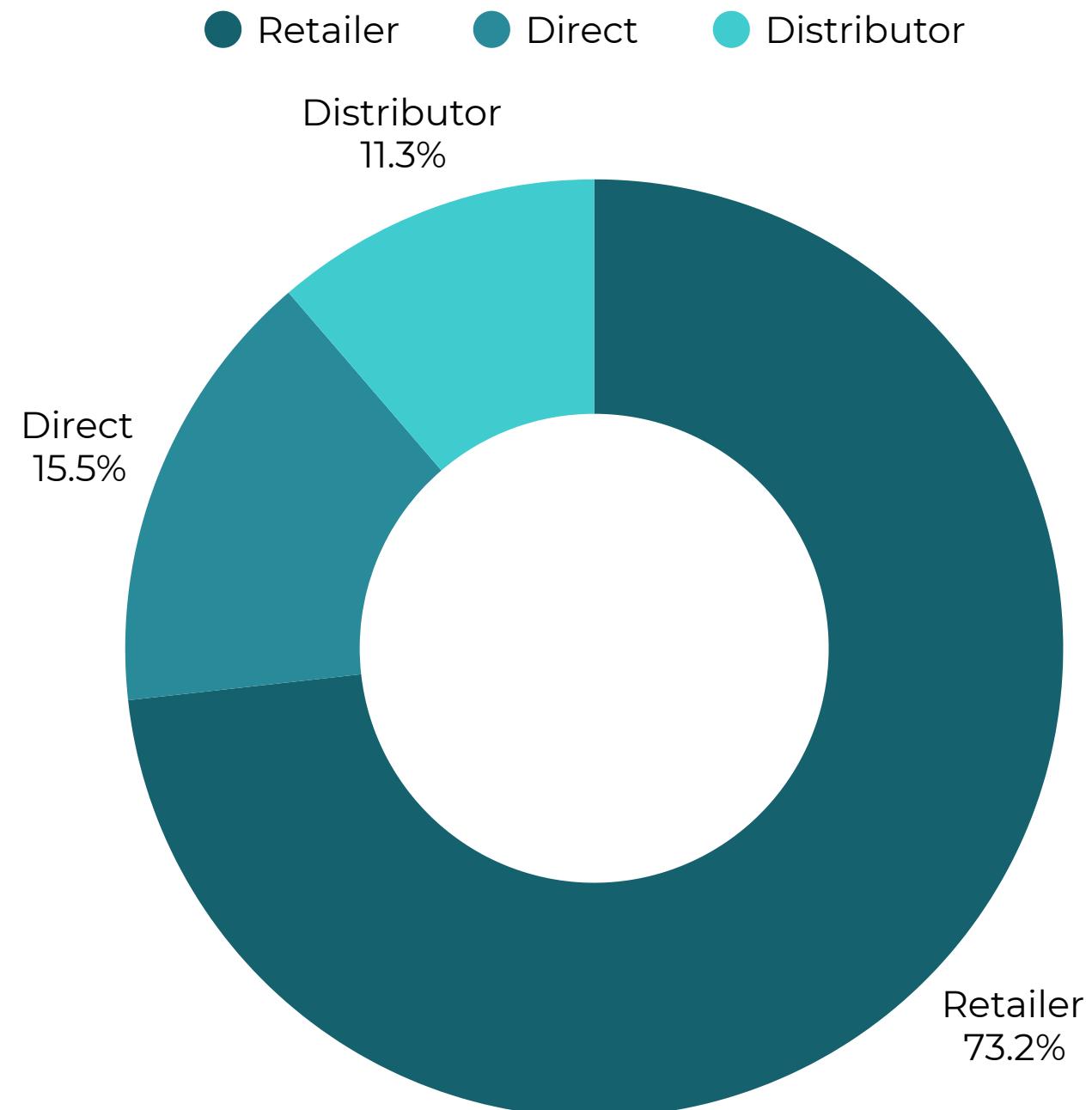
## WHICH CHANNEL HELPED TO BRING MORE GROSS SALES IN THE FISCAL YEAR 2021 AND THE PERCENTAGE OF CONTRIBUTION?

```

select channel,
concat(gross_sales,'M') as gross_sales_mln,
concat(round((gross_sales/total_gross_sales)*100,2),'%') as percentage
from (SELECT channel,
round(((sum(gross_price * sold_quantity))/1000000),2) as gross_sales,
sum(round(((sum(gross_price * sold_quantity))/1000000),2)) over() as total_gross_sales
FROM gdb023.dim_customer c
join fact_sales_monthly fsm
on fsm.customer_code = c.customer_code
join fact_gross_price fgp
on fgp.product_code = fsm.product_code
and fgp.fiscal_year = fsm.fiscal_year
where fsm.fiscal_year = 2021
group by channel)
as channel_2021_table
order by gross_sales desc;
    
```

channel	gross_sales_mln	percentage
Retailer	1219.08M	73.23%
Direct	257.53M	15.47%
Distributor	188.03M	11.30%

## WHICH CHANNEL HELPED TO BRING MORE GROSS SALES IN THE FISCAL YEAR 2021 AND THE PERCENTAGE OF CONTRIBUTION?



- The majority of our sales took place via retailers, which is 75% of the total sales. Only a very small percentage of our sales happened through direct and distributor channels.

# GET THE TOP 3 PRODUCTS IN EACH DIVISION THAT HAVE A HIGH TOTAL\_SOLD\_QUANTITY IN THE FISCAL\_YEAR 2021?

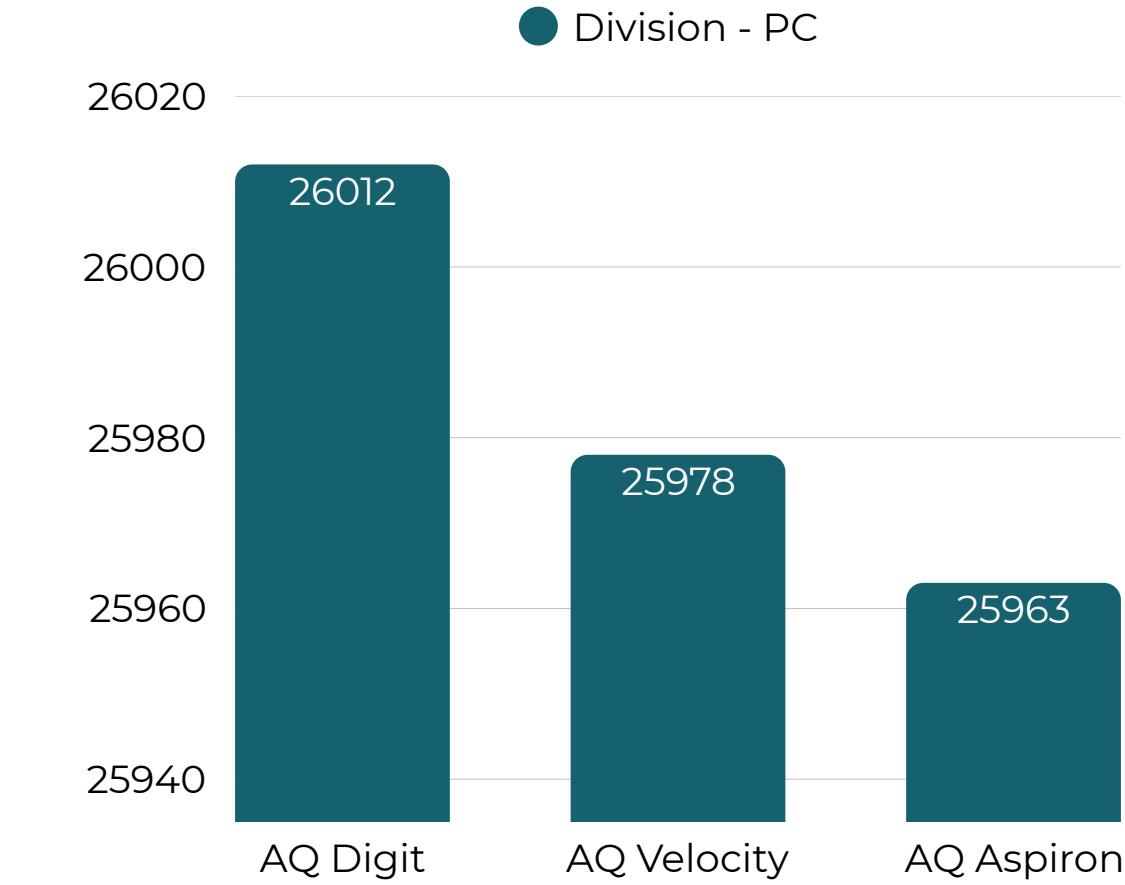
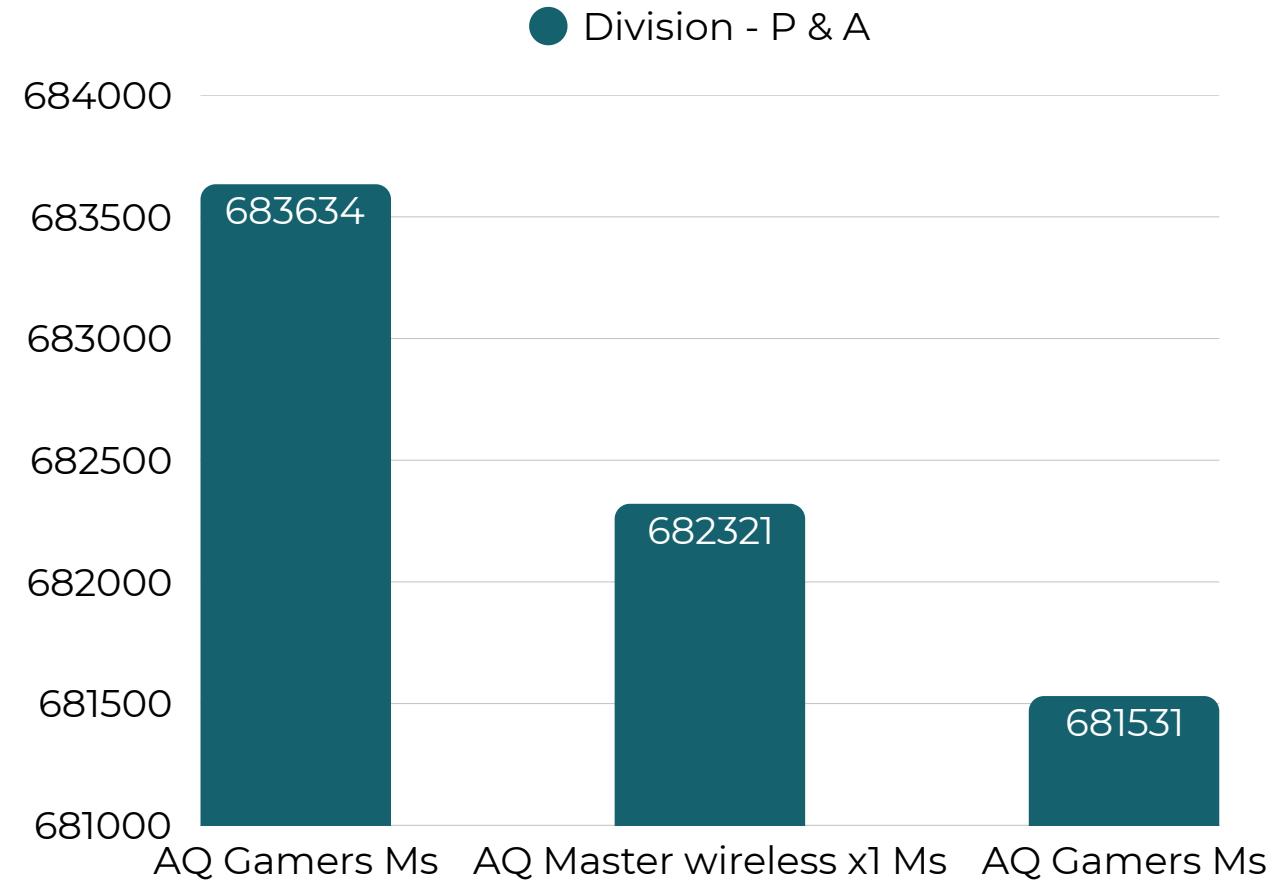
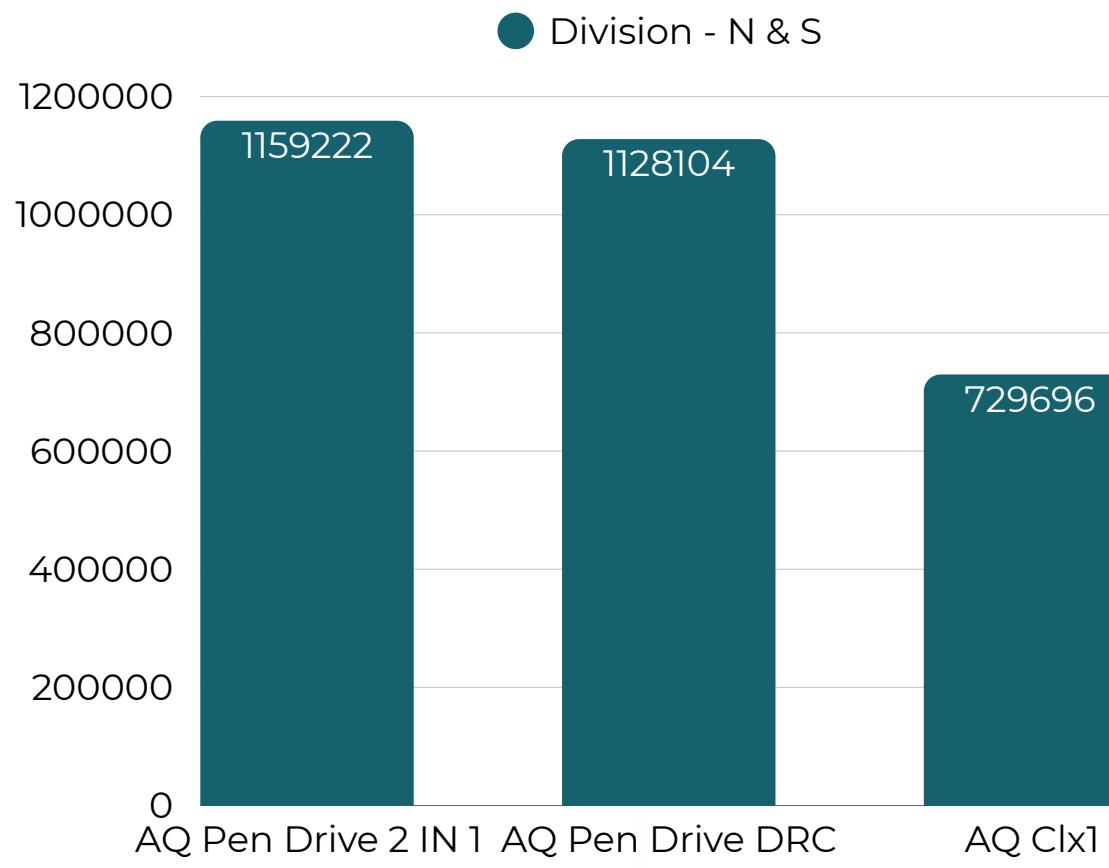
```

select * from (
  select division,fsm.product_code,p.product,
  sum(sold_quantity) as total_sold_quantity,
  rank() over(partition by division order by sum(sold_quantity) desc ) as rank_order
  from gdb023.dim_product p
  join fact_sales_monthly fsm
  on fsm.product_code = p.product_code
  group by division,fsm.product_code,p.product) as rnk
where rank_order in (1,2,3)
order by division asc

```

division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	1159222	1
N & S	A6818160201	AQ Pen Drive DRC	1128104	2
N & S	A6419160301	AQ Clx1	729696	3
P & A	A2319150302	AQ Gamers Ms	683634	1
P & A	A2219150204	AQ Master wireless x1 Ms	682321	2
P & A	A2319150306	AQ Gamers Ms	681531	3
PC	A4218110202	AQ Digit	26012	1
PC	A4319110306	AQ Velocity	25978	2
PC	A4118110107	AQ Aspiron	25963	3
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## GET THE TOP 3 PRODUCTS IN EACH DIVISION THAT HAVE A HIGH TOTAL\_SOLD\_QUANTITY IN THE FISCAL\_YEAR 2021?



The top 3 selling products in N&S were pen drives, which were around 7 lakh in quantity.

The top 3 selling products in P&A were mouse, which were around 6 lakh in quantity

The top 3 selling products in PC were personal laptops, which were around 25000 in quantity.

