



AtliQ Hardware



# Consumer Goods AD-HOC INSIGHTS

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Presented By: Amrit Roy

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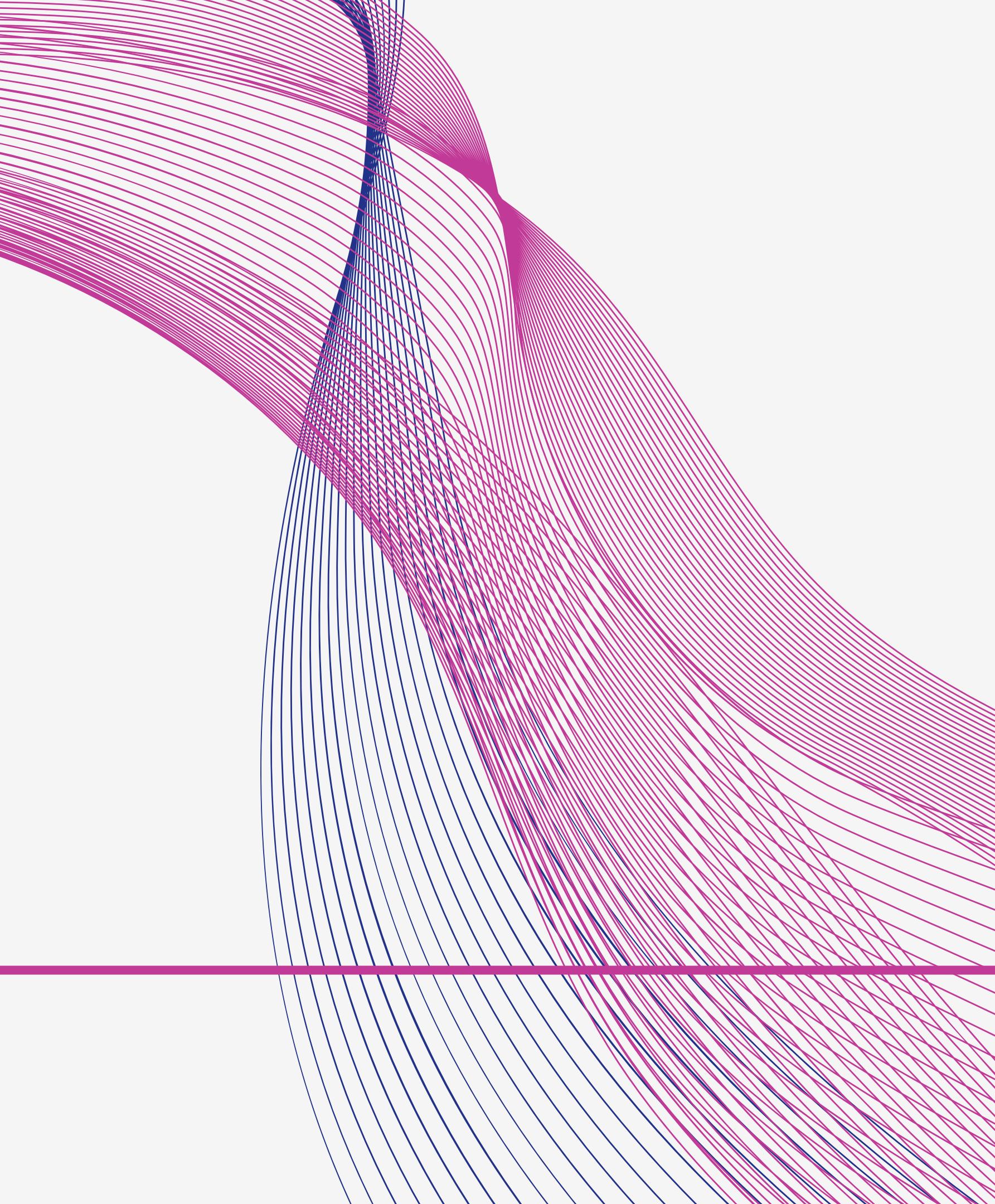
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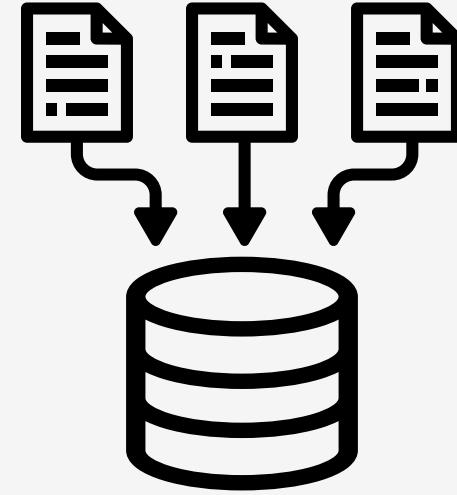
# OVERVIEW OF COMPANY

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- Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.
  - Company manufactures products in three major groups i.e. Peripherals & Accessories, Networking & Storage, and PC.
  - We have total 74 customers across in all countries.
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# We have total 74 customers across in all countries.

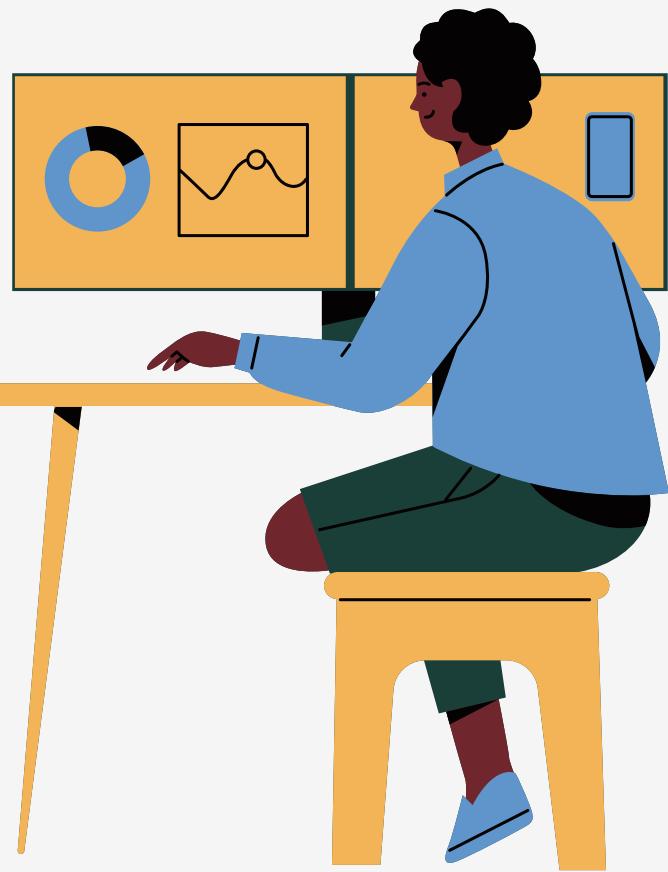
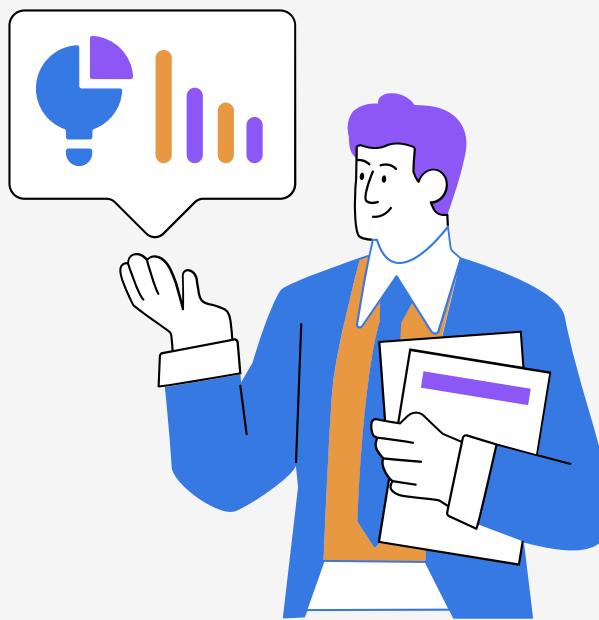




# About DATA

- We have 4 fact tables i.e., sales\_monthly, manufacturing\_cost, pre\_invoice\_deductions & gross\_price which have measurable metrics and 2 dimension table i.e., dim\_customer and dim\_product.
- Fiscal year for Atliq Hardware starts from 1st September and ends on 31st August each year
- Sales data is available for fiscal year 2020-2021

**Let's Deep Dive the  
AD-HOC REQUESTS & TRY  
TO FIND INSIGHTS FROM IT**



**Request 1**

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

**Request 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

**Request 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

**Request 4**

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

**Request 5**

Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields --> product\_code, product, manufacturing\_cost

**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. The final output contains these fields --> customer\_code, customer, average\_discount\_percentage

**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.

**Request 8**

In which quarter of 2020, got the maximum total\_sold\_qty? The final output contains these fields sorted by the total\_sold\_qty, Quarter total\_sold\_qty

**Request 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

**Request 10**

Get the Top 3 products in each division that have a high total\_sold\_qty in the fiscal\_year 2021? The final output contains these fields, division, product\_code product total\_sold\_qty , rank\_order

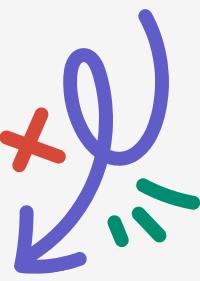
## REQUEST 1: PROVIDE THE LIST OF MARKETS IN WHICH CUSTOMER "ATLIQ EXCLUSIVE" OPERATES ITS BUSINESS IN THE APAC REGION

### SQL QUERY

```
SELECT market  
FROM dim_customer  
WHERE customer = "Atliq Exclusive" AND region = "APAC"  
GROUP BY market;
```

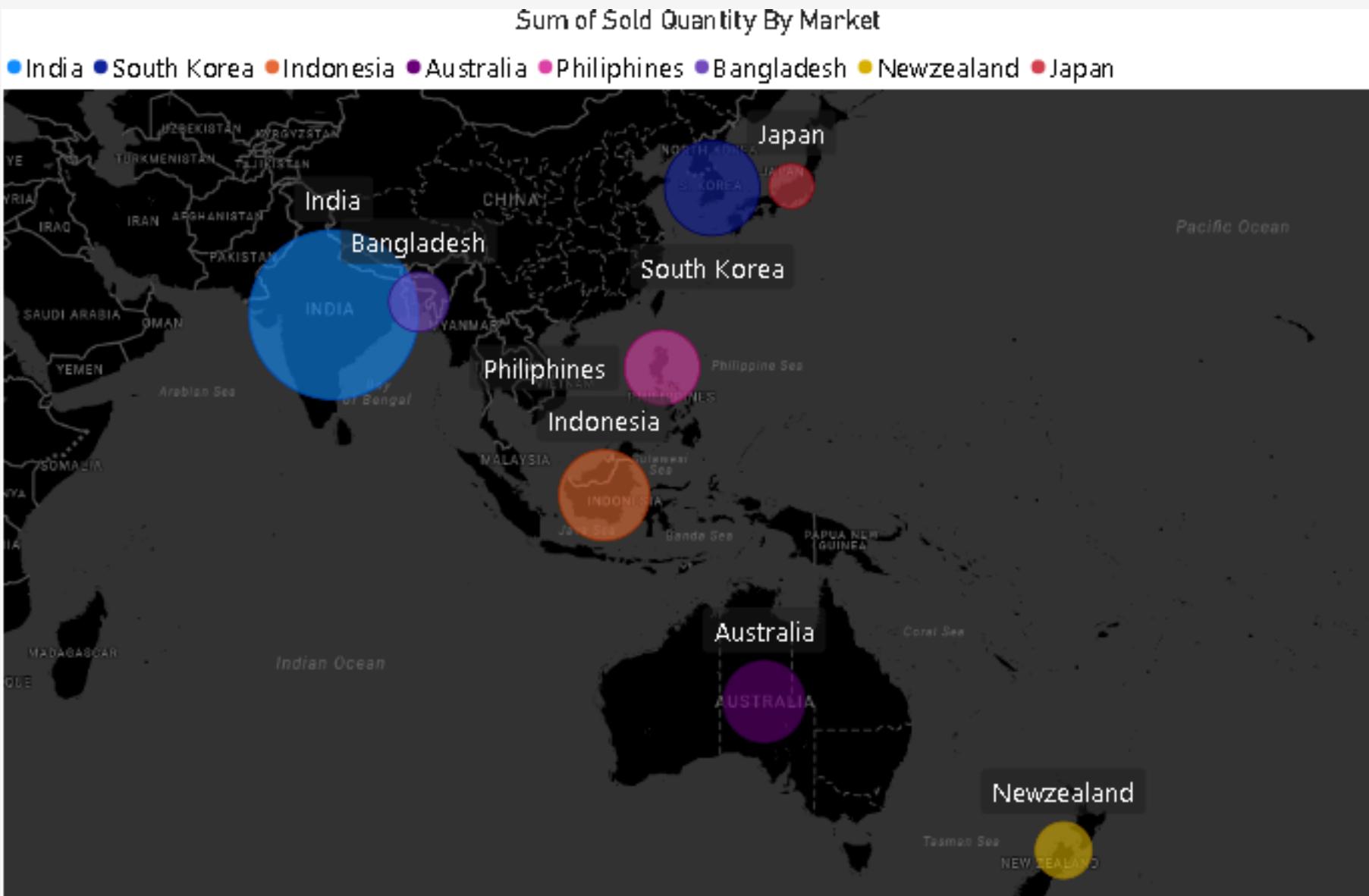
### OUTPUT

	market
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh



### INSIGHTS

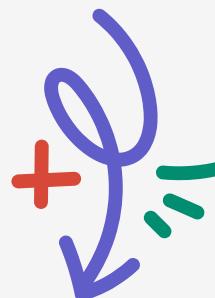
- **Atliq Exclusive operates its business in 8 major markets of Asia Pacific region**
- **Atliq Exclusive has the most stores in APAC region followed by EU(6) and NA(2)**



**REQUEST 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**

## SQL QUERY

```
WITH product_counts AS
  (SELECT fiscal_year, COUNT(DISTINCT product_code) AS unique_product_count
   FROM fact_sales_monthly
   GROUP BY fiscal_year)
SELECT x.unique_product_count AS unique_products_2020,
       y.unique_product_count AS unique_products_2021,
       ((y.unique_product_count - x.unique_product_count)/x.unique_product_count)*100 AS percentage_change
FROM product_counts AS x
JOIN product_counts AS y
ON x.fiscal_year = 2020 AND y.fiscal_year = 2021;
```

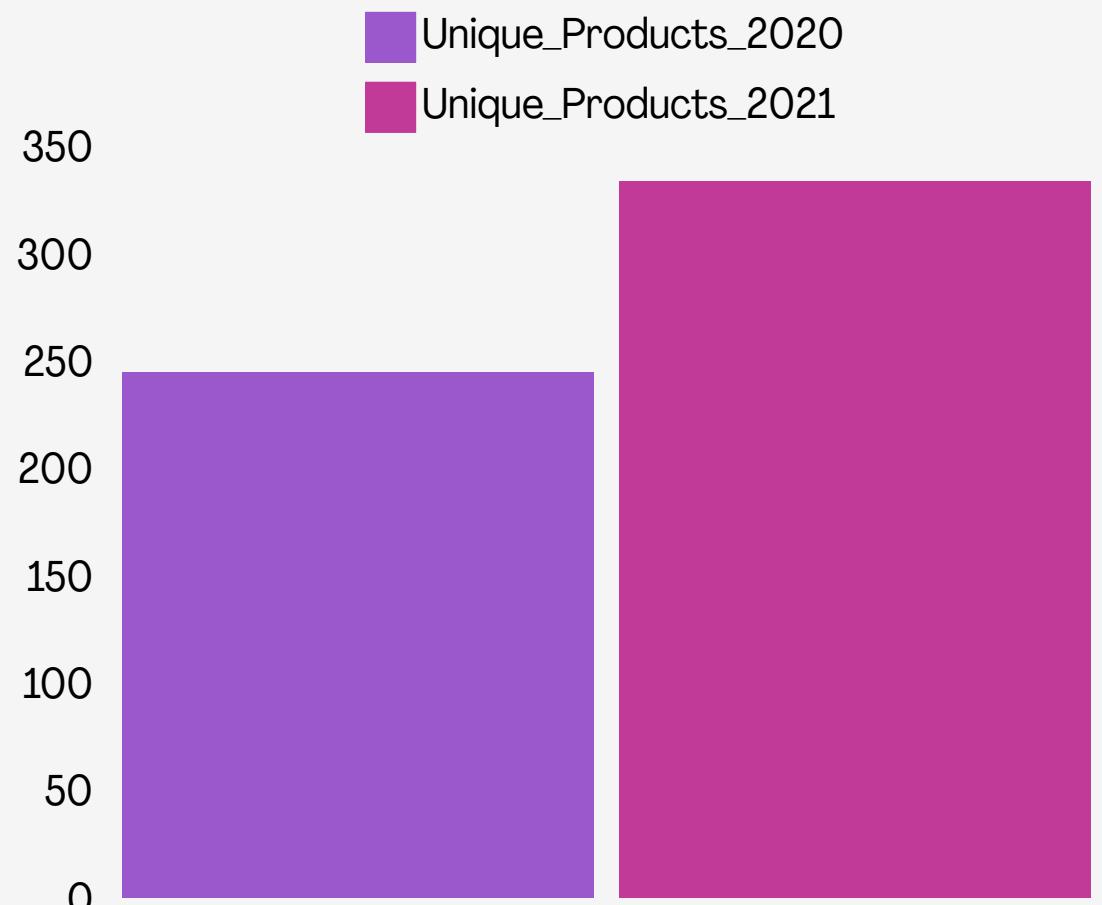


## OUTPUT

	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.3265

## INSIGHTS

- In 2020 unique product count is 245 but in 2021 it become 334.**
- With a 36.33% increase in new products, Altiq hardware is building a strong and dynamic reputation by meeting with the changing needs of the customer**



**REQUEST 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**

### SQL QUERY

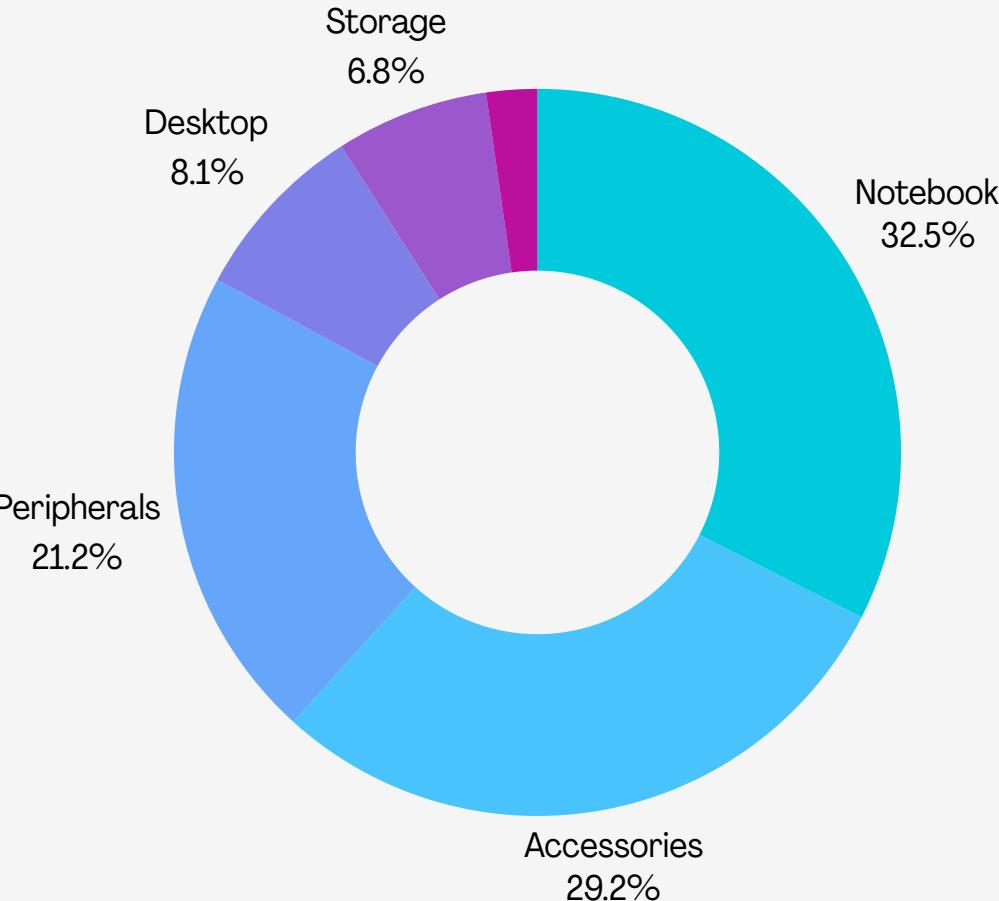
```
SELECT segment, COUNT(DISTINCT product_code) AS product_count  
FROM dim_product  
GROUP BY segment  
ORDER BY product_count DESC
```

### OUTPUT

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

Notebook      Accessories      Peripherals

Desktop      Storage      Networking



### INSIGHTS

- We have a wide range of products under segment: Notebook(32.5%), Accessories(29.2%), Peripherals(21.2%) averaging around 110 and segments like Desktop(8.1%), Storage(6.8%) ,Network(2.3%) are lagging with an average of 23 products per segment.**
- Product Development team needs to evaluate on products that require re-designing as per modern standards**

**REQUEST 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**

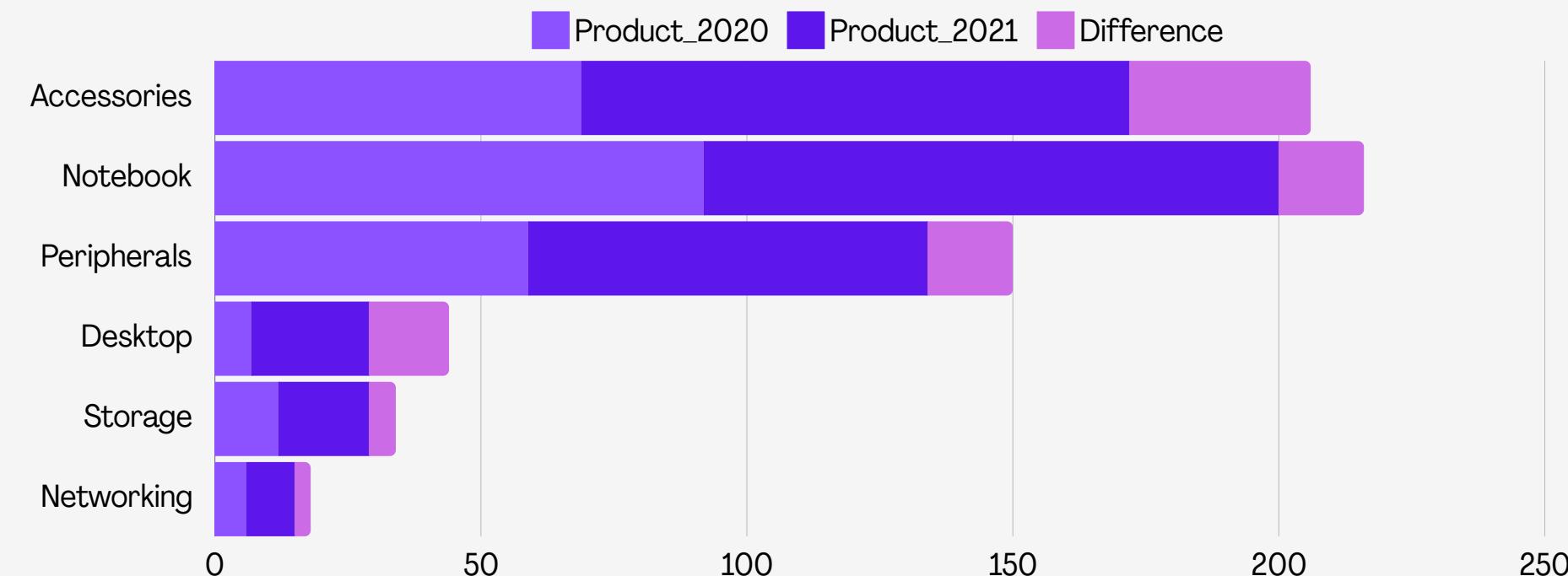
**SQL QUERY**

```
WITH cte_2020 AS
(SELECT dp.segment AS s20, COUNT(DISTINCT fs.product_code) AS product_count_20
FROM dim_product AS dp
INNER JOIN fact_sales_monthly AS fs
ON dp.product_code = fs.product_code
GROUP BY dp.segment, fs.fiscal_year
HAVING fs.fiscal_year = 2020),
cte_2021 AS
(SELECT dp.segment AS s21, COUNT(DISTINCT fs.product_code) AS product_count_21
FROM dim_product AS dp
INNER JOIN fact_sales_monthly AS fs
ON dp.product_code = fs.product_code
GROUP BY dp.segment, fs.fiscal_year
HAVING fs.fiscal_year = 2021)
SELECT cte_2020.s20 AS segments, cte_2020.product_count_20 AS product_count_20,
       cte_2021.product_count_21 AS product_count_21,
       (cte_2021.product_count_21 - cte_2020.product_count_20) AS difference
FROM cte_2020, cte_2021
WHERE cte_2020.s20 = cte_2021.s21
ORDER BY difference DESC;
```



**OUTPUT**

segments	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**

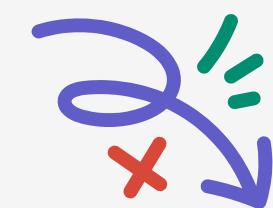
- With the introduction of 34 new products, **Accessories** segment has the highest increase in number of unique products
- Notebook** and **Peripherals** each has an increment of 16 new unique products
- Product Development team** has done a good job in the **Desktop** segment by increasing unique products from 7 to 22
- Networking** segment is at the bottom with 3 new products introduced since 2020

**REQUEST 5: GET THE PRODUCTS THAT HAVE THE HIGHEST AND LOWEST MANUFACTURING COSTS. THE FINAL OUTPUT SHOULD CONTAIN THESE FIELDS: PRODUCT\_CODE, PRODUCT, MANUFACTURING\_COST**

## SQL QUERY

```
WITH min_max_cost AS
  (SELECT MAX(manufacturing_cost) AS highest_cost,
   MIN(manufacturing_cost) AS lowest_cost
    FROM fact_manufacturing_cost)
  SELECT p.product_code, p.product, m.manufacturing_cost
    FROM dim_product AS p
   INNER JOIN fact_manufacturing_cost m
      ON p.product_code = m.product_code
  CROSS JOIN min_max_cost
 WHERE m.manufacturing_cost IN (highest_cost, lowest_cost)
 ORDER BY m.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

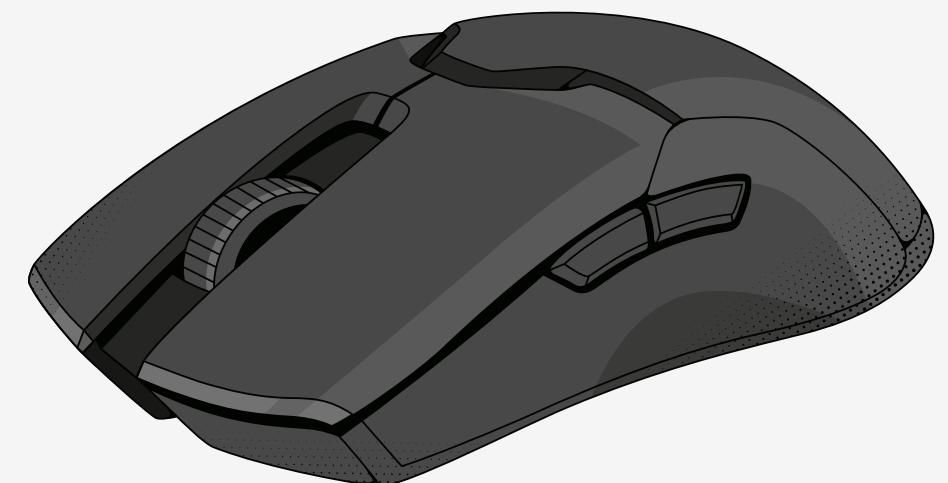
## INSIGHTS

### HIGHEST MANUFACTURING COSTS



**AQ HOME ALLIN1 GEN 2 (PLUS 3)**  
**CATEGORY: PERSONAL**  
**DESKTOP**  
**\$240.54**

### LOWEST MANUFACTURING COSTS



**AQ MASTER WIRED X1 MS**  
**(STANDARD 1)**  
**CATEGORY: MOUSE**  
**\$0.89**

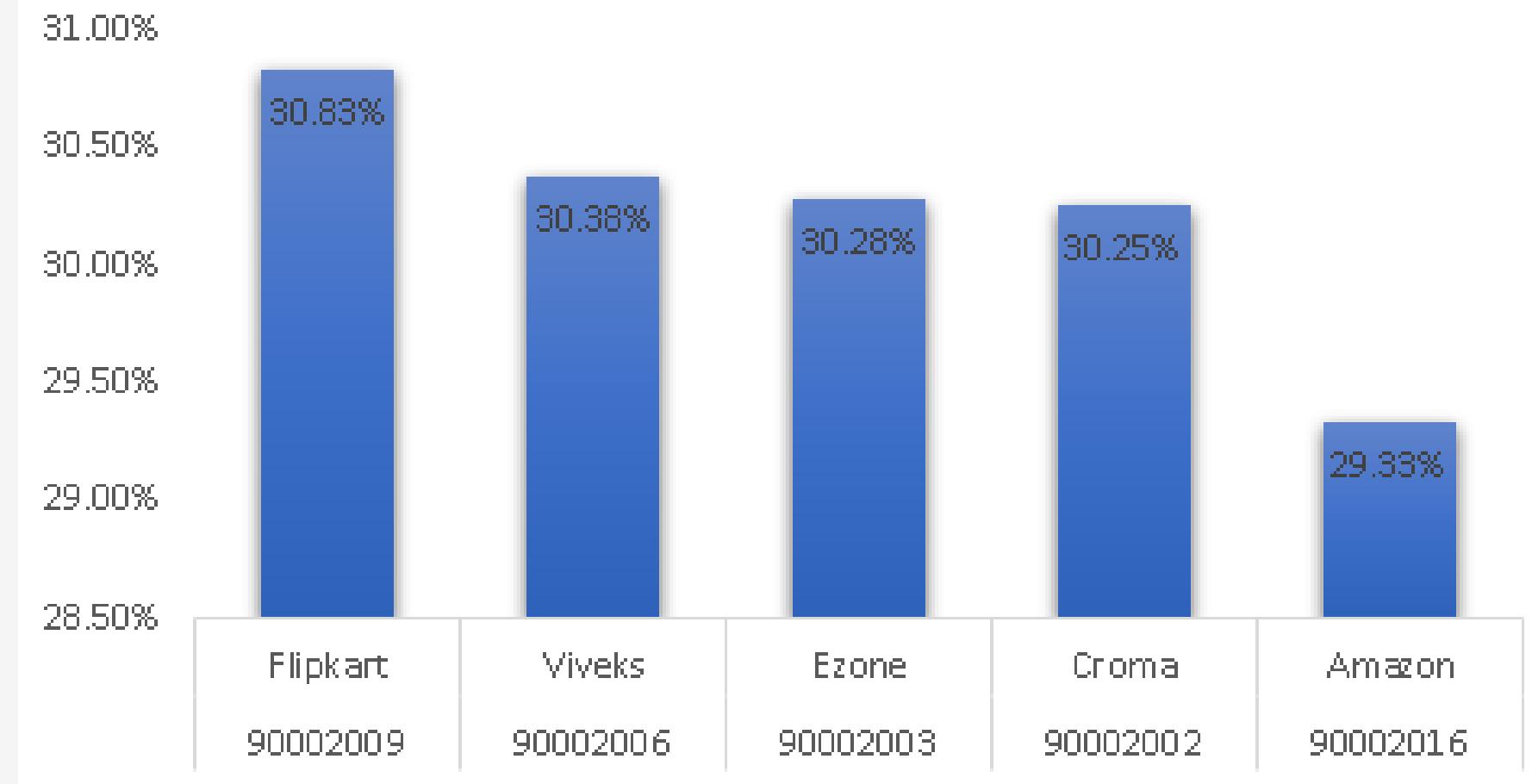
**REQUEST 6: GENERATE A REPORT WHICH CONTAINS THE TOP 5 CUSTOMERS WHO RECEIVED AN AVERAGE HIGH PRE\_INVOICE\_DISCOUNT\_PCT FOR THE FISCAL YEAR 2021 AND IN THE INDIAN MARKET. THE FINAL OUTPUT CONTAINS THESE FIELDS: CUSTOMER\_CODE, CUSTOMER, AVERAGE\_DISCOUNT\_PERCENTAGE**

### SQL QUERY

```
WITH cte1 AS
(SELECT customer_code, AVG(pre_invoice_discount_pct) AS avg_pct
 FROM fact_pre_invoice_deductions
 WHERE fiscal_year = 2021
 GROUP BY customer_code),
cte2 AS
(SELECT customer_code, customer
 FROM dim_customer
 WHERE market = 'India')
SELECT cte1.customer_code, cte2.customer, ROUND(cte1.avg_pct)*100,2 AS
average_discount_percentage
FROM cte1
INNER JOIN cte2
ON cte1.customer_code = cte2.customer_code
ORDER BY avg_pct DESC
LIMIT 5;
```



Avg\_Discount\_Percentage



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

### INSIGHTS

- **Flipkart has received the highest pre invoice discount percent i.e., 30.83%**
- **Top 5 Customers have a collective average around 30.21%**
- **FY 2021, Average discount provided to all customers in Indian market was 24.16%**

**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. THE FINAL REPORT CONTAINS THESE COLUMNS: MONTH, YEAR, GROSS SALES AMOUNT**

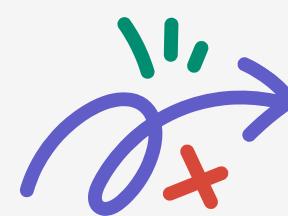
### SQL QUERY

```
WITH cte AS
(SELECT sm.date, sm.sold_quantity, gp.gross_price
FROM fact_sales_monthly sm
JOIN fact_gross_price gp
ON sm.product_code = gp.product_code
JOIN dim_customer dc
ON sm.customer_code = dc.customer_code
WHERE dc.customer = 'Atliq Exclusive')
SELECT monthname(date) AS months, year(date) AS years,
round((SUM(gross_price*sold_quantity)/1000000),2) AS
GrossSalesAmount_mln
FROM cte
GROUP BY months, years
ORDER BY years
```

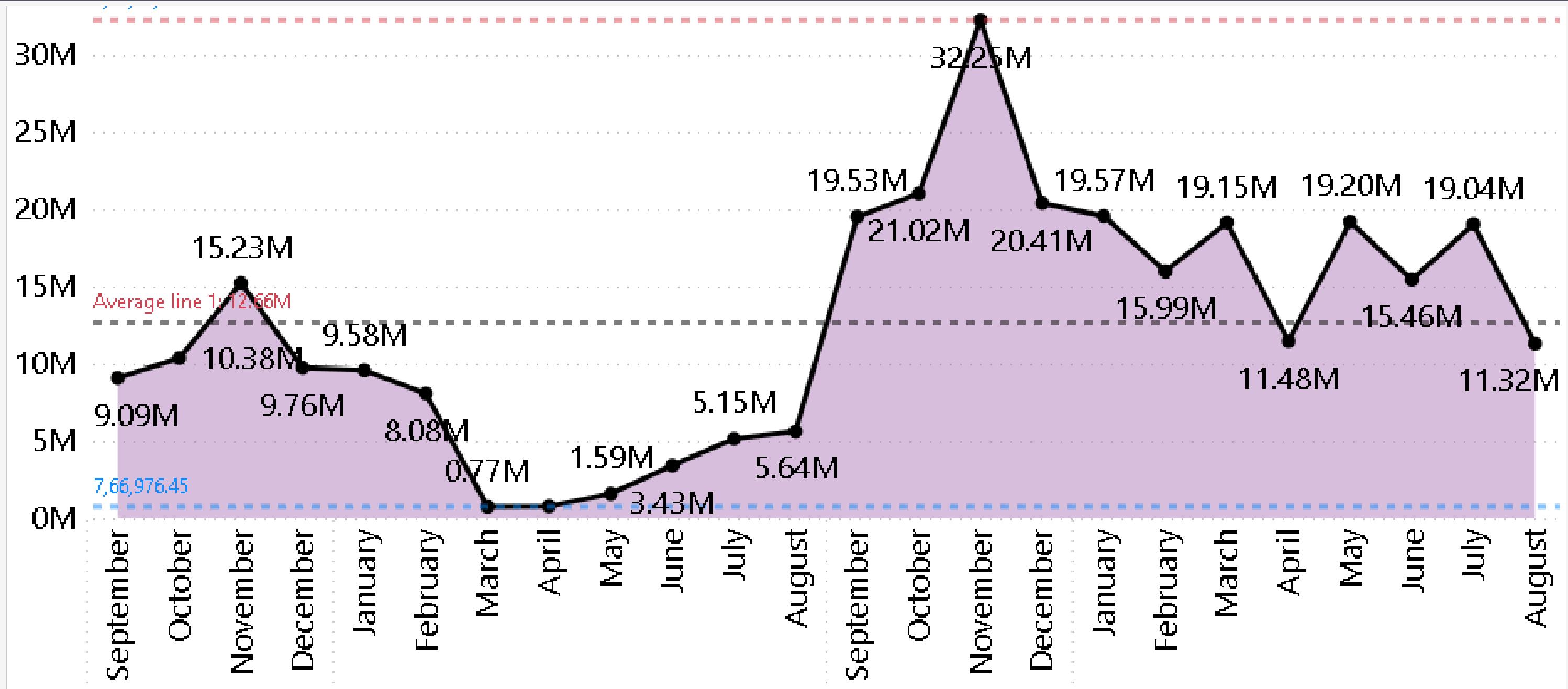


### OUTPUT

months	years	GrossSalesAmount_mln
September	2019	9.09
October	2019	10.38
November	2019	15.23
December	2019	9.76
January	2020	9.58
February	2020	8.08
March	2020	0.77
April	2020	0.8
May	2020	1.59
June	2020	3.43
July	2020	5.15
August	2020	5.64
September	2020	19.53
October	2020	21.02
November	2020	32.25
December	2020	20.41
January	2021	19.57
February	2021	15.99
March	2021	19.15
April	2021	11.48
May	2021	19.2
June	2021	15.46
July	2021	19.04
August	2021	11.32



## INSIGHTS



- In above graph we can see that Sales are started decreased from March to August, due to COVID-19 and silicon chip shortage.
- Sales started improving from September-2020 onwards due to ease in lockdown restrictions and the onset of festival season in India and other markets
- Also we can observe that the maximum sales happened in November which is 32.25 Million (All time highest sales).

**REQUEST 8: IN WHICH QUARTER OF 2020, GOT THE MAXIMUM TOTAL\_QUANTITY SOLD? THE FINAL OUTPUT CONTAINS THESE FIELDS SORTED BY THE TOTAL\_QUANTITY SOLD: QUARTER, TOTAL\_QUANTITY SOLD**

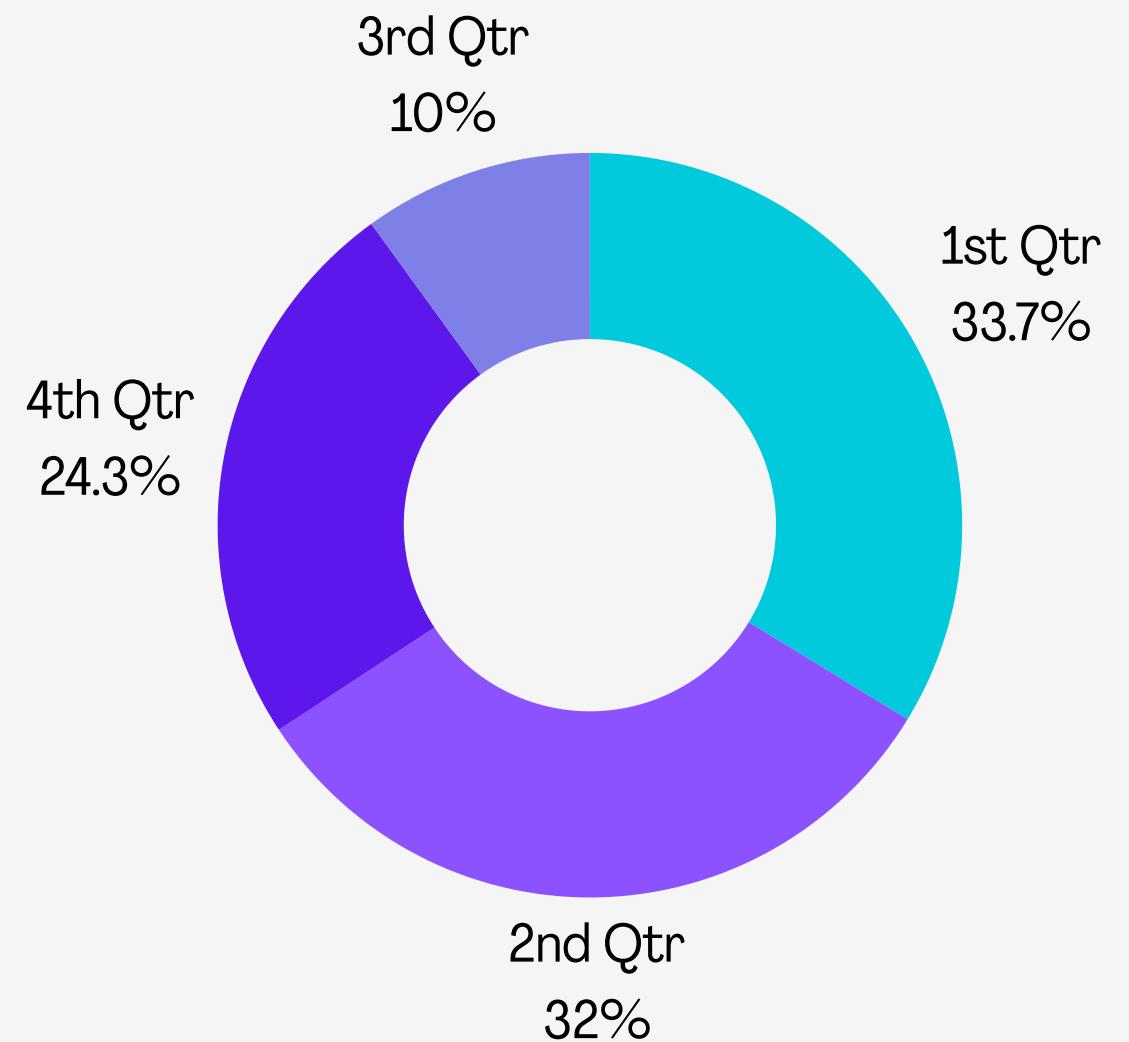
### SQL QUERY

```
SELECT
CASE
WHEN date BETWEEN '2019-09-01' AND '2019-11-01' THEN 'Q1'
WHEN date BETWEEN '2019-12-01' AND '2020-02-01' THEN 'Q2'
WHEN date BETWEEN '2020-03-01' AND '2020-05-01' THEN 'Q3'
WHEN date BETWEEN '2020-06-01' AND '2020-08-01' THEN 'Q4'
END AS Quarters,
SUM(sold_quantity) AS total_quantity_sold
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_quantity_sold DESC
```



### OUTPUT

Quarters	total_quantity_sold
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087



### INSIGHTS

- **Quarter 1 ( September-November) had the maximum quantity sold for FY 2020**
- **Sales dropped in Quarter 3( March-May), Due to COVID-19**
- **Sales Increase recorded in Quarter 4(June-August)**

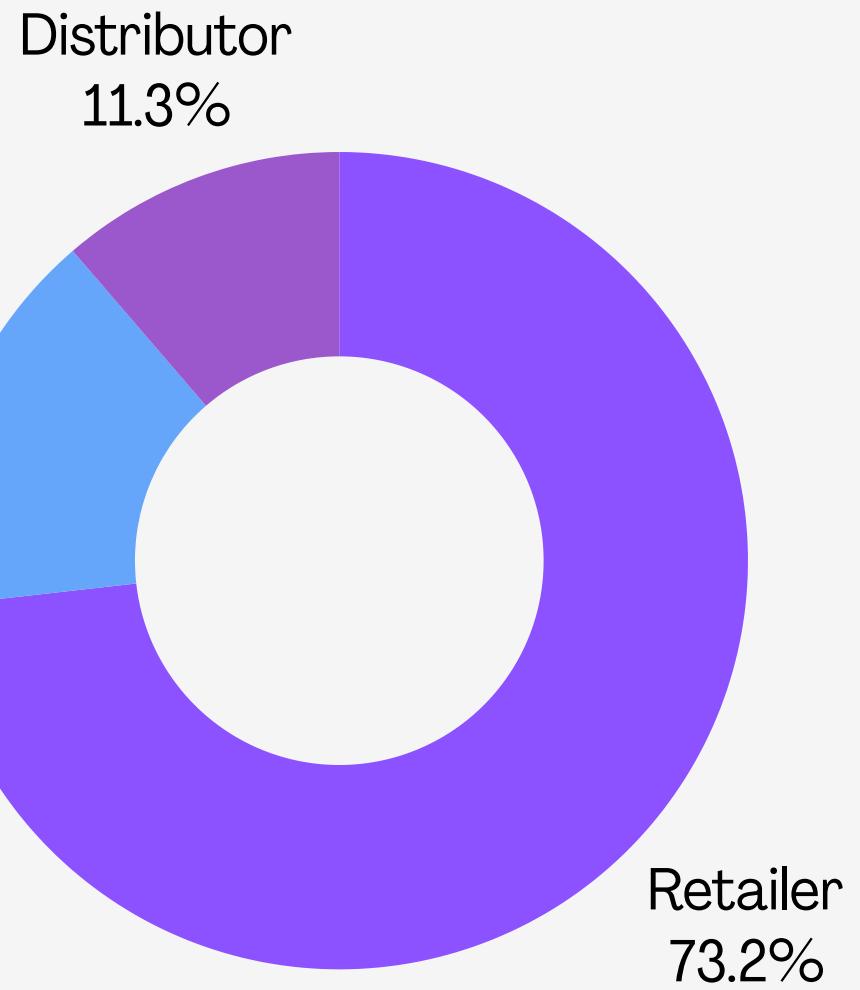
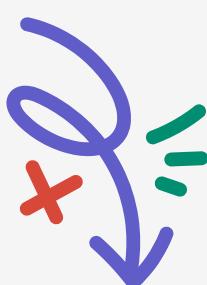
**REQUEST 9: WHICH CHANNEL HELPED TO BRING MORE GROSS SALES IN THE FISCAL YEAR 2021 AND THE PERCENTAGE OF CONTRIBUTION? THE FINAL OUTPUT CONTAINS THESE FIELDS: CHANNEL, GROSS\_SALES\_MLN, PERCENTAGE**

**SQL QUERY**

```
WITH cte AS
(SELECT dc.channel, ROUND(SUM(gp.gross_price*sm.sold_quantity)/1000000, 2) AS
gross_sales_mln
FROM fact_sales_monthly AS sm
JOIN fact_gross_price AS gp
ON sm.product_code = gp.product_code
JOIN dim_customer AS dc
ON sm.customer_code = dc.customer_code
WHERE sm.fiscal_year = 2021
GROUP BY dc.channel)
SELECT channel, gross_sales_mln, ROUND((gross_sales_mln/total)*100, 2) AS percentage
FROM ((SELECT SUM(gross_sales_mln) AS total FROM cte) x,
(SELECT * FROM cte) y)
ORDER BY percentage DESC;
```

**OUTPUT**

channel	gross_sales_mln	percentage
Retailer	1924.17	73.22
Direct	406.69	15.48
Distributor	297.18	11.31



**INSIGHTS**

- Retailers with \$1219.08 Million which is 73.23% of gross sales for FY 2021 followed by Direct channel with \$257.53 Million and Distributor with \$188.03 Million.**
- Need to focus on Direct and Distributor channels.**

**REQUEST 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, PRODUCT, TOTAL\_SOLD\_QUANTITY, RANK\_ORDER**

## SQL QUERY

```
WITH cte1 AS
(SELECT dp.division, dp.product_code, dp.product,
SUM(sm.sold_quantity) AS total_sold_quantity
FROM dim_product AS dp
JOIN fact_sales_monthly AS sm
ON dp.product_code = sm.product_code
WHERE sm.fiscal_year = 2021
GROUP BY dp.division, dp.product_code, dp.product),
cte2 AS
(SELECT division, product_code, product, total_sold_quantity,
RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_order
FROM cte1)
SELECT cte1.division, cte1.product_code, cte1.product,
cte1.total_sold_quantity, cte2.rank_order
FROM cte1
JOIN cte2
ON cte1.product_code = cte2.product_code
WHERE rank_order IN (1,2,3);
```

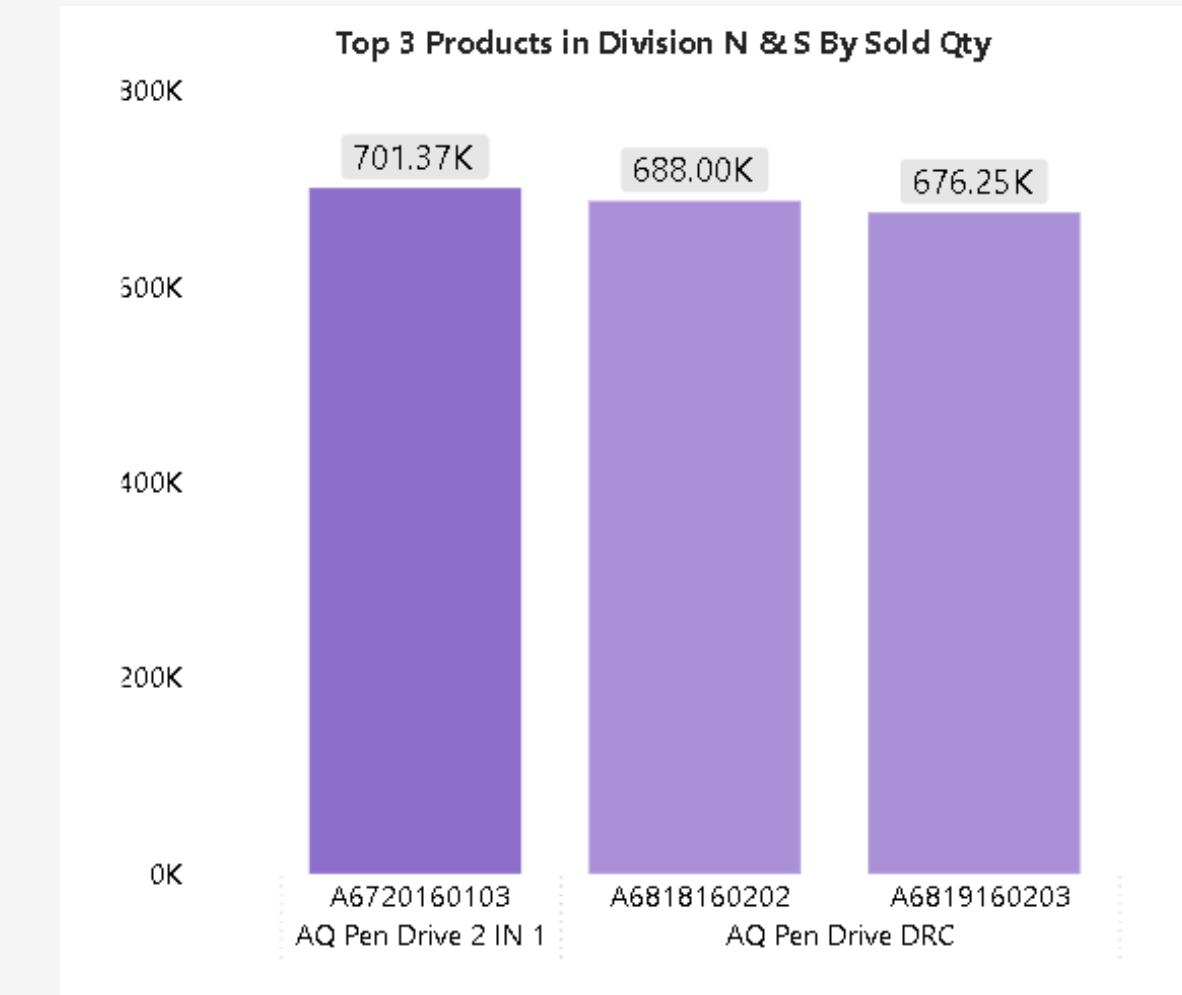
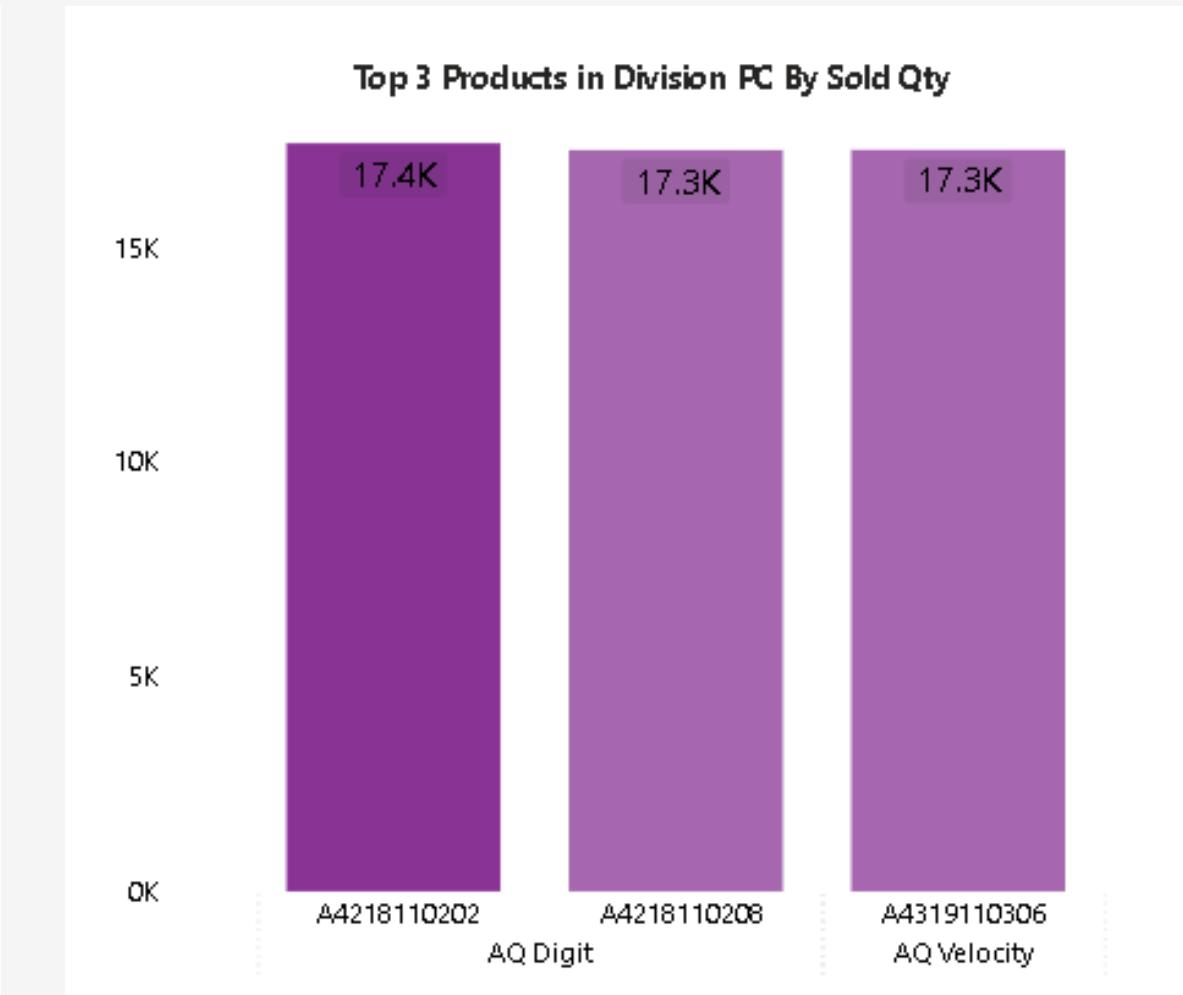
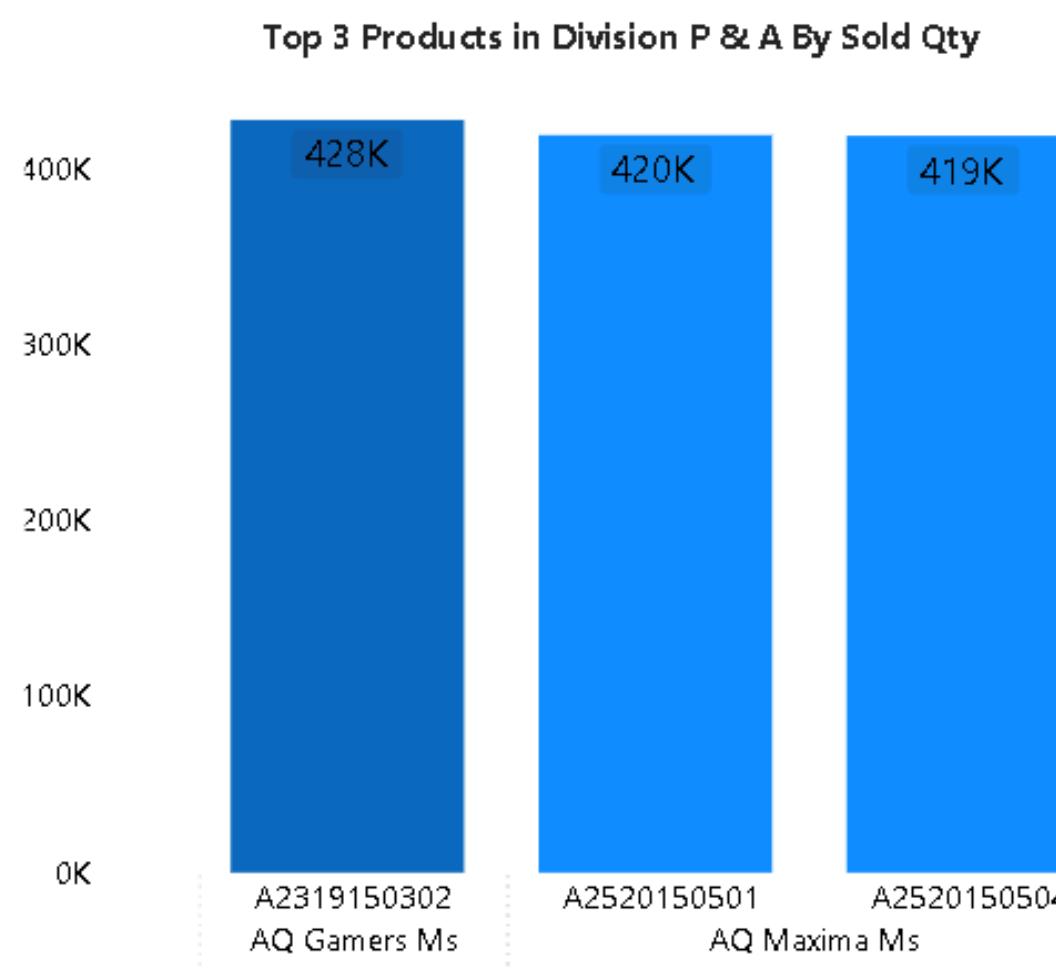


## OUTPUT

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

## TOP 3 HIGHEST SELLING PRODUCTS IN EACH DIVISION IN FISCAL YEAR 2021

### INSIGHTS



- For N&S, the top selling product is AQ Pen Drive 2 IN 1 with a total of 7,01,373 quantities sold in FY 2021 followed by two variants of AQ Pen Drive DRC with 6,88,003 and 6,76,245 quantity sold respectively
- For P&A, top selling product is AQ Gamers Ms with 4,28,498 quantities sold followed by two variants of AQ Maxima Ms
- For PC, top selling product is AQ Digit PC with 17,434 quantities sold
- The company can take some strategic decisions to improve sale in PC division



CodeBasics



AtliQ Hardware

*Thank You*