ATLIQ HARDWARE
(SQL SALES INSIGHT FROM AD-HOC REQUESTS)

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CONTENTS

INTRODUCTION

Atliq Hardware (imaginary company) is one of the leading computer hardware producers in India and has expanded in other countries too.

However, the management noticed they do not get enough insights to make quick, smart data-informed decisions. They want to expand their data analytics team by adding several junior data analysts.

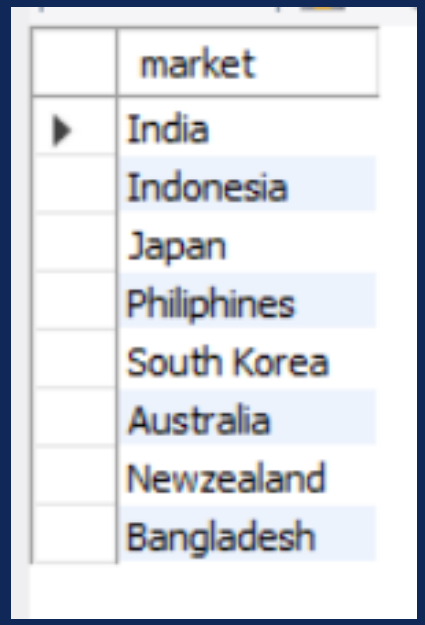
10 Ad – Hoc Requests

1. Provide the list of market in which customer “AtliQ Exclusive” operates its business in the APAC region.

SQL Query

```
SELECT distinct market FROM dim_customer
WHERE customer = "Atliq Exclusive" and region = "APAC"
```

Output



	market
▶	India
	Indonesia
	Japan
	Philiphines
	South Korea
	Australia
	Newzealand
	Bangladesh

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	market
▶	India
	Indonesia
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AtliQ Exclusive operates in the following markets in the Asia-Pacific region.

2. What is the percentage of unique product increase in 2021 vs 2020? The final output contains these fields.

1) unique_product_2020 2) unique_product_2021 3) Percentage_chg

SQL Query

```
WITH cte1 AS(
SELECT COUNT(distinct product_code) AS product_count_2020 FROM fact_sales_monthly
WHERE fiscal_year = 2020),

cte2 AS(
SELECT COUNT(distinct product_code) AS product_count_2021 FROM fact_sales_monthly
WHERE fiscal_year = 2021)

SELECT product_count_2020,product_count_2021,
(product_count_2021 - product_count_2020)*100/(product_count_2020) AS percentage_chg
FROM cte1 AS C1
JOIN cte2 AS C2
```

Output

	product_count_2020	product_count_2021	percentage_chg
▶	245	334	36.3265

2. What is the percentage of unique product increase in 2021 vs 2020? The final output contains these fields.

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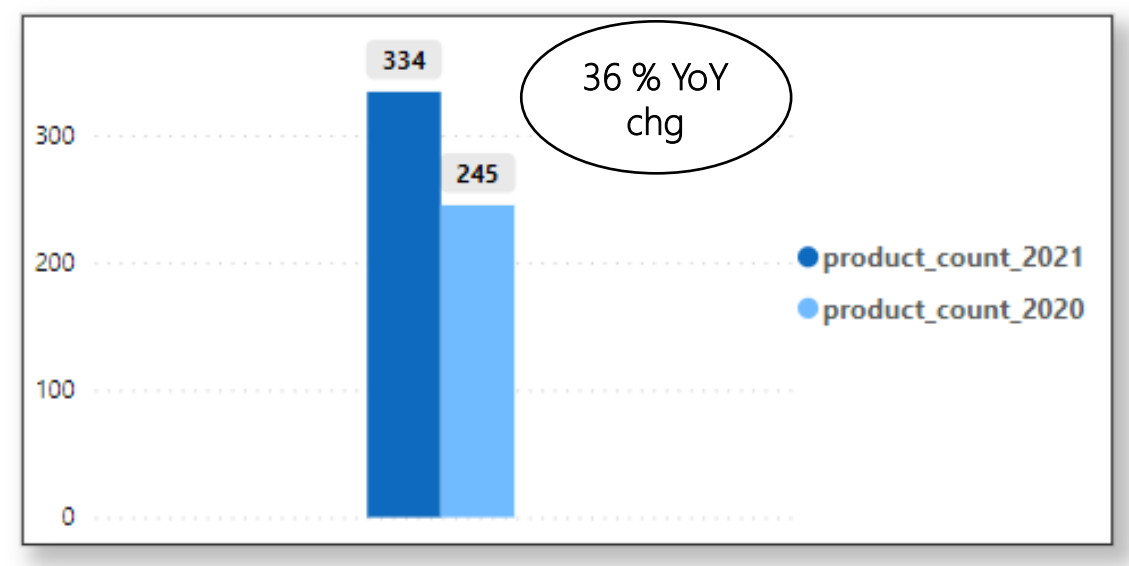


We observed a 36% increase in the number of unique products in AtliQ Hardware's portfolio from 2020 to 2021.

3. Provide a report with all the unique product counts for each “segment” and sort them in desecending oder of product counts. The final output contains these 2 fields. 1) segment 2) product_count

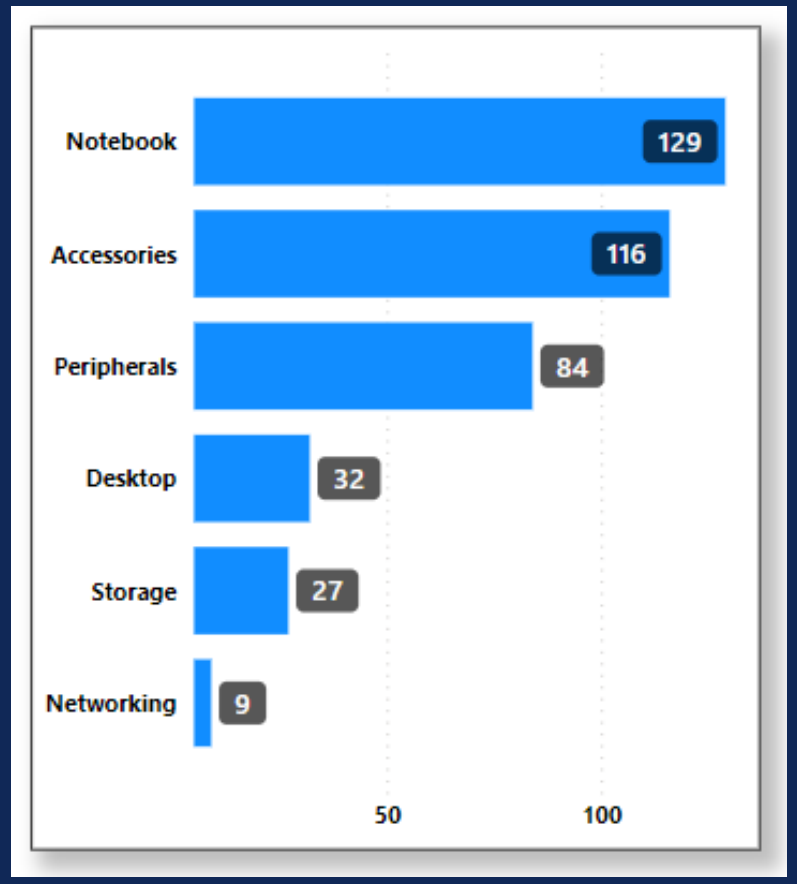
SQL Query

```
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

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 these 2 fields. 1) segment 2) product_count



	segment	product_count
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The notebook segment of AtliQ Hardware is performing well, but the networking segment is lagging behind. The company needs to introduce some new products in the networking segment to boost their sales.

4. Follow – up: Which segment had the most increase in unique product in 2021 vs 2020? The final output contains these fields. 1) segment 2) product_count_2020 3) product_count_2021 4) difference

SQL Query

```
WITH cte1 AS(
SELECT segment, COUNT(distinct P.product_code) AS product_count_2020
FROM fact_sales_monthly AS S
JOIN dim_product AS P
USING (product_code)
WHERE fiscal_year = 2020
GROUP BY segment),

cte2 AS(
SELECT segment, COUNT(distinct P.product_code) AS product_count_2021
FROM fact_sales_monthly AS S
JOIN dim_product AS P
USING (product_code)
WHERE fiscal_year = 2021
GROUP BY segment)

SELECT C2.segment, product_count_2020, product_count_2021,
(product_count_2021 - product_count_2020) AS differance
FROM cte1 AS C1
JOIN cte2 AS C2
USING (segment)
ORDER BY differance DESC
```

Output

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

4. Follow – up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields. 1) segment 2) product_count_2020 3) product_count_2021 4) difference

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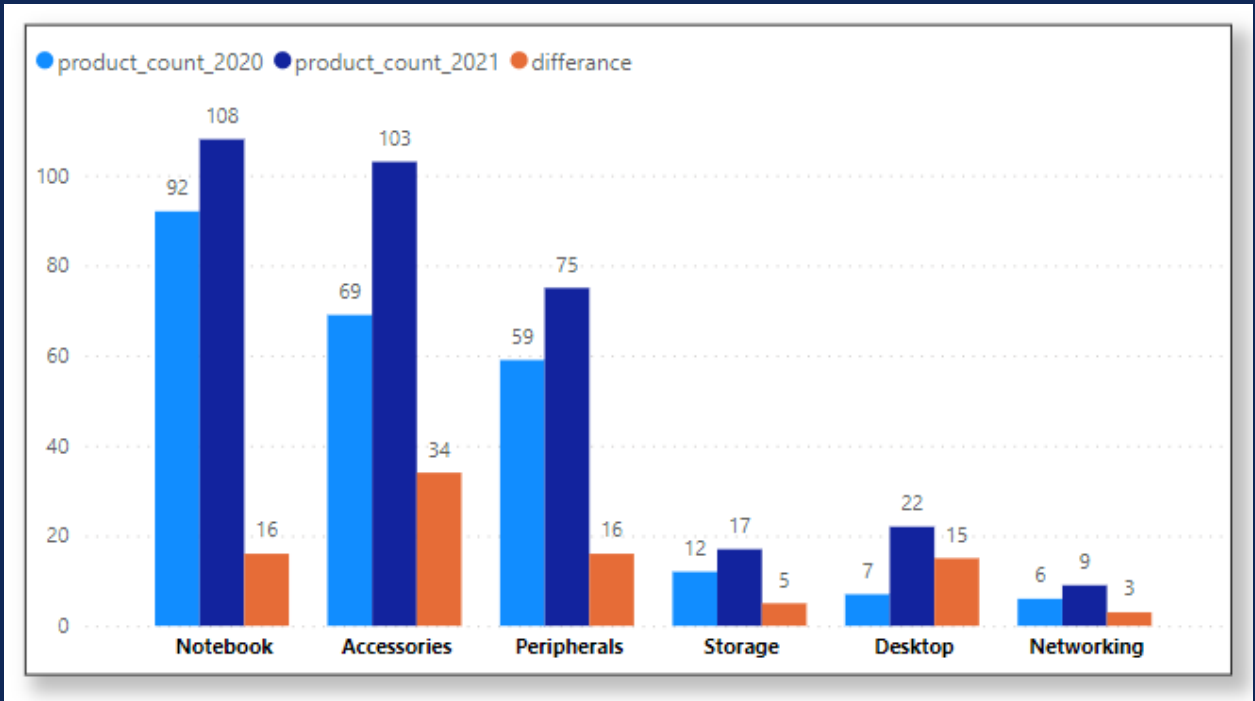

The notebook segment of AtliQ Hardware is performing well, but the networking segment is lagging behind. The company needs to introduce some new products in the networking segment to boost their sales.

5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, 1) product_code 2) product 3) manufacturing_cost

SQL Query

```
SELECT P.product_code, product, manufacturing_cost
FROM fact_manufacturing_cost AS M
JOIN dim_product AS P
USING (product_code)
WHERE manufacturing_cost = (SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost) OR
      manufacturing_cost = (SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost)
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

5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, 1) product_code 2) product 3) manufacturing_cost

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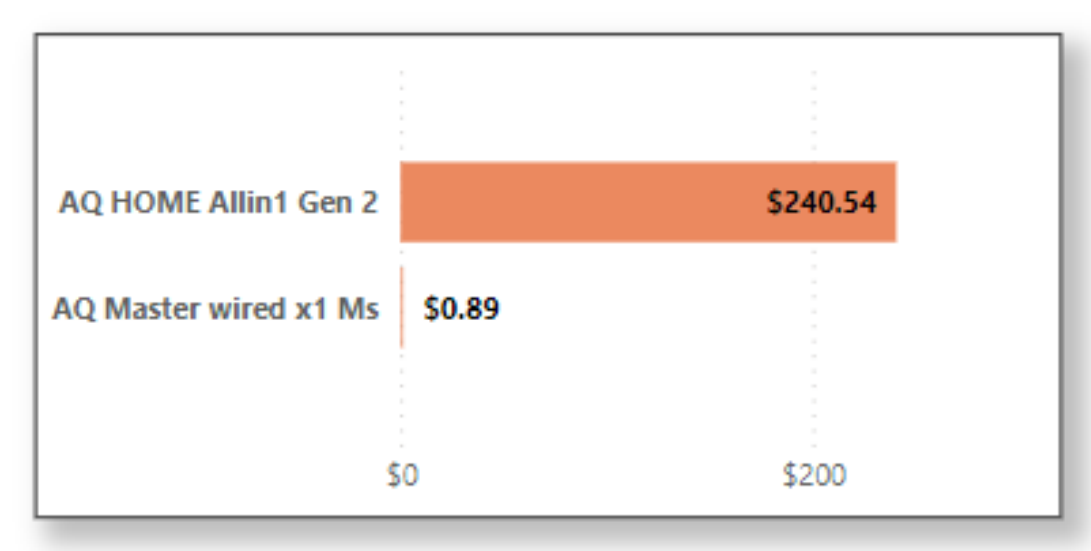

The product AQ Home Allin Gen 2 has the highest manufacturing cost, while the AQ Master Wired X1 Mouse has the lowest manufacturing cost.

6. Generate a report which contains the top 5 customers who received an high pre_invoice_discount_pct for the “fiscal_year_2021” and in the “Indian” market, The final output contains these fields, 1) customer_code 2) customer 3) average _discount_percentage

SQL Query

```
SELECT C.customer_code, customer, pre_invoice_discount_pct AS average_discount_pct
FROM dim_customer AS C
JOIN fact_pre_invoice_deductions AS PID
USING (customer_code)
WHERE fiscal_year = 2021 AND market = "India"
ORDER BY average_discount_pct desc
LIMIT 5;
```

Output

customer_code	customer	average_discount_pct
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

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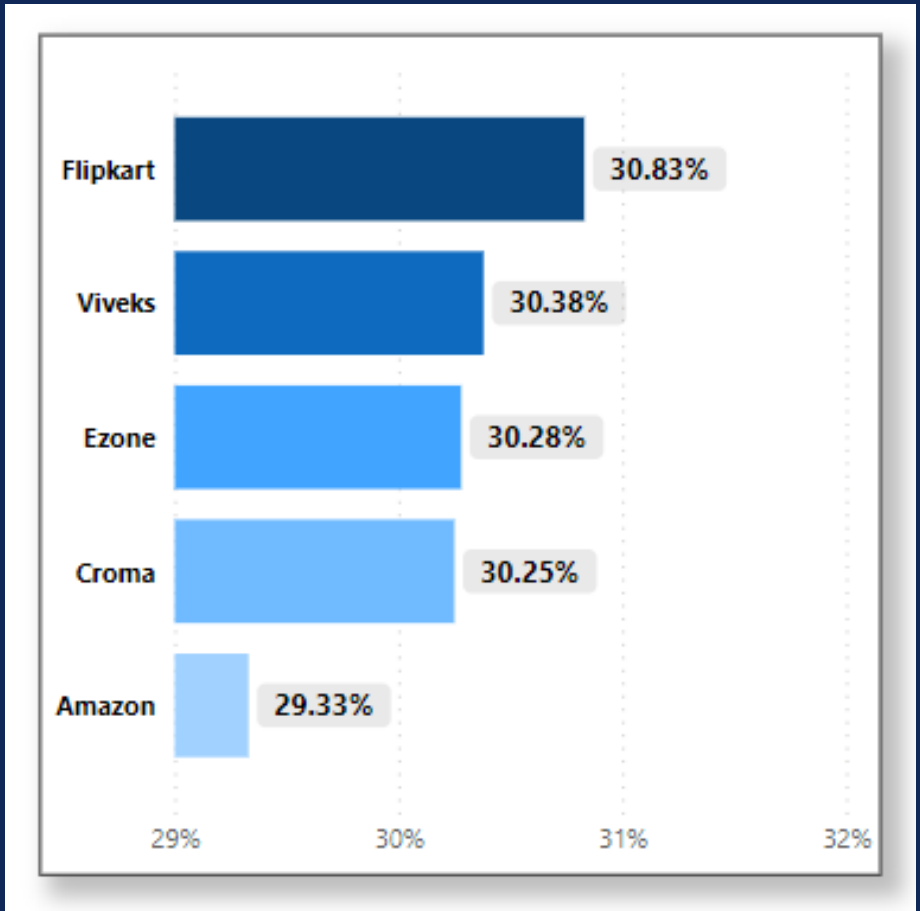

As we have observed, Flipkart has received the highest pre-invoice discount from Atliq Hardware. This indicates the highest sales among their competitors.

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 decision:

The final report contain these column 1) Month 2) Year 3) gross Sale Amount

SQL Query

```
SELECT monthname(S.date) AS c_month,
            year(S.date) AS c_year,
            SUM(sold_quantity * gross_price)/1000000 AS
gross_sales_amount
FROM fact_gross_price AS GP
JOIN fact_sales_monthly AS S
ON GP.product_code = S.product_code
JOIN dim_customer AS C
ON S.customer_code = C.customer_code
WHERE customer = "Atliq Exclusive"
GROUP BY c_year,c_month
ORDER BY c_year
```

Output

c_month	c_year	gross_sales_amount
December	2019	9.75579506
November	2019	15.23189497
October	2019	10.37863760
September	2019	9.09267034
April	2020	0.80007195
August	2020	5.63828183
December	2020	20.40906318
February	2020	8.08399555
January	2020	9.58495194
July	2020	5.15181540
June	2020	3.42973657
March	2020	0.76697645
May	2020	1.58696448

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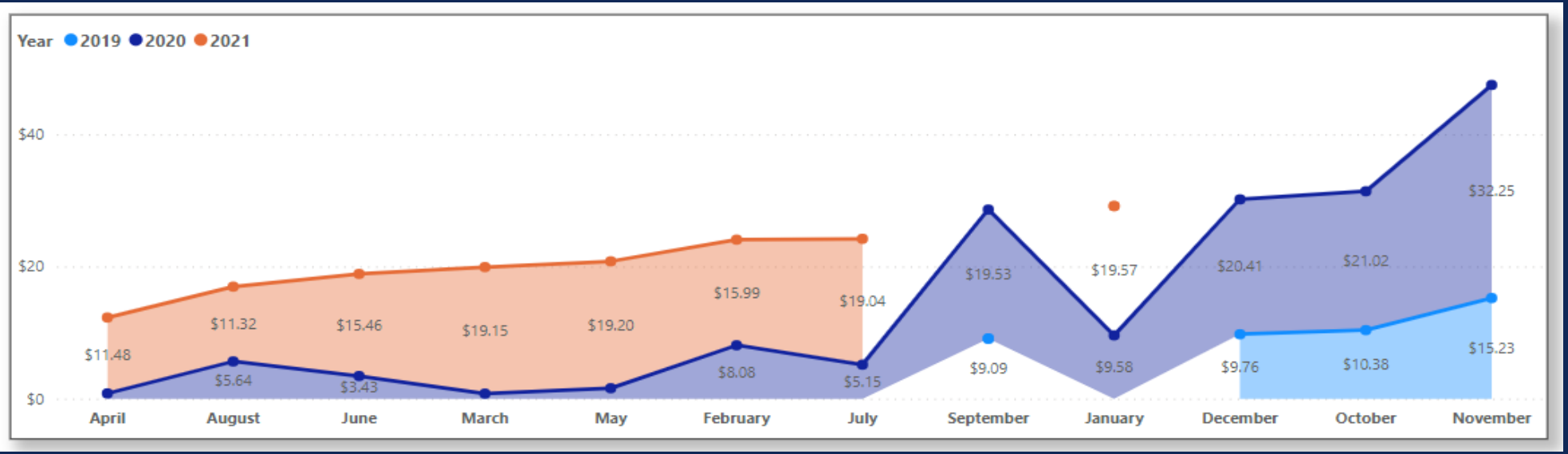
August	2020	5.63828183
December	2020	20.40906318
February	2020	8.08399555
January	2020	9.58495194
July	2020	5.15181540
June	2020	3.42973657
March	2020	0.76697645
May	2020	1.58696448

According to the data, the last four months of the year, September, October, November, and December, have been peak months for the company in terms of sales. AtliQ Hardware can introduce some products to increase sales in the summer or after year-end. Overall, sales have increased after the pandemic and remained high compared to pre-pandemic levels.



8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity, 1) Quarter 2) total_sold_quantity

SQL Query

```
SELECT SUM(sold_quantity) AS total_qty,
        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 qtr
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY qtr
ORDER BY total_qty desc;
```

Output

	total_qty	qtr
▶	7005619	Q1
	6649642	Q2
	5042541	Q4
	2075087	Q3

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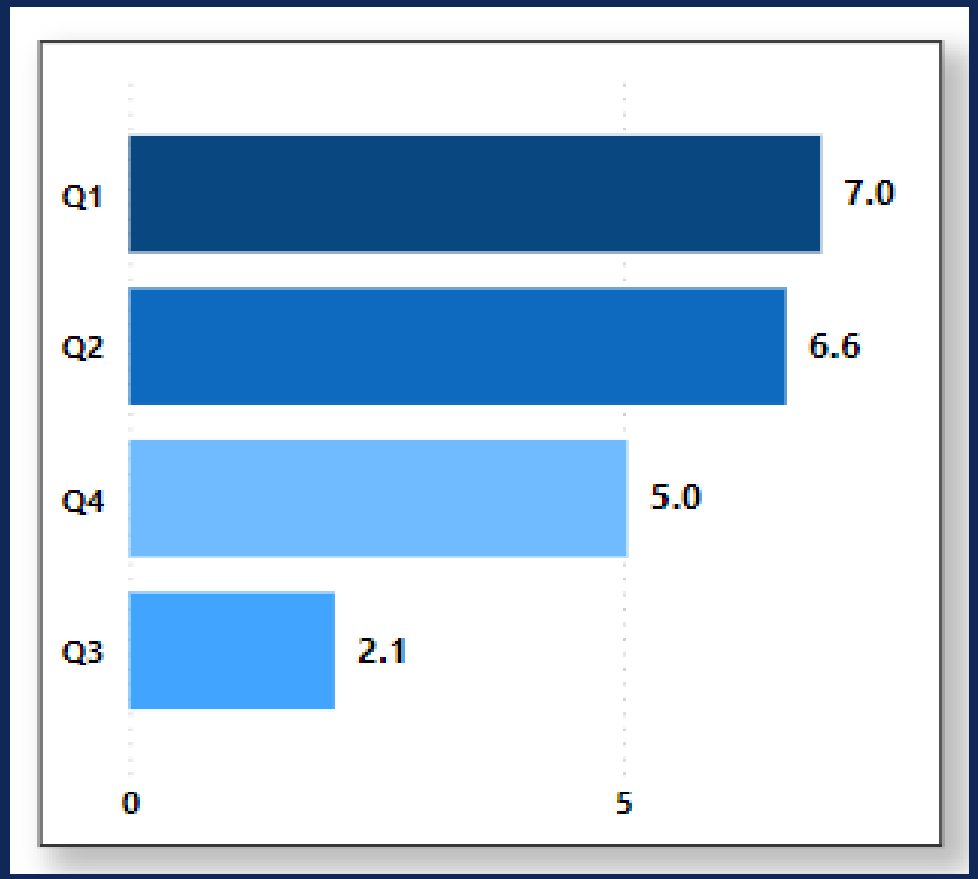

	total_qty	qtr
▶	7005619	Q1
	6649642	Q2
	5042541	Q4
	2075087	Q3

For the fiscal year 2020, Q3 had the lowest number of products sold. During Q3 or summer, Atliq's product demand decreased. That's why Atliq can introduce some new outdoor products like waterproof speakers, mini fans, portable fridges, etc., to boost sales in Q3.

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 1) channel 2) gross_sales_mln 3) percentage

SQL Query

```
WITH cte1 AS (
SELECT channel,
ROUND(SUM(sold_quantity * gross_price/1000000),2) AS gross_sales_mln
FROM fact_sales_monthly AS S
JOIN fact_gross_price AS GP
ON S.product_code = GP.product_code
JOIN dim_customer AS C
ON S.customer_code = C.customer_code
WHERE S.fiscal_year = 2021
GROUP BY channel)

SELECT *,
(gross_sales_mln*100)/SUM(gross_sales_mln) OVER () AS pct_contribution
FROM cte1
```

Output

channel	gross_sales_mln	pct_contribution
Direct	406.69	15.475031
Distributor	297.18	11.308047
Retailer	1924.17	73.216922

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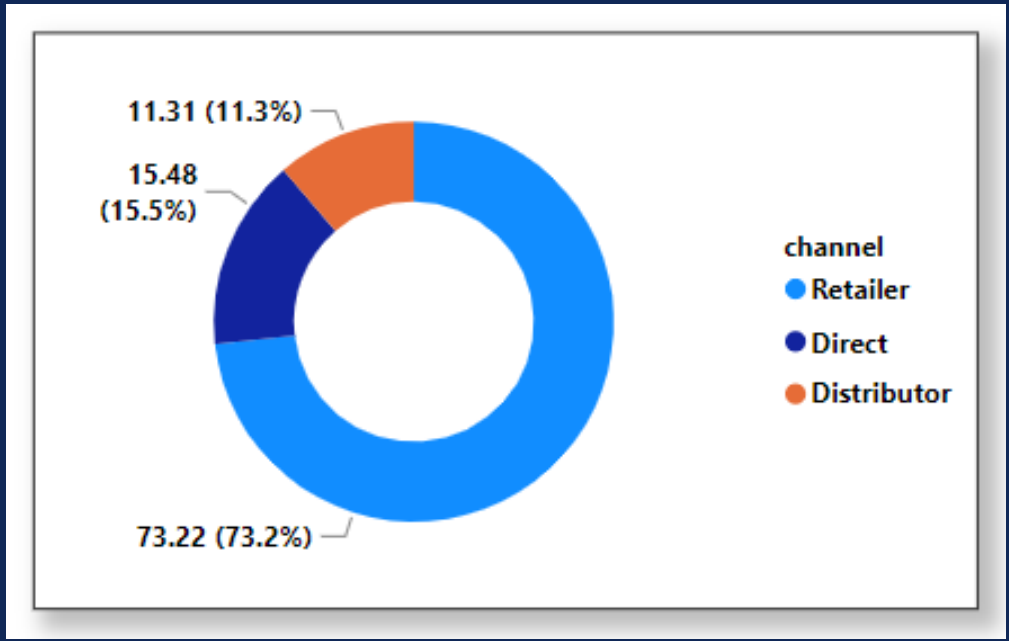
channel	gross_sales_mln	pct_contribution
Direct	406.69	15.475031
Distributor	297.18	11.308047
Retailer	1924.17	73.216922



Atliq has three main distribution channels. However, the majority of their sales come from retailer outlets (73.22%), meaning brick-and-mortar stores. They could focus more on the direct channel by selling more products through Atliq Exclusive, their own store. This strategy could increase their profit margin.

10. Get the Top 3 products in each devision that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, 1) division 2) product_code 3) product 4) total_sold_quantity 5) rank_order

SQL Query

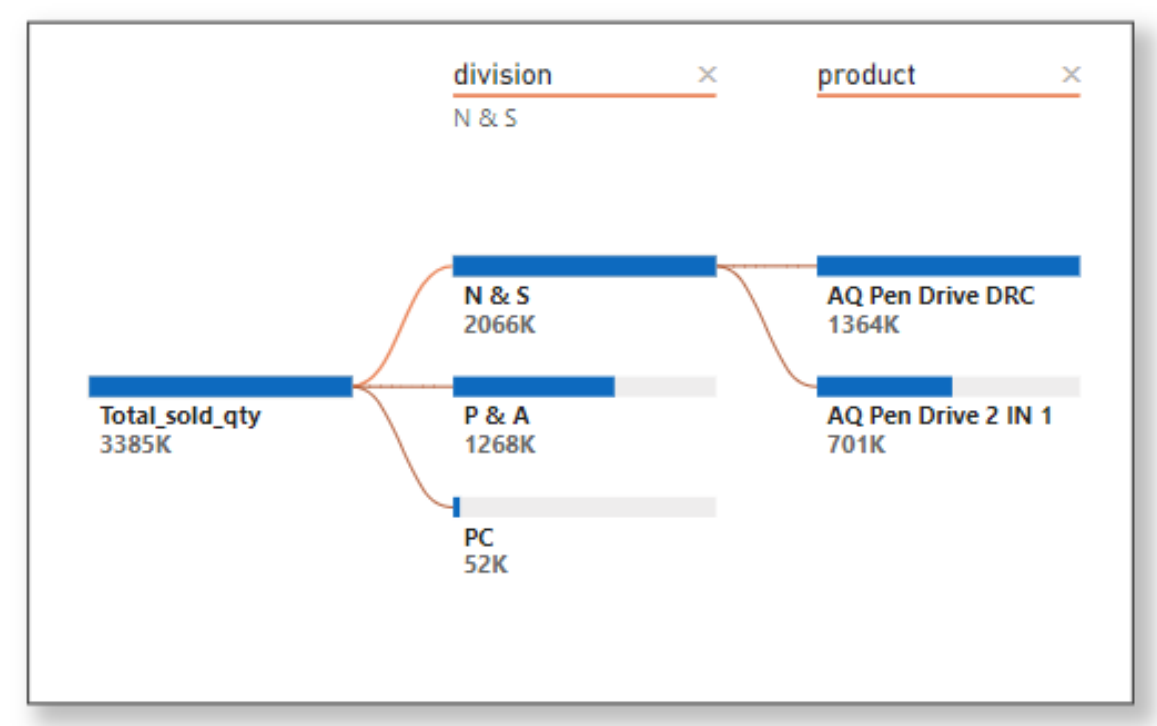
```
WITH cte1 AS (
SELECT division, P.product_code,
product,SUM(sold_quantity) AS total_sold_qty,
rank() OVER(partition by division order by SUM(sold_quantity) DESC) AS RNK
 FROM dim_product AS P
 JOIN fact_sales_monthly AS S
 USING (product_code)
 WHERE fiscal_year = 2021
 GROUP BY  P.division, P.product_code, product)

 SELECT * FROM cte1
 WHERE RNK <= 3
```

Output

	division	product_code	product	total_sold_qty	RNK
▶	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

10. Get the Top 3 products in each devision that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, 1) division 2) product_code 3) product 4) total_sold_quantity 5) rank_order

	division	product_code	product	total_sold_qty	RNK
▶	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



AtliQ's highest number of products sold is in their N&S division, followed by the P&A division. Sales in their PC division are comparatively lower than in the other two divisions. They need to focus on technology and innovation to boost sales in the PC division. The PC division has a higher profit margin compared to the other divisions, so it would be more beneficial to the company if their sales increased in the PC division.

SUMMARY

- AtliQ Hardware's overall performance in FY 2021 is good.
- The company has a strong distribution network in the retail channel, but it needs to increase its sales in the e-commerce division by partnering with other giants in their local market.
- AtliQ's Q1 performance is impressive, but sales decreased drastically in Q3. They need to introduce new products to increase sales in Q3 as well.