



ATLIQ HARDWARE

CONSUMER GOODS AD-HOC INSIGHTS

Presented By
Manoj R



Resume Project Challenge 4



AGENDA



1. Introduction
2. Product lines
3. Input Model
4. Ad-hoc requests & SQL Query
5. Insights & Recommendations
6. Summary & Conclusion



INTRODUCTION

Company :

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

Background :

the management noticed that they do not get enough insights to make quick and smart data-informed decisions.

Problem :

There are 10 AD HOC report that the top level management requires to make their data driven decision

Approach :

We will use MySQL to run the Query and Power BI to generate insights by visualizing the query obtained from SQL

AtliQ Product Lines

PC

Desktop

Business Laptop

Personal Laptop

Notebook

Gaming Laptop

Business Laptop

Personal Laptop

P & A

Peripherals

Graphics Card

Internal HDD

MotherBoard

Processors

Accessories

Batteries

Keyboard

Mouse

N & S

Networking

Wifi Extender

Storage

External SSD

USB Flash Drives

INPUT MODEL :

<div><div>dim_product</div><div><div>product_code VARCHAR(45)</div><div>division VARCHAR(45)</div><div>segment VARCHAR(45)</div><div>category VARCHAR(45)</div><div>product VARCHAR(200)</div><div>variant VARCHAR(45)</div></div></div>	<div><div>fact_sales_monthly</div><div><div>date DATE</div><div>product_code VARCHAR(45)</div><div>customer_code INT</div><div>sold_quantity INT</div><div>fiscal_year YEAR</div></div><div>Indexes</div></div>	<div><div>dim_customer</div><div><div>customer_code INT</div><div>customer VARCHAR(15)</div><div>platform VARCHAR(45)</div><div>channel VARCHAR(45)</div><div>market VARCHAR(45)</div><div>sub_zone VARCHAR(45)</div><div>region VARCHAR(45)</div></div><div>Indexes</div></div>
	<div><div>fact_manufacturing_cost</div><div><div>product_code VARCHAR(45)</div><div>cost_year YEAR</div><div>manufacturing_cost DECIMAL(15,4)</div></div></div>	
	<div><div>fact_pre_invoice_deductio...</div><div><div>customer_code INT</div><div>fiscal_year YEAR</div><div>pre_invoice_discount_pct DECIMAL(5,4)</div></div></div>	
	<div><div>fact_gross_price</div><div><div>product_code VARCHAR(45)</div><div>fiscal_year YEAR</div><div>gross_price DECIMAL(15,4)</div></div><div>Indexes</div></div>	

AD-HOC Requests & Insights



AD-HOC Request 1

“ Provide the list of markets in which customer Atliq Exclusive operates its business in the APAC region ”

QUERY:

```
SELECT
    DISTINCT(market)
FROM
    dim_customer
WHERE
    customer = 'Atliq Exclusive'
AND
    region = 'APAC' ;
```

OUTPUT:

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh

Insights:

AtliQ Exclusive expanding its presence across 8 different countries in Asia Pacific region representing the rapid expansion.





AD-HOC 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 ”

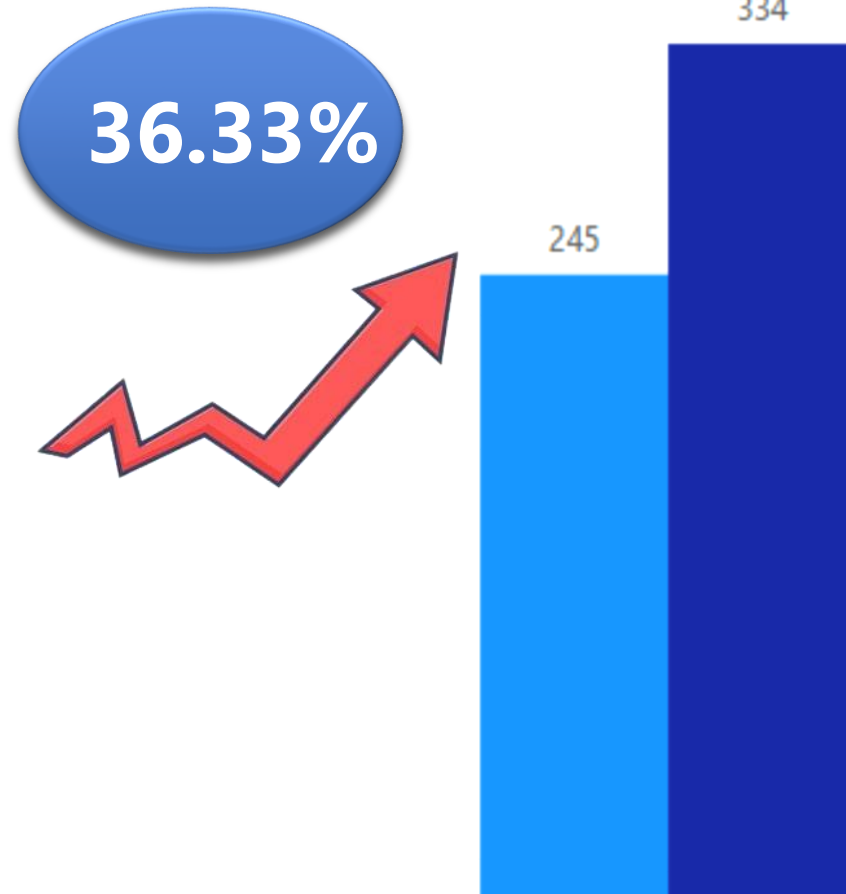
QUERY:

```
WITH U_20 AS (  
    SELECT COUNT(DISTINCT product_code) AS unique_products_2020  
  
    FROM  
        fact_sales_monthly  
  
    WHERE  
        fiscal_year = 2020),  
U_21 AS (  
    SELECT COUNT (DISTINCT product_code) AS  
unique_products_2021  
    FROM  
        fact_sales_monthly  
  
    WHERE  
        fiscal_year = 2021)  
SELECT  
    unique_products_2020,  
    unique_products_2021, ROUND((unique_products_2021 -  
    unique_products_2020) * 100 / unique_products_2020,2) AS  
percentage_chg  
FROM  
    U_20  
CROSS JOIN U_21;
```

OUTPUT:

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

● Total Products 2020 ● Total Products 2021



Insights:

- Total unique products of Atiq Exclusive is **245**.
- Total unique products of Atiq Exclusive is **334**
- Products from 2020 to 2021 were increased to **36.33%**
- So there was an increase of total production from **2020 to 2021**



AD-HOC Request 3

“ Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

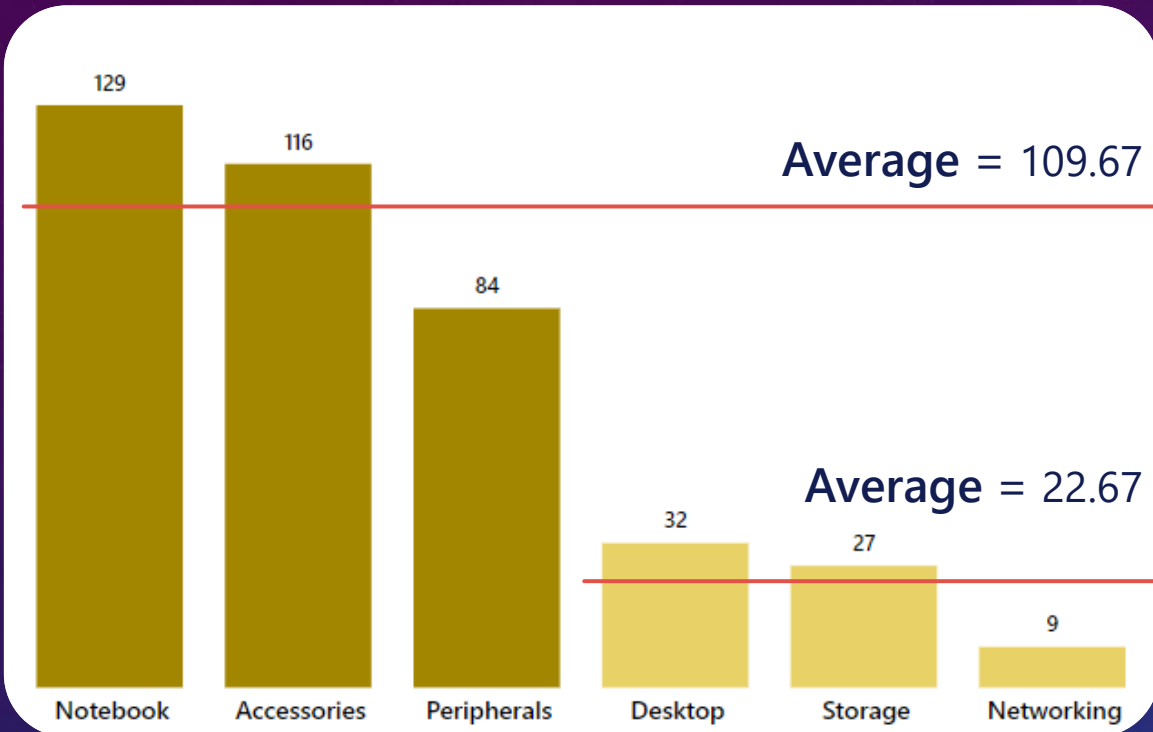
The final output contains 2 fields, segment, product count ”

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



Insights:

- Notebooks (**129 units**) and Accessories (**116 units**) dominate sales, contributing significantly to overall revenue.
- Peripherals (**84 units**) show steady sales but have potential for growth.
- Desktop (**32 units**), Storage (**27 units**), and Networking (**9 units**) lag behind, signaling low demand or engagement.

RECOMMENDATIONS:

Focus on scaling **top categories** with **promotions and bundles**, explore **growth strategies** for **Peripherals**, and reassess **low-performing categories** through **market analysis** and strategy adjustments.



AD-HOC Request 4

“ 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 ”

QUERY:

```
WITH U_20 AS(
    SELECT p.segment,
    COUNT(DISTINCT product_code) AS product_count_2020 FROM
    fact_sales_monthly s
JOIN
    dim_product p
    USING (product_code)
WHERE
    s.fiscal_year = 2020
GROUP BY
    p.segment),
U_21 AS (
    SELECT p.segment,
    COUNT (DISTINCT product_code) AS product_count_2021
FROM fact_sales_monthly s
JOIN dim_product p USING(product_code)
WHERE s.fiscal_year = 2021
GROUP BY p.segment)
SELECT segment, product_count_2020, product_count_2021,
(product_count_2021 - product_count_2020) AS difference
FROM U_20 JOIN U_21 USING(segment)
ORDER BY difference DESC;
```

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

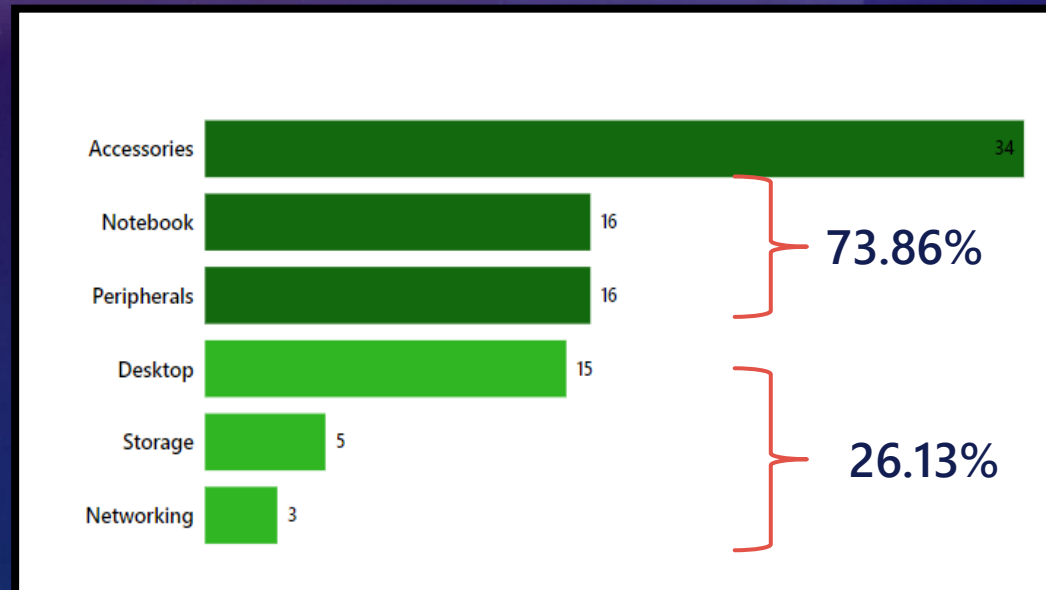
SEGMENTS PRODUCT COUNT 2020 & 2021



Insights:

- Accessories (69 - 103), Notebooks(92-108), Peripherals (59 - 75) has highest product count and are in **top right Quadrant**.
- Desktop(7-22), storage(12-17), network(7-9) are in bottom left quadrant and aren't much in demand during year 2020 to 2021

Difference Of Product Counts From 2020 - 2021



- When comparing the difference from **2020 to 2021** Accessories, notebook & peripherals together contribute **73.86%** to the **overall segment**
- Desktop, storage & peripherals were in **less demand** so the **production & demand** were totally **26.13%**



AD-HOC Request 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 ”

QUERY:

```
SELECT
    product_code,
    segment, product,
    manufacturing_cost
FROM
    dim_product
JOIN
    fact_manufacturing_cost
    using(product_code)
WHERE
    manufacturing_cost =
    (SELECT
        max(manufacturing_cost)
        FROM fact_manufacturing_cost)
UNION ALL
SELECT
    product_code, segment, product, manufacturing_cost
FROM dim_product
JOIN fact_manufacturing_cost
    using(product_code)
WHERE manufacturing_cost =
    (SELECT min(manufacturing_cost)
    FROM fact_manufacturing_cost);
```

OUTPUT:

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

DESKTOP (MAXIMUM Manufacturing Cost)



AQ HOME Allin1 Gen 2
(\$ 240.5364)

- Desktops likely have the highest manufacturing cost due to their complex assembly, larger components, and higher material requirements

WIRED MOUSE (MINIMUM Manufacturing Cost)



AQ Master wired x1 Ms
(\$ 0.8920)

- Wired mouse have the lowest manufacturing cost because of their simple design, minimal components, and mass production efficiencies.



AD-HOC 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,

1. customer_code, 2. customer, 3. average_discount_percentage ”

QUERY:

```
SELECT
    c.customer_code,
    c.customer,
    round(avg(s.pre_invoice_discount_pct),4) as
discount_pct
FROM
    fact_pre_invoice_deductions s
JOIN
    dim_customer c
    USING(customer_code)
WHERE
    market = 'India'
    AND s.fiscal_year = 2021
GROUP BY
    c.market, c.customer_code, c.customer
ORDER BY
    discount_pct DESC
LIMIT 5;
```

OUTPUT:

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



- Atliq Hardware offers an **average discount of over 30%** to its **top-performing customers**, with **Flipkart** receiving the highest at **30.83%**, indicating their importance in driving sales.
- The discount percentages are narrowly distributed **between 29.33% and 30.83%**, reflecting a stable and uniform pricing policy across these top customers.
- **Amazon**, despite being a major player, receives the **lowest average discount of 29.33%**, suggesting a differentiated approach tailored to specific customer relationships or volumes.



AD-HOC 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:

1. Month, 2. Year, 3. Gross sales Amount ”

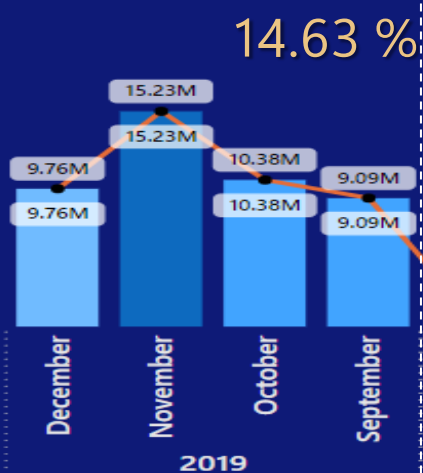
QUERY:

```
SELECT
    monthname(s.date) AS month,
    year(s.date) AS year,
    ROUND(SUM(s.sold_quantity * g.gross_price)/1000000,2)
    AS gross_sales_amount
FROM
    dim_customer c
JOIN
    fact_sales_monthly s
    on s.customer_code = c.customer_code
JOIN
    fact_gross_price g
    ON g.product_code = s.product_code
WHERE
    customer = 'Atliq Exclusive'
GROUP BY month, year
ORDER BY year;
```

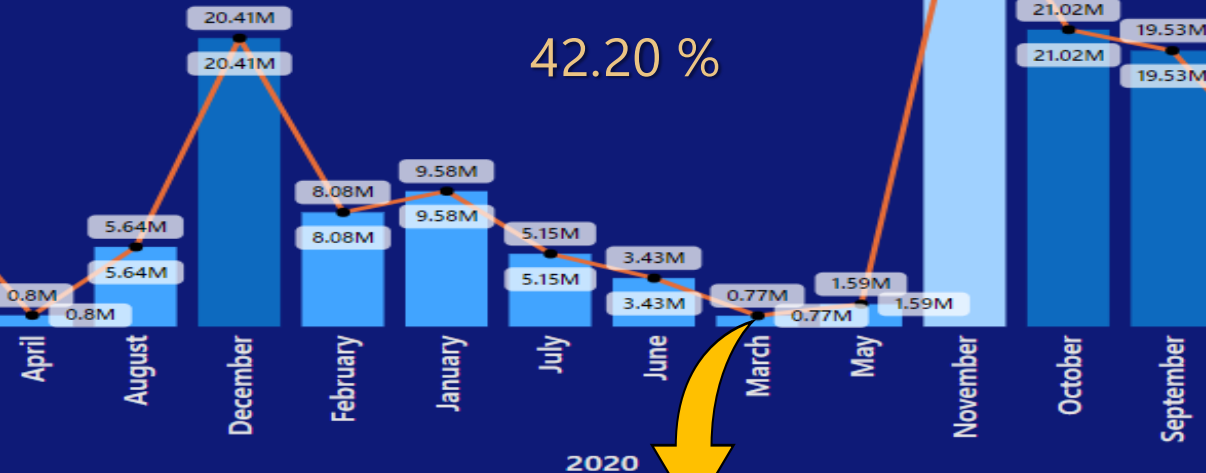
OUTPUT:

month	year	gross_sales_amount
September	2019	9.09 M
November	2019	15.23 M
December	2019	9.76 M
October	2019	10.38 M
January	2020	9.58 M
March	2020	0.77 M
April	2020	0.80 M
May	2020	1.59 M
July	2020	5.15 M
August	2020	5.64 M
September	2020	19.53 M
November	2020	32.25 M
December	2020	20.41 M
February	2020	8.08 M
June	2020	3.43 M
October	2020	21.02 M
January	2021	19.57 M
March	2021	19.15 M
April	2021	11.48 M
May	2021	19.20 M
July	2021	19.04 M
August	2021	11.32 M
February	2021	15.99 M
June	2021	15.46 M

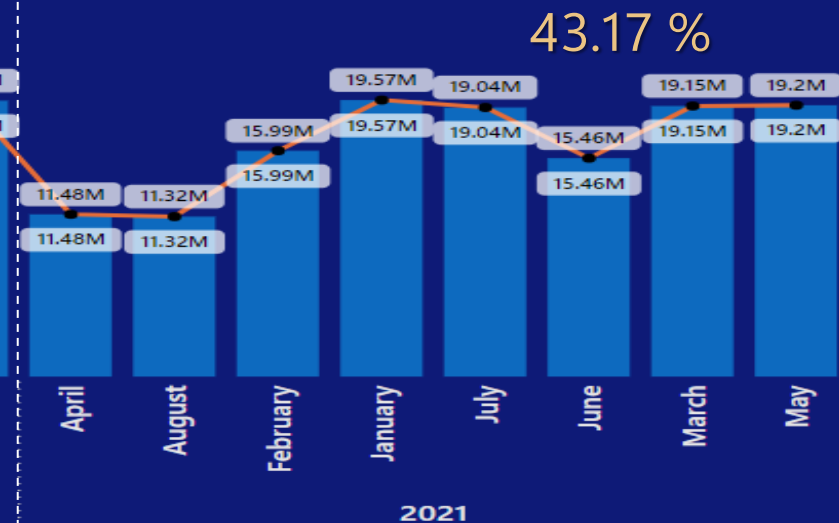
2019
Total = 44.46M



2020
Total = 128.25M



2021
Total = 131.21M



Insights:

- The graph/ trend throught the months is moving **upward & downward**.
- In 2020, there was **peak sales period** and also **lowest sales period** because of the **covid - 19 Pandemic** Causing **economic Eruptions**, **supply chain interruptions**, **shift in consumer behavious** etc.
- But soon from **November** month it is evident that **revenue is stabilized** at **higher growth level**



AD-HOC Request 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 ”

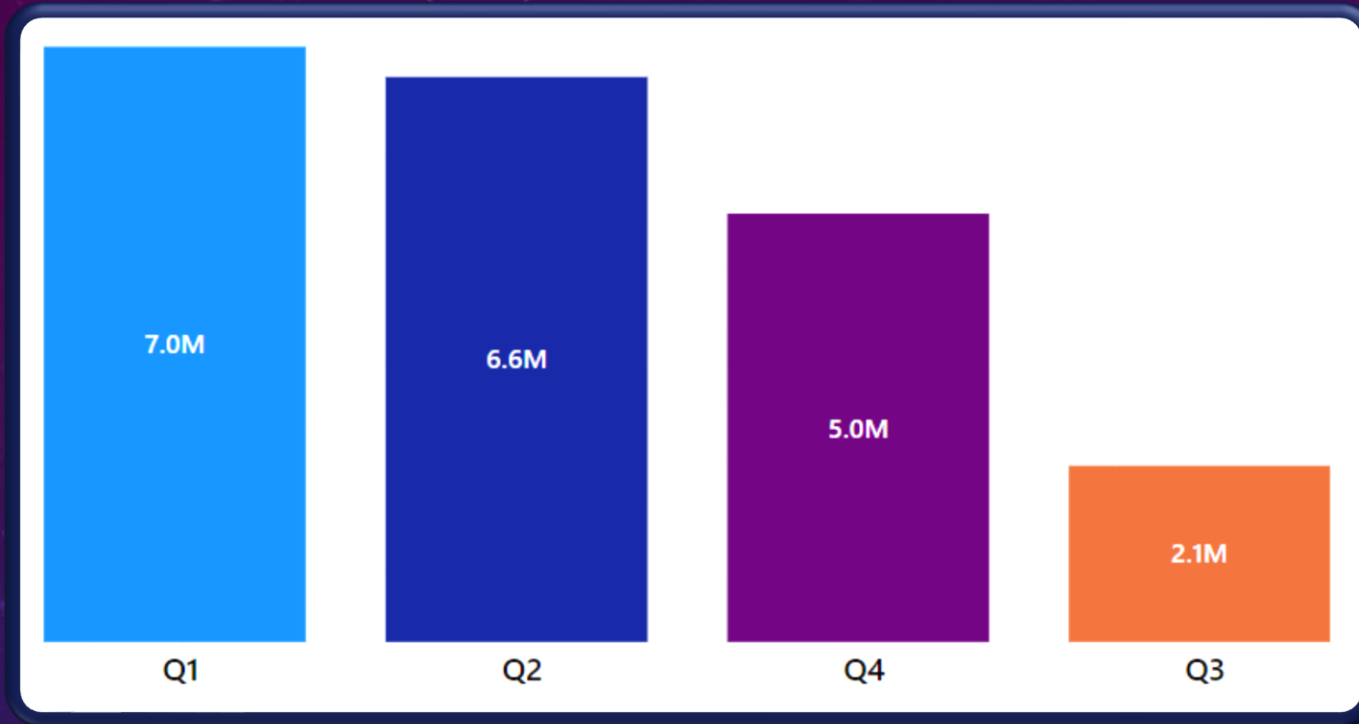
QUERY:

```
WITH CTE AS
( Select
    DATE_ADD(date, INTERVAL 4 MONTH) as date,
    sold_quantity
FROM
    fact_sales_monthly )

SELECT
    CONCAT("Q", QUARTER(date)) AS Quarter,
    SUM ( sold_quantity ) AS total_sold_quantity
FROM
    CTE
WHERE
    YEAR(DATE) = 2020
GROUP BY
    Quarter
ORDER BY total_sold_quantity DESC;
```

OUTPUT:

Quarter	total_sold_quantity
Q1	7.01 M
Q2	6.65 M
Q4	5.04 M
Q3	2.08 M



INSIGHTS

- 2020 1st Quarter (Sep – nov) were having higher higher sold quantity recorded
- 2020 3rd Quarter (mar – may) Were having lowest sold quantity due to pandemic Crisis happened
- But soon it's a good sign that sales started increasing from 4th Quarter with total of 5.0 M Quantity sold



AD-HOC 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,
1. channel , 2. gross_sales_mln , 3. percentage ”

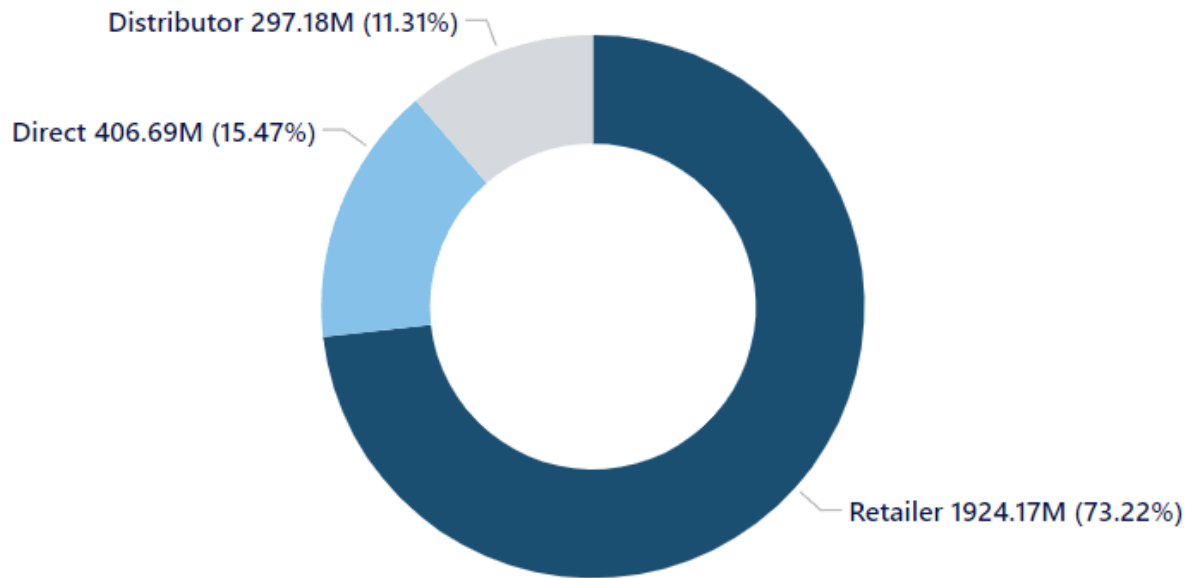
QUERY:

```
WITH TotalSales AS
  ( SELECT SUM(g.gross_price * s.sold_quantity) AS
    total_sales_mln
  FROM
    fact_sales_monthly s
  JOIN
    fact_gross_price g ON s.product_code = g.product_code
  WHERE
    s.fiscal_year = 2021),

GrossSales AS
  ( SELECT c.channel,
    SUM(g.gross_price * s.sold_quantity) AS gross_sales_mln
  FROM
    fact_sales_monthly s
  JOIN fact_gross_price g ON s.product_code = g.product_code
  JOIN dim_customer c ON s.customer_code = c.customer_code
  WHERE
    s.fiscal_year = 2021
  GROUP BY c.channel)
SELECT g.channel, ROUND((g.gross_sales_mln)/1000000,2) AS
gross_sales_mln, ROUND((g.gross_sales_mln / t.total_sales_mln) *
100,2) AS 'percentage'
FROM GrossSales g CROSS JOIN TotalSales t
ORDER BY g.gross_sales_mln DESC;
```

OUTPUT:

channel	gross_sales_mln	percentage
Retailer	1924.17 M	73 %
Direct	406.69 M	15 %
Distributor	297.18 M	11 %



- **Retailers** are generating more sales compared to other channels with **1924.17m** (**73.22 %**)
- 2nd is **Direct Channel** with **406.69m** (**15.47 %**)
- **Least** generating is **Distributors** With **297.18m** (**11.31 %**)



AD-HOC 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,
1.division , 2.product_code , 3.product, 4.total_sold_quantity, 5.rank_order ”

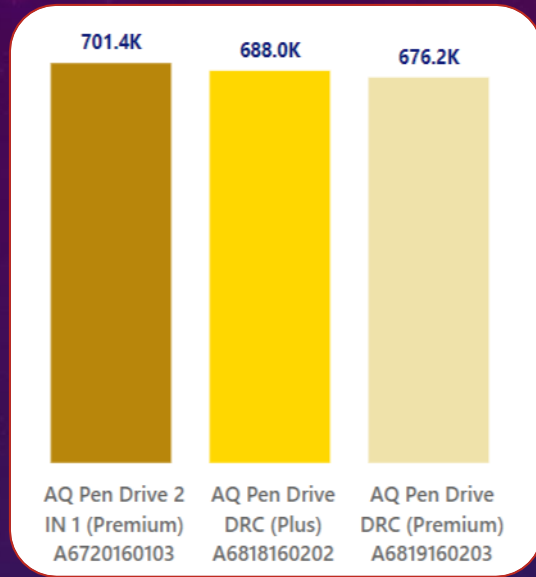
QUERY:

```
WITH CTE AS (  
    SELECT p.division AS division,  
           p.product_code AS product_code,  
           p.product AS product,  
           p.variant AS variant,  
           SUM (s.sold_quantity) AS sold_quantity  
FROM  
    dim_product p  
JOIN  
    fact_sales_monthly s  
    ON s.product_code = p.product_code  
WHERE  
    s.fiscal_year = 2021  
GROUP BY p.division, p.product_code, p.product,p.variant)  
  
SELECT  
    division, product_code, product,  variant,  sold_quantity,  
    rank_order  
FROM (  
    SELECT *,  
           DENSE_RANK() OVER (PARTITION BY division  
ORDER BY sold_quantity DESC) AS rank_order  
FROM CTE) AS ranked_data  
WHERE  rank_order <= 3  
ORDER BY  division, rank_order;
```

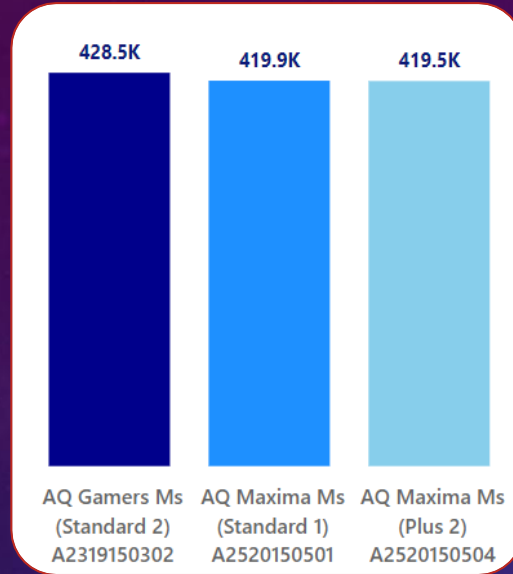
OUTPUT:

division	product_code	product	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

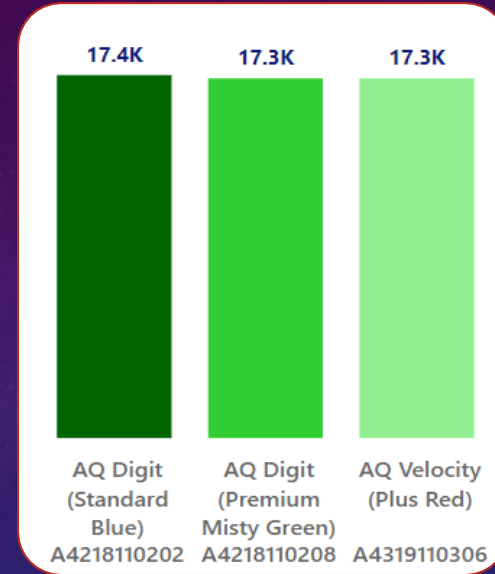
N & S



P & A



PC



INSIGHTS

- **N & S** demonstrates **the highest sales volume overall**, with strong individual model contributions.
- **P & A** shows **moderate sales**, dominated by AQ Gamers Ms
- **PC** represents the **least-performing segment**, requiring **potential strategic review for growth opportunities**.

SUMMARY

- AtliQ Exclusive performance was good through the years 2020 & 2021
- The production units for demanding products were increasing and with the good market strategies they can cope up with unsold products.
- Even with the pandemic hit they were able to recover and eventually improve the overall Revenue from year 2021 which is a good sign.
- With the little tweak in strategizing to which segment to concentrate more upon and channels that generate more revenue, they can boost the revenue and expand venture even more through the countries.
- They should consider partnership with high quality manufacturers & retailers whose reputation & brand has high demand in market which will eventually gain more loyal customers.

THANK YOU....