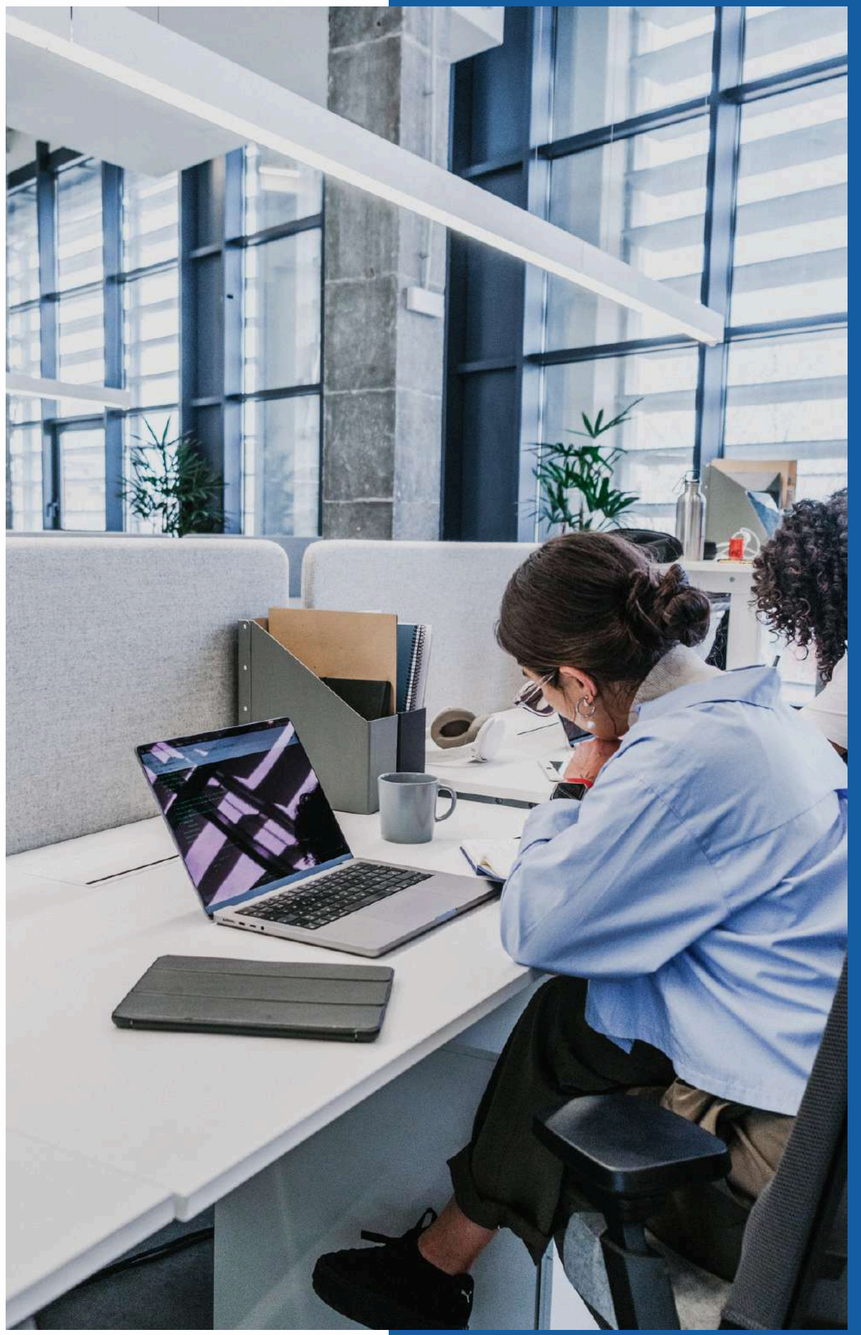
AtliQ Hardware

CONSUMER GOODS

AD-HOC INSIGHTS

By: Trisha Mondal

AGENDA



About AtliQ

AtliQ Hardware is one of the leading computer hardware producers in India and well expanded in other countries, too. They sell PC, Laptop, Mouse, keyboard and many other computer hardware items as well.

Objectives

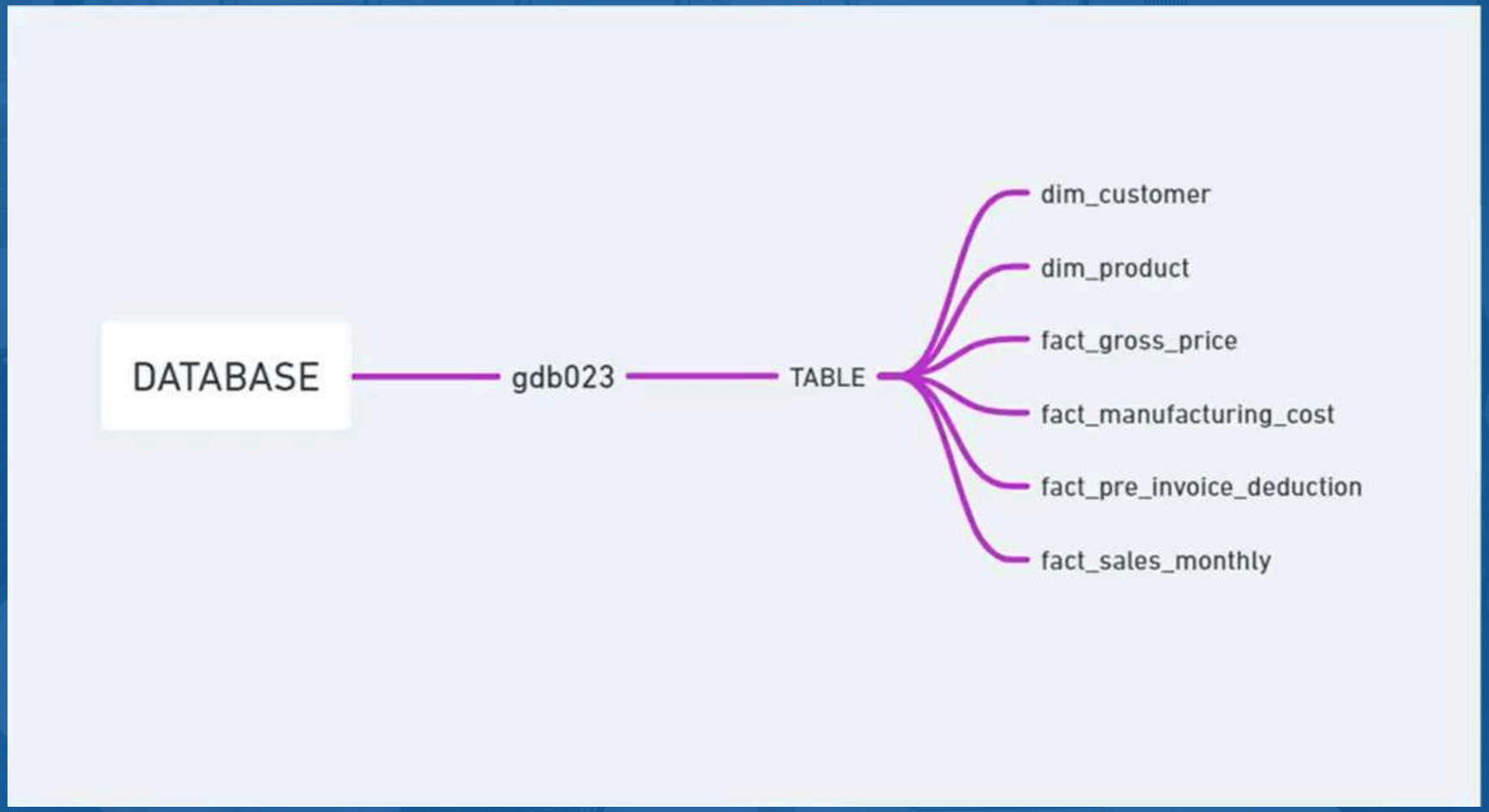
AtliQ Hardware, a leading computer hardware producer, faced a critical challenge
They need quick and data-informed decisions to stay competitive in the dynamic and ever-evolving market.
The management noticed that they were missing crucial Insights for a strategic move.

Project Overview

In this project, I will be working on a dataset that is related to Consumer goods.

The goal is to answer 10 Ad-Hoc Requests using SQL queries and present charts using Power BI.

Data - Set


DATABASE
gdb023
TABLE
dim_customer
dim_product
fact_gross_price
fact_manufacturing_cost
fact_pre_invoice_deduction
fact_sales_monthly

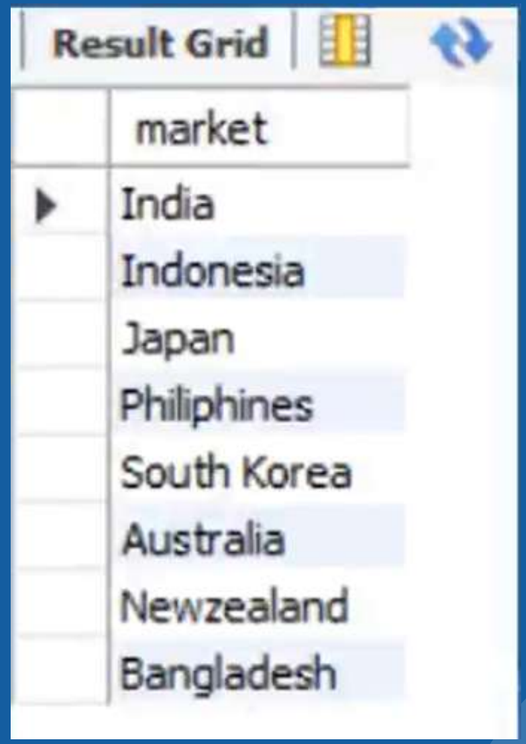
Ad-Hoc Request : 1

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

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

```

SQL Query



Output

VISUAL

INSIGHTS

"Atliq Exclusive" has a presence in several countries across the APAC region, including India, Indonesia, Japan, Philippines, South Korea, Australia, New Zealand, and Bangladesh.

It reflects a robust market presence and adaptability to different cultural and economic contexts in the Asia-Pacific region.

Ad-Hoc Request : 2

What is the percentage of unique products increase in 2021 vs 2020?

```sql
WITH
 unique_products_2020 AS (
 SELECT count(DISTINCT product_code) AS unique_products_2020 FROM fact_sales_monthly WHERE fiscal_year = 2020
),
 unique_products_2021 AS (
 SELECT count(DISTINCT product_code) AS unique_products_2021 FROM fact_sales_monthly WHERE fiscal_year = 2021
)
 SELECT *, round((abs(unique_products_2020-unique_products_2021)/unique_products_2020)*100,2) AS percentage_chg
 FROM unique_products_2020,unique_products_2021;
```

SQL Query

Result Grid | Filter Rows: | Export: | Wrap Cell

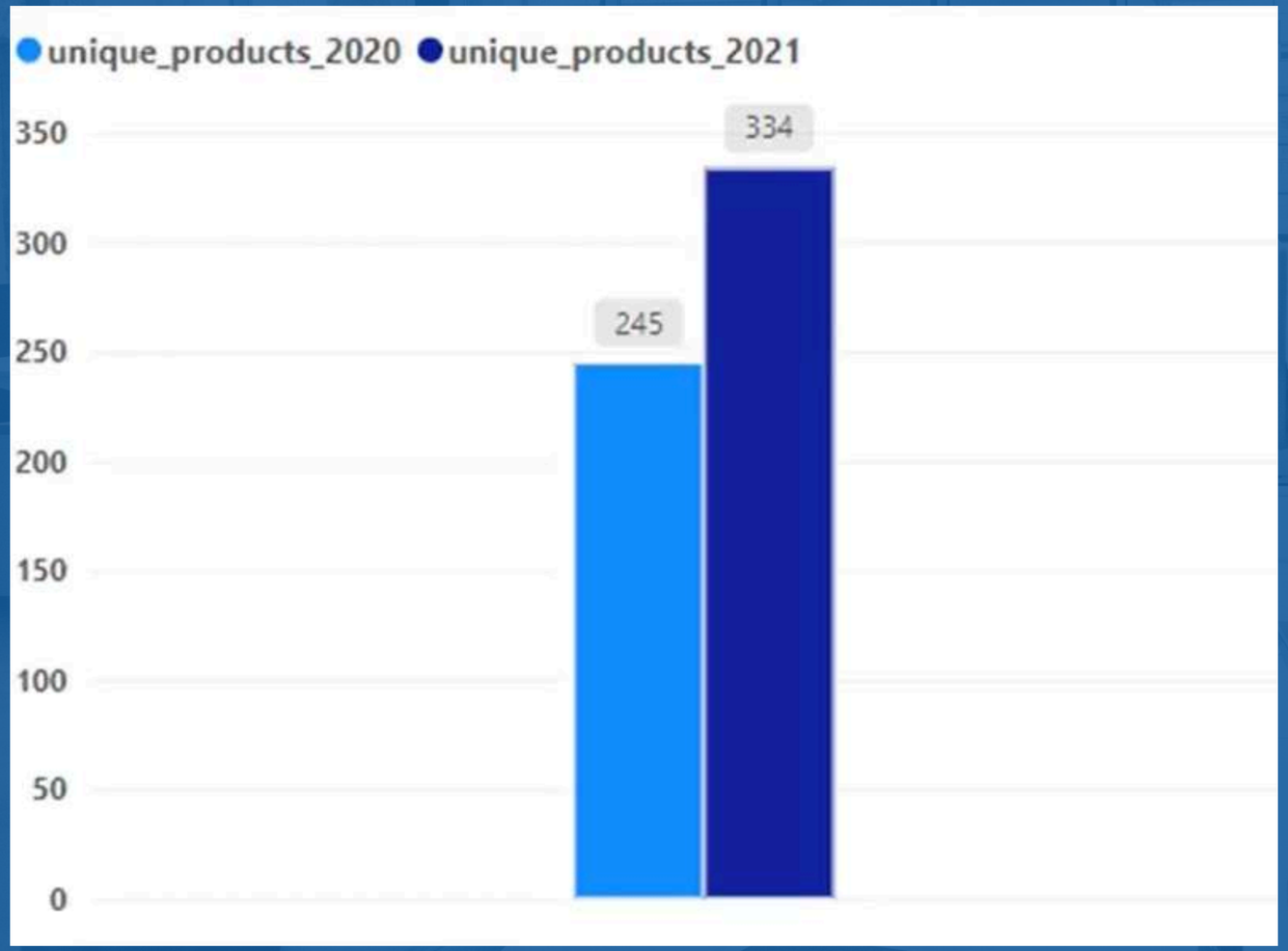
unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

Output

NOTE

Fiscal Year for AtliQ Hardware is from September to August
FISCAL YEAR 2020: Sep 2019 to Aug 2020
FISCAL YEAR 2021: Sep 2020 to Aug 2021

VISUAL



INSIGHTS

•There was a significant increase in unique products, with 334 in 2021 compared to 245 in 2020.

•The percentage change represents a growth of 36.33% in unique products from one year to the next.

•This substantial increase in unique products suggests a focus on expanding the product offerings, which can attract a broader customer base and potentially boost sales and revenue.

It's a positive indicator of business growth and adaptability to a changing market demands.

Ad-Hoc Request : 3

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

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

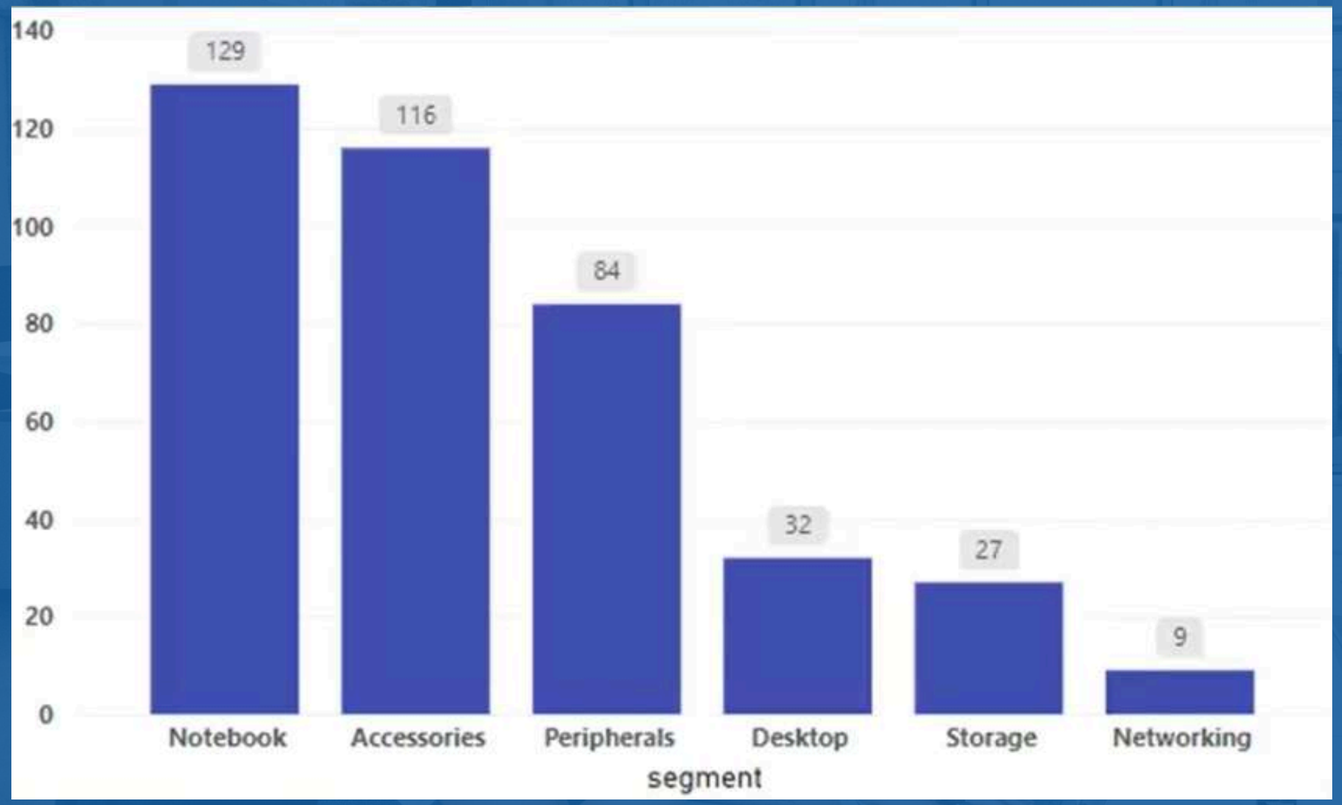
SQL Query

Result Grid | Filter Rows:

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

Output

VISUAL



INSIGHTS

- The "Notebook" segment has the highest product count, with 129 products.
- The "Networking" segment has the smallest product count with only 9 products.
- These insights indicate the diversity and product offerings within each segment, with "Notebook" and"Accessories" offering a wide range of options, while "Networking" has a more limited selection
- The variety in product offerings allows catering to various customer preferences and needs across different segments.

Ad-Hoc Request : 4

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020?

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

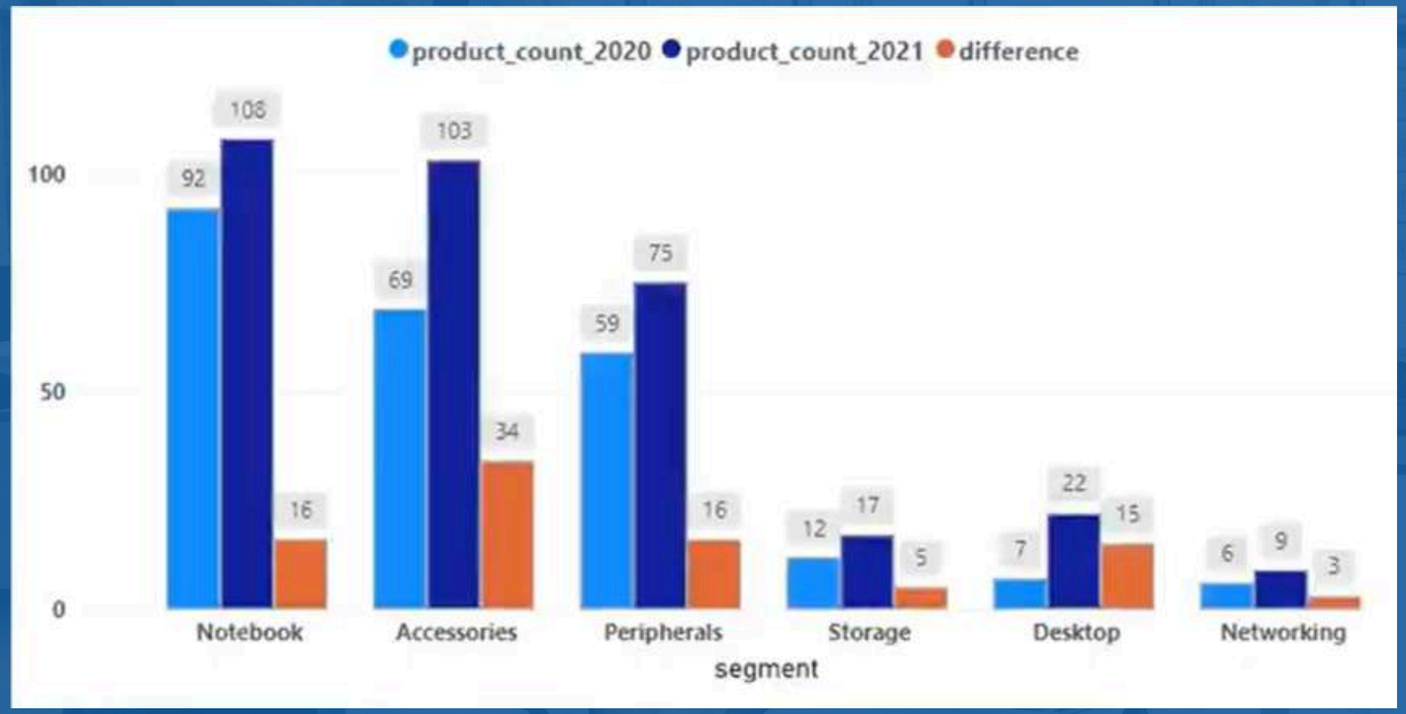
<-- SQL Query

Output -->

Result Grid | Filter Rows: | Export: | Wrap Cell C

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

VISUAL



INSIGHTS

The "Accessories" segment saw a significant increase in product counts, with 34 more products in 2021 compared to 2020.

These insights suggest a general trend of product portfolio growth, particularly in the "Accessories" and"Notebook" segments, which can indicate a strategy to cater to a broader range of customer preferences.

The growth in product variety may enhance market competitiveness and offer customers more choices.

Ad-Hoc Request : 5

Get the products that have the highest and lowest manufacturing costs.

```sql
SELECT p.product_code,p.product, m.manufacturing_cost
    FROM dim_product p
    JOIN fact_manufacturing_cost m USING (product_code)
    WHERE manufacturing_cost = (SELECT max(manufacturing_cost) FROM fact_manufacturing_cost)
UNION
SELECT p.product_code,p.product, m.manufacturing_cost
    FROM dim_product p
    JOIN fact_manufacturing_cost m USING (product_code)
    WHERE manufacturing_cost = (SELECT min(manufacturing_cost) FROM fact_manufacturing_cost);
```

<-- SQL Query

Output -->

Result Grid | Filter Rows: | Export:

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

Ad-Hoc Request : 6

Generate a report that contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021.

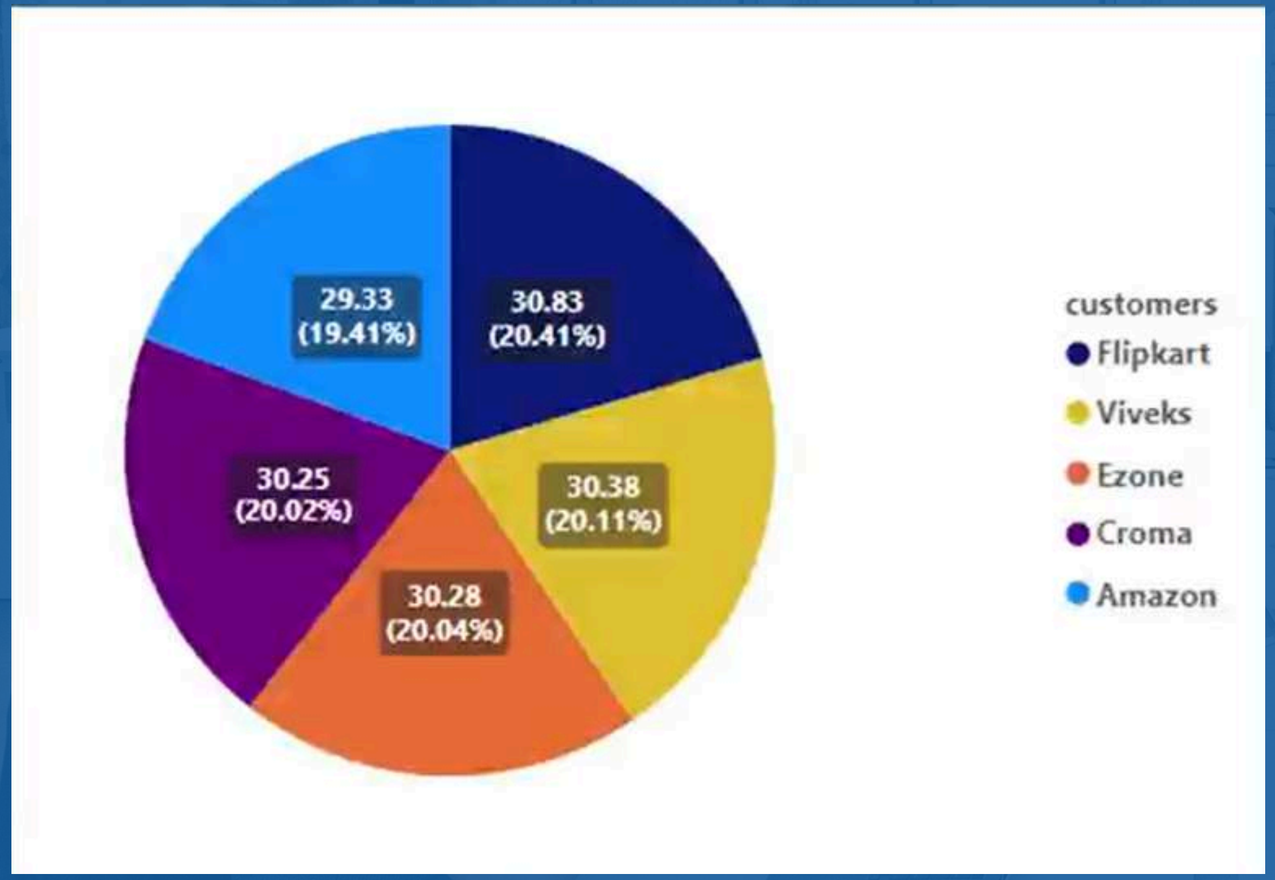
```sql
SELECT c.customer_code, c.customer,
round((AVG(pre_invoice_discount_pct))*100,2) AS avg_discount_pct
FROM dim_customer c
JOIN fact_pre_invoice_deductions
USING(customer_code)
WHERE fiscal_year = 2021 AND market = 'india'
GROUP BY c.customer_code, c.customer ORDER BY avg_discount_pct DESC
LIMIT 5;
```

<-- SQL Query

Output -->

customer_code	customer	avg_discount_pct
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

VISUAL



INSIGHTS

"Flipkart" has the highest average pre-invoice discount percentage at 30.83%.
"Amazon" has a comparatively lower average discount at 29.33%
These insights indicate varying discount strategies among customers, with "Flipkart and "Viveks" offering the highest average discounts, potentially attracting cost-conscious shoppers.
"Amazon" provides relatively lower discounts, suggesting a different pricing strategy or a customer base is less sensitive to discounts.
These insights can be valuable for adjusting discount strategies and understanding customer preferences.

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.

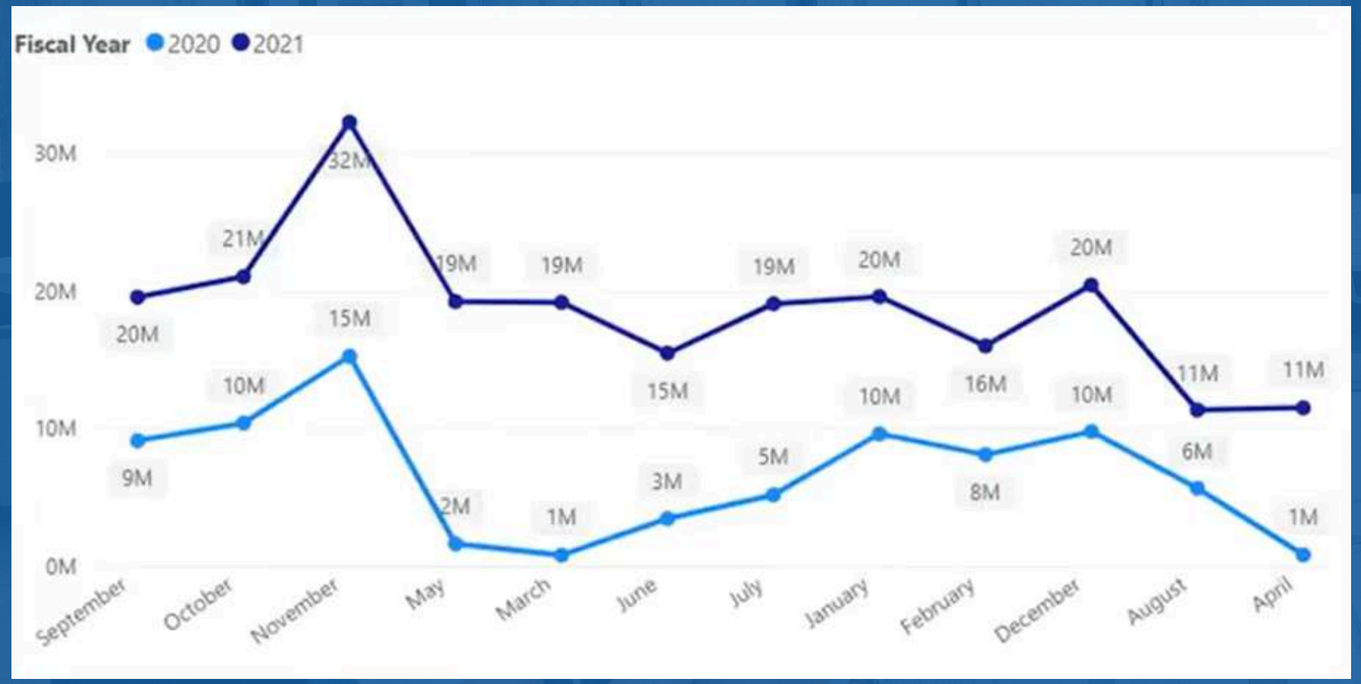
```sql
SELECT MONTHNAME(s.date) AS month, s.fiscal_year,
 ROUND(SUM(s.sold_quantity*g.gross_price),2) AS gross_sales_amount
 FROM fact_sales_monthly s
 JOIN dim_customer d
 USING (customer_code) JOIN fact_gross_price g
 USING (product_code)
 WHERE d.customer = 'Atliq Exclusive'
 GROUP BY month, s.fiscal_year
 ORDER BY fiscal_year;
```

SQL Query

Output -->

month	fiscal_year	gross_sales_amount
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

VISUAL



INSIGHTS

November 2021 had the highest gross sales amount, reaching $32,247,289.79.
In contrast, the fiscal year 202l started with lower sales in September, but still had a significant peak in November.
There is a notable seasonality in sales, with November has been consistently a strong month.
The months of March and April in the fiscal year 2020 had relatively low sales, which improved in fiscal year 2021. These insights can guide strategic decisions, such as focusing marketing efforts and inventory planning around the peak sales months and addressing potential challenges during lower sales months.

Ad-Hoc Request : 8

In which quarter of 2020, got the maximum total_sold_quantity?

```sql
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'
  ELSE 'Q4'
 END
  AS quarter, SUM(sold_quantity) AS total_sold_qnty
  FROM fact_sales_monthly
  WHERE fiscal_year = 2020
  GROUP BY quarter
  ORDER BY total_sold_qnty DESC;
```

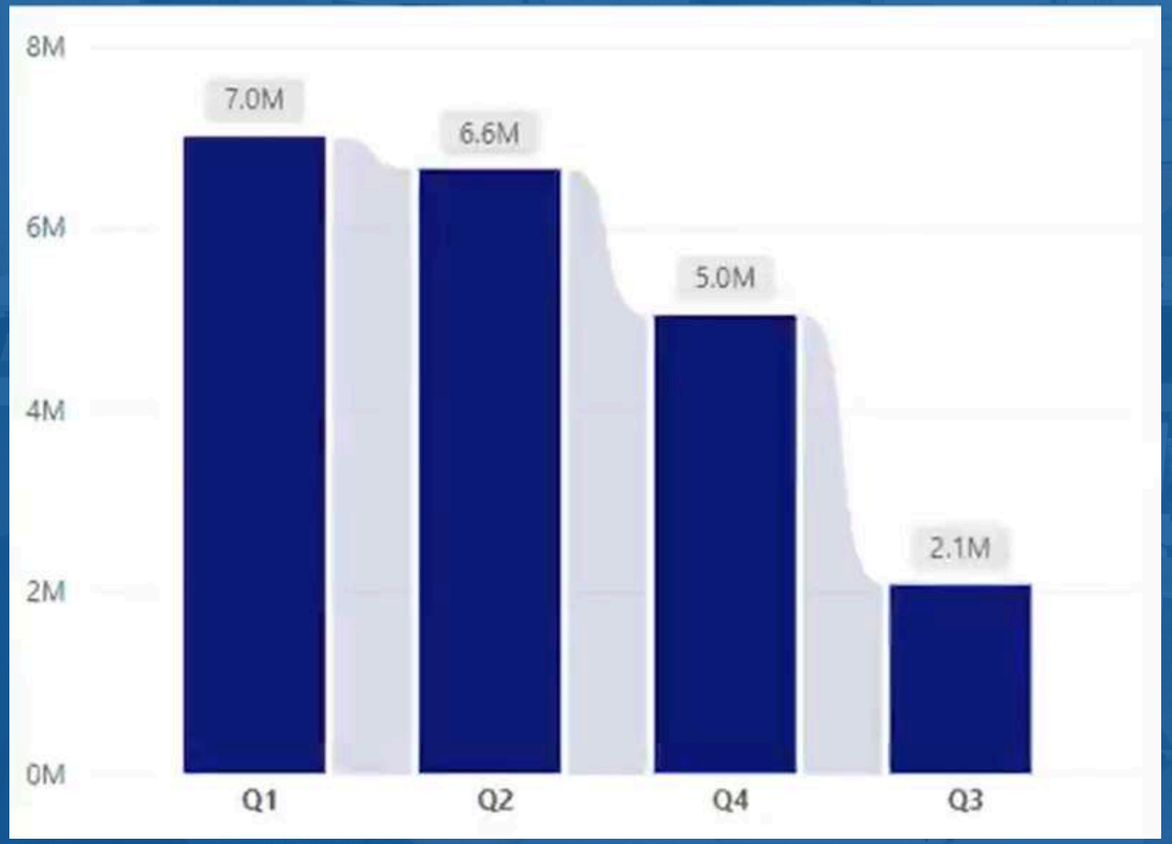
SQL Query

Result Grid | Filter Row

quarter	total_sold_qnty
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

Output

VISUAL



INSIGHTS

The highest total sold quantity is in Q1, with 7,005,619 units.
These insights highlight a seasonal variation in sales, with Q1 and Q2 being the strongest quarters and Q3 being the weakest.
This information is valuable for planning inventory and marketing strategies to align with seasonal demand

NOTE -

Q1= SEP OCT, NOV
Q2= DEC, JAN, FEB
Q3= MAR, APR, MAY
Q4= JUN, JUL, AUG

Ad-Hoc Request : 9

Which Channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

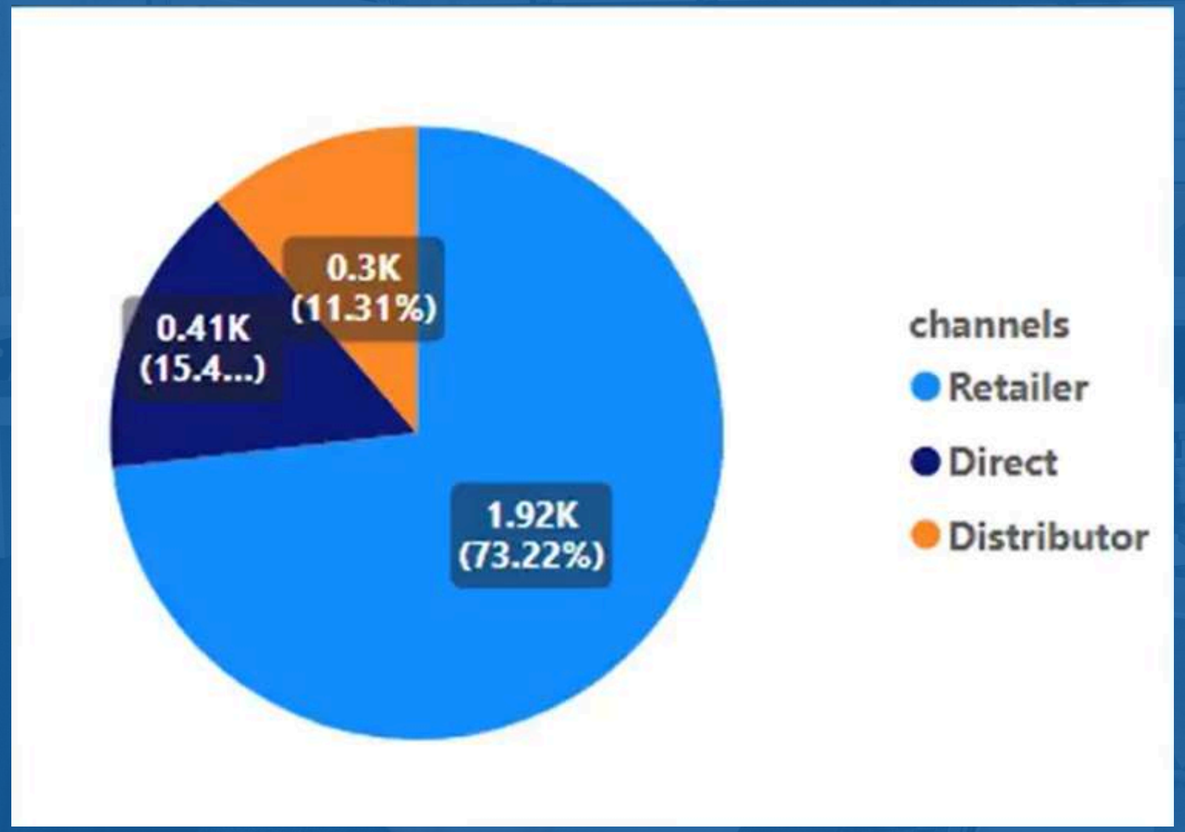
```sql
WITH X AS (
  SELECT DISTINCT(c.channel),
  ROUND(SUM((s.sold_quantity*g.gross_price)/1000000),2) AS gross_sales_amount_mln
  FROM fact_sales_monthly s JOIN fact_gross_price g
  USING (product_code) JOIN dim_customer c USING (customer_code)
  WHERE s.fiscal_year = 2021
  GROUP BY c.channel
 )
SELECT channel, gross_sales_amount_mln,
  ROUND((gross_sales_amount_mln/(SELECT SUM(gross_sales_amount_mln)
  FROM X))*100,2) AS percentage
  FROM X;
```

<-- SQL Query

Output -->

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

VISUAL



INSIGHTS

The "Retailer" channel accounts for the majority of sales, contributing to 73.22% of gross sales.
The "Direct" channel also plays a significant role, representing 15 47% of gross sales.
The 'Distributor channel contributes 11.31% of gross sales.
A significant focus on the "Retailer" channel suggests it is the primary revenue driver.
Diversification and growth opportunities may be explored in the "Direct" and"Distributor" channels to further maximise sales.

Ad-Hoc Request : 10

Get the top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

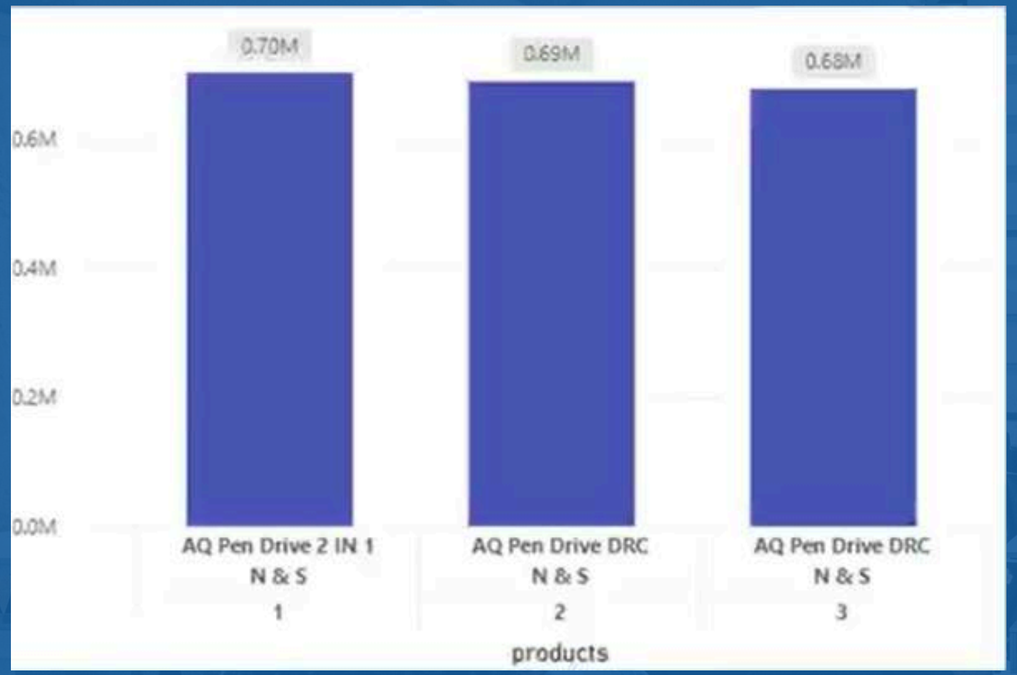
```sql
WITH X AS (
  SELECT p.division, s.product_code,p.product, SUM(s.sold_quantity) AS total_sold_qty,
  RANK() OVER(PARTITION BY p.division ORDER BY SUM(s.sold_quantity) DESC) AS rank_order
  FROM dim_product p JOIN fact_sales_monthly s USING (product_code)
  WHERE s.fiscal_year = 2021
  GROUP BY p.division, p.product_code, p.product
)
SELECT *
  FROM X
  WHERE rank_order IN (1,2,3)
```

<-- SQL Query

Output -->

division	product_code	product	total_sold_qty	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

VISUAL


0.70M
0.69M
0.68M
0.6M
0.4M
0.2M
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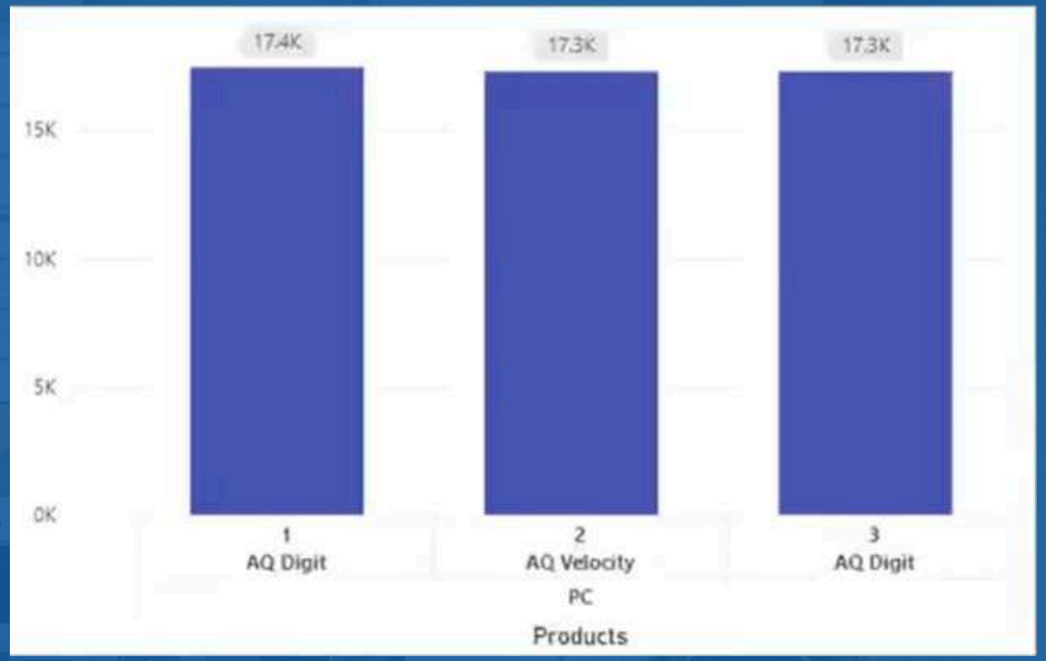
AQ Pen Drive 2 IN 1
N & S
1
AQ Pen Drive DRC
N & S
2
AQ Pen Drive DRC
N & S
3
products


17.4K
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5K
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1
AQ Digit
2
AQ Velocity
PC
3
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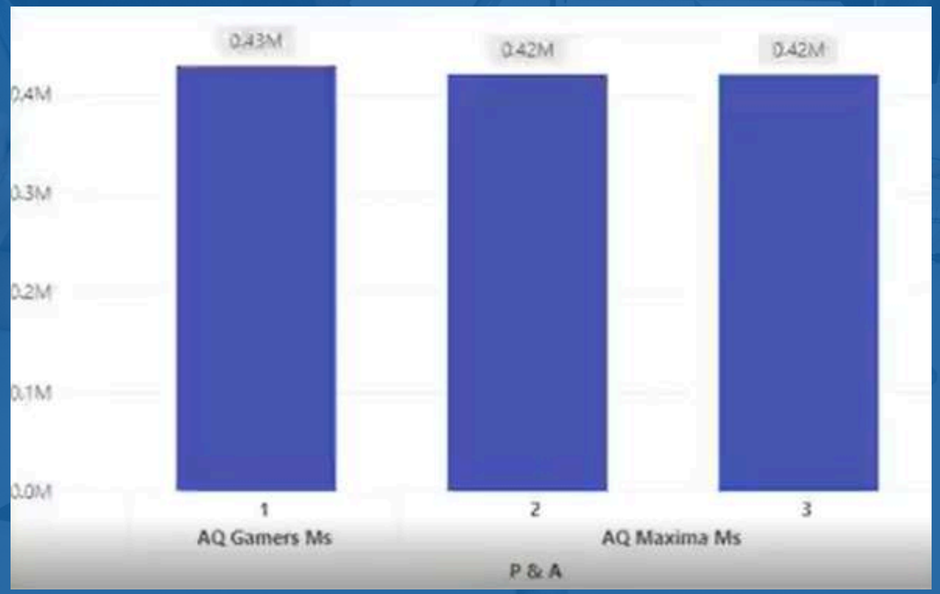
0.43M
0.42M
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0.3M
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0.0M
1
AQ Gamers Ms
2
AQ Maxima Ms
3
P & A

Presented by -

Trisha Mondal

THANK YOU!