

CODEBASICS RESUME PROJECT CHALLENGE #4



ATLIQ HARDWARE

PROVIDE INSIGHTS TO MANAGEMENT IN
CONSUMER GOODS DOMAIN

PRESENTED BY : KARTHIK RAVALA



AtliQ Hardware

CONSUMER GOODS AD-HOC INSIGHTS



AtliQ Hardware



ABOUT THE COMPANY

AtliQ Hardware, a leading Indian manufacturer of computer hardware with a global reach in 27 countries, empowers a diverse community of individuals and businesses across Asia Pacific (APAC), Europe (EU), North America (NA), and Latin America (LATAM), boasting over 74 satisfied customers.

The company is dedicated to providing a comprehensive range of computer hardware solutions. We operate through three main product divisions like Peripherals & Accessories (P&A), Networking & Storage (N&S) Personal Computers (PC)



PROBLEM STATEMENT



01

AtliQ Hardware, a leading computer hardware producer in India with a global presence, is facing a critical challenge in its decision-making process. While the company enjoys a strong market position, the management team acknowledges a significant gap in leveraging data analytics for informed business decisions.



ATLIQ HARDWARE BUSINESS MODEL

AtliQ
HARDWARE



Customer

cromā
The Electronics Magazine

BEST
BUY

STAPLES

flipkart.com

Consumer





ATLIQ HARDWARE BUSINESS MODEL

PLATFORM

Brick & Mortar



E-Commerce



CHANNEL

Retailer



Direct



Distributor





ATLIQ HARDWARE PRODUCTS

DIVISON

Peripheral & Accessories (P & A)
Personal Computers (PC)
Networking & Storage (N & S)

SEGMENT

Peripherals
Accessories
Notebook
Desktop
Storage
Networking

CATEGORY

Internal HDD
Graphic Card
Processors
MotherBoard
Mouse
Keyboard
Batteries
Personal Laptop
Business Laptop
Gaming Laptop
Personal Desktop
External Solid State Drives
USB Flash Drives
Wi fi extender

PRODUCT

AQ Dracula HDD
AQ WereWolf
AQ Zion Saga
AQ Mforce Gen
AQ GT 21
AQ Pen Drive
etc....

VARIANT

Standard
Plus
Premium
Premium Plus
etc....



AtliQ Hardware



PROJECT TASK

1. Provide 10 Ad_Hoc requests for which the business needs insights.
2. Need to run a SQL query to answer these requests.
3. The target audience of this dashboard is top-level management - hence you need to create a presentation to show the insights.





AD_HOC REQUEST :1

01

Provide the list of markets 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
Philippines
South Korea
Australia
Newzealand
Bangladesh

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VISUALIZATION - 1

01

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

INSIGHTS



1. "AtliQ Exclusive" has established a strong presence across a diverse range of APAC markets, including India, Indonesia, Philippines, Japan, South Korea, Australia, New Zealand, and Bangladesh.
2. It strategically targets both high-growth emerging markets (India, Indonesia, Philippines, Bangladesh) and mature economies (Japan, South Korea, Australia, New Zealand) to optimize its market potential.

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AD_HOC REQUEST : 2

02

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

SQL QUERY

```
WITH y20 AS
  (SELECT
    COUNT(DISTINCT(product_code)) AS unique_products_2020
   FROM fact_sales_monthly
  WHERE fiscal_year = 2020),
y21 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((y21.unique_products_2021 - y20.unique_products_2020)/unique_products_2020) *100,2) AS percentage_chg
FROM y20,y21;
```

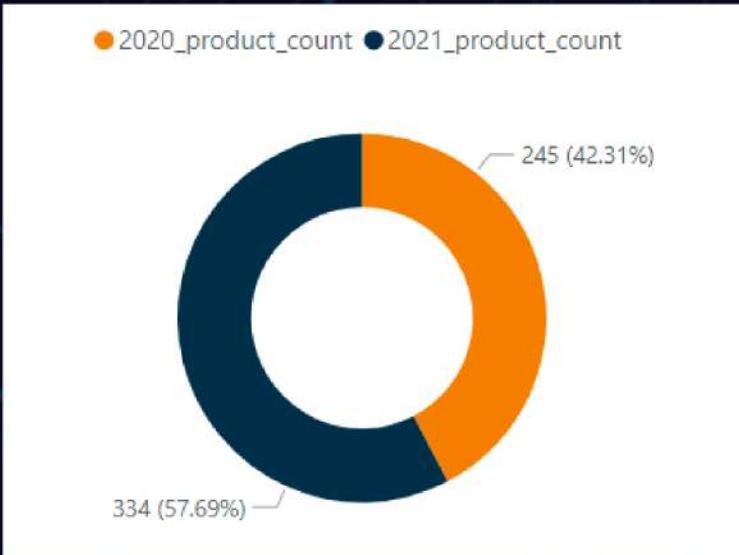
OUTPUT

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

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02

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



INSIGHTS

1. The company experienced substantial product growth, with a 36.33% increase in unique product offerings from 2020 to 2021.
2. This expansion demonstrates their commitment to diversifying their product portfolio and catering to a wider customer base.

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AD_HOC REQUEST : 3

03

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

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

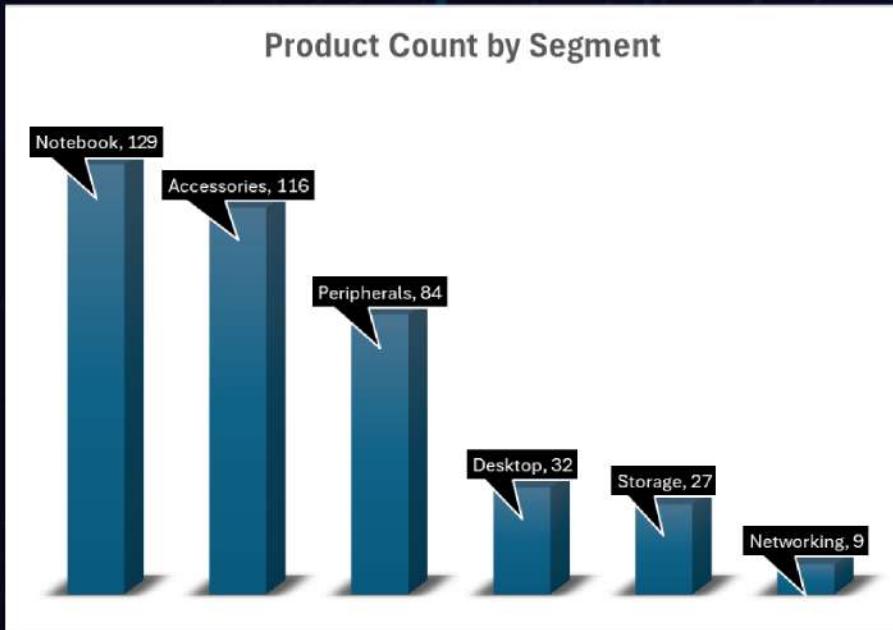
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VISUALIZATION - 3

03

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

INSIGHTS



1. Product line is predominantly focused on notebooks and their associated accessories and peripherals, with a smaller emphasis on desktops, storage, and networking equipment.
2. Expanding into desktops, storage, and networking could attract new customers and boost sales.

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AD_HOC REQUEST : 4

04

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

SQL QUERY

```
WITH y20 AS (
    SELECT
        p.segment, COUNT(DISTINCT product) AS product_count_2020
    FROM dim_product p
    JOIN fact_sales_monthly s ON p.product_code = s.product_code
    WHERE fiscal_year = 2020
    GROUP BY p.segment ),
y21 AS (
    SELECT
        p.segment, COUNT(DISTINCT product) AS product_count_2021
    FROM dim_product p
    JOIN fact_sales_monthly s ON p.product_code = s.product_code
    WHERE fiscal_year = 2021
    GROUP BY p.segment )
SELECT
    y20.segment, product_count_2020, product_count_2021,
    (y21.product_count_2021 - y20.product_count_2020) AS difference
FROM y20
JOIN y21 ON y20.segment = y21.segment
ORDER BY difference DESC;
```

OUTPUT

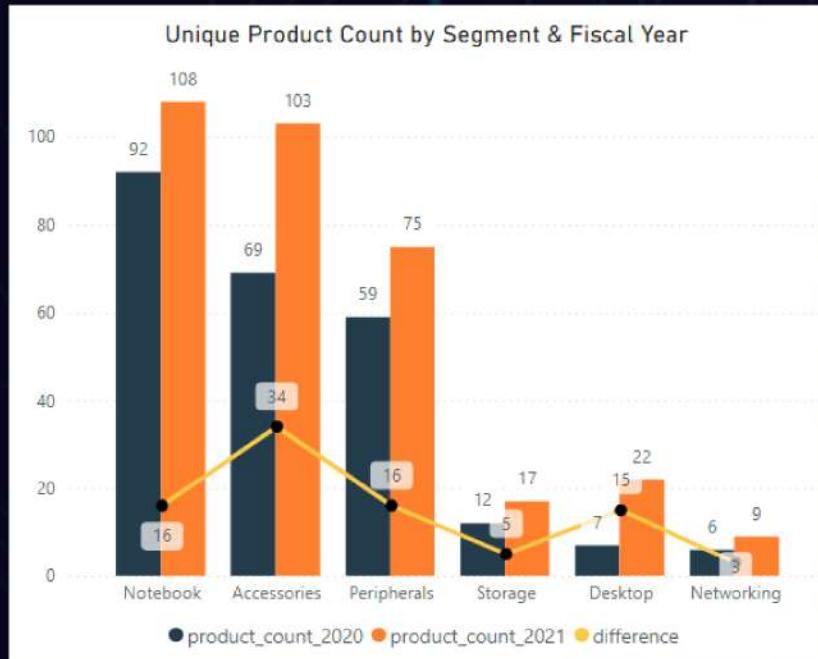
segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

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04

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

INSIGHTS



1. The overall product count has increased from 2020 to 2021 across all segments.
2. The "Accessories" segment witnessed the highest growth with a difference of 34 products.
3. "Notebook" and "Peripheral" segments also saw significant growth with a difference of 16 products each.
4. "Accessories" is the leading segment in terms of product count in both years.
5. "Desktop" has the lowest product count in both years.

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AD_HOC REQUEST : 5

05

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

SQL QUERY

```
SELECT
    p.product_code,
    p.product,
    m.manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost m
    ON p.product_code = m.product_code
WHERE m.manufacturing_cost IN
(
    SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost m
    UNION
    SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost m
)
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

'AQ HOME Allin1 Gen 2' has higher manufacturing cost

'AQ Master wired x1 Ms' has lower manufacturing cost

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AD_HOC REQUEST : 6

06

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

SQL QUERY

```
SELECT
    c.customer,
    c.customer_code,
    ROUND(AVG(pre_invoice_discount_pct)*100,2) AS average_discount_percentage
FROM dim_customer c
JOIN fact_pre_invoice_deductions pre
    ON c.customer_code = pre.customer_code
WHERE market = "India" AND fiscal_year = 2021
GROUP BY c.customer,c.customer_code
ORDER BY average_discount_percentage DESC
LIMIT 5;
```

OUTPUT

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

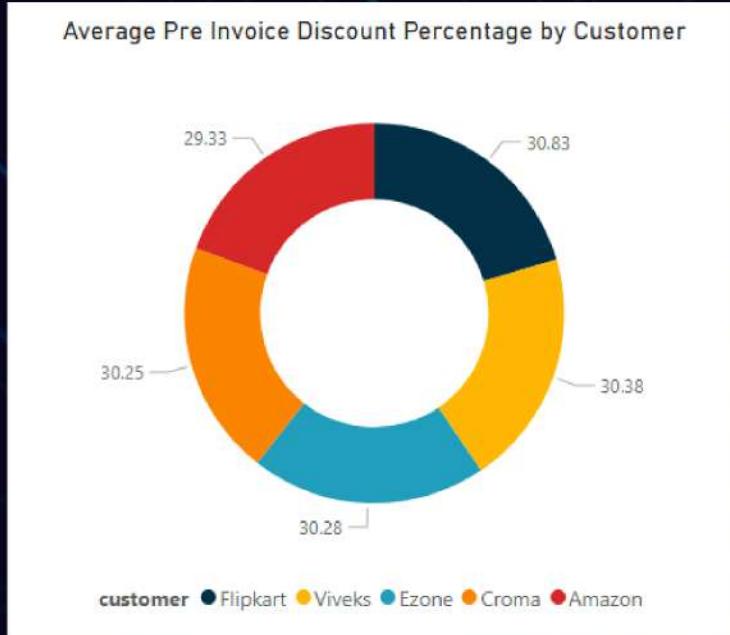
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VISUALIZATION - 6

06

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

INSIGHTS



1. 'Flipkart offers the highest average pre invoice discount percentage at 30.83%.
2. Amazon offers the lowest average pre invoice discount percentage at 29.33%.
3. There is a relatively small difference in average pre invoice discount percentages among the retailers, ranging from 29.33% to 30.83%.

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AD_HOC REQUEST :7

- 07 Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.

SQL QUERY

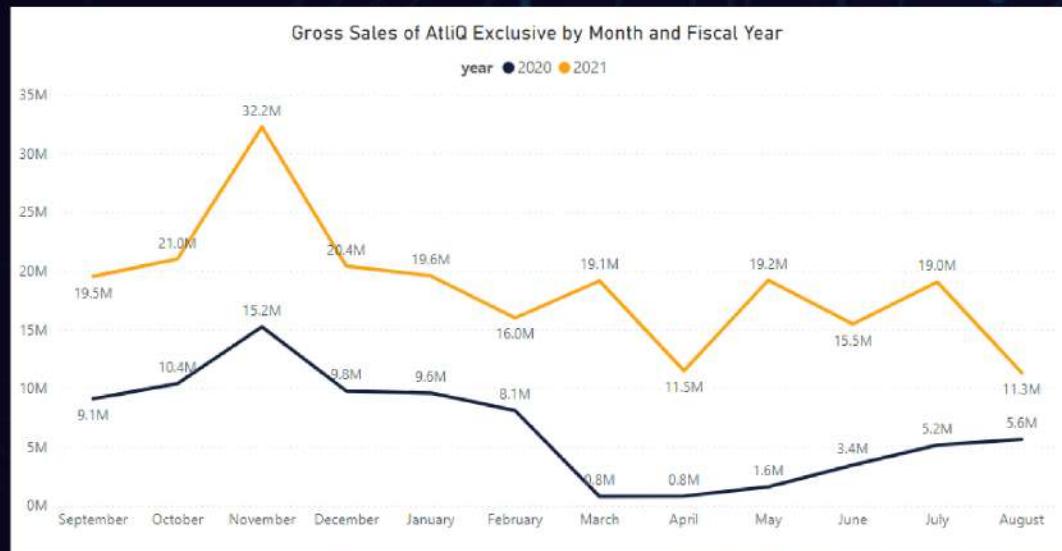
```
SELECT  
    MONTHNAME(date) AS month,  
    s.fiscal_year AS year,  
    ROUND(SUM(sold_quantity*gross_price)/1000000,2) AS gross_sales_amount_mln  
FROM fact_sales_monthly s  
JOIN dim_customer c  
    ON s.customer_code = c.customer_code  
JOIN fact_gross_price g  
    ON s.product_code = g.product_code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

OUTPUT

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

PRESENTED BY :

07 Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.



INSIGHTS

1. There is a significant increase in gross sales from 2020 to 2021.
2. Peak Sales:
November 2021 recorded the highest gross sales.
3. Lowest Sales:
March 2020 recorded the lowest gross sales.
4. Consistent Growth:
Most months in 2021 showed higher sales compared to the corresponding months in 2020

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AD_HOC REQUEST : 8

- 08 In which quarter of 2020, got the maximum total_sold_quantity?

SQL QUERY

```
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 quarters,  
SUM(sold_quantity) AS total_sold_quantity  
FROM fact_sales_monthly  
WHERE fiscal_year =2020  
GROUP BY quarters  
ORDER BY total_sold_quantity DESC;
```

OUTPUT

quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

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08

In which quarter of 2020, got the maximum total_sold_quantity?



INSIGHTS

1. Highest Sales:
Q1 has the highest sales with 7005619 units.
2. Lowest Sales:
Q3 has the lowest sales with 2075087 units.
3. Sales Decline:
There seems to be a decline in sales from Q1 to Q2, followed by a more significant drop in Q3.

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AD_HOC REQUEST : 9

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

SQL QUERY

```
WITH channels AS (
SELECT
    c.channel,
    ROUND(SUM(sold_quantity*gross_price)/1000000,2) AS gross_sales_amount_mln
FROM fact_sales_monthly s
JOIN dim_customer c
    ON s.customer_code = c.customer_code
JOIN fact_gross_price g
    ON s.product_code = g.product_code
WHERE s.fiscal_year = 2021
GROUP BY c.channel )

SELECT
    *,
    ROUND(gross_sales_amount_mln*100/(SELECT sum(gross_sales_amount_mln) FROM channels),2) AS pct_contribution
FROM channels
ORDER BY pct_contribution DESC;
```

OUTPUT



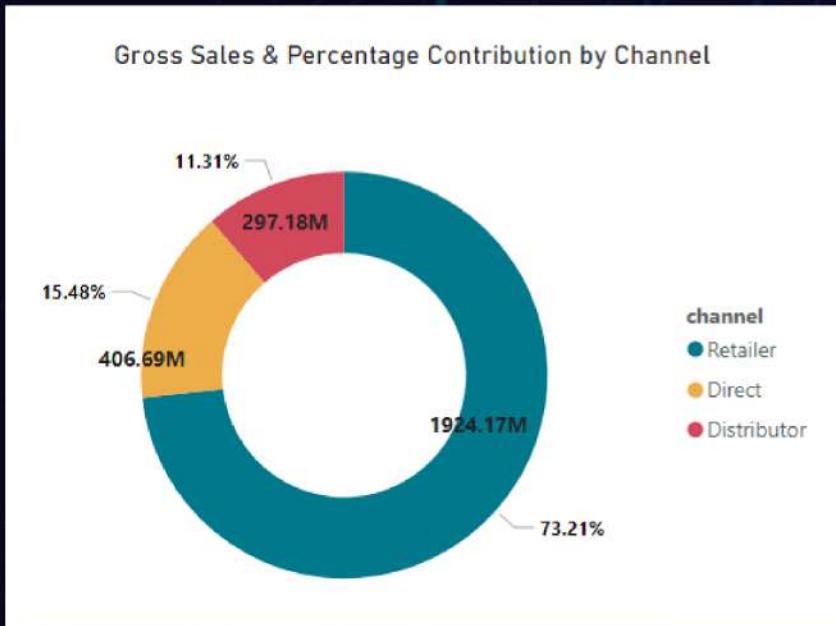
channel	gross_sales_amount_mln	pct_contribution
Retailer	1924.17	73.22
Direct	406.69	15.48
Distributor	297.18	11.31

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09

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

INSIGHTS



1. The Retailer channel is the primary revenue generator, contributing a substantial 73.22% to the total gross sales.
2. The Direct channel holds a notable position, contributing 15.48% to the overall sales, indicating a considerable customer base relying on direct purchases.
3. While contributing 11.31%, the Distributor channel plays a supplementary role in the overall sales distribution.

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AD_HOC REQUEST : 10

- 10 Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

SQL QUERY

```
WITH division AS (
    SELECT
        p.division, p.product_code, p.product,
        SUM(sold_quantity) AS total_sold_quantity
    FROM fact_sales_monthly s
    JOIN dim_product p
        ON s.product_code = p.product_code
    WHERE fiscal_year = 2021
    GROUP BY p.product, p.product_code, p.division),

product_rank AS (
    SELECT
        *,
        RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_number
    FROM division)

SELECT *
FROM product_rank
WHERE rank_number <=3
```

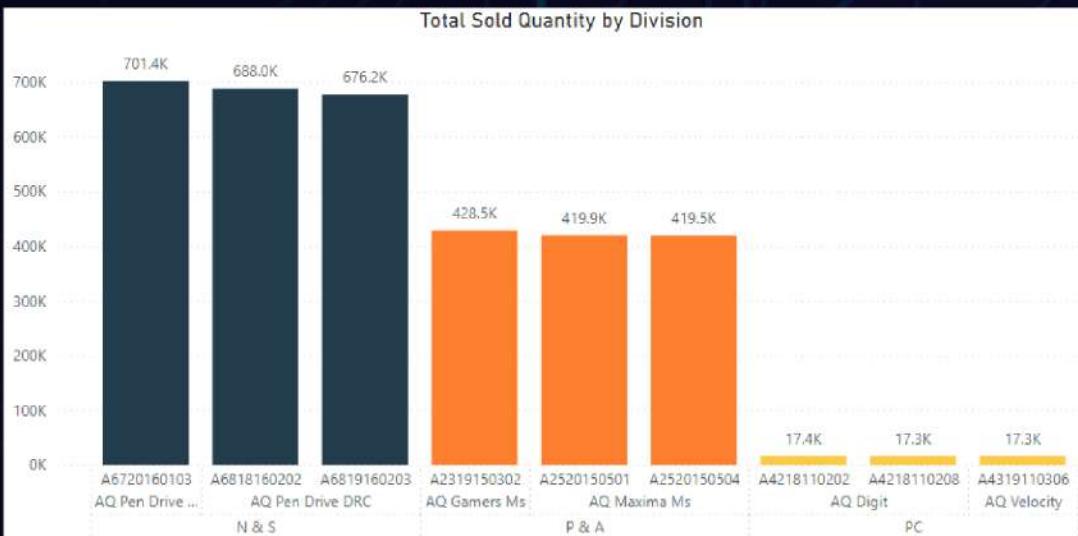
OUTPUT

division	product_code	product	total_sold_quantity	rank_number
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

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VISUALIZATION -10

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



INSIGHTS

1. The N&S division has the highest selling products with significantly higher sales quantities compared to the other divisions.

The N&S division primarily focuses on pen drives, while P&A focuses on a different product category (AQ Gamers Ms and AQ Maxima Ms). The PC division has a smaller product range.

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THANK YOU



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