



ATLIQ HARDWARE

Navigating Consumer Goods Insights with AtliQ Hardwares

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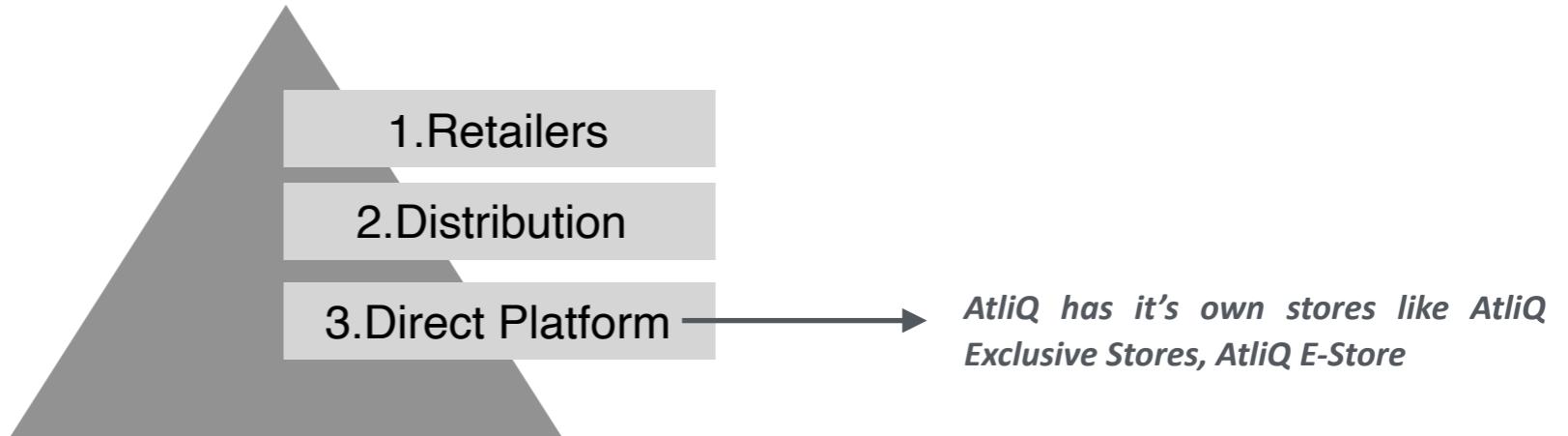


ABOUT ATLIQ HARDWARE COMPANY

- *Atliq Hardware is a prominent player in India's computer hardware market, with a robust global presence spanning 27 countries, Serving 74 customers, the company caters to two customer types:*



- *operating through platforms like*



- *Divided into three product divisions (PC, P&A, N&S), encompassing six segments and fifteen categories.*
- *Atliq Hardware delivers innovative technology solutions. With a commitment to quality and a diversified sales approach, the company continues to redefine the user experience in the ever-evolving hardware industry.*

PROJECT OVERVIEW



OVERVIEW OF DATA SET

Dim_Customer Table:



Columns: *customer_code, customer, platform, channel, market, region, sub_zone*



Purpose: *Tracks customer data, sales history, and demographics.*



Insight: Understand customer behavior, sales distribution, and geographic performance.

Dim_Product Table:



Columns: *product_code, division, segment, category, product, variant*



Purpose: Stores product details , categorizing by type, segment , and attributes.



Insight: Understand customer behavior, sales distribution, and geographic performance.

Fact_Gross_Price Table:



Columns: *product_code, fiscal_year, gross_price*



Purpose: *Captures initial product price before reductions or taxes.*



Insight: Evaluate pricing trends, seasonality, and product profitability.

OVERVIEW OF DATA SET

Fact_Manufacturing_Cost



Columns: product_code, cost_year, manufacturing_cost



Purpose: Records total cost for product production.



Insight:
Assess production expenses, cost fluctuations, and manufacturing efficiency.

Fact_Pre_Invoice_Deductions



Columns: customer_code, fiscal_year, pre_invoice_discount_pct



Purpose: Track pre-invoice discounts applied before generating invoices.



Insight: Analyze discount patterns, customer relationships, and sales negotiation strategies.

Fact_Sales_Monthly



Columns: date, customer_code, product_code, sold_quantity, fiscal_year



Purpose: Records monthly sales quantities per product, customer, and date.



Insight:
Examine sales trends, peak months and product/customer performance.

AD-HOC-REQUEST : 1

- Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.
- Atliq Hardware has a presence in 27 countries, with customer locations categorized into distinct 'regions.'
- These broader geographic divisions include "APAC" (Asia Pacific), "EU" (Europe), "NA" (North America), and "LATAM" (Latin America).
- Within these regions, the 'sub_zones' further delineate specific areas, such as "India," "ROA" (Rest of Asia), "ANZ" (Australia and New Zealand), "SE" (Southeast Asia), "NE" (Northeast Asia), "NA" (North America), and "LATAM" (Latin America).
- This organizational framework offers a structured approach to understanding customer distribution based on geographical tiers.

SQL QUERY

```
SELECT DISTINCT market FROM gdb023.dim_customer
WHERE customer = "Atliq Exclusive"
AND region = "APAC";
```

OUTPUT

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh

OUTPUT VISUALS AND INSIGHTS



```

USE gdb023;

WITH MarketData AS (
    SELECT
        dc.market AS Market,
        FORMAT(SUM(fgp.gross_price * fsm.sold_quantity), 2) AS Total_Gross_Sales,
        SUM(fsm.sold_quantity) AS Total_Sold_Quantity,
        FORMAT((SUM(fgp.gross_price * fsm.sold_quantity) / SUM(fsm.sold_quantity)), 2) AS Average_Price_Per_Unit
    FROM
        fact_sales_monthly fsm
    JOIN
        fact_gross_price fgp ON fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
    JOIN
        dim_customer dc ON fsm.customer_code = dc.customer_code
    WHERE
        dc.customer = 'Atliq Exclusive'
        AND dc.region = 'APAC'
    GROUP BY
        dc.market
)
SELECT
    md.Market,
    CONCAT('$', md.Total_Gross_Sales) AS Total_Gross_Sales,
    md.Total_Sold_Quantity,
    CONCAT('$', md.Average_Price_Per_Unit) AS Average_Price_Per_Unit
FROM
    MarketData md
ORDER BY
    CAST(REPLACE(md.Total_Gross_Sales, ',', '') AS DECIMAL(18, 2)) DESC;

```

Market	Total_Gross_Sales	Total_Sold_Quantity	Average_Price_Per_Unit
India	\$59,875,388.76	1926614	\$31.08
South Korea	\$15,702,234.63	505800	\$31.04
Indonesia	\$14,251,033.13	448428	\$31.78
Australia	\$10,882,385.69	348462	\$31.23
Philippines	\$8,726,178.84	277009	\$31.50
Bangladesh	\$4,720,346.71	150693	\$31.32
Newzealand	\$4,050,665.34	129261	\$31.34
Japan	\$1,960,322.96	63781	\$30.74

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.*

SQL QUERY

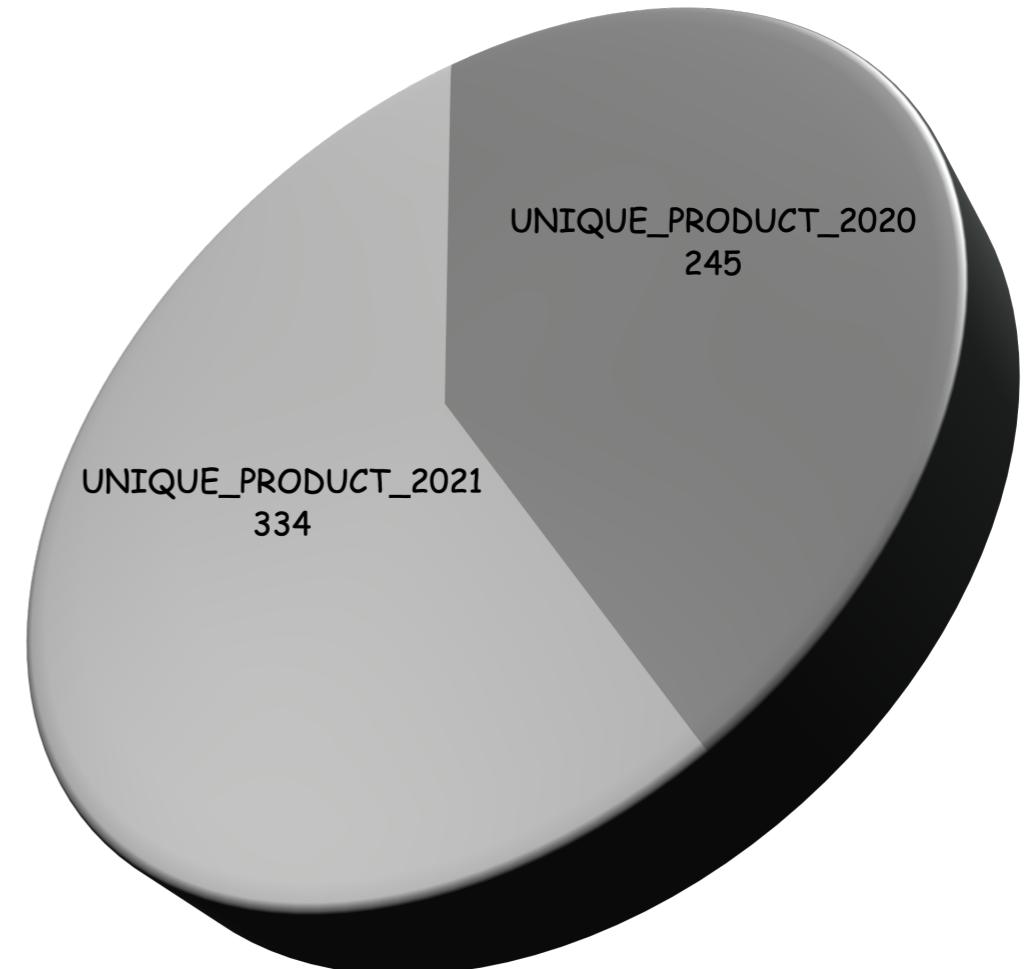
```
WITH UP2020 AS (
    SELECT
        COUNT(DISTINCT product_code) AS unique_products_2020
    FROM fact_sales_monthly
    WHERE fiscal_year = 2020
),
UP2021 AS (
    SELECT
        COUNT(DISTINCT product_code) AS unique_products_2021
    FROM fact_sales_monthly
    WHERE fiscal_year = 2021
)
SELECT
    UP2020.unique_products_2020,
    UP2021.unique_products_2021,
    ROUND(((UP2021.unique_products_2021 - UP2020.unique_products_2020) / UP2020.unique_products_2020) * 100, 2) AS Percentage_Chg
FROM UP2020, UP2021;
```

OUTPUT

unique_products_2...	unique_products_2...	Percentage_Chg
245	334	36.33

OUTPUT VISUALS AND INSIGHTS

- *The rise from 245 to 334 unique products in 2021 showcases product line growth, possibly through Innovations to meet evolving market demands.*
- *A 36.33% increase in unique products between 2020 and 2021 highlights a strategic focus on innovation, aiming to capture new markets and outpace competitors.*
- *The uptick in unique products signifies market responsiveness, addressing emerging trends and consumer preferences effectively.*



OUTPUT

unique_products_2020	unique_products_2021	Percentage_Chg
245	334	36.33

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 .*

SQL QUERY

```
Select Segment,  
Count(DISTINCT product_code)AS product_count  
from dim_product  
Group BY segment  
Order By product_count DESC;
```

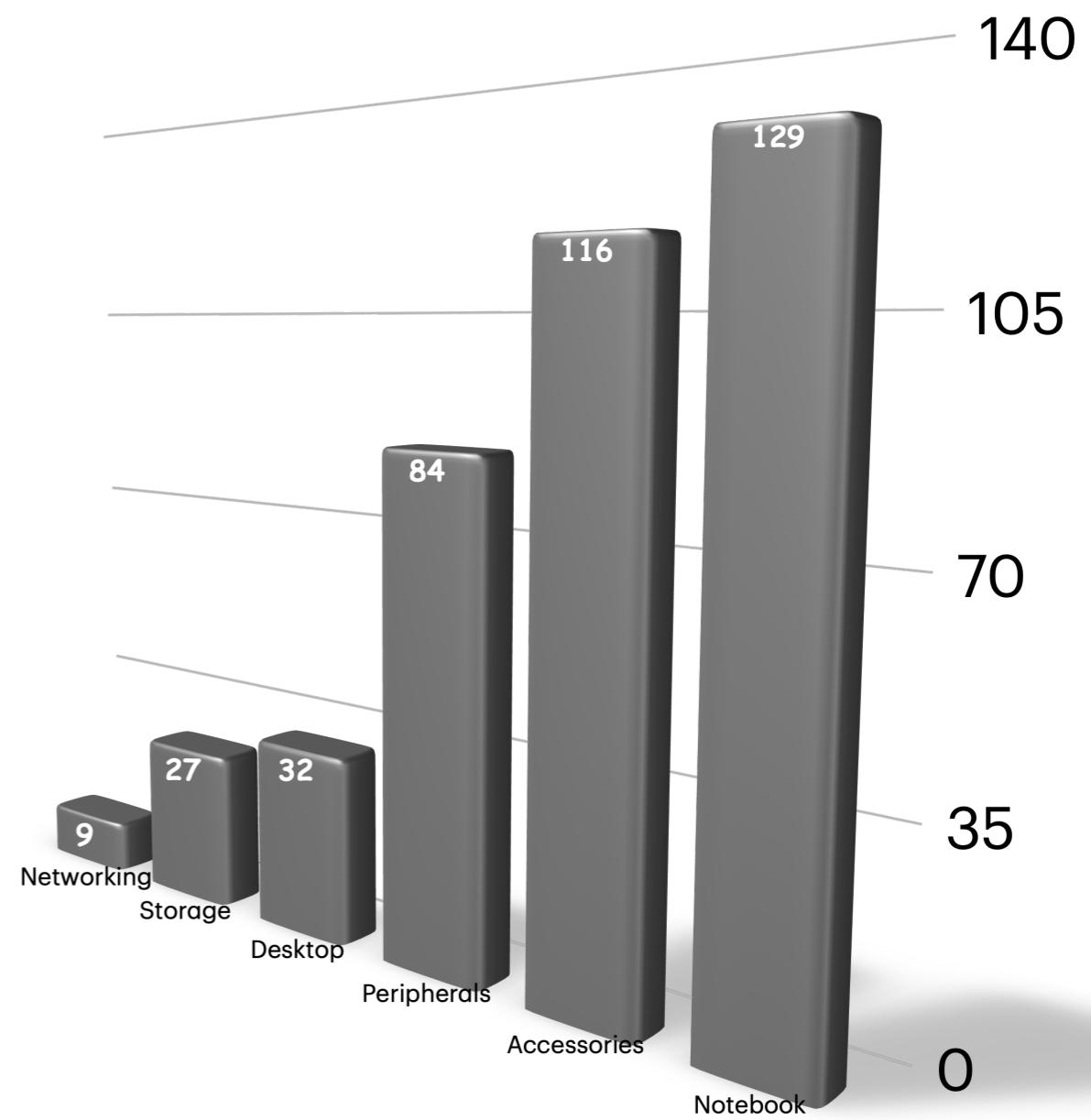
OUTPUT

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

OUTPUT VISUALS AND INSIGHTS

- *Notebook holds the highest product count indicating strong focus & likely higher customer demand in this segment category.*
- *Compared to the segment with the highest product count i.e. Notebook, the Networking segment lags significantly with a 88.37% lower count.*
- *The product range is diverse, spanning segments like Notebook, Accessories & Peripherals which collectively make up significant portion of the offerings.*
- *On average, there are around 66 unique products per segment.*
- *The unique product counts' spread from the average is about 48.26, suggesting some variability among segments.*
- *The "Notebook" and "Accessories" segments have product counts above the calculated average of around 66 products per segment, indicating a strong presence and a relatively diverse range of offerings.*
- *On the other hand, the "Peripherals," "Desktop," "Storage," and especially "Networking" segments have product counts below the average, suggesting potential areas for expansion or further product development.*

Product Distribution by Segment



AD-HOC-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 ProductCounts2020 AS (
  SELECT
    dp.segment,
    COUNT(DISTINCT fsm.product_code) AS product_count FROM dim_product dp
  JOIN fact_sales_monthly fsm
  ON
    dp.product_code = fsm.product_code
  WHERE fsm.fiscal_year = 2020
  GROUP BY dp.segment),
  ProductCounts2021 AS (
  SELECT
    dp.segment,
    COUNT(DISTINCT fsm.product_code) AS product_count FROM
    dim_product dp JOIN
    fact_sales_monthly fsm
  ON
    dp.product_code = fsm.product_code WHERE fsm.fiscal_year = 2021
  GROUP BY dp.segment),
  ProductDifference AS (
  SELECT PC20.segment,
    PC20.product_count AS product_count_2020, PC21.product_count AS
    product_count_2021, PC21.product_count - PC20.product_count AS difference FROM
    ProductCounts2020 PC20
  JOIN
    ProductCounts2021 PC21 ON PC20.segment = PC21.segment)
  SELECT *
  FROM ProductDifference
  ORDER BY difference DESC;
```

OUTPUT

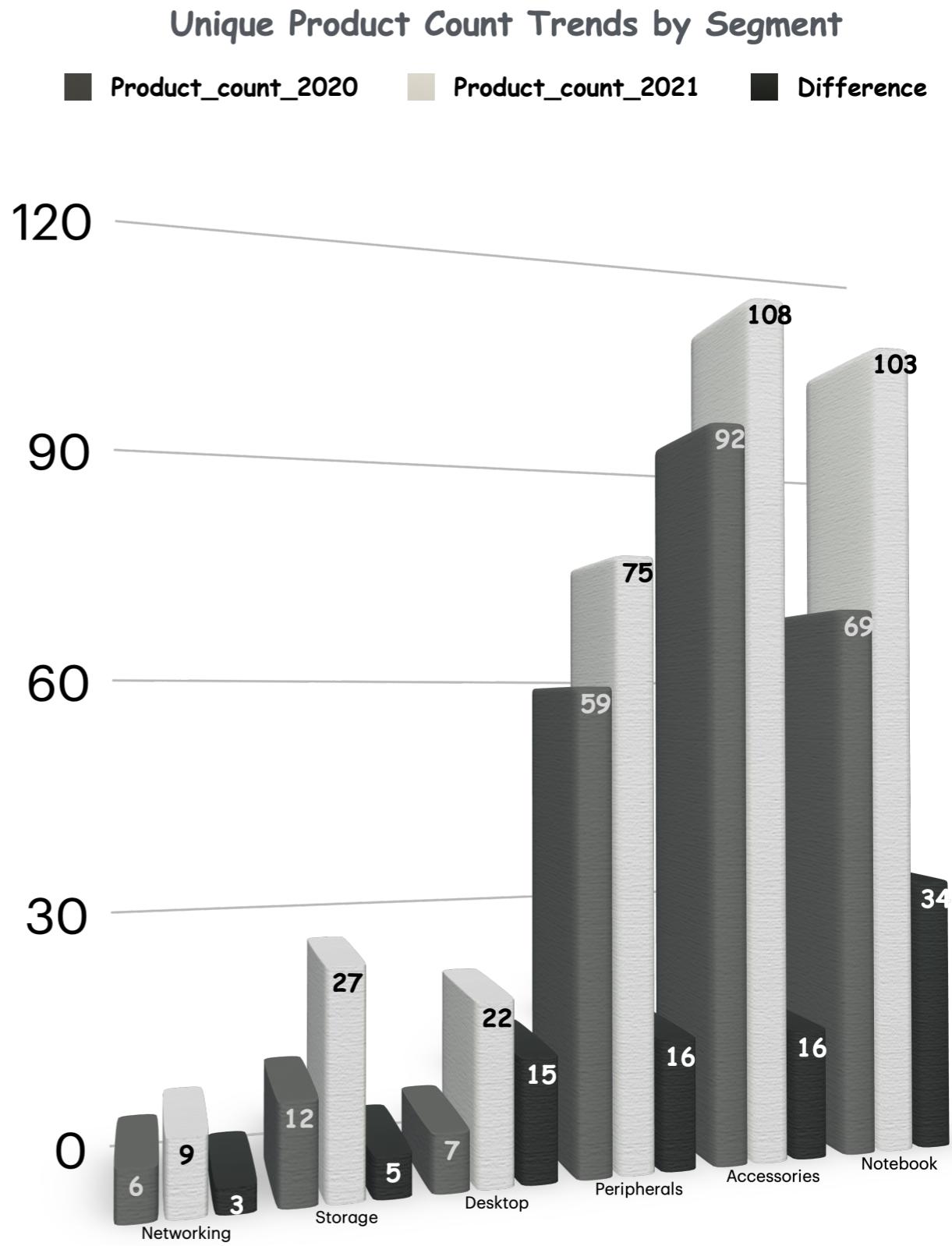
segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

OUTPUT VISUALS AND INSIGHTS

- The substantial increase in the total unique product count from 2020 (245) to 2021 (334) by 36.73% clearly highlights Atliq Hardware's growth and diversification efforts. This surge signifies the company's commitment to expanding its product offerings.*
- All segments experienced increases, reflecting strategic expansion across categories.*
- The "Accessories" segment's 34-unit surge is pivotal for growth, while steady 16-unit growth in "Notebook" and "Peripherals" underscores sustained interest in portable computing solutions and peripherals.*
- "Desktop" boasts remarkable 15-unit expansion, reflecting emphasis on desktop computing demand. "Storage" and "Networking" exhibit moderate growth, catering to evolving data and connectivity needs.*

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



AD-HOC-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 ProductCosts As(  
  Select  
    f.product_code,  
    p.product,  
    f.manufacturing_cost  
  FROM fact_manufacturing_cost f  
  JOIN  
    dim_product p ON f.product_code=p.product_code)  
  Select  
    pc.product_code,  
    pc.product,  
    pc.manufacturing_cost  
  FROM ProductCosts pc  
  WHERE  
    ⊖ pc.manufacturing_cost= (Select MAX(manufacturing_cost)  
      FROM fact_manufacturing_cost)  
    or  
    ⊖ pc.manufacturing_cost=(Select MIN(manufacturing_cost)  
      FROM fact_manufacturing_cost)  
  ORDER BY pc.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

OUTPUT VISUALS

- *This is the classification of those two products with highest & lowest manufacturing cost*

SQL QUERY

```
SELECT product_code, division, segment, category, product, variant  
FROM dim_product  
WHERE product_code IN ("A2118150101", "A6120110206");
```

OUTPUT

product_co...	division	segment	category	product	variant	
A2118150101	P & A	Accessories	Mouse	AQ Master wired x1 Ms	Standard 1	
A6120110206	PC	Desktop	Personal Desktop	AQ HOME Allin1 Gen 2	Plus 3	

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, customer_code, customer, average_discount_percentage

SQL QUERY

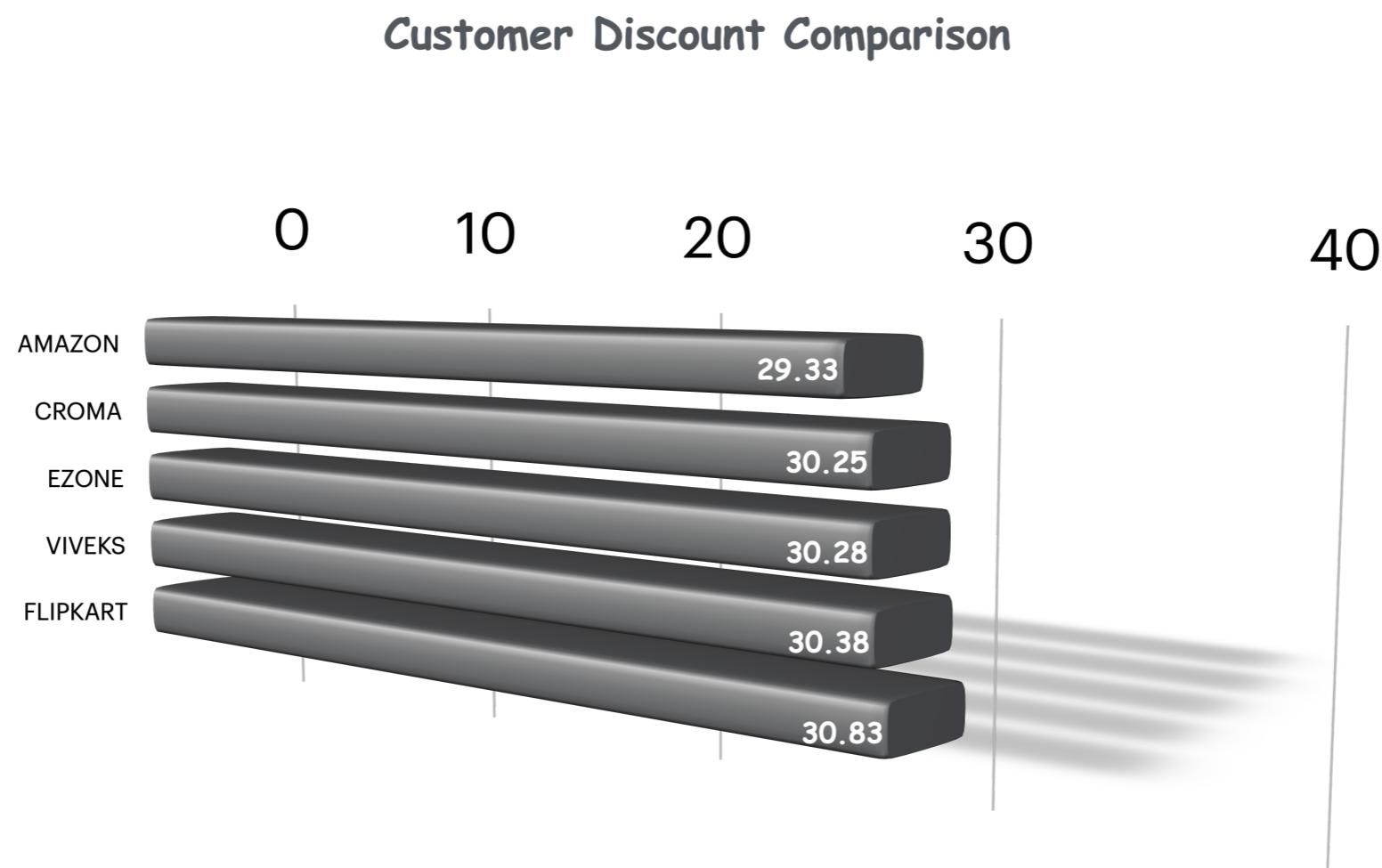
```
Select
f.customer_code,
c.customer,
ROUND(AVG(f.pre_invoice_discount_pct) * 100,2)
AS Average_discount_percentage
FROM fact_pre_invoice_deductions f
JOIN
dim_customer c
ON
f.customer_code=c.customer_code
WHERE fiscal_year =2021 AND c.market='India'
Group By f.customer_code,c.customer
Order By Average_discount_percentage DESC
LIMIT 5;
```

OUTPUT

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

OUTPUT VISUALS AND INSIGHTS

- The top 5 customers' average discount percentages range from 29.33% (Amazon) to 30.83% (Flipkart), indicating a moderate variation in their discounting strategies.
- The discounts offered by the top 5 customers remain within a normal range, showing consistent discounting patterns and a lower chance of extreme or unusual cases.



AD-HOC-REQUEST : 7

- 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

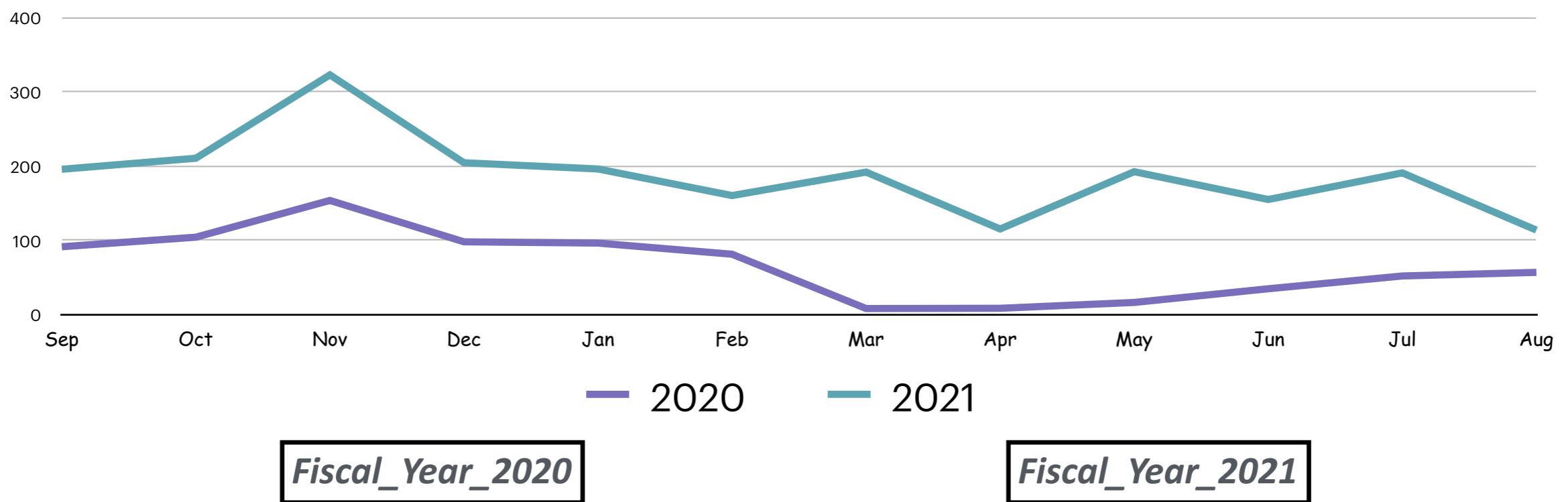
```
WITH MonthlySales AS (
    SELECT
        MONTHNAME(s.date) AS Month,
        s.fiscal_year,
        SUM(g.gross_price * s.sold_quantity) AS Gross_sales_amount
    FROM dim_customer c
    JOIN fact_sales_monthly s
        ON c.customer_code = s.customer_code
    JOIN fact_gross_price g
        ON s.product_code = g.product_code
    WHERE c.customer = "Atliq Exclusive"
    GROUP BY MONTHNAME(s.date), s.fiscal_year, MONTH(s.date)
)
SELECT
    Month,
    fiscal_year,
    ROUND(Gross_sales_amount, 2) AS Gross_sales_amount
FROM MonthlySales
ORDER BY fiscal_year, MONTH(Month);
```

OUTPUT

Month	fiscal_year	Gross_sales_amount
October	2020	10378637.60
September	2020	9092670.34
August	2020	5638281.83
July	2020	5151815.40
June	2020	3429736.57
May	2020	1586964.48
April	2020	800071.95
March	2020	766976.45
February	2020	8083995.55
January	2020	9584951.94
December	2020	9755795.06
November	2020	15231894.97
August	2021	11324548.34
July	2021	19044968.82
June	2021	15457579.66
May	2021	19204309.41
April	2021	11483530.30
March	2021	19149624.92
February	2021	15986603.89
January	2021	19570701.71
December	2021	20409063.18
November	2021	32247289.79
October	2021	21016218.21
September	2021	19530271.30

OUTPUT VISUALS AND INSIGHTS

- *The comparison of gross sales between the fiscal years 2020 and 2021 clearly indicates a consistent increase in sales for every month in 2021 compared to 2020.*
- *This positive trend across all months suggests a steady and overall growth in the company's sales performance during the fiscal year 2021. It's a strong indicator of the company's progress and success in boosting its sales efforts.*



Fiscal Year 2020

Month	fiscal_year	Gross_sales_amount
September	2020	90.93Lakhs
October	2020	103.79Lakhs
November	2020	152.32Lakhs
December	2020	97.56Lakhs
January	2020	95.85Lakhs
February	2020	80.84Lakhs
March	2020	7.67Lakhs
April	2020	8.00Lakhs
May	2020	15.87Lakhs
June	2020	34.30Lakhs
July	2020	51.52Lakhs
August	2020	56.38Lakhs
Total	2020	795.02Lakhs

Fiscal Year 2021

Month	fiscal_year	Gross_sales_amount
September	2021	195.30Lakhs
October	2021	210.16Lakhs
November	2021	322.47Lakhs
December	2021	204.09Lakhs
January	2021	195.71Lakhs
February	2021	159.87Lakhs
March	2021	191.50Lakhs
April	2021	114.84Lakhs
May	2021	192.04Lakhs
June	2021	154.58Lakhs
July	2021	190.45Lakhs
August	2021	113.25Lakhs
Total	2021	2244.25Lakhs

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, Quarter, total_sold_quantity.*

SQL QUERY

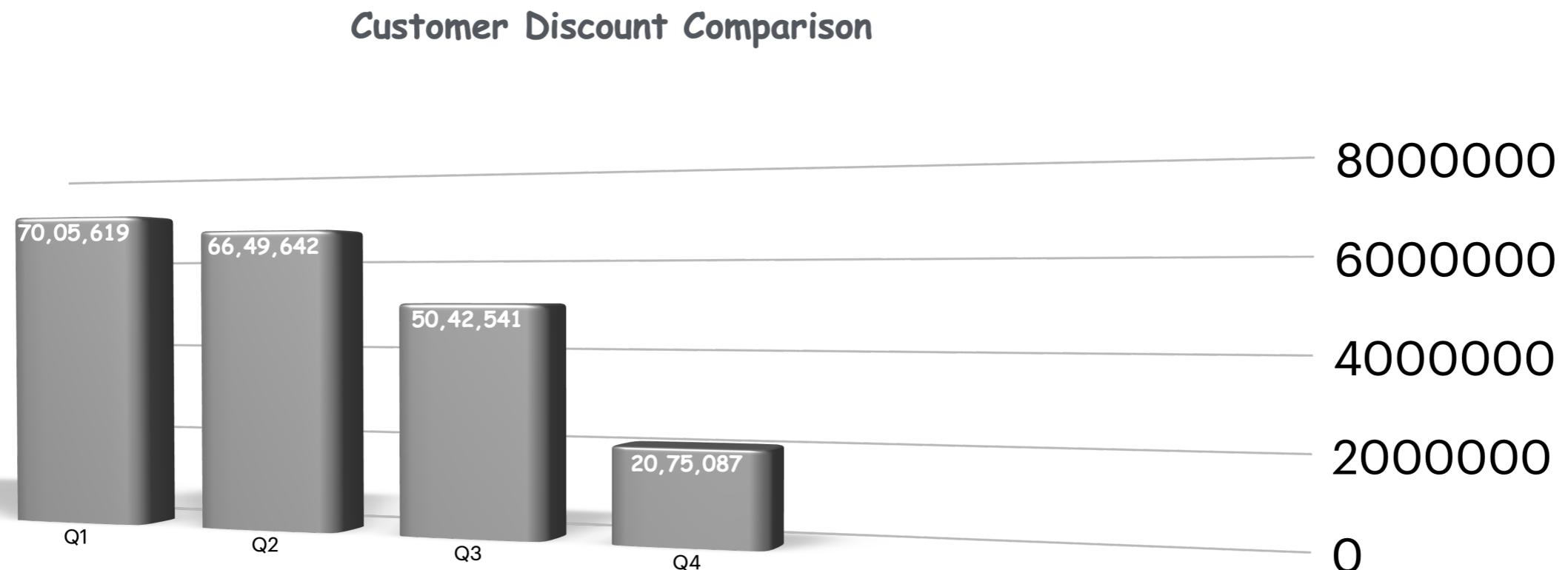
```
SELECT
CASE
    WHEN MONTH(date) IN (9, 10, 11) THEN 'Q1'
    WHEN MONTH(date) IN (12, 1, 2) THEN 'Q2'
    WHEN MONTH(date) IN (3, 4, 5) THEN 'Q3'
    ELSE 'Q4'
END AS Quarter,
SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarter
ORDER BY total_sold_quantity DESC;
```

OUTPUT

Quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

OUTPUT VISUALS AND INSIGHTS

- Upon analyzing the quarterly sold quantity data for Atliq Company, where the quarters are defined as follows:
- Q1: Sep, Oct, Nov
- Q2: Dec, Jan, Feb
- Q3: Mar, Apr, May
- Q4: Jun, Jul, Aug
- Here Fiscal Year 2020 :September 2019 – August 2020 is taken into consideration for this visulas.
- Quarter 1 (Sep, Oct, Nov) recorded the highest total sold quantity of 7,005,619 units.
- The fluctuation in sales among the quarters indicates that the company may need to strategize its inventory management, production, and marketing efforts to meet the varying demand patterns throughout the year.



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, channel gross_sales_mln percentage

SQL QUERY

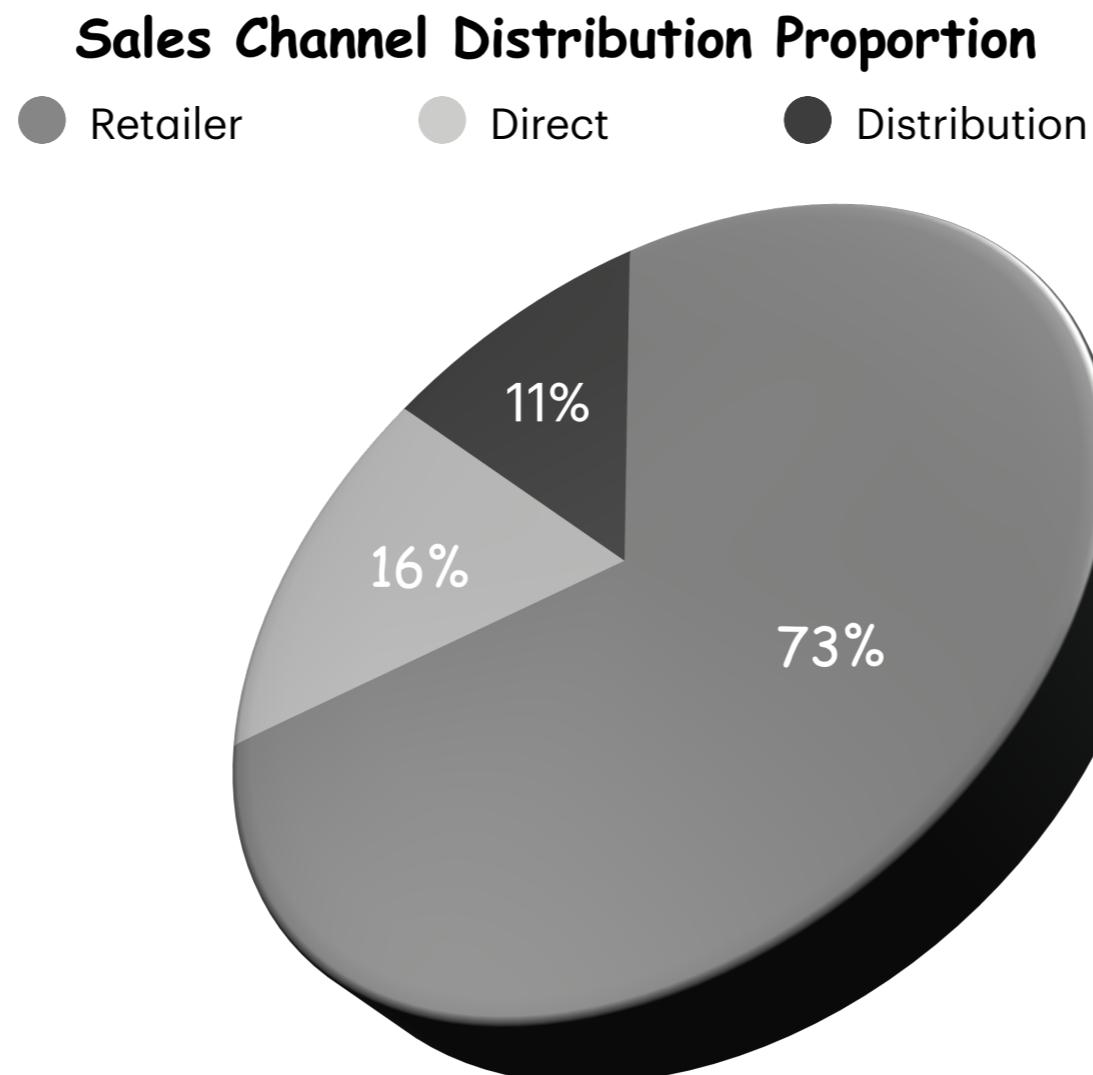
```
WITH cte AS (
  SELECT
    dc.channel,
    round(SUM(fg.gross_price*fs.sold_quantity)/100000,2) as
    gross_sales_mln
  FROM
    dim_customer as dc
  JOIN
    fact_sales_monthly as fs
  ON fs.customer_code = dc.customer_code
  JOIN
    fact_gross_price fg ON fs.product_code = fg.product_code
  WHERE fs.fiscal_year = 2021
  GROUP BY dc.channel)
  SELECT channel, gross_sales_mln,
  ROUND((gross_sales_mln / (SELECT SUM(gross_sales_mln)
  FROM cte)) * 100, 2) as percentage
  FROM cte
  ORDER BY gross_sales_mln DESC;
```

OUTPUT

channel	gross_sales_mln	percentage	v
Retailer	19241.70	73.22	
Direct	4066.87	15.47	
Distributor	2971.76	11.31	

OUTPUT VISUALS AND INSIGHTS

- *Atliq Hardwares uses various sales paths that is called Channel like Retailer, Direct, and Distributor.*
- *Remarkably, Retailers lead, making 19241.7 Million(73% of total sales). Next, Direct is strong at 4066.87 million. Distributors also play a part. This balance sets up a strong, growing sales strategy.*



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, division, product_code, product total_sold_quantity, rank_order.

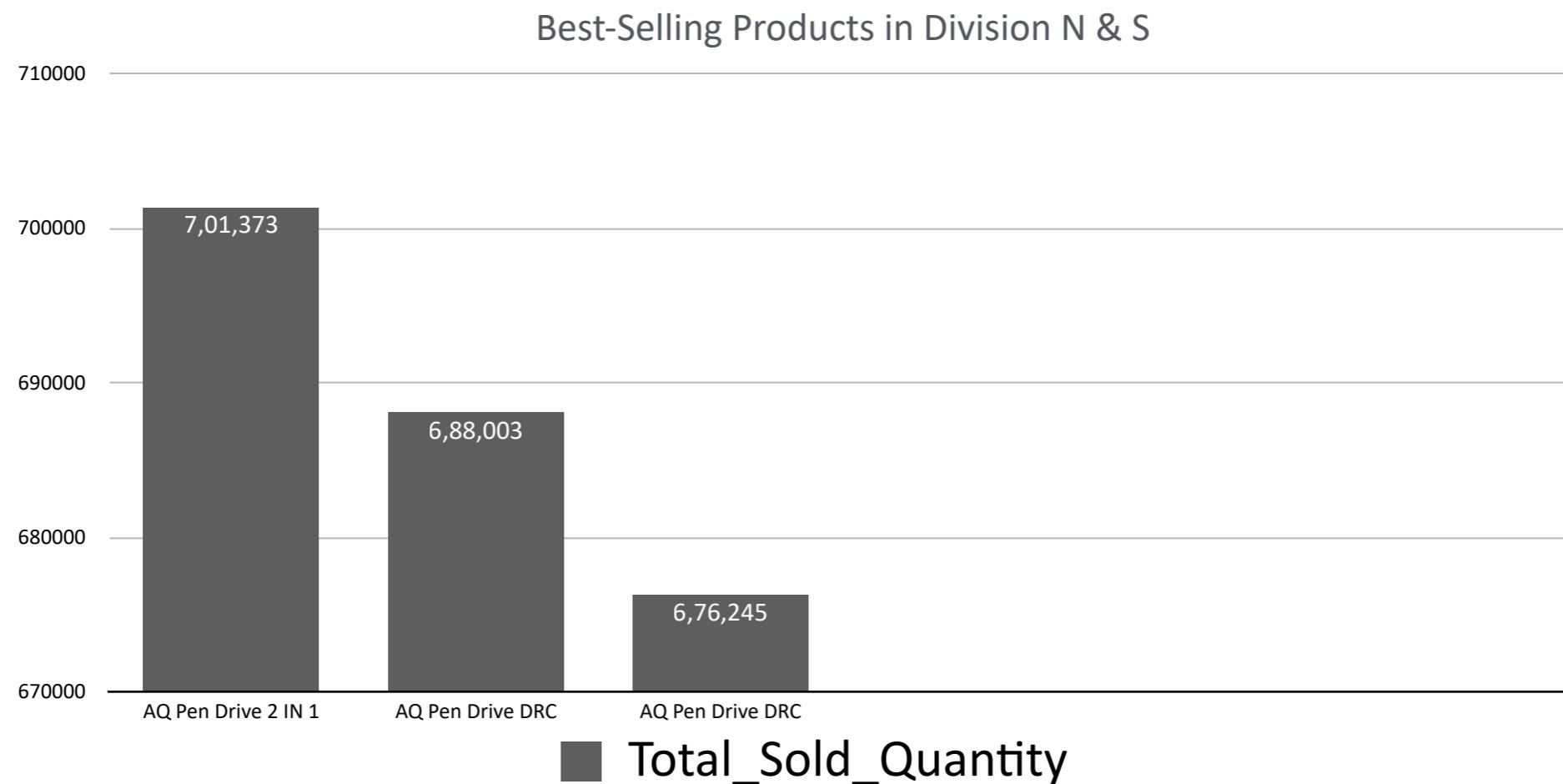
SQL QUERY

```
WITH RankedProducts AS (
    SELECT dp.division,
    fsm.product_code,
    dp.product,
    SUM(fsm.sold_quantity) AS total_sold_quantity,
    ROW_NUMBER() OVER(PARTITION BY dp.division ORDER BY
    SUM(fsm.sold_quantity) DESC) AS rank_order
    FROM fact_sales_monthly fsm
    JOIN
    dim_product dp
    ON fsm.product_code = dp.product_code
    WHERE fsm.fiscal_year = 2021
    GROUP BY dp.division, fsm.product_code,
    dp.product)SELECT division, product_code, product,
    total_sold_quantity, rank_order
    FROM RankedProducts
    WHERE rank_order <= 3
    ORDER BY division, rank_order;
```

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

OUTPUT VISUALS AND INSIGHTS



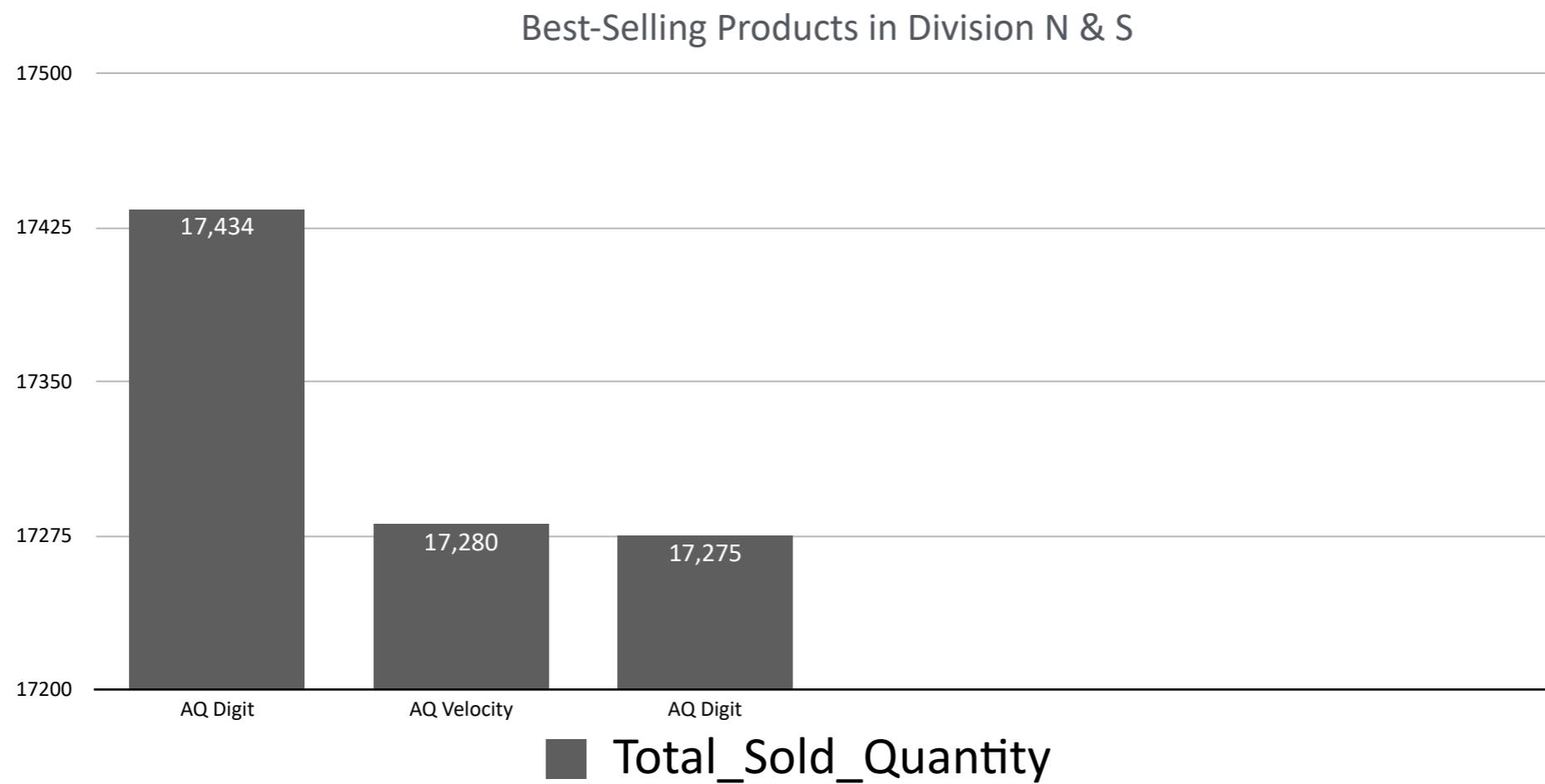
- At Atliq, the company operates within three divisions: P & A, PC, and N & C.
- Notably, the top three products in the N & C division belong to the storage segment, showcasing its prominence among the six segments.
- Specifically, these three products fall under the USB flash drives category.
- Within these top products, two stand out as premium choices: AQ Pen Drive 2 IN 1 and AQ Pen Drive DRC. (A6819160203)
- Remarkably, AQ Pen Drive 2 IN 1 leads the sales, while the second-ranking product, AQ Pen Drive DRC, presents itself as a plus variant of the premium product of AQ Pen Drive DRC with a different product code (A6818160202).

OUTPUT VISUALS AND INSIGHTS



- Within Atliq's diverse divisions, let's look into the P & A division.
- Notably, the mouse category emerges as a frontrunner, encompassing the top three best-selling products. "AQ Gamers Ms" commands the lead with 428,498 units sold, followed closely by "AQ Maxima Ms" in its standard 1 variant, boasting 419,865 units. Specifically, these three products fall under the USB flash drives category.
- The third spot is secured by the plus 2 variant of "AQ Maxima Ms," contributing 419,471 units.
- All these three products come under the segment called Accessories.
- This diversity within the mouse category showcases P & A's ability to cater to varied preferences, mirroring Atliq's commitment to customer satisfaction.

OUTPUT VISUALS AND INSIGHTS



- Within the PC division, the notebook segment takes the spotlight, showcasing the best-selling products in the personal laptop category. Specifically, these three products fall under the USB flash drives category.
- "AQ Digit," with a total of 17,434 units sold, captures the lead position and is notable for its standard blue variant (A4218110202).
- Another iteration of "AQ Digit" in the premium misty green variant (A4218110208) secures the third spot with 17,275 units sold.
- This analysis highlights the strength of "AQ Digit" in both its standard blue and premium misty green variants, suggesting positive performance and customer engagement across these product variations in the notebook segment.

THANK YOU