



Ad-Hoc Insights

Consumer Good Domain

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About The Company

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

AtliQ Hardware has 3 main division of products- Peripherals and Accessories(P & A), Network and Storage (N & S) and Personal Computers (PC).

Data Understanding

This file provides a comprehensive overview for six main tables:

1. **dim_customer**: contains customer-related data
2. **dim_product**: contains product-related data
3. **fact_gross_price**: contains gross price information for each product
4. **fact_manufacturing_cost**: contains the cost incurred in the production of each product
5. **fact_pre_invoice_deductions**: contains pre-invoice deductions information for each product
6. **fact_sales_monthly**: contains monthly sales data for each product.

Task

Check ‘ad-hoc-requests’ and run a SQL query to provide Insights to the management team.

Ad-hoc Request 1

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

Input

```
select market from dim_customer  
where customer = "Atliq Exclusive"  
and region = "APAC";
```

Output

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh
India

Ad-hoc Request 2

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

Input

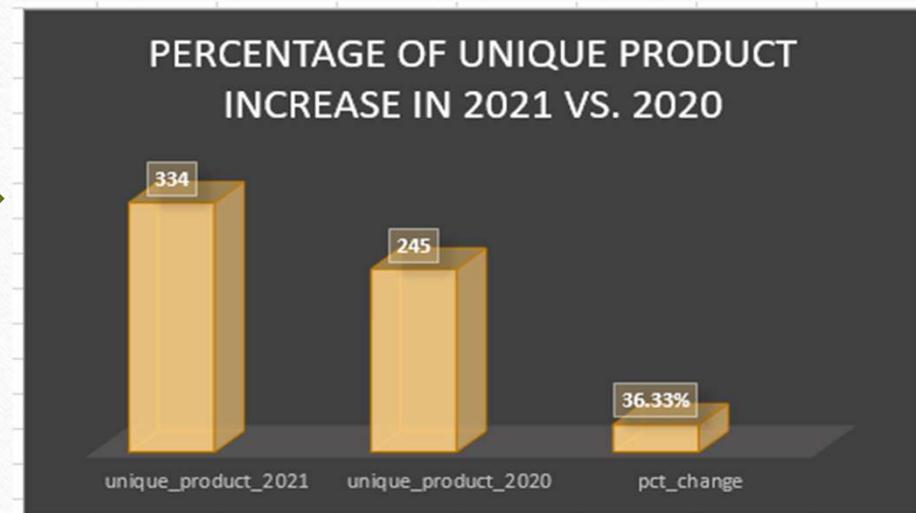
```
-- -----what is the percentage of unique product increase in 2021 vs. 2020?-----  
• with cte1 as (  
    select count(distinct product_code) as unique_product_2020  
    from fact_gross_price  
    where fiscal_year = 2020),  
    cte2 as (  
    select count(distinct product_code) as unique_product_2021  
    from fact_gross_price  
    where fiscal_year=2021)  
    select *,  
    round((unique_product_2021-unique_product_2020)*100/unique_product_2020,2) as pct_change  
    from cte2  
    cross join cte1;
```

Output

	unique_product_2021	unique_product_2020	pct_change
▶	334	245	36.33

Conversion of Output To Visual

Result Grid		
unique_product_2021	unique_product_2020	pct_change
334	245	36.33



Insights

89 new products were added in 2021 , so percentage of unique product increase in 2021 vs 2020 is 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

Input

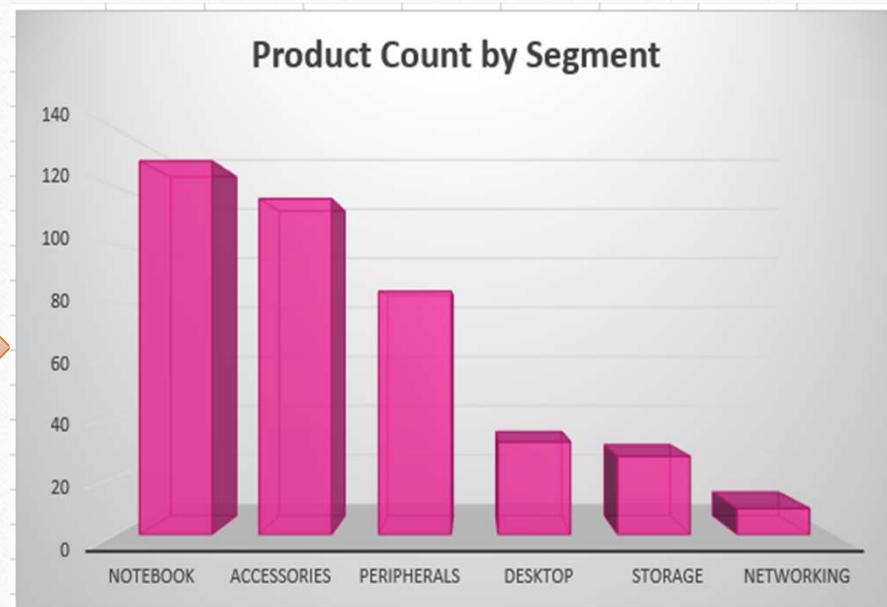
```
26 • select segment,  
27     count(distinct product_code) as product_count  
28     from dim_product  
29     group by segment  
30     order by product_count desc;  
31
```

Output

Result Grid		Filter Rows:
	segment	product_count
▶	Notebook	129
	Accessories	116
	Peripherals	84
	Desktop	32
	Storage	27
	Networking	9

Conversion of Output to Visual

Result Grid		Filter Rows:
	segment	product_count
▶	Notebook	129
	Accessories	116
	Peripherals	84
	Desktop	32
	Storage	27
	Networking	9



Insights

Notebook, Accessories and Peripherals are the top 3 segments reflecting the increased demands for these segments.

Ad-hoc Request 4

Which segment had the most increase in unique products in 2021 vs 2020?

Input

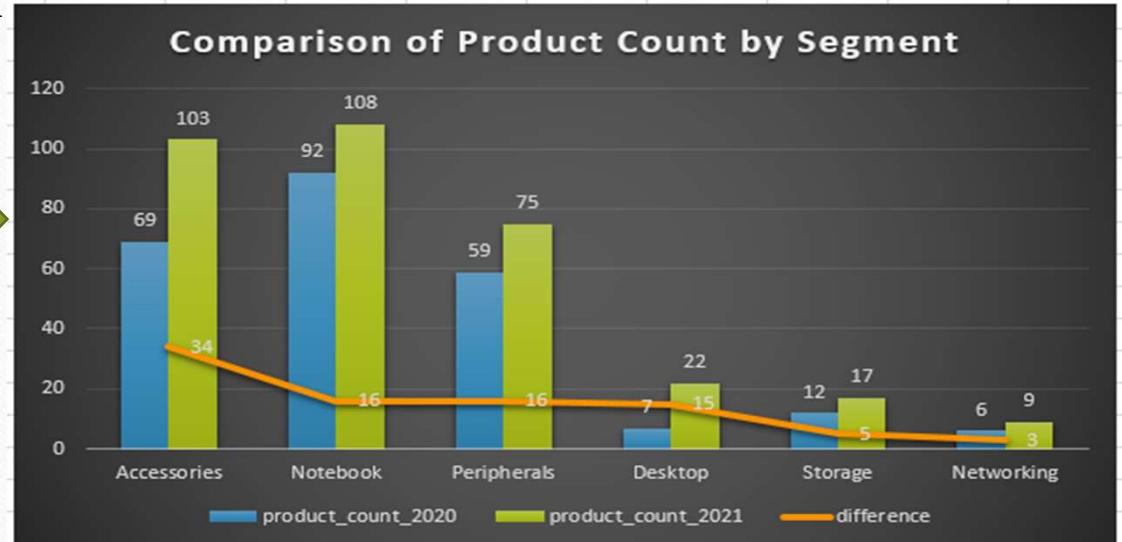
```
33 •  with cte1 as (
34   select p.segment, count(distinct s.product_code) as unique_product_2020
35   from fact_sales_monthly s
36   join dim_product p
37   on p.product_code=s.product_code
38   where fiscal_year = 2020
39   group by p.segment),
40   cte2 as (
41   select p.segment, count(distinct s.product_code) as unique_product_2021
42   from fact_sales_monthly s
43   join dim_product p
44   on p.product_code=s.product_code
45   where fiscal_year=2021
46   group by p.segment),
47   cte3 as(
48   select p20.segment, p20.unique_product_2020 as product_count_2020, p21.unique_product_2021 as product_count_2021,
49   (p21.unique_product_2021-p20.unique_product_2020) as difference
50   from cte1 p20
51   join cte2 p21
52   on p20.segment= p21.segment)
53   select segment, product_count_2020, product_count_2021, difference
54   from cte3
55   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

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

Conversion of Output to Visual



Insights

Among the listed segments, the "Accessories" segment experienced the highest growth in unique products between 2020 and 2021 with a difference of 34 products. This suggests a substantial expansion or diversification of accessory offerings within the specified timeframe, indicating a dynamic market for supplementary products in the computing and electronics industry.

Ad-hoc Request 5

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.

Input

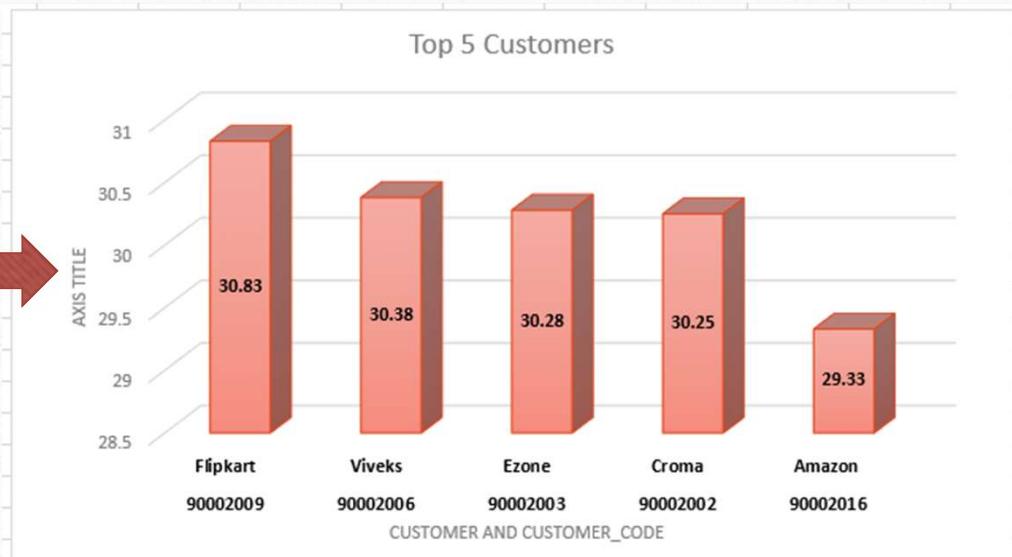
```
70 • select c.customer_code,c.customer,
71     round(avg(f.pre_invoice_discount_pct)*100,2) as avg_discount_pct
72     from dim_customer c
73     join fact_pre_invoice_deductions f
74     on c.customer_code=f.customer_code
75     where fiscal_year = 2021 and market= "India"
76     group by customer, customer_code
77     order by avg_discount_pct desc
78     limit 5;
```

Output

Result Grid			
	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

Conversion of Output to Visual

	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



Insights

In the fiscal year 2021 within the Indian market, Flipkart, Viveks, Ezone, Croma, and Amazon emerged as the top five customers of notably high average pre-invoice discount percentages.

Ad-hoc Request 6

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month.

Input

```
81 • select monthname(s.date) as Month, year(s.date) as Year,  
82 concat((round(SUM(g.gross_price*s.sold_quantity)/1000000,2)),"M") as Gross_Sales_Amount  
83 from fact_gross_price g  
84 join fact_sales_monthly s  
85 on g.product_code=s.product_code and  
86 g.fiscal_year=s.fiscal_year  
87 join dim_customer c  
88 on c.customer_code=s.customer_code  
89 where customer= "Atliq Exclusive"  
90 group by Month, Year  
91 order by Year;  
92
```

Output

Month	Year	Gross_Sales_Amount
September	2019	4.50M
October	2019	5.14M
November	2019	7.52M
December	2019	4.83M
January	2020	4.74M
February	2020	4.00M
March	2020	0.38M
April	2020	0.40M
May	2020	0.78M
June	2020	1.70M
July	2020	2.55M
August	2020	2.79M
September	2020	12.35M
October	2020	13.22M
November	2020	20.46M
December	2020	12.94M
January	2021	12.40M
February	2021	10.13M
March	2021	12.14M
April	2021	7.31M

Conversion of Output to Visual

Month	Year	Gross_Sales_Amount
September	2019	4.50M
October	2019	5.14M
November	2019	7.52M
December	2019	4.83M
January	2020	4.74M
February	2020	4.00M
March	2020	0.38M
April	2020	0.40M
May	2020	0.78M
June	2020	1.70M
July	2020	2.55M
August	2020	2.79M
September	2020	12.35M
October	2020	13.22M
November	2020	20.46M
December	2020	12.94M
January	2021	12.40M
February	2021	10.13M
March	2021	12.14M
April	2021	7.31M



Insights

November 2020 recorded the highest peak in Gross Sale Amount, while conversely, March 2020 marked with the lowest Gross Sale Amount, illustrating the dynamic fluctuations in sales performance over the specified period.

Ad-hoc Request 7

In which quarter of 2020, got the maximum total_sold_quantity?

Input

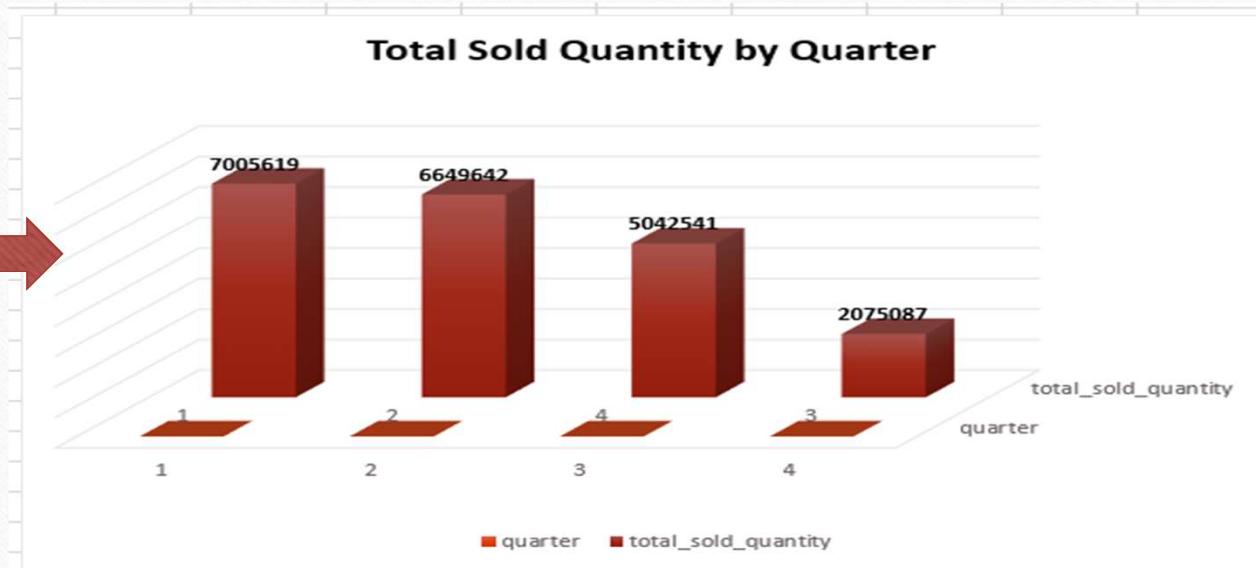
```
94 • SELECT
95     QUARTER(DATE_ADD(date, INTERVAL 4 MONTH)) AS quarter,
96     SUM(sold_quantity) AS total_sold_quantity
97     FROM
98         fact_sales_monthly
99     WHERE
100        fiscal_year = '2020'
101    GROUP BY quarter
102    order by total_sold_quantity desc;
```

Output

quarter	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

Conversion of Output to Visual

Result Grid		Filter Rows:
	quarter	total_sold_quantity
▶	1	7005619
	2	6649642
	4	5042541
	3	2075087



Insights

Quarter 1 stands out with the highest quantity sold, closely followed by Quarter 2, while Quarter 3 registers the lowest sales volume, revealing distinctive patterns in product demand across the quarterly intervals.

Ad-hoc Request 8

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

Input

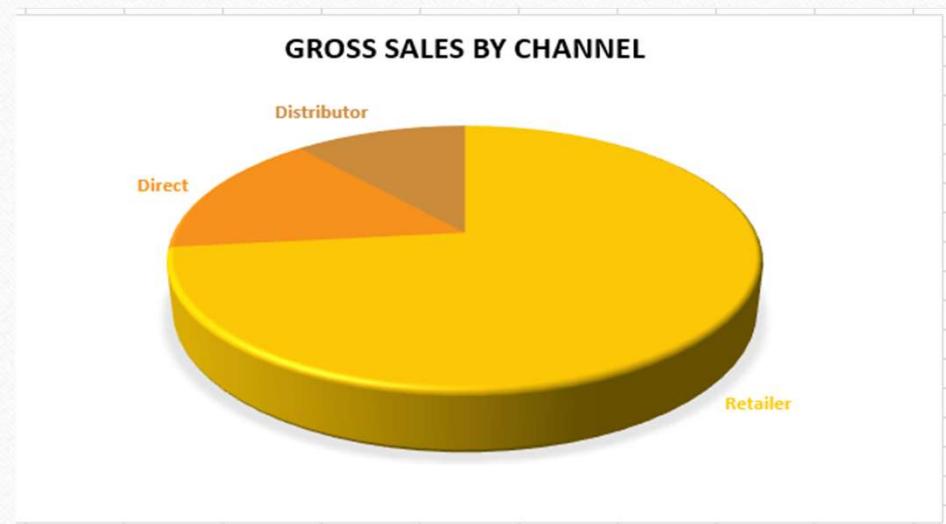
```
105 • with cte_1 as (
106     SELECT
107         dc.channel as channel,
108         (s.sold_quantity * gp.gross_price) AS gross_sales
109     FROM
110         fact_sales_monthly s
111         JOIN
112             fact_gross_price gp ON s.product_code = gp.product_code
113             AND s.fiscal_year = gp.fiscal_year
114             JOIN
115                 dim_customer dc ON s.customer_code = dc.customer_code
116     WHERE
117         s.fiscal_year = '2021'
118     ),
119     cte_2 as (
120         select sum(gross_sales ) as total_gross_sales_mln
121         from cte_1
122     )
123     select channel,sum(gross_sales) as gross_sales_mln,sum((gross_sales /total_gross_sales_mln)*100) as percentage
124     from cte_1,cte_2
125     group by channel
126     order by gross_sales_mln desc;
127
```

Output

Result Grid			
	channel	gross_sales_mln	percentage
▶	Retailer	1219081639.9472	73.23398100
	Direct	257532002.6536	15.47073878
	Distributor	188025630.9348	11.29527774

Conversion of Output to Visual

Result Grid		
channel	gross_sales_mln	percentage
Retailer	1219081639.9472	73.23398100
Direct	257532002.6536	15.47073878
Distributor	188025630.9348	11.29527774



Insights

The Retailer Channel emerged as the leading contributor to sales, recording the highest revenue, while in contrast, the Distributor Channel reported the least sales, indicating a notable disparity in performance between the two distribution channels.

Ad-hoc Request 9

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

Input

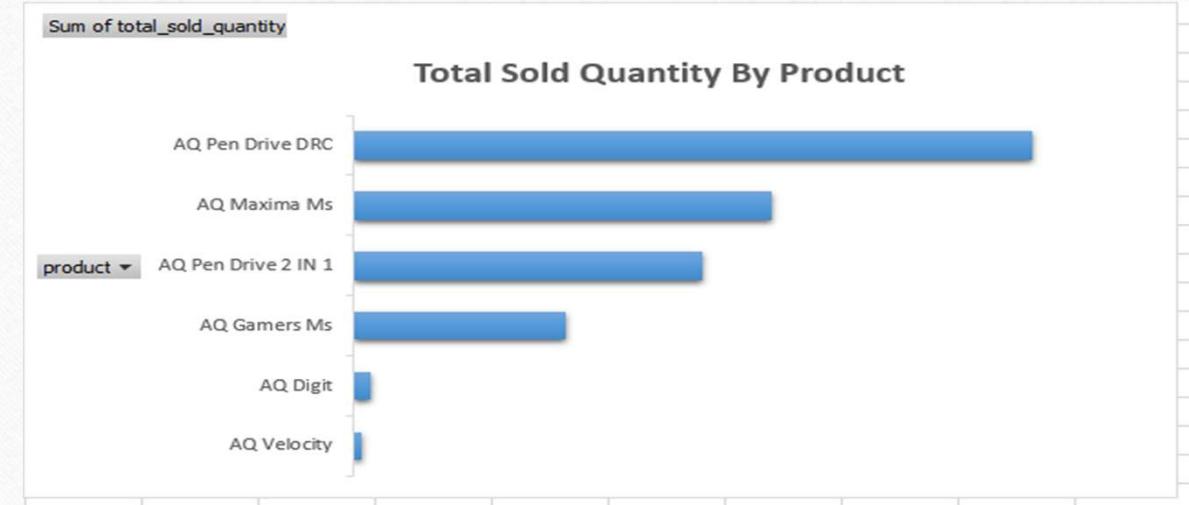
```
130 • with cte1 as(
131     select p.division, p.product_code, p.product, sum(s.sold_quantity) as total_sold_quantity
132     from dim_product p
133     join fact_sales_monthly s
134     on s.product_code=p.product_code
135     where fiscal_year = 2021
136     group by p.division, p.product_code, p.product),
137
138 • cte2 as(
139     select *, dense_rank() over( partition by division order by total_sold_quantity desc) as rank_order
140     from cte1)
141
142     select * from cte2
143     where rank_order<=3
144
145
```

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

Result Grid				
	division	product_code	product	total_sold_quantity
▶	N & S	A6720160103	AQ Pen Drive 2 IN 1	701373
	N & S	A6818160202	AQ Pen Drive DRC	688003
	N & S	A6819160203	AQ Pen Drive DRC	676245
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

Conversion of Output to Visual



Insight

In the category of Network and Storage, AQ Pen Drive DRC secured the top position, showcasing its dominance in this segment.

Moving to Peripherals and Accessories, MS Maxima claimed the first rank, underscoring its prominence in that specific category.

Shifting the focus to Personal Computers, AQ Digit took the lead, positioning itself as the foremost choice in this segment.

THANKYOU