Consumer Goods Ad_Hoc Insights using SQL

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Request 1: Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

Query and Result

```
1 •  SELECT
2        DISTINCT market
3    FROM dim_customer
4    WHERE customer='Atliq Exclusive' AND region="APAC";
```

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

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

Request 2: What is the percentage of unique product increase in 2021 vs. 2020?

Query

```sql
WITH cte1 AS
(
    SELECT COUNT(DISTINCT product_code) AS unique_products_2020
    FROM fact_sales_monthly WHERE fiscal_year=2020
),
cte2 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,
    ((unique_products_2021/unique_products_2020)-1)*100 AS pct_change
FROM cte1,cte2;
```

Result

unique_products_2020	unique_products_2021	pct_change
245	334	36.3265

Request 3:Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

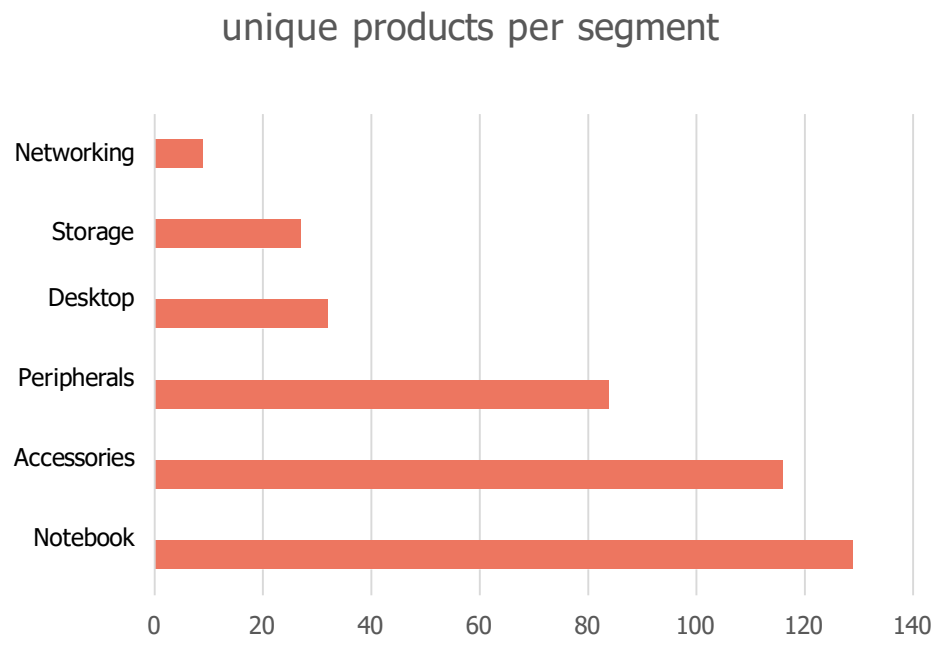
Query

```
1 • SELECT
2       segment,
3       COUNT(DISTINCT product_code) AS unique_product_count
4   FROM dim_product GROUP BY segment ORDER BY unique_product_count DESC;
```

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

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

Result - Visualized



Request 4:Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

Query

```sql
WITH products_2020 AS
(
    SELECT
        segment,
        COUNT(DISTINCT s.product_code) AS unique_products_2020
    FROM dim_product p JOIN fact_sales_monthly s
    ON s.product_code = p.product_code
    WHERE fiscal_year=2020
    GROUP BY p.segment
),
```


```sql
WITH products_2020 AS
(
    SELECT
        segment,
        COUNT(DISTINCT s.product_code) AS unique_products_2020
    FROM dim_product p JOIN fact_sales_monthly s
    ON s.product_code = p.product_code
    WHERE fiscal_year=2020
    GROUP BY p.segment
),
```

Request 4:Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

Query (Cont…)

```
21  SELECT
22      p21.segment,
23      unique_products_2020,
24      unique_products_2021,
25      unique_products_2021-unique_products_2020 AS difference
26  FROM products_2021 p21
27  JOIN products_2020 p20
28  on p21.segment = p20.segment
29  ORDER BY difference DESC
30  ;
```

Result

segment	unique_products_2020	unique_products_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

Request 5:Get the products that have the highest and lowest manufacturing costs.

Query

```
1 • SELECT
2       m.product_code,
3       product,
4       manufacturing_cost FROM dim_product p
5   JOIN fact_manufacturing_cost m
6   USING (product_code)
7   WHERE manufacturing_cost IN
8   (
9       (SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost),
10      (SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost)
11  )
12  ORDER BY manufacturing_cost DESC
13  ;
```

Result

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

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.

Query

```
SELECT
    customer_code,
    customer,
    pre_invoice_discount_pct
FROM dim_customer
JOIN fact_pre_invoice_deductions
USING (customer_code)
WHERE market = "India"
AND fiscal_year="2021"
AND pre_invoice_discount_pct >
(
    SELECT
        AVG(pre_invoice_discount_pct)
    FROM fact_pre_invoice_deductions
)
ORDER BY pre_invoice_discount_pct DESC
LIMIT 5
```

Result

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

Avg. Pre Invoice Discount pct - 0.23361627

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.

Query

```
1 • SELECT
2       MONTHNAME(date) AS month,
3       s.fiscal_year,
4       ROUND(SUM(gross_price*sold_quantity),2) AS gross_sales_amount
5   FROM fact_sales_monthly s
6   JOIN fact_gross_price g
7   USING(product_code)
8   JOIN dim_customer c
9   USING(customer_code)
10  WHERE c.customer="Atliq Exclusive"
11  GROUP BY month,s.fiscal_year
12  ORDER BY s.fiscal_year;
```

Result

	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

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.

Result –Visualized (After converting to wide data in Excel)

Request 8: In which quarter of 2020, got the maximum total_sold_quantity?

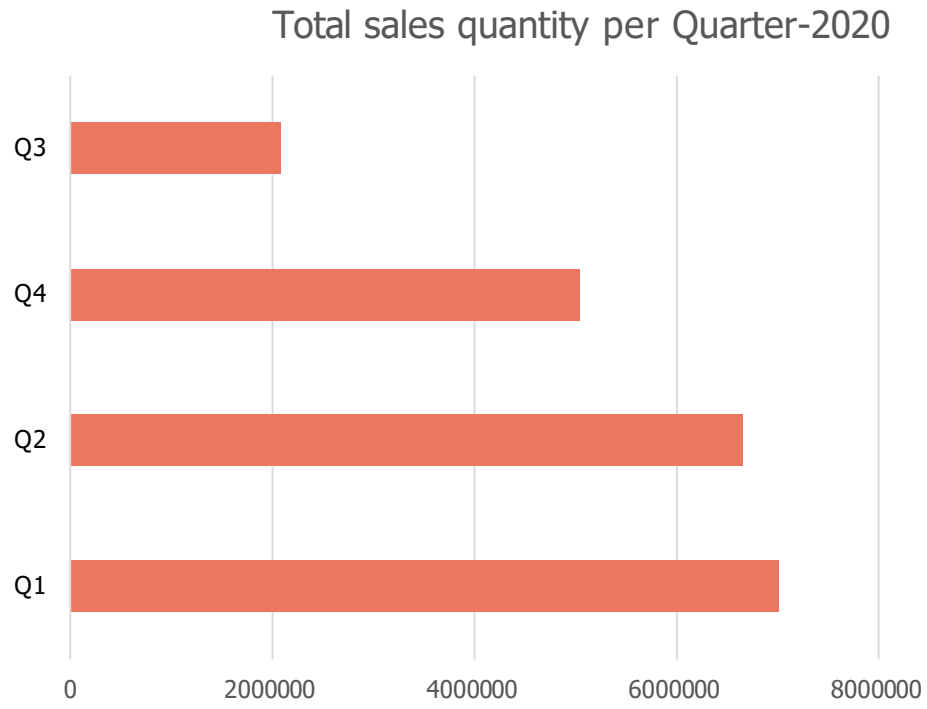
Query

```
110 •  SELECT
111        get_quarter(month(date)) AS quarter,
112        SUM(sold_quantity) AS total_sales_quantity_2020
113    FROM fact_sales_monthly
114    WHERE fiscal_year="2020"
115    GROUP BY quarter
116    ORDER BY total_sales_quantity_2020 DESC;
```

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

quarter	total_sales_quantity_2020
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

Result - Visualized



Request 9:Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

Query

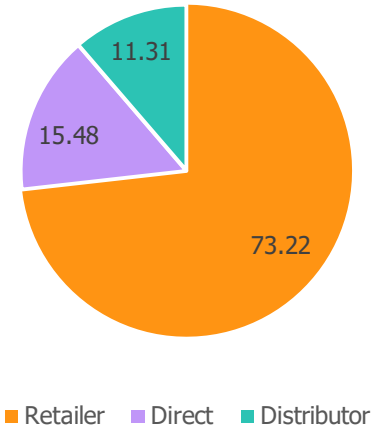
```sql
WITH channel_sales_pct AS
(
    SELECT
        c.channel,
        ROUND(SUM(s.sold_quantity*g.gross_price)/1000000,2) AS gross_sales_mln
    FROM dim_customer c
    JOIN fact_sales_monthly s
    USING (customer_code)
    JOIN fact_gross_price g
    USING (product_code)
    WHERE s.fiscal_year = "2021"
    GROUP BY c.channel
)
SELECT
    *,
    FORMAT(gross_sales_mln*100/SUM(gross_sales_mln) OVER(),2)  AS pct
FROM channel_sales_pct
ORDER BY pct DESC
```

Result

	channel	gross_sales_mln	pct
▶	Retailer	1924.17	73.22
	Direct	406.69	15.48
	Distributor	297.18	11.31

Result - Visualized

Gross sales contribution per channel



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

Query

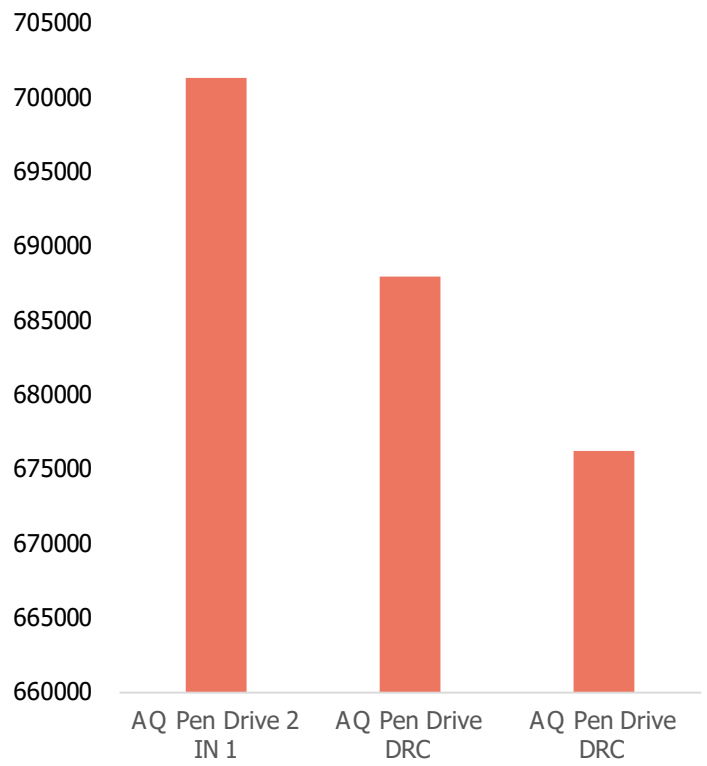
```sql
WITH product_details AS
(
    SELECT
        division,
        s.product_code,
        product,
        SUM(sold_quantity) AS total_sold_quantity
    FROM dim_product JOIN
    fact_sales_monthly s
    USING (product_code)
    WHERE fiscal_year="2021"
    GROUP BY division,s.product_code,product
)
,product_rankings AS(
    SELECT
        *,
    DENSE_RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_order
    FROM product_details
)
SELECT * FROM product_rankings WHERE rank_order < 4;
```

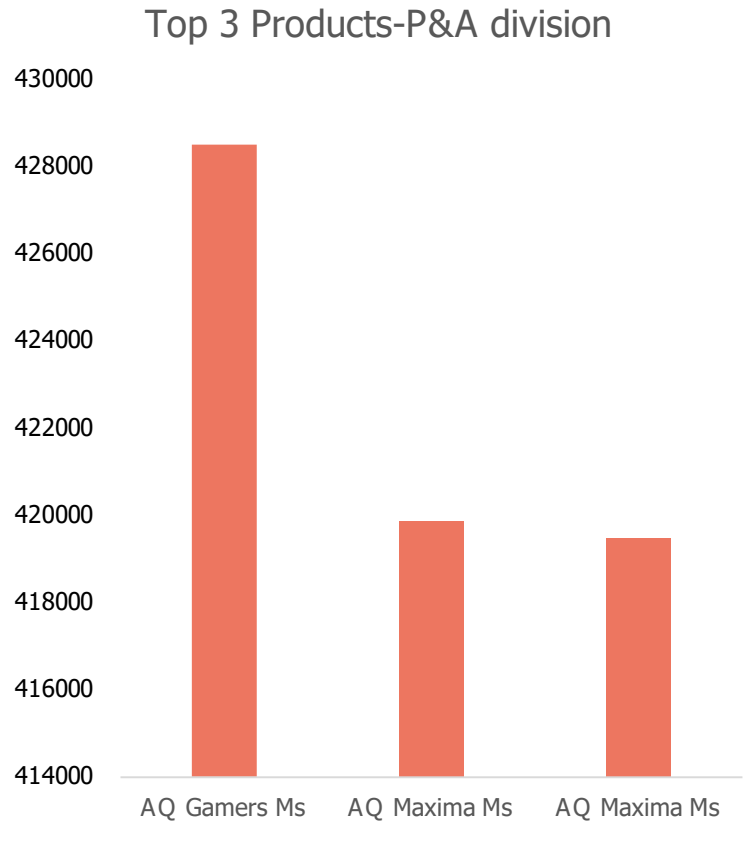
Result

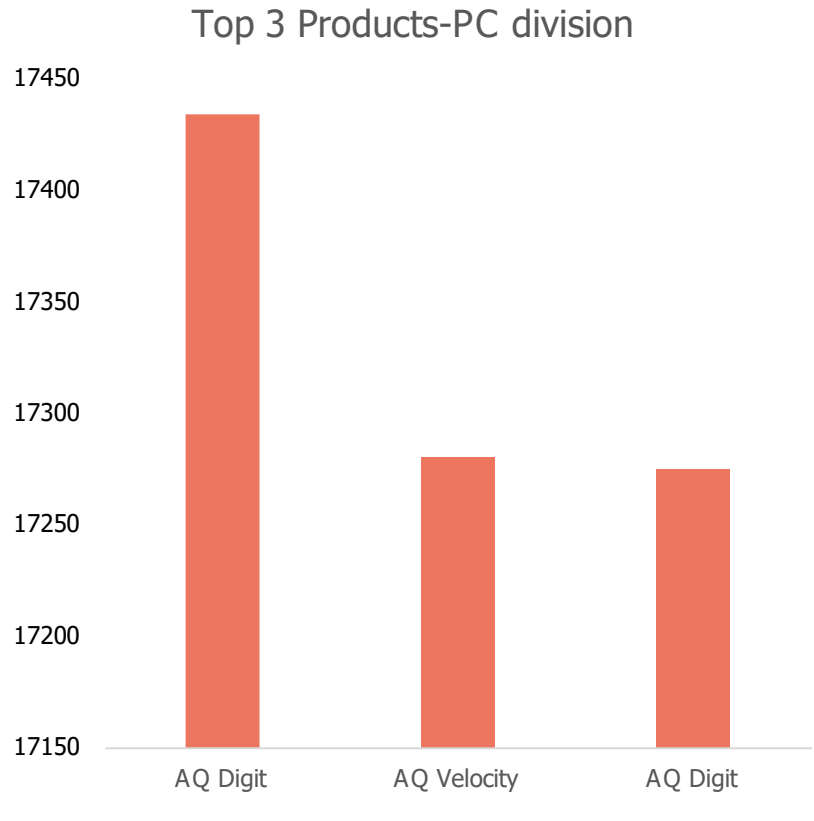
division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

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

Result - Visualized







Thank You!