Consumer Goods Ad_Hoc Analysis

GitHub

AtliQ Exclusive Markets (APAC)

Request 1

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

Query:

```
SELECT market FROM dim_customer
WHERE customer = 'Atliq Exclusive'
AND region = 'APAC'
```

Result:

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh
India

Percentage Increase in Unique Products (2020 vs 2021)

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.

Query:

```
WITH unique_products AS (SELECT count(DISTINCT(product_code)) AS unique_products_2020,

(SELECT count(DISTINCT(product_code)) FROM fact_sales_monthly WHERE fiscal_year = 2021) AS
unique_products_2021

FROM fact_sales_monthly WHERE fiscal_year = 2020)


SELECT *, round((unique_products_2021-unique_products_2020)*100/unique_products_2020, 2) as
percentage_chg

FROM unique_products
```

Result:

	unique_products_2020	unique_products_2021	percentage_chg
▸	245	334	36.33

Unique Products per Segment

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: segment & product_count.

Query:

```
SELECT segment, count(DISTINCT(product_code)) as unique_products
FROM dim_product
GROUP BY segment
ORDER BY unique_products DESC
```

Result:

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

Segments with Highest Increase in New Products

Request 4

Follow-up: Which segments had the most increase in unique products in 2021 vs 2020? The final output contains these fields: segment, product_count_2020 & product_count_2021.

Query:

```
WITH segment_2021 AS
(SELECT segment, count(DISTINCT(product_code)) AS unique_products_2021 FROM dim_product
JOIN fact_sales_monthly USING (product_code) WHERE fiscal_year = 2021
GROUP BY segment),

segment_2020  AS
(SELECT segment, count(DISTINCT(product_code)) AS unique_products_2020 FROM dim_product
JOIN fact_sales_monthly USING (product_code) WHERE fiscal_year = 2020
GROUP BY segment)

SELECT  * FROM segment_2020
JOIN segment_2021 USING (segment)
ORDER BY (unique_products_2021-unique_products_2020) DESC
LIMIT 3
```

Result:

segment	unique_products_2020	unique_
Accessories	69	103
Notebook	92	108
Peripherals	59	75

Products with Highest and Lowest Manufacturing Costs

Request 5

Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields: product & manufacturing_cost.

Query:

```
WITH product_costs AS
(SELECT product, round(SUM(manufacturing_cost), 2) AS manufacturing_cost
FROM fact_manufacturing_cost
JOIN dim_product USING (product_code)
GROUP BY product)

SELECT product, manufacturing_cost FROM product_costs
WHERE manufacturing_cost = (SELECT min(manufacturing_cost) FROM product_costs)
OR manufacturing_cost = (SELECT max(manufacturing_cost) FROM product_costs)
```

Result:

product	manufacturing_cost
AQ Home Allin1	3367.77
AQ Pen Drive 2 IN 1	2.74

Top 5 Customers with High Average Pre-Invoice Discounts

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.

Query:

```
WITH customers as (SELECT customer_code, customer, pre_invoice_discount_pct
FROM fact_pre_invoice_deductions JOIN dim_customer USING (customer_code)
WHERE fiscal_year = 2021 AND market = 'India')

SELECT * FROM customers
WHERE pre_invoice_discount_pct > (SELECT avg(pre_invoice_discount_pct) FROM customers )
ORDER BY pre_invoice_discount_pct DESC
LIMIT 5
```

Result:

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

AtliQ Exclusive Monthly Gross Sales Report

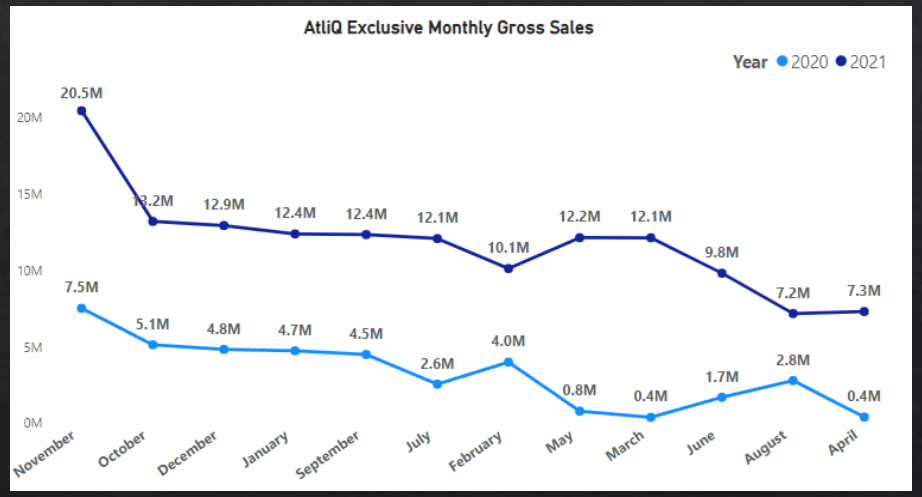
Request 7

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month . The final report contains these columns: Month, Year & Gross sales Amount.

Query:

```
SELECT sm.fiscal_year AS year, monthname(date) AS month,
round(SUM(sold_quantity*gross_price),2) AS gross_sales_amt
FROM fact_sales_monthly sm JOIN fact_gross_price gp
ON gp.product_code = sm.product_code AND gp.fiscal_year = sm.fiscal_year
JOIN dim_customer USING (customer_code) WHERE customer = "Atliq Exclusive"
GROUP BY customer, year, month
```

Result:



*Exported the queried table to PowerBI and created the above chart for better trend visualization.

Sales Quantity by Quarter

Request 8

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.

Query:

```
SELECT
        CASE
                WHEN MONTH(date) BETWEEN 9 AND 11 THEN "Q1"
                WHEN MONTH(date) IN (12,1,2) THEN "Q2"
                WHEN MONTH(date) BETWEEN 3 AND 5 THEN "Q3"
                WHEN MONTH(date) BETWEEN 6 AND 8 THEN "Q4"
    END AS fiscal_quarter, SUM(sold_quantity) AS sold_quantity
FROM fact_sales_monthly
GROUP BY fiscal_quarter
ORDER BY sold_quantity
```

Result:

fiscal_quarter	sold_quantity
Q3	13059826
Q4	15933538
Q2	20462294
Q1	21481813

Channel with Highest Gross Sales in 2021

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.

Query:

```
WITH cte1 AS
    (SELECT channel, round(SUM((sold_quantity*gross_price))/1000000, 2) as gross_sales_mln
     FROM fact_sales_monthly sm JOIN fact_gross_price gp ON gp.product_code = sm.product_code
     AND gp.fiscal_year = sm.fiscal_year JOIN dim_customer USING (customer_code)
     GROUP BY channel)

SELECT *, round(gross_sales_mln*100/SUM(gross_sales_mln) OVER(), 2) AS percentage
FROM cte1
ORDER BY gross_sales_mln DESC
```

Result:

channel	gross_sales_mln	percent
Retailer	1598.16	72.62
Direct	353.96	16.08
Distributor	248.47	11.29

Top 3 Products per Division in 2021

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.

Query:

```
WITH cte AS
        (SELECT division, product_code, product, SUM(sold_quantity) AS sold_quantity,
         DENSE_RANK() OVER(PARTITION BY division ORDER BY sum(sold_quantity) DESC) AS rank_order
    FROM dim_product JOIN fact_sales_monthly USING (product_code)
         GROUP BY division,product_code,product)

SELECT * FROM cte
WHERE rank_order <= 3
```

Result:

division	product_code	product	sold_quantity	rank
N & S	A6720160103	AQ Pen Drive 2 IN 1	1159222	1
N & S	A6818160201	AQ Pen Drive DRC	1128104	2
N & S	A6419160301	AQ Clx1	729696	3
P & A	A2319150302	AQ Gamers Ms	683634	1
P & A	A2219150204	AQ Master wireless x1 Ms	682321	2
P & A	A2319150306	AQ Gamers Ms	681531	3
PC	A4218110202	AQ Digit	26012	1
PC	A4319110306	AQ Velocity	25978	2
PC	A4118110107	AQ Aspiron	25963	3