SQL PROJECT: ADHOC ANALYSIS ON CONSUMER GOODS INSIGHTS OF ATLIQ HARDWARE

Adhoc Requests:

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

```
1 •  SELECT market from dim_customer where customer="Atliq Exclusive" order by region;
```

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

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh
India
France
Germany
Italy
Netherlands
Norway
Poland
USA
Canada

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
with tot_products as
        (SELECT count( distinct product_code) as total_products, fiscal_year as year
        FROM fact_sales_monthly
        GROUP BY fiscal_year)

SELECT a.total_products as unique_products_2020,b.total_products as unique_products_2021,
        (b.total_products - a.total_products) as new_products_introduced,
        ROUND((b.total_products - a.total_products) /a.total_products *100, 2) as pct_change
FROM tot_products as a
LEFT JOIN tot_products as b
ON a.year+1 = b.year
LIMIT 1
;
```

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

unique_products_2020	unique_products_2021	new_products_introduced	pct_change
245	334	89	36.33

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
SELECT segment, count(distinct product_code) as product_count
FROM dim_product
GROUP BY segment
ORDER BY product_count DESC
;
```

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

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

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
with tot_products as
        (SELECT count( distinct fs.product_code) as total_products, fiscal_year , segment
        FROM fact_sales_monthly as fs
        LEFT JOIN dim_product
        ON fs.product_code = dim_product.product_code
        GROUP BY fiscal_year, segment)
SELECT a.total_products as unique_products_2020,
        b.total_products as unique_products_2021,
        b.total_products - a.total_products as difference,
        a.segment,
    ROUND((b.total_products-a.total_products) /a.total_products *100 , 2) as pct_change

FROM tot_products as a
LEFT JOIN tot_products as b
ON (a.fiscal_year+1 = b.fiscal_year and a.segment = b.segment)
WHERE b.total_products is not null
ORDER BY a.fiscal_year,pct_change DESC
;

```

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

unique_products_2020	unique_products_2021	difference	segment	pct_change
7	22	15	Desktop	214.29
6	9	3	Networking	50.00
69	103	34	Accessories	49.28
12	17	5	Storage	41.67
59	75	16	Peripherals	27.12
92	108	16	Notebook	17.39

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
select
*
from
(SELECT p.product_code, p.product,
m.manufacturing_cost as Max_Min_cost
from dim_product p
join fact_manufacturing_cost m
on  p.product_code = m.product_code
where manufacturing_cost = (select max(manufacturing_cost) from fact_manufacturing_cost)) as tb1

UNION ALL

(SELECT p.product_code, p.product,
m.manufacturing_cost as max_min_cost
from dim_product p
join fact_manufacturing_cost m
on  p.product_code = m.product_code
where manufacturing_cost = (select min(manufacturing_cost) from fact_manufacturing_cost));
```

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

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

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
select c.customer_code, c.customer, round(avg(fp.pre_invoice_discount_pct)*100,2) as average_discount_percentage
from dim_customer c
join fact_pre_invoice_deductions fp
on c.customer_code = fp.customer_code
where fp.fiscal_year = 2021 and c.market='India'
group by c.customer_code, c.customer
order by average_discount_percentage desc
limit 5;
```

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

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

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.

The final report contains these columns:

Month

Year

Gross sales Amount

```sql
SELECT
        YEAR(date) as Year,
        MONTH(date) as month,
        sum(sold_quantity * gross_price) AS gross_sales_amount

FROM fact_sales_monthly as fs
INNER JOIN fact_gross_price as fp
ON fs.product_code = fp.product_code and fs.fiscal_year = fp.fiscal_year
INNER JOIN dim_customer as dc
ON fs.customer_code = dc.customer_code
WHERE customer = "Atliq Exclusive"
group by month, YEAR(date)
ORDER BY Year, month
;
```

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

Year	month	gross_sales_amount
2019	9	4496259.6724
2019	10	5135902.3467
2019	11	7522892.5608
2019	12	4830404.7285
2020	1	4740600.1605
2020	2	3996227.7661
2020	3	378770.9700
2020	4	395035.3535
2020	5	783813.4238
2020	6	1695216.6008
2020	7	2551159.1584
2020	8	2786648.2601
2020	9	12353509.7938
2020	10	13218636.1966

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
SELECT
    CASE
        WHEN MONTH(date) IN (9, 10, 11) THEN 'FIRST QUARTER'
        WHEN MONTH(date) IN (12, 1, 2) THEN 'SECOND QUARTER'
        WHEN MONTH(date) IN (3, 4, 5) THEN 'THIRD QUARTER'
        WHEN MONTH(date) IN (6, 7, 8) THEN 'FOURTH QUARTER'
    END AS QUARTER,
    CONCAT(CAST(ROUND(SUM(sold_quantity) / 1000000, 2) AS CHAR), ' M') AS total_quantities_sold
FROM
    fact_sales_monthly
WHERE
    fiscal_year = 2020
GROUP BY
    QUARTER
ORDER BY
    total_quantities_sold DESC;
```

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

QUARTER	total_quantities_sold
FIRST QUARTER	7.01 M
SECOND QUARTER	6.65 M
FOURTH QUARTER	5.04 M
THIRD QUARTER	2.08 M

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
WITH channels as (SELECT
                        channel,
                        (SUM(sold_quantity * gross_price) / 1000000) as gross_sales_mln
                FROM fact_sales_monthly as fm
                JOIN fact_gross_price as fp
                ON fm.product_code = fp.product_code
                JOIN dim_customer as dc
                ON fm.customer_code = dc.customer_code
                WHERE fm.fiscal_year = 2021
                GROUP BY channel
                ORDER BY gross_sales_mln DESC )

SELECT *,
       ROUND(gross_sales_mln * 100 / (SELECT SUM(gross_sales_mln) FROM channels) ,2) as pct_contributions
FROM channels
;
```

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

channel	gross_sales_mln	pct_contributions
Retailer	1924.17039791	73.22
Direct	406.68687390	15.47
Distributor	297.17587972	11.31

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

```sql
WITH top_product AS (
    SELECT
        fm.product_code,
        dp.product,
        dp.division,
        SUM(fm.sold_quantity) AS total_sold_quantity
    FROM
        fact_sales_monthly AS fm
    JOIN
        dim_product AS dp
    ON
        fm.product_code = dp.product_code
    WHERE
        fm.fiscal_year = 2021
    GROUP BY
        fm.product_code, dp.product, dp.division
),
ranked_product AS (
    SELECT
        *,
        RANK() OVER (PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_order
    FROM
        top_product
)
SELECT *
FROM
    ranked_product
WHERE
    rank_order IN (1, 2, 3);
```

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

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