CONSUMER GOODS ANALYTICS

Presented by Imran

AD-HOC REQUEST 1

Provide the list of Markets "Atliq Exclusive" operates in APAC region

Query

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

Output

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

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AD-HOC REQUEST 2

What is the percentage of unique products increase in 2021 vs 2020?
The output contains unique products 2020, unique products 2021 and percentage of change

Query

```
WITH cte1 AS (
SELECT COUNT(DISTINCT p.product_code) AS unique_product_2020
FROM fact_sales_monthly s JOIN dim_product p
ON s.product_code = p.product_code
WHERE s.fiscal_year=2020),

cte2 AS (
SELECT COUNT(DISTINCT p.product_code) AS unique_product_2021
FROM fact_sales_monthly s JOIN dim_product p
ON s.product_code = p.product_code
WHERE s.fiscal_year=2021)

SELECT
    unique_product_2020, unique_product_2021,
    ROUND(((unique_product_2021-unique_product_2020)/unique_product_2020)*100,2) AS percentage_chg
FROM cte1,cte2
```

Output

unique_product_2020	unique_product_2021	percentage_chg
245	334	36.33

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AD-HOC REQUEST 3

Provide a report with count of unique products in each segment in descending of the count, output contains segment and count of products.

Query

```
SELECT
    segment, COUNT(DISTINCT product_code) AS count_of_products
FROM dim_product
GROUP BY segment
ORDER BY count_of_products DESC;
```

Output

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

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AD-HOC REQUEST 4

Follow up : Which segment has the most increase in product count in 2021 vs 2020 ?
The output must have segment, product count for 2021 and 2020, difference.

Query

```
WITH cte1 AS (
SELECT
    segment, COUNT(DISTINCT product_code) AS prod_count_2020
FROM dim_product JOIN fact_sales_monthly USING(product_code)
WHERE fiscal_year = 2020
GROUP BY segment),
cte2 AS (
SELECT
    segment, COUNT(DISTINCT product_code) AS prod_count_2021
FROM dim_product JOIN fact_sales_monthly USING(product_code)
WHERE fiscal_year = 2021
GROUP BY segment)

SELECT segment, prod_count_2021,prod_count_2020,
       (prod_count_2021 - prod_count_2020) AS difference
FROM  cte1 JOIN  cte2 USING(segment)
ORDER BY difference DESC;
```

Output

segment	prod_count_2021	prod_count_2020	difference
Accessories	103	69	34
Notebook	108	92	16
Peripherals	75	59	16
Desktop	22	7	15
Storage	17	12	5
Networking	9	6	3

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AD-HOC REQUEST 5

List the products with highest and lowest manufacturing cost with output having product code, product and manufacturing cost.

Query

```
SELECT product_code,product,
    manufacturing_cost
FROM dim_product JOIN fact_manufacturing_cost
    USING(product_code)
WHERE manufacturing_cost = (SELECT MIN(manufacturing_cost)
FROM fact_manufacturing_cost)
OR manufacturing_cost = (SELECT MAX(manufacturing_cost)
FROM fact_manufacturing_cost)
ORDER BY manufacturing_cost DESC
```

Output

product_code	product	manufacturing_cost
A6121110208	AQ HOME Allin1 Gen 2	263.4207
A2118150101	AQ Master wired x1 Ms	0.8654

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AD-HOC REQUEST 6

List out the top 5 customers in Indian market who received average high pre invoice discount in fiscal year 2021. The output contains customer code, customer, average discount in percentage.

Query

```
SELECT customer_code,customer,
    ROUND (AVG(pre_invoice_discount_pct)*100,2) AS avg_dsct_pct
FROM dim_customer JOIN fact_pre_invoice_deductions
    USING(customer_code)
WHERE market="India" AND fiscal_year =2021
GROUP BY customer
ORDER BY avg_dsct DESC LIMIT 5;
```

Output

customer_code	customer	avg_dsct_pct
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002004	Vijay Sales	27.53

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AD-HOC REQUEST 7

Generate a report for Atliq exclusive of gross sales for each month of 2020 and 2021. The Output must have month, fiscal year, gross sales amount.

Query

```
SELECT MONTHNAME(s.date) AS month,s.fiscal_year,
    CONCAT(ROUND(SUM(s.sold_quantity*g.gross_price)/1000000,2)," Mln") AS gross_sales_amt
FROM fact_sales_monthly s
JOIN fact_gross_price g ON s.product_code = g.product_code
JOIN dim_customer c ON s.customer_code = c.customer_code
WHERE c.customer="Atliq Exclusive"
GROUP BY MONTHNAME(s.date),s.fiscal_year
ORDER BY s.fiscal_year;
```

Output

month	fiscal_year	gross_sales_amt
September	2018	2.35 Mln
October	2018	2.46 Mln
November	2018	3.77 Mln
December	2018	2.39 Mln
January	2018	2.29 Mln
February	2018	1.99 Mln
March	2018	2.22 Mln
April	2018	1.39 Mln
May	2018	2.31 Mln
June	2018	1.98 Mln
July	2018	2.22 Mln
August	2018	1.50 Mln
September	2019	7.86 Mln
October	2019	8.50 Mln
November	2019	12.36 Mln
December	2019	8.36 Mln
January	2019	7.61 Mln
February	2019	6.22 Mln
March	2019	7.31 Mln
April	2019	4.68 Mln
May	2019	7.80 Mln
June	2019	6.58 Mln
July	2019	7.30 Mln
August	2019	4.63 Mln
September	2020	17.04 Mln
October	2020	19.48 Mln
November	2020	28.51 Mln
December	2020	18.32 Mln
January	2020	18.01 Mln
February	2020	15.17 Mln
March	2020	1.42 Mln
April	2020	1.49 Mln
May	2020	2.97 Mln
June	2020	6.45 Mln
July	2020	9.69 Mln
August	2020	10.60 Mln
September	2021	37.75 Mln
October	2021	40.44 Mln
November	2021	62.30 Mln
December	2021	39.31 Mln
January	2021	37.70 Mln
February	2021	30.85 Mln
March	2021	36.97 Mln
April	2021	22.15 Mln
May	2021	37.04 Mln
June	2021	29.89 Mln
July	2021	36.68 Mln
August	2021	21.84 Mln

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AD-HOC REQUEST 8

In which quarter of 2020 maximum goods are sold, output contains quarter and total quantity of goods sold.

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,
CONCAT(ROUND(SUM(sold_quantity)/1000000,2)," Mln") AS total_sold_qty
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY quarter;
```

Output

quarter	total_sold_qty
Q1	7.01 Mln
Q2	6.65 Mln
Q3	2.08 Mln
Q4	5.04 Mln

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AD-HOC REQUEST 9

Which channel helped in bringing more gross sales in the year 2021 and its percentage in overall sales. Output contains channel, gross sales and percentage of contribution.

Query

```
WITH cte1 AS (
SELECT channel,
    ROUND(SUM(sold_quantity*gross_price)/1000000,2) AS gross_sales_mln
FROM fact_sales_monthly s
JOIN fact_gross_price USING (product_code)
JOIN dim_customer c USING(customer_code)
WHERE s.fiscal_year =2021
GROUP BY channel
)
SELECT channel,gross_sales_mln,
    ROUND(gross_sales_mln/(SELECT SUM(gross_sales_mln) FROM cte1),1)*100 AS pct
FROM cte1;
```

Output

channel	gross_sales_mln	pct
Direct	784.14	15.00
Distributor	572.86	11.00
Retailer	3708.46	73.00

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AD-HOC REQUEST 10

Generate a report to show top 3 products in each division based on the sold quantity in the year 2021, output contains division, product code, product, total sold quantity

Query

```
WITH cte1 AS (
SELECT division, product_code, product, SUM(sold_quantity) AS total_qty
FROM dim_product
JOIN fact_sales_monthly USING(product_code)
WHERE fiscal_year = 2021
GROUP BY division, product_code, product
), cte2 AS (
SELECT *,
    RANK () OVER(PARTITION BY division ORDER BY total_qty DESC) AS rank_order
FROM cte1)
SELECT division, product_code, product, total_qty, rank_order
FROM cte2
WHERE rank_order IN (1,2,3)
ORDER BY division, rank_order;
```

Output

division	product_code	product	total_qty	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

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