Atliq Hardwares

Consumer Goods Ad-hoc Insights

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Problem statement :

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

However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions. They want to expand their data analytics team by adding several junior data analysts. Tony Sharma, their data analytics director wanted to hire someone who is good at both tech and soft skills. Hence, he decided to conduct a SQL challenge which will help him understand both the skills.

Ad-hoc-Requests

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

QUERY :

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

customer	region	market
Atliq Exclusive	APAC	India
Atliq Exclusive	APAC	Indonesia
Atliq Exclusive	APAC	Japan
Atliq Exclusive	APAC	Philiphines
Atliq Exclusive	APAC	South Korea
Atliq Exclusive	APAC	Australia
Atliq Exclusive	APAC	Newzealand
Atliq Exclusive	APAC	Bangladesh

Ad-hoc-Requests

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 .

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33

QUERY :

```
WITH cte1 AS
	(SELECT COUNT(DISTINCT product_code) AS X
	FROM fact_gross_price
	WHERE
		fiscal_year = 2020),
cte2 AS
	(SELECT COUNT(DISTINCT product_code) AS Y
	FROM fact_gross_price
	WHERE
		fiscal_year = 2021)
SELECT X AS unique_products_2020, Y AS unique_products_2021, ROUND((Y-X)*100/X,2) AS
percentage_chg
FROM cte1
JOIN
Cte2
;
```

Ad-hoc-Requests

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 .

QUERY :

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

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

Ad-hoc-Requests

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 .

QUERY :

```
WITH cte1 AS
      (SELECT segment, fiscal_year, COUNT(DM.product_code) AS product_count
      FROM dim_product DM
      JOIN
      fact_gross_price GP ON
      GP.product_code = DM.product_code
      GROUP BY segment,fiscal_year
      ORDER BY segment DESC)
SELECT 2020_pc.segment, 2020_pc.product_count AS product_count_2020, 2021_pc.product_count AS
product_count_2021, (2021_pc.product_count-2020_pc.product_count) AS difference
FROM cte1 2020_pc
JOIN
cte1 2021_pc ON
2020_pc.segment = 2021_pc.segment
AND
2020_pc.fiscal_year = 2020AND2021_pc.fiscal_year = 2021
ORDER BY difference DESC;
```

segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Peripherals	59	75	16
Notebook	92	108	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

Ad-hoc-Requests

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

QUERY :

```
WITH cte1 AS
      (SELECT DM.product_code, CONCAT(product," - ",variant) AS product, cost_year,
      manufacturing_cost, ROW_NUMBER() OVER(PARTITION BY cost_year ORDER BY manufacturing_cost
      DESC ) AS HMC, ROW_NUMBER() OVER(PARTITION BY cost_year ORDER BY manufacturing_cost ASC
      ) AS LMC
      FROM dim_product DM
      JOIN fact_manufacturing_cost MC ON
      MC.product_code = DM.product_code)
SELECT product_code, product, cost_year, manufacturing_cost
FROM cte1
WHERE
      HMC = 1
      OR
      LMC = 1 ;
```

product_code	product	cost_year	manufacturing_cost
A2118150101	AQ Master wired x1 Ms - Standard 1	2020	0.8920
A6018110103	AQ Home Allin1 - Standard 3	2020	224.8368
A2118150101	AQ Master wired x1 Ms - Standard 1	2021	0.9195
A6120110206	AQ HOME Allin1 Gen 2 - Plus 3	2021	240.5364

Ad-hoc-Requests

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 :

```
SELECT ID.customer_code, customer, pre_invoice_discount_pct
FROM fact_pre_invoice_deductions ID
JOIN
dim_customer DM ON
ID.customer_code = DM.customer_code
WHERE market = "India“
AND
fiscal_year = 202
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 ;
```

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

Ad-hoc-Requests

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 DATE_FORMAT(date, '%b') AS Month, YEAR(date) AS Year,
ROUND(SUM(sold_quantity*gross_price)/1000000,2)
AS Gross_sales_Amount_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
WHERE
        customer_code = (SELECT MAX(customer_code)
        FROM dim_customer WHERE customer = "Atliq  Exclusive")
GROUP BY date
ORDER BY Year ;
```

Month	Year	Gross_sales_Amount_mln
Sep	2019	0.78
Nov	2019	1.31
Dec	2019	1.42
Jan	2020	0.89
Mar	2020	0.07
Apr	2020	0.13
May	2020	0.14
Jul	2020	0.47
Aug	2020	0.88
Sep	2020	2.34
Nov	2020	4.04
Dec	2020	4.18
Jan	2021	2.40
Mar	2021	2.40
Apr	2021	2.34
May	2021	2.31
Jul	2021	2.28
Aug	2021	2.25

Ad-hoc-Requests

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 .

QUERY :

```
SELECT CONCAT("Q",CEILING(MONTH(DATE_ADD(date, INTERVAL 4 MONTH))/3)) AS Quater,
ROUND(SUM(sold_quantity)/1000000,2) AS total_sold_quantity
FROM fact_sales_monthly
WHERE
fiscal_year = 2020
GROUP BY Quarter
ORDER BY total_sold_quantity DESC ;
```

Quater	total_sold_quantity
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08

Ad-hoc-Requests

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 GS ON
      GS.pro    duct_code = SM.product_code
      JOIN dim_customer DM ON
      SM.customer_code = DM.customer_code
      WHERE SM.fiscal_year = 2021
      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 ;
```

Ad-hoc-Requests

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 cte1 AS
    (SELECT division, DP.product_code, CONCAT(product," - ",variant) AS products,
    CONCAT(ROUND(SUM(sold_quantity)/1000,2),"K") AS total_sold_quantity, ROW_NUMBER()
    OVER(PARTITION BY division ORDER BY SUM(sold_quantity) DESC ) AS rank_order
    FROM dim_product DP
    JOIN
    fact_sales_monthly SM ON
    SM.product_code = DP.product_code
    GROUP BY DP.product_code, division, products )
SELECT *FROM cte1WHERE rank_order < 4
```

division	product_code	products	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1 - Premium	1159.22K	1
N & S	A6818160201	AQ Pen Drive DRC - Standard	1128.10K	2
N & S	A6419160301	AQ Clx1 - Standard	729.70K	3
P & A	A2319150302	AQ Gamers Ms - Standard 2	683.63K	1
P & A	A2219150204	AQ Master wireless x1 Ms - Plus 2	682.32K	2
P & A	A2319150306	AQ Gamers Ms - Premium 2	681.53K	3
PC	A4218110202	AQ Digit - Standard Blue	26.01K	1
PC	A4319110306	AQ Velocity - Plus Red	25.98K	2
PC	A4118110107	AQ Aspiron - Premium Black	25.96K	3