AtilQ Hardwares

CODE BASICS

CONSUMER GOODS AD-HOC INSIGHTS

Domain : Consumer Goods | Function : Executive Management

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CONTENT

1. Objective
2. ERD Diagram
3. Queries, Insights
4. Suggestions

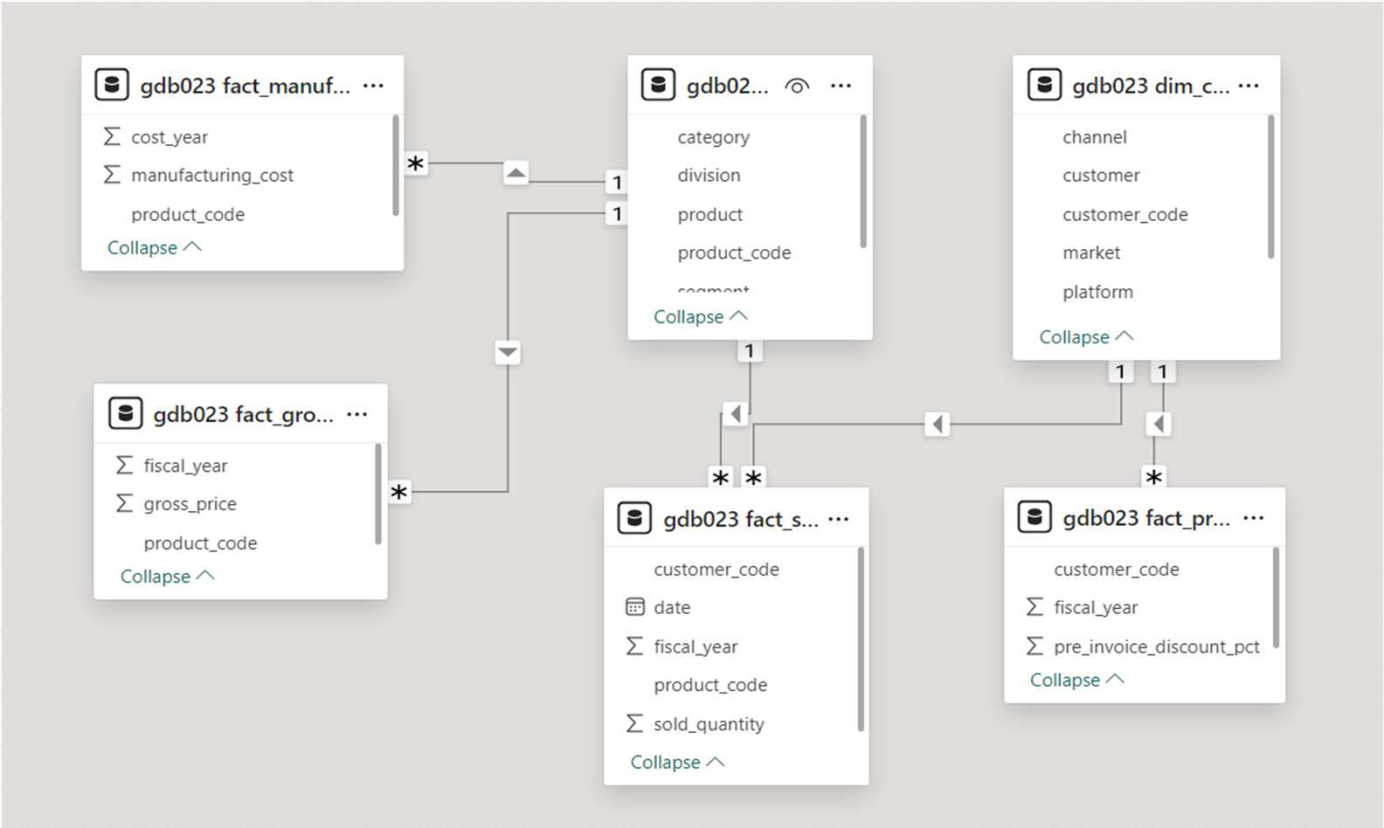
OBJECTIVES

AtilQ Hardwares 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.

Entity Relationship Diagram (ERD)



REQUESTS

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

```
select distinct(market)
from dim_customer
where customer = "Atliq Exclusive" and region = "APAC";
```

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

Insights

The customer AtilQ Exclusive operates its business in APAC region across 8 different markets.

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

```
with cte1 as (
  select count(distinct(product_code))
  from fact_sales_monthly
  where fiscal_year = 2020
),
cte2 as (
    select count(distinct(product_code))
    from fact_sales_monthly
    where fiscal_year = 2021
)
select
  (select * from cte1) as unique_products_2020,
  (select * from cte2) as unique_products_2021,
  round(((select * from cte2) - (select * from cte1)) * 100 / (select * from cte1),2) as percentage_change;
```

	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.33

Insights

In fiscal year 2020, AtliQ Hardware's had 245 unique products which are increased to 334 in 2021, reflecting growth of 36.33%

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

```
select
    segment,
    count(product) 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

Insights

At AtliQ Hardware, they offer a wide range of notebooks, accessories and peripherals.

But they should consider expanding their offerings in desktops, networking and storage categories

Along with focusing on increasing the sales of portable items.

REQUESTS

4. 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

```
with cte as (
select
   p.segment,
   count(distinct case when s.fiscal_year = 2020 then s.product_code end) as product_count_2020,
   count(distinct case when s.fiscal_year = 2021 then s.product_code end) as product_count_2021
from fact_sales_monthly s
join dim_product p
on s.product_code = p.product_code
group by p.segment
)

select
      *,
     (product_count_2021 - product_count_2020) as difference
from cte;
```

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

Insights

AtliQ experienced a net worthy 34 product increase in its Accessories segment from 2020 to 2021, reflecting substantial expansion within just one year.

REQUEST

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

```
select
   m.product_code,
   p.product,
   m.manufacturing_cost
from fact_manufacturing_cost m
join dim_product p
on
   m.product_code = p.product_code
where manufacturing_cost in
   ((select max(manufacturing_cost) from fact_manufacturing_cost),
   (select min(manufacturing_cost) from fact_manufacturing_cost))
order by manufacturing_cost desc;
```

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

Insight

At AtliQ Hardwares, AQ Home Allin 1 Gen2 has highest manufacturing cost with 240.5364 where as AQ Master wired x1 Ms has lowest manufacturing cost with 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. The final output contains these fields, customer_code customer average_discount_percentage.

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

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.31
90002006	Viveks	0.30
90002002	Croma	0.30
90002003	Ezone	0.30
90002016	Amazon	0.29

Insight

AtliQ Hardware offers varying discount percentage to its customers, with Flipkart having the highest average discount percentage of 30.83%, closely followed by Vivek's, Croma, Ezone, Amazon.

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. The final report contains these columns: Month, Year, Gross sales Amount

```
select
   month(s.date) as Month,
   s.fiscal_year as Year,
   round(sum(s.sold_quantity*g.gross_price),2) as Gross_sales_Amount
from fact_sales_monthly s
join fact_gross_price g
on
   g.fiscal_year = s.fiscal_year
join dim_customer c
on
   c.customer_code = s.customer_code
where c.customer = "Atliq Exclusive"
group by month,s.fiscal_year;
```

Month	Year	Gross_sales_Amount
9	2020	8428840558.89
10	2020	9393041463.91
11	2020	13976906747.82
1	2020	8845455858.91
2	2020	7420187969.88
6	2020	3258375209.15
7	2020	4529874611.94
5	2020	1523948719.68
3	2020	801227295.38
12	2020	8932403734.35
4	2020	803612042.38
8	2020	5132881737.10
5	2021	26672495405.81
6	2021	21032493853.57
7	2021	26494687840.36
9	2021	26661897129.65

Insight

AtliQ Exclusive saw lowest sales during March FY 2020 and got highest sales during November FY 2021.

REQUEST

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

```
with cte as (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'
when month(date) in (6,7,8) then 'Q4 '
end as quarter ,
sum(sold_quantity) as total_sold_quantity from fact_sales_monthly
where fiscal_year=2020
group by quarter)

select * from cte
order by total_sold_quantity desc;
```

	quarter	total_sold_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

Insight

- **Q1 got the maximum total_sold_quantity which is 7M.**
- **The emergence led to a significant decline in sales, dropping from 6.6 million units in Q2 to 2 million units in Q3.**
- **However, the increasing demand for remote work and online activities drove sales to rebound, reaching 5M units n Q4.**

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

```
with cte as (
SELECT
   c.channel,
   round(sum((s.sold_quantity*g.gross_price)/100000),2) as gross_sales_mln
FROM fact_sales_monthly s
join dim_customer c on s.customer_code=c.customer_code
join fact_gross_price g on g.product_code=s.product_code
where s.fiscal_year = 2021
group by c.channel)

select
   channel ,
   gross_sales_mln,
   round(gross_sales_mln/(select sum(gross_sales_mln) from cte)*100,2) as percentage
from cte
order by gross_sales_mln desc;
```

channel	gross_sales_mln	percentage
Retailer	19241.70	73.22
Direct	4066.87	15.47
Distributor	2971.76	11.31

Insight

In 2021, sales from retailers accounted for a large portion, approximately 73% of total sales. Meanwhile, sales

Through direct channels and distributors were about similar.

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

```
with cte as (
SELECT p.division,p.product_code,p.product,sum(s.sold_quantity) as total_sold_quantity,
rank() over(partition by division order by sum(s.sold_quantity) desc) as rank_order
FROM gdb023.fact_sales_monthly s
join dim_product p on p.product_code=s.product_code
where fiscal_year=2021
group by p.division,p.product_code,p.product)
select * from cte
where rank_order in (1,2,3)
order by division,rank_order;
```

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

Insight

In 2021, the top 3 selling products were

- **Pen Drives**
- **Mouses**
- **Personal Laptops**

AtilQ Hardwares

CODE BASICS

Thank You !

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