Consumer Goods

Ad-hoc Insights

Business Requirement

Domain: Consumer Goods

Function: Executive Management

About the Project: Atliq Hardware 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.

Tools Used:

SQL – To query data

Powerpoint – For presentation

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

```
SELECT distinct market FROM gdb023.dim_customer
where customer = 'AtliQ Exclusive' and region ='APAC'
```

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

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 cte1 as(
SELECT count(distinct product_code) as unique_product_2020
FROM fact_sales_monthly
where fiscal_year=2020),

cte2 as(
SELECT count(distinct product_code) as unique_product_2021
FROM fact_sales_monthly
where 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
```

unique_product_2020	unique_product_2021	percentage_chg
245	334	36.33

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 4.

```sql
SELECT
distinct segment,
count(distinct 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

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 cte1 as(
SELECT count(distinct p.product_code) as product_count_2020,
segment
FROM fact_sales_monthly fsm
join dim_product p
on fsm.product_code = p.product_code
where fiscal_year=2020
group by segment),

cte2 as(
SELECT count(distinct p.product_code) as product_count_2021,
segment
FROM fact_sales_monthly fsm
join dim_product p
on fsm.product_code = p.product_code
where fiscal_year=2021
group by segment)

select
cte1.segment,
cte1.product_count_2020,
cte2.product_count_2021,
(cte2.product_count_2021 - cte1.product_count_2020)  as diff
FROM cte1
JOIN cte2 ON cte1.segment = cte2.segment
ORDER BY diff DESC;
```

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

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
with cte1 as(
select distinct p.product_code,
p.product,
manufacturing_cost
from dim_product p
join fact_manufacturing_cost fmc
on p.product_code = fmc.product_code
order by fmc.manufacturing_cost desc)

SELECT
    product_code,
    product,
    manufacturing_cost
FROM cte1
WHERE manufacturing_cost = (SELECT MIN(manufacturing_cost) FROM cte1)
   OR manufacturing_cost = (SELECT MAX(manufacturing_cost) FROM cte1);
```

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

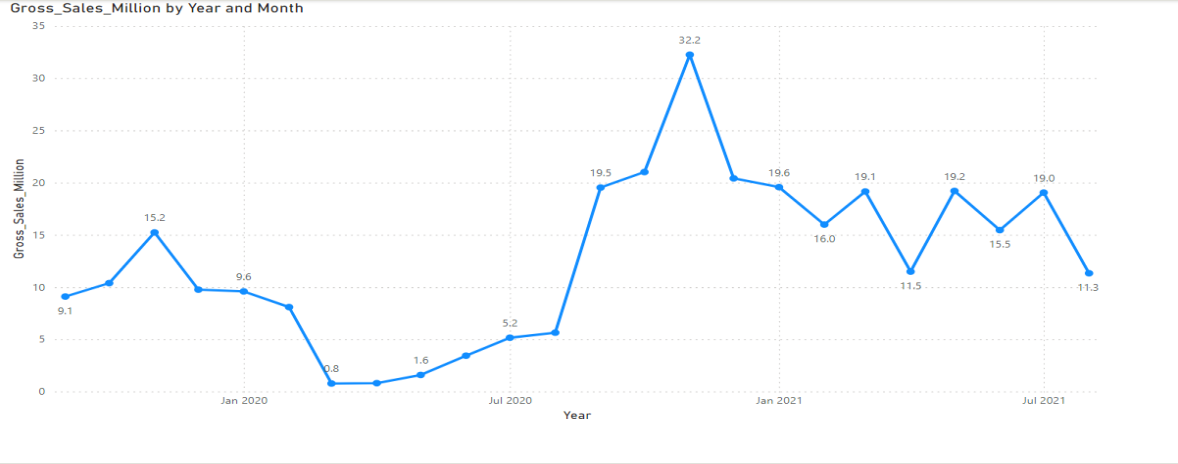
Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields, customer_code customer average_discount_percentage

```sql
select c.customer_code,
avg(pre_invoice_discount_pct) as average_discount_percentage
from
fact_pre_invoice_deductions pid
join dim_customer c
on pid.customer_code = c.customer_code
where c.market = 'India' and fiscal_year = 2021
group by customer_code
order by average_discount_percentage desc limit 5
```

customer_code	average_discount_percentage
90002009	0.30830000
90002006	0.30380000
90002003	0.30280000
90002002	0.30250000
90002016	0.29330000

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
DATE_FORMAT(date, '%b') AS month,
year(date) as year,
round(sum(fsm.sold_quantity*fgp.gross_price)/1000000,2) as gross_Sales_ml
from fact_sales_monthly fsm
join fact_gross_price fgp on fsm.product_code = fgp.product_code
join dim_customer c on fsm.customer_code = c.customer_code
where customer = 'AtliQ Exclusive'
group by DATE_FORMAT(date, '%b'),year(date)
order by year(date)
```



month	year	gross_Sales_ml
Sep	2019	9.09
Oct	2019	10.38
Nov	2019	15.23
Dec	2019	9.76
Jan	2020	9.58
Feb	2020	8.08
Mar	2020	0.77
Apr	2020	0.80
May	2020	1.59
Jun	2020	3.43
Jul	2020	5.15
Aug	2020	5.64
Sep	2020	19.53
Oct	2020	21.02
Nov	2020	32.25
Dec	2020	20.41
Jan	2021	19.57
Feb	2021	15.99
Mar	2021	19.15
Apr	2021	11.48
May	2021	19.20
Jun	2021	15.46
Jul	2021	19.04
Aug	2021	11.32

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 '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 qtr,
sum(sold_quantity) as total_sold
FROM fact_sales_monthly fsm
join dim_customer c on c.customer_code = fsm.customer_code
where fiscal_year=2020
group by
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
order by total_sold DESC
```

qtr	total_sold
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

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 cte1 as(
select
c.channel,
round(sum(fsm.sold_quantity*fgp.gross_price)/1000000,2) as gross_Sales_ml
from fact_sales_monthly fsm
join fact_gross_price fgp on fsm.product_code = fgp.product_code
join dim_customer c on fsm.customer_code = c.customer_code
where fsm.fiscal_year = 2021
group by c.channel
order by round(sum(fsm.sold_quantity*fgp.gross_price)/1000000,2) DESC
)

SELECT
    cte1.channel,
    cte1.gross_Sales_ml,
    ROUND(cte1.gross_Sales_ml / SUM(cte1.gross_Sales_ml)OVER() * 100, 2) AS percentage_contribution
FROM
    cte1;
```

channel	gross_Sales_ml	percentage_contribution
Retailer	1924.17	73.22
Direct	406.69	15.48
Distributor	297.18	11.31

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with cte1 as(
select
c.channel,
round(sum(fsm.sold_quantity*fgp.gross_price)/1000000,2) as gross_Sales_ml
from fact_sales_monthly fsm
join fact_gross_price fgp on fsm.product_code = fgp.product_code
join dim_customer c on fsm.customer_code = c.customer_code
where fsm.fiscal_year = 2021
group by c.channel
order by round(sum(fsm.sold_quantity*fgp.gross_price)/1000000,2) DESC
)

SELECT
    cte1.channel,
    cte1.gross_Sales_ml,
    ROUND(cte1.gross_Sales_ml / SUM(cte1.gross_Sales_ml)OVER() * 100, 2) AS percentage_contribution
FROM
    cte1;
```

channel	gross_Sales_ml	percentage_contribution
Retailer	1924.17	73.22
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Distributor	297.18	11.31

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

```sql
with cte1 as(
SELECT
p.division,
p.product_code,
p.product,
sum(fsm.sold_quantity) as total_sold_quantity
FROM fact_sales_monthly fsm
join dim_product p on fsm.product_code = p.product_code
where fsm.fiscal_year=2021
group by
p.product,
p.product_code,
p.division),

cte2 as(
select
cte1.division,
cte1.product_code,
cte1.product,
cte1.total_sold_quantity,
dense_rank() over(partition by division order by total_sold_quantity desc) as rank_order
from cte1)
```

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