Consumer Goods AD-HOC INSIGHTS

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ATLIQ HARDWARES

INTRODUCTION:-

Atliq hardware's is one of the leading computer hardware products in India and well expanded in other countries too

Goals And Solutions

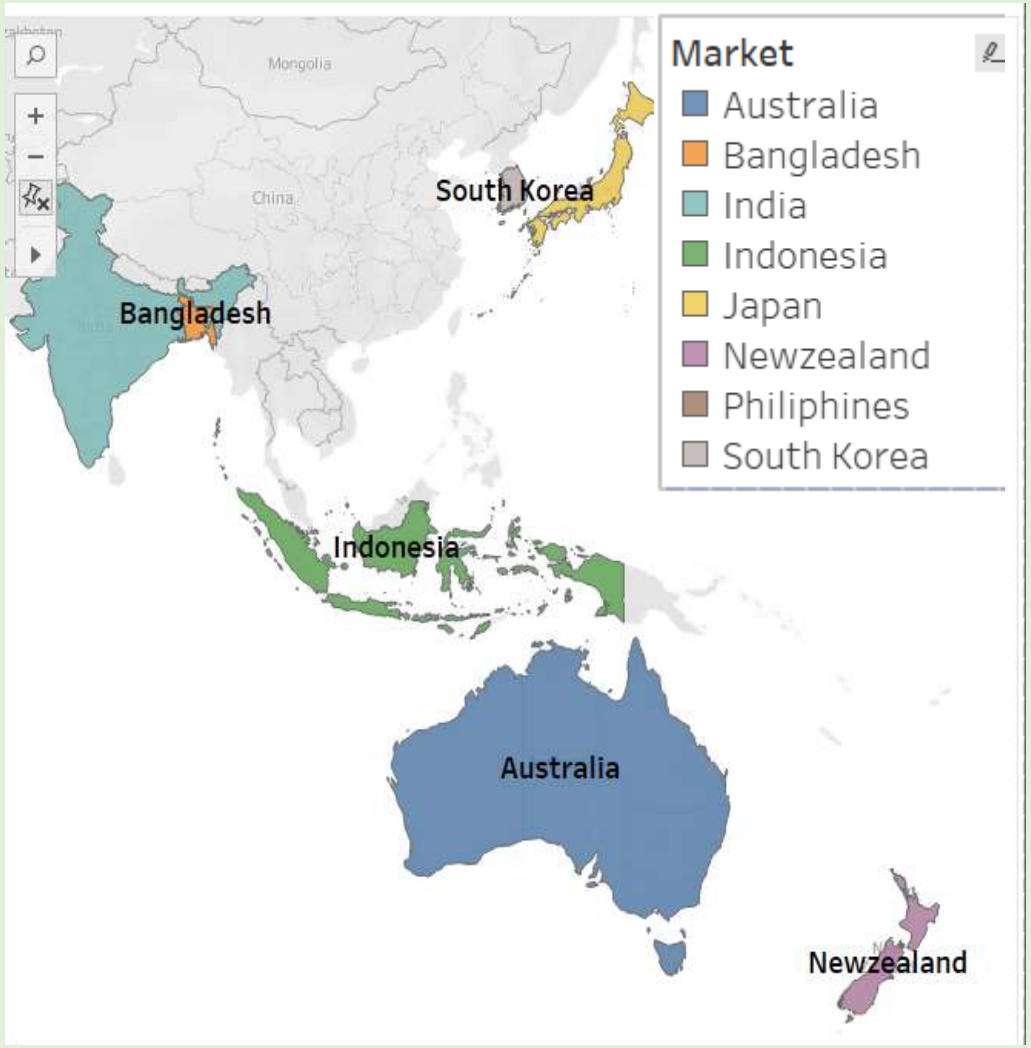
- The Management of atliq hardware informed the data analytics team to generate some insights regarding customer behaviour to make some data- Driven Decisions.
- Atliq Hardware wants to do ad-hoc analysis therefore analytical team assigned us a task to generate a report by running 10 ad-hoc request
- We ran 10 ad-hoc request using SQL to present meaningful insights to our stakeholders which will help the company to make data driven decisions for their business growth.

Request 1:-

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

Input Query:-

```
use gdb023;
select distinct(Market) from dim_customer where
 customer= "Atliq Exclusive"
 and region = "APAC";
```



Insights:-

- Customer Atiliq Exclusive is operating's its business in 8 Major Countries they are Australia, Bangladesh, India, Indonesia, Japan, New Zealand, Philippines, South Korea.

Request 2:-

What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields,

1) unique_products_2020,

2) unique_products_2021,

3) percentage_chg

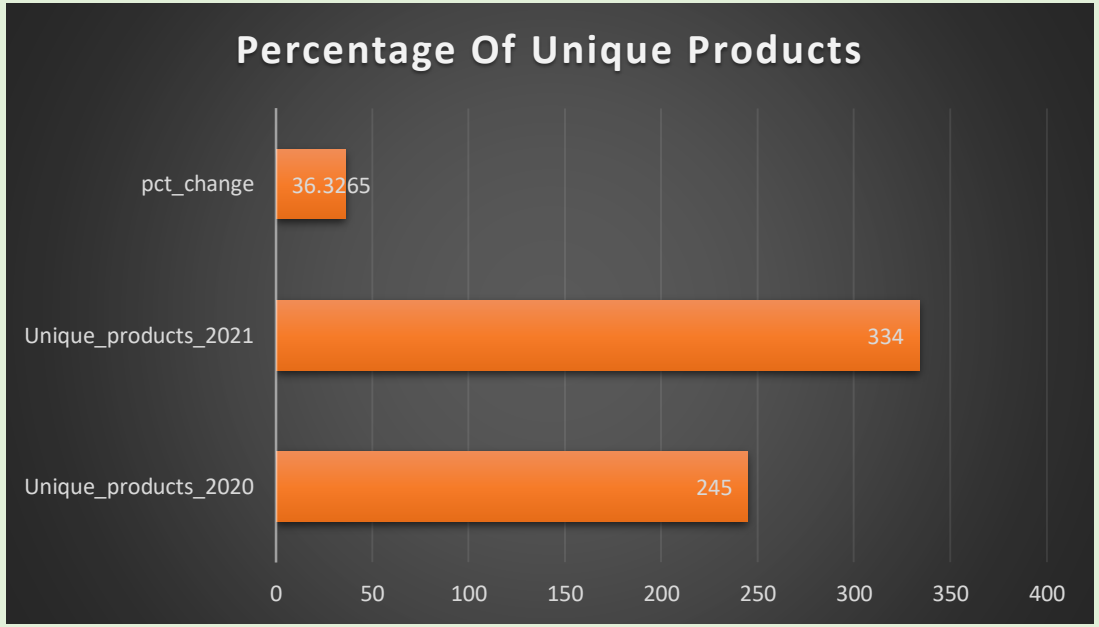
Input Query:-

```
with unique_2020 as
(select count(distinct(product_code))
as Unique_products_2020
from fact_sales_monthly
where fiscal_year = 2020),
 unique_2021 as
(select count(distinct(product_code))
as Unique_products_2021
 from fact_sales_monthly
where fiscal_year = 2021)
select unique_2020.Unique_products_2020,
unique_2021.Unique_products_2021,
(unique_2021.Unique_products_2021 -
unique_2020.Unique_products_2020)*100/Unique_products_2020
as pct_change
from unique_2020 cross join
unique_2021;
```

Request 2:-

OutPut Query:-

Unique_products_2020	Unique_products_2021	pct_change
245	334	36.3265



Insights:-

- By the Year 2021 the business has 36.3% of increase in Unique Products.

Request 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,

1) segment

2) product_count

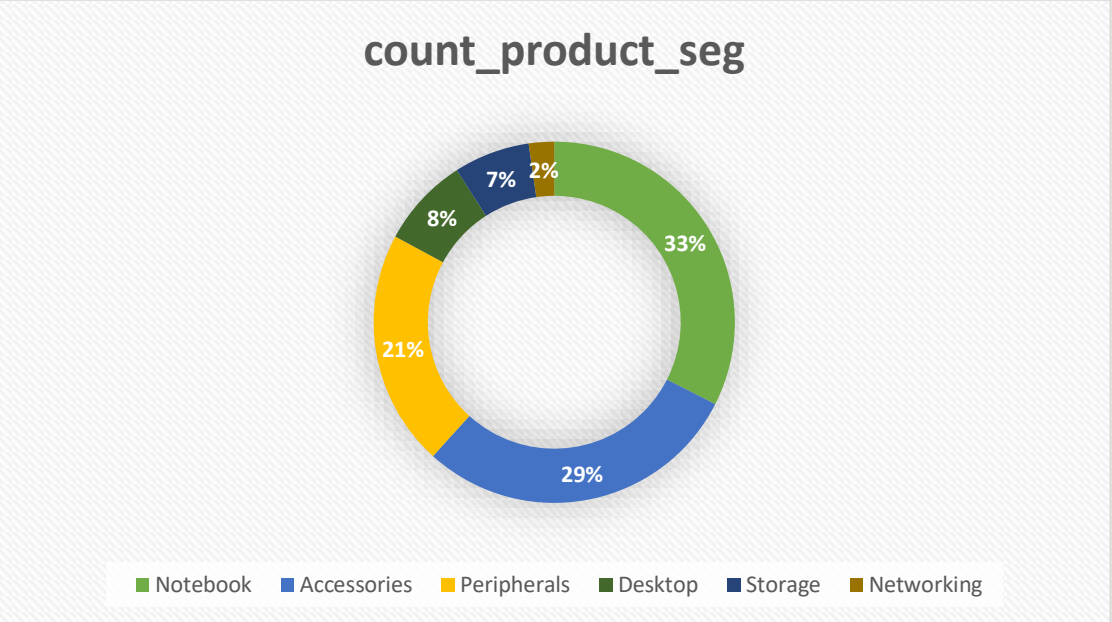
Input Query:-

```
with unique_2020 as
(select count(distinct(product_code))
as Unique_products_2020
from fact_sales_monthly
where fiscal_year = 2020),
 unique_2021 as
(select count(distinct(product_code))
as Unique_products_2021
 from fact_sales_monthly
where fiscal_year = 2021)
select unique_2020.Unique_products_2020,
unique_2021.Unique_products_2021,
(unique_2021.Unique_products_2021 -
unique_2020.Unique_products_2020)*100/Unique_products_2020
as pct_change
from unique_2020 cross join
unique_2021;
```

Request 3:-

OutPut Query:-

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



Insights:-

- Based on the output the Atliq Business has 6 Unique segments like Notebook, Accessories, Peripherals, Desktop, Storage, And Networking
- Notebook Segment Has maximum number of products count of 129 and Networking segment has minimum number of products count of 9
- Notebook segment has 33% of unique products followed by Accessories with 29%

Request 4:-

Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields,

1) segment product_count_2020

2) product_count_2021

3) difference

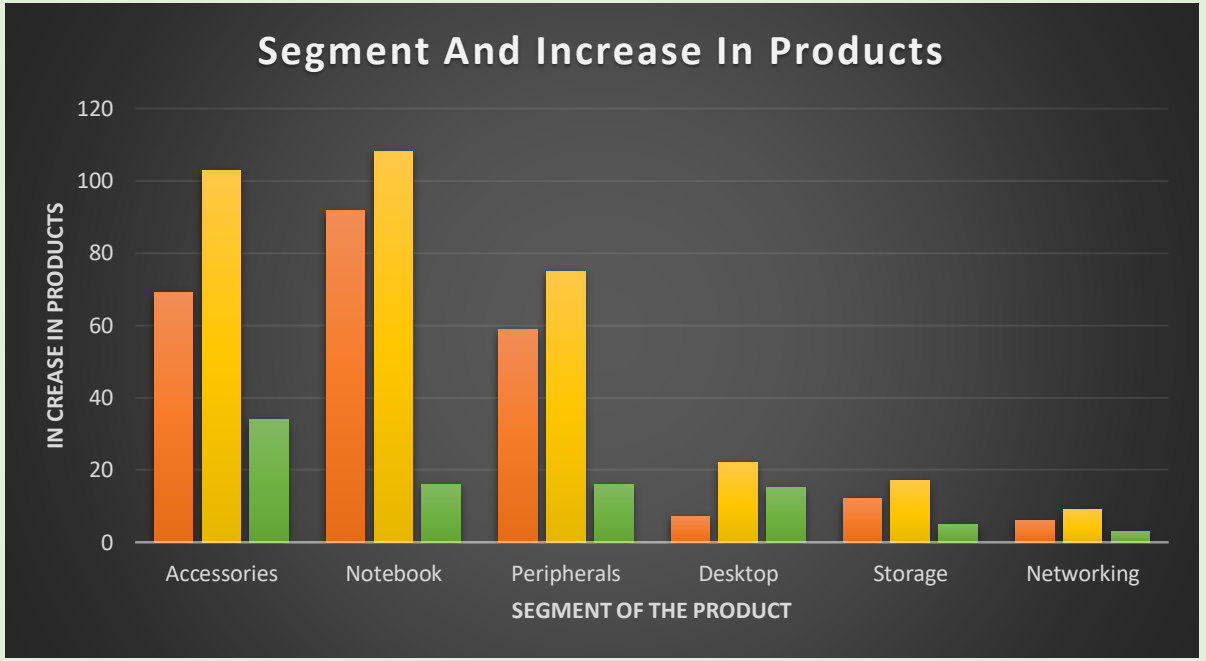
Input Query:-

```
with segment_2020 as(
select f.product_code, count(distinct(f.product_code)) as product_count_2020,
d.segment from fact_sales_monthly f
join dim_product d
on f.product_code = d.product_code
where fiscal_year = 2020 group by d.segment  ),
segment_2021 as
(select f.product_code, count(distinct(f.product_code)) as product_count_2021,
 d.segment from fact_sales_monthly f
 join dim_product d
on f.product_code = d.product_code where fiscal_year = 2021 group by d.segment )
select  segment_2020.segment, segment_2020.product_count_2020,
segment_2021.product_count_2021,
  (product_count_2021 - product_count_2020) as difference
 from segment_2020
join segment_2021 on segment_2020.segment = segment_2021.segment
order by difference desc;
```

Request 4:-

OutPut Query:-

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



Insights:-

- Based on the output the Atliq Business has 6 Unique segments like Notebook, Accessories, Peripherals, Desktop, Storage, And Networking
- The Segments Accessories has seen a tremendous increase in unique products with count of 34 from 2020 to 2021 where as Networking has only 3 new unique products in year 2021
- Notebook and Peripherals has equal number of growth in unique products by the count of 16 new products in each category.

Request 5:-

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

1) product_code

2) product

3) manufacturing_cost

Input Query:-

```
select m.product_code, m.manufacturing_cost,
d.product from fact_manufacturing_cost m
join dim_product d on
m.product_code = d.product_code
where m.manufacturing_cost =
(select max(manufacturing_cost)
 from
 fact_manufacturing_cost ) or
m.manufacturing_cost =
(select min(manufacturing_cost)
 from fact_manufacturing_cost);
```

Request 5:-

OutPut Query:-

Product_code	Lowesr/Highest_Manifacturing-Cost	Product
A2118150101	0.892	AQ Master wired x1 Ms
A6120110206	240.5364	AQ HOME Allin1 Gen 2

Insights:-

- The Product A6120110206 is having highest manufacturing cost of 240.53$ for the Atliq Software's and Name of the product is AQ HOME Allin1 Gen 2
- The Product A2118150101 is having lowest manufacturing cost of 0.892$ for the Atliq Software's and Name of the product is AQ Master wired x1 Ms

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,

1)customer_code

2) customer

3) average_discount_percentage

Input Query:-

```
SELECT f.customer_code, f.pre_invoice_discount_pct
 as avg_discount_price,  d.customer
 from fact_pre_invoice_deductions f
join dim_customer d on f.customer_code =
 d.customer_code
where f.pre_invoice_discount_pct >
(select avg(pre_invoice_discount_pct)
 from fact_pre_invoice_deductions)
 and f.fiscal_year = (select fiscal_year from
 fact_pre_invoice_deductions
 where fiscal_year = 2021 limit 1) and d.market =
 (select market from dim_customer
 where market = "india" limit 1)
 order by f.pre_invoice_discount_pct desc limit 5 ;
```

Request 6:-

OutPut Query:-

customer_code	customer	pct_avg_discount_price
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

Insights:-

- Based on the out put the top 5 customers namely Flipkart, Viveks, Ezone, croma, Amazon is are getting High discount then the avg_discount of other customers for the year 2021.
- Flipkart is getting discount of 30.83% from Atliq Software's followed by Viveks is getting 30.38% of discount.

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:

1) Month

2) Year

3) Gross sales Amount

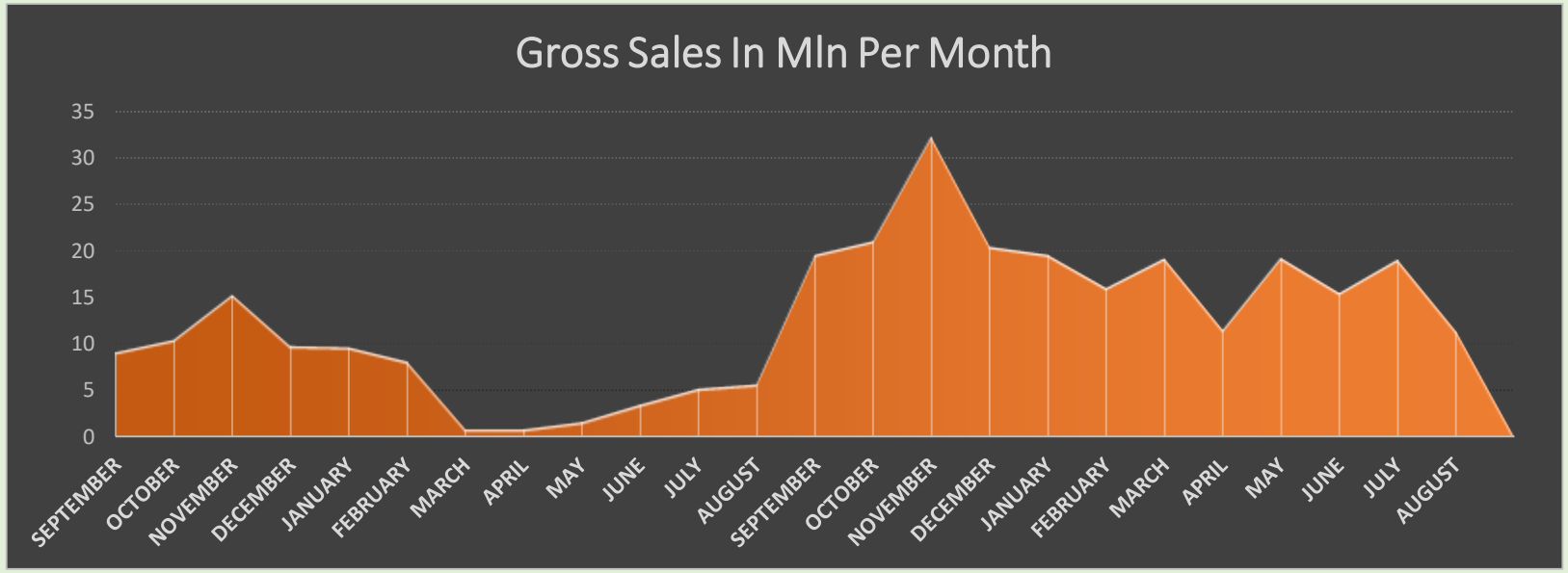
Input Query:-

```
select monthname(m.date) as month_ ,
year(m.date) as year_,
sum( p.gross_price*m.sold_quantity)
as gross_sales
from fact_gross_price p
inner join fact_sales_monthly m
on m.product_code = p.product_code
join dim_customer d
on d.customer_code = m.customer_code
where d.customer = "Atliq Exclusive"
group by month_ , year_  order by year_ ;
```

Request 7:-

OutPut Query:-

month_	year_	Sales_Mln
September	2019	9.09
October	2019	10.38
November	2019	15.23
December	2019	9.76
January	2020	9.58
February	2020	8.08
March	2020	0.77
April	2020	0.8
May	2020	1.59
June	2020	3.43
July	2020	5.15
August	2020	5.64
September	2020	19.53
October	2020	21.02
November	2020	32.25
December	2020	20.41
January	2021	19.57
February	2021	15.99
March	2021	19.15
April	2021	11.48
May	2021	19.2
June	2021	15.46
July	2021	19.04
August	2021	11.32



Insights:-

- In the fiscal Year 2020, November Atliq has hits the highest sales ever over $32.2Mln and 2020 March has the worst sales with only $0.77Mln
- From the Apr 2020 to till Dec 2020 Atliq had increase in sales every month
- For the financial year 2020 March, Apr, May are the low performing months for 2021 F-Year Feb, Apr, Aug are the low performing Months.

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,

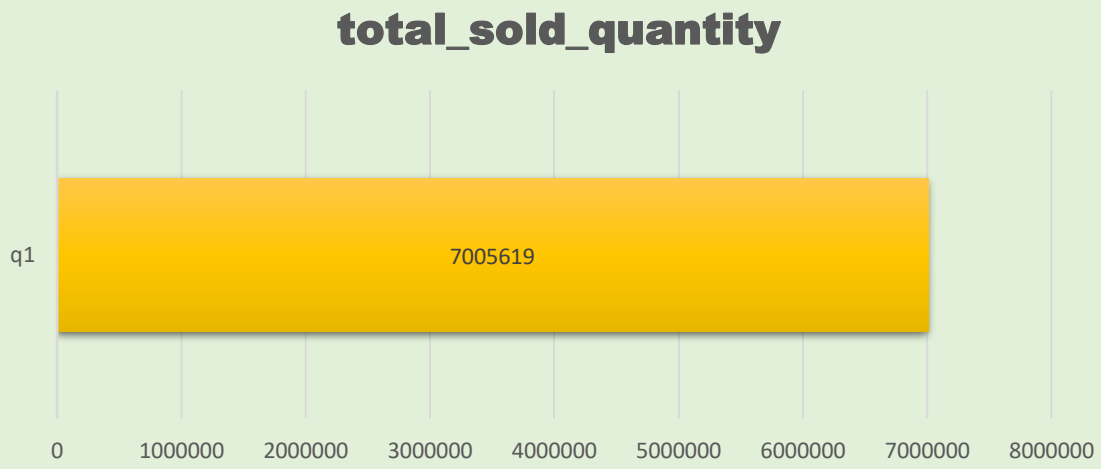
1) Quarter
2) total_sold_quantity

Input 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"
when month(date) in (6,7,8) then "q4"
end as quarter_name, sum(sold_quantity)
 as total_sold_quantity
from fact_sales_monthly where
fiscal_year = 2020
 group by quarter_name order by
total_sold_quantity desc limit 1;
```

OutPut Query:-

quarter_name	total_sold_quantity
q1	7005619



Insights:-

- Based on the output For the fiscal 2020 quarter 1 has maximum number quantity sold approximately 700k

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,

1) Channel

2) gross_sales_mln

3) percentage

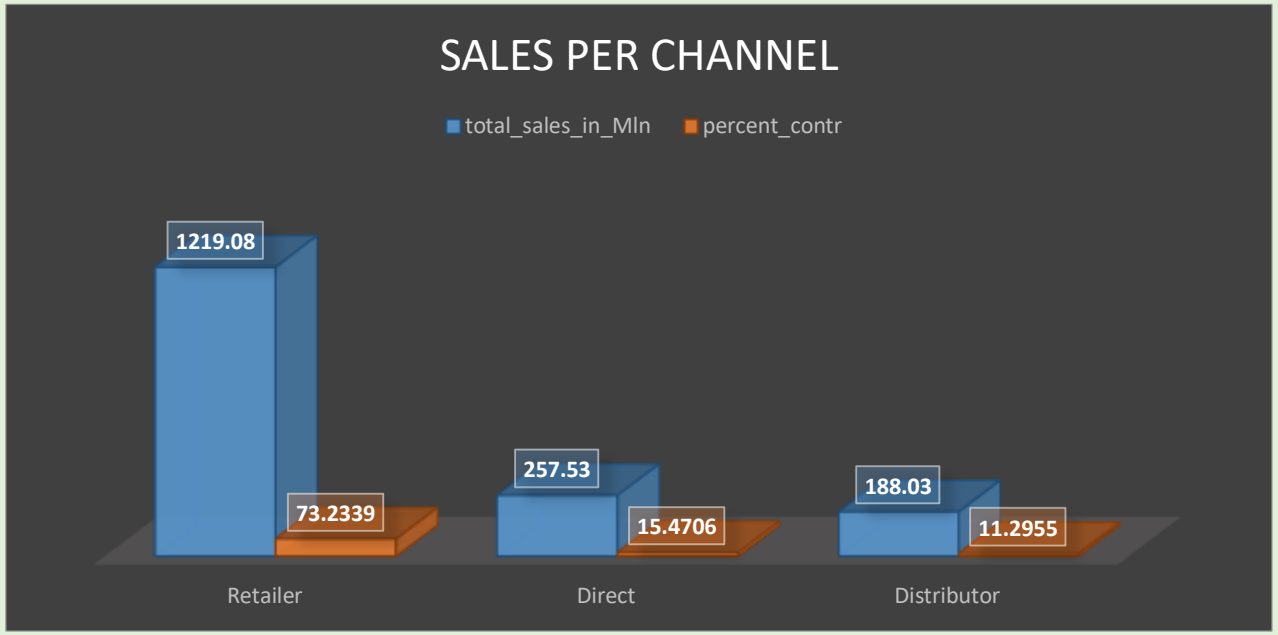
Input Query:-

```
with cte1 as (
select m.customer_code, d.channel,
sum(gross_price*sold_quantity)/1000000
as total_sales from fact_gross_price p
join fact_sales_monthly m
on m.product_code=p.product_code and
m.fiscal_year=p.fiscal_year
join dim_customer d on d.customer_code
 = m.customer_code
where p.fiscal_year=2021 group by d.channel)
select * , round((total_sales*100))/
sum(total_sales) over () as percent_contr
from cte1 group by channel
 order by percent_contr desc ;
```

Request 9:-

OutPut Query:-

channel	total_sales_in_Mln	percent_contr
Retailer	1219.08	73.2339
Direct	257.53	15.4706
Distributor	188.03	11.2955



Insights:-

- Retailer has the highest number of sales which is 1219.09 Million in fiscal year 2021 and its contributing 73% of the sales.
- Channel distributer is generated 188.03 million sales which is 11.29% of contribution on overall sales.

Adhoch 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,

1) division
2) product_code
3) Product
4) total_sold_quantity
5) rank_order

Input Query:-

```
with cte1 as (
select m.product_code, sum(m.sold_quantity)
 as total_sold_quantity, d.division
from fact_sales_monthly m join dim_product d
 on d.product_code=m.product_code
 join fact_gross_price p
 on p.product_code = d.product_code
 where p.fiscal_year = 2021  group by
 d.product_code, d.product), cte2 as (
 select * , dense_rank() over
 (partition by division order by total_sold_quantity)
 as rank_order
 from cte1 )
 select cte1.*, cte2.rank_order from cte1 join
 cte2 on cte1.product_code = cte2.product_code
 where cte2.rank_order < 4;
```

Request 10:-

OutPut Query:-

product_code	division	total_sold_quantity	rank_order
A6720160103	N & S	701K	1
A6818160202	N & S	688K	2
A6819160203	N & S	675K	3
A2319150302	P & A	661K	1
A2520150501	P & A	648K	2
A2520150504	P & A	635K	3
A4218110202	PC	621K	1
A4319110306	PC	608K	2
A4218110208	PC	594K	3

Insights:-

- Product Code A6720160103 count of 701k sold quantity for the division N&S and hold Rank 1 for the fiscal year 2021
- Product Code A2319150302 count of 661k sold quantity for the division N&S and hold Rank 1 the fiscal year 2021
- Product Code A4218110202 count of 621k sold quantity for the division N&S and hold Rank 1 the fiscal year 2021