CONSUMER GOODS ANALYSIS AD-HOC REQUESTS

KEY INSIGHTS

1. **Growth in Product Variet**y- The data shows a clear rise in the number of unique products, increasing from 245 in fiscal year 2020 to 334 in fiscal year 2021.
2. **Dominant Product Segment-** The "Notebook" category leads the pack, containing the largest number of distinct products with a total of 129 distinct products.
3. **"Flipkart" Tops Retailer Discounts-** Among all retailers, Flipkart records the highest average pre-invoice discount rate at 30.83%.
4. **Notable Recovery in Early-Year Sales-** figures for March and April, which were relatively weak in fiscal year 2020, showed significant improvement during fiscal year 2021.
5. **Expansion in the Accessories Category-** The "Accessories" segment experienced robust growth, adding 34 more unique products in 2021 compared to the previous year.
6. **Retailer Channel Drives the Majority of Revenue-** The "Retailer" sales channel remains the biggest contributor, responsible for 73.22% of total gross sales and acting as the main revenue engine.

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"
```

OUTPUT-

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

2. What Is The Percentage Of Unique Product Increase In 2021 Vs 2020?

```
WITH X AS
(SELECT COUNT(DISTINCT product_code) AS unique_products_2020
FROM fact_sales_monthly WHERE fiscal_year= 2020),
Y AS
(SELECT COUNT(DISTINCT product_code) AS unique_products_2021
FROM fact_sales_monthly WHERE fiscal_year= 2021)
SELECT
X.unique_products_2020,
Y.unique_products_2021,
round(((Y.unique_products_2021-X.unique_products_2020)/X.unique_products_2020)*100,2)
AS Percentage_chg FROM X,Y;
```

OUTPUT-

unique_products_2020	unique_products_2021	Percentage_chg
245	334	36.33

3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

```
select segment,
count(distinct (product_code)) as product_count
from dim_product
group by segment
order by product_count desc;
```

OUTPUT-

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

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_2021_difference**

```
with x as ( select p.segment,
count(distinct s.product_code) as product_count_2020 from dim_product p
join fact_sales_monthly s on p.product_code = s.product_code
where s.fiscal_year=2020
group by p.segment) ,
y as ( select p.segment,
count(distinct s.product_code) as product_count_2021 from dim_product p
join fact_sales_monthly s on p.product_code = s.product_code
where s.fiscal_year=2021 group by p.segment)
select x.segment , product_count_2020 ,
product_count_2021,abs(x.product_count_2020-y.product_count_2021) as difference
from x join y on x.segment=y.segment order by difference desc
```

OUTPUT-

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

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
using (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)
order by m.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

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 i.customer_code, c.customer,
round(avg(i.pre_invoice_discount_pct)*100,2) as avg_dis_pct
from fact_pre_invoice_deductions i
join dim_customer c using (customer_code)
where fiscal_year =2021 and c.market="india"
group by i.customer_code, c.customer
order by avg_dis_pct desc limit 5;
```

OUTPUT-

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

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 monthname(s.date)as month,s.fiscal_year,
round(sum(g.gross_price*sold_quantity),2)
as gross_sales_amt from fact_sales_monthly s
join dim_customer c using(customer_code)
join fact_gross_price g using(product_code)
where customer="atliq exclusive"
group by monthname(s.date),s.fiscal_year
order by fiscal_year;
```

OUTPUT-

month	fiscal_year	gross_sales_amt
September	2018	2347703.88
October	2018	2462780.55
November	2018	3766114.43
December	2018	2390015.56
January	2018	2285937.67
February	2018	1985466.36
March	2018	2219880.14
April	2018	1392024.51
May	2018	2310946.52
June	2018	1976109.61
July	2018	2224693.76
August	2018	1498728.56
September	2019	7860039.25

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

```sql
SELECT
    CASE
        WHEN MONTH(date) IN (9,10,11) THEN 'Q1'
        WHEN MONTH(date) IN (12,01,02) THEN 'Q2'
        WHEN MONTH(date) IN (03,04,05) THEN 'Q3'
        ELSE 'Q4'
    END AS Quarters,
    SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC;
```

OUTPUT-

Quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

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 x as(select c.channel,
round(sum(g.gross_price*s.sold_quantity)/100000,2)as gross_sales_mln
from fact_sales_monthly s
join dim_customer c using(customer_code)
join fact_gross_price g using(product_code)
group by c.channel)

select  channel, gross_sales_mln,
round((gross_sales_mln/(select sum(gross_sales_mln)from x))*100,2)
as pct from x
order by gross_sales_mln desc
```

OUTPUT-

channel	gross_sales_mln	pct
Retailer	124419.42	72.70
Direct	26742.67	15.63
Distributor	19986.24	11.68

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.

```sql
WITH x AS(
SELECT P.division, S.product_code, P.product,
SUM(S.sold_quantity) AS Total_sold_quantity,
RANK() OVER(PARTITION BY P.division
ORDER BY SUM(S.sold_quantity) DESC) AS 'Rank_Order'
FROM dim_product P
JOIN fact_sales_monthly S
ON P.product_code = S.product_code
WHERE S.fiscal_year = 2021
GROUP BY P.division, S.product_code, P.product)

SELECT division, product_code, product, total_sold_quantity, Rank_order
FROM X
WHERE Rank_Order IN (1,2,3)
ORDER BY division, Rank_Order;
```

OUTPUT-

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