



Retail Store Analysis

Data Analysis Case Study

This analysis compare & provide insights about transactions & sales happened in business for last 3 years by region & demographic.

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Understanding Data

There is one table present in the database, namely `clear_weekly_sales` which includes attributes such as:

- **Week_date:** date of sale registered
- **Week_num:** week number of the registered sale record
- **Month:** month of the registered sale record
- **Year:** year of the registered sale record
- **Region:** Region of the store
- **Platform:** Platform used by customer
- **Segment:** short record for age-band & demographic of customer where 'C' is for Couples & 'F' is for Families
- **Age-band:** category of user based on user's age
- **Demographic:** record if couples visited or family
- **Customer_type:** Type of customer whether New or Existing
- **Transactions:** Number of Transactions per customer
- **Sales:** Total sales from customer
- **Avg_sales:** Average sales by customer

How many total transactions were there for each year in dataset?

```
SELECT
    year, SUM(transactions) AS total_transactions
FROM
    clear_weekly_sales
GROUP BY year;
```

year	total_transactions
2020	375813651
2019	365639285
2018	346406460

Insights & Findings:

- It is good to see that the overall transactions are increasing each year which is a positive sign for business.

What are the total sales for each region for each month?

```
select region,month, total_sales from (select region, month, sum(sales) as total_sales,  
rank() over (partition by region order by month) from clear_weekly_sales  
group by region, month) a ;
```

region	month	total_sales
AFRICA	3	567767480
AFRICA	4	1911783504
AFRICA	5	1647244738
AFRICA	6	1767559760
AFRICA	7	1960219710
AFRICA	8	1809596890
AFRICA	9	276320987
ASIA	3	529770793
ASIA	4	1804628707
ASIA	5	1526285399
ASIA	6	1619482889
ASIA	7	1768844756
ASIA	8	1663320609
ASIA	9	252836807

region	month	total_sales
CANADA	3	144634329
CANADA	4	484552594
CANADA	5	412378365
CANADA	6	443846698
CANADA	7	477134947
CANADA	8	447073019
CANADA	9	69067959
EUROPE	3	35337093
EUROPE	4	127334255
EUROPE	5	109338389
EUROPE	6	122813826
EUROPE	7	136757466
EUROPE	8	122102995
EUROPE	9	18877433

region	month	total_sales
OCEANIA	3	783282888
OCEANIA	4	2599767620
OCEANIA	5	2215657304
OCEANIA	6	2371884744
OCEANIA	7	2563459400
OCEANIA	8	2432313652
OCEANIA	9	372465518
SOUTH AMERICA	3	71023109
SOUTH AMERICA	4	238451531
SOUTH AMERICA	5	201391809
SOUTH AMERICA	6	218247455
SOUTH AMERICA	7	235582776
SOUTH AMERICA	8	221166052
SOUTH AMERICA	9	34175583

region	month	total_sales
USA	3	225353043
USA	4	759786323
USA	5	655967121
USA	6	703878990
USA	7	760331754
USA	8	712002790
USA	9	110532368

What is the total count of transactions for each platform?

```
SELECT
    platform, SUM(transactions) AS total_transactions
FROM
    clear_weekly_sales
GROUP BY platform;
```

platform	total_transactions
Retail	1081934227
Shopify	5925169

Insights & Findings:

- Retail is giving higher business (108.19 Billion) as compared to Shopify (59 Million).

What is the percentage of sales for Retail Vs Shopify for each month?

```
with cte_monthly_sales as (select month,year,platform,sum(sales) as monthly_sales from clear_weekly_sales group by platform, month,year)
select year, month,round(100*max(case when platform="Retail" then monthly_sales else null end) / sum(monthly_sales),2) as retail_percentage,
round(100*max(case when platform="Shopify" then monthly_sales else null end) / sum(monthly_sales),2) as shopify_percentage
from cte_monthly_sales group by month,year;
```

year	month	retail_percentage	shopify_percentage
2020	8	96.51	3.49
2020	7	96.67	3.33
2020	6	96.80	3.20
2020	5	96.71	3.29
2020	4	96.96	3.04
2020	3	97.30	2.70

year	month	retail_percentage	shopify_percentage
2019	9	97.09	2.91
2019	8	97.21	2.79
2019	7	97.35	2.65
2019	6	97.42	2.58
2019	5	97.52	2.48
2019	4	97.80	2.20
2019	3	97.71	2.29

year	month	retail_percentage	shopify_percentage
2018	9	97.68	2.32
2018	8	97.71	2.29
2018	7	97.75	2.25
2018	6	97.76	2.24
2018	5	97.73	2.27
2018	4	97.93	2.07
2018	3	97.92	2.08

What is the percentage of sales by demographic for each year in dataset?

```
select year, demographic, sum(sales) as yearly_Sales, round(100*sum(sales)/sum(sum(sales)) over (partition by demographic),2) as percentage  
from clear_weekly_sales group by year, demographic;
```

year	demographic	yearly_Sales	percentage
2020	Couples	4049566928	36.15
2019	Couples	3749251935	33.47
2018	Couples	3402388688	30.38

year	demographic	yearly_Sales	percentage
2020	Families	4614338065	34.95
2019	Families	4463918344	33.81
2018	Families	4125558033	31.25

Insights & Findings:

- For all three years compared, both demographics had highest sales in the year 2020.

Which age-band and demographic contribute the most to retail sales?

```
Select age_band, demographic, sum(sales) as total_sales from clear_weekly_sales where platform="Retail"  
group by age_band, demographic order by total_sales desc;
```

age_band	demographic	total_sales
Unknown	Unknown	16067285533
Retirees	Families	6634686916
Retirees	Couples	6370580014
Middle Aged	Families	4354091554
Young Adults	Couples	2602922797
Middle Aged	Couples	1854160330
Young Adults	Families	1770889293

Insights & Findings:

- If ignored Unknowns, Retirees with Families has the highest retail sales of 663.46 Billion.