DATA ANALYSIS PORTFOLIO

Table of Contents

PROFESSIONAL BACKGROUND ***3***

PROJECT DESCRIPTION ***4***

THE BUSINESS PROBLEM ***5***

ROOT CAUSE ANALYSIS ***5***

INSIGHTS FROM THE DATA SET PROVIDED ***5***

My first step was to import both datasets into SQLite and run some queries to provide the insight I needed **5**

FINDINGS 9

SUMMARY OF FINDINGS ..... *Error! Bookmark not defined.*

ACTIONS AND RECOMMENDATIONS ..... *Error! Bookmark not defined.*

PROFESSIONAL BACKGROUND

I have worked in the banking industry as a credit risk officer where I developed my skills in financial analysis, credit risk, compliance and customer service. I have also served as a customer service officer but nationally and internationally offering advice to clients and ensuring their request are treated in a timely manner.

I hold a Master's degree in Business Administration(MBA) where I was equipped with the knowledge of corporate finance. I am currently certified as a qualified financial advisor and have a certificate in Data Analytics for finance. I am known to have a strong investigative skill a critical thinker and a very strong team player.

My interest in data analysis grew when my quest in using finance and data increase. I want to be able to analyse financial data and also be able to project company's ability to do well in the future, hence my journey into the data world.

PROJECT DESCRIPTION

As a data analyst working with a Charity Organisation(*EDUCATION FOR ALL*), I have been asked to provide insight on the donors and the donation rates.

My objective is to

- Increase the number of donors in the database
- Increase the donation frequency of the donors
- Increase the value of donations in the database.

I have been presented with two data sets. The first dataset named **Donation_data** contains the following:

COLUMN	DESCRIPTION
id	Donor ID
first_name	Donor first name
last_name	Donor last name
email	Donor email address
gender	Donor gender
job_field	Donor job field
donation	Donation amount
state	Donor state of residence (US)
shirt_size	Donor t-shirt size

The second dataset named Donor_Data2 contains the following:

COLUMN	DESCRIPTION
id	Donor ID
donation_frequency	Frequency of donation
university	Donor University attended
car	Donor car make
second_language	Donor second language
favourite_colour	Donor favourite colour
movie_genre	Donor favourite movie genre

THE BUSINESS PROBLEM

The Charity Organisation do not currently have enough donations as needed to run. In other to address this problem, I need to find out the current situation at hand. To do this, I have gone ahead to ask myself the following questions:

1- How many donors does the organisation currently have
2- How frequently are donations made
3- What is the range of the donations made
4- Are donations dependent on factors such as gender, job field or university attended

ROOT CAUSE ANALYSIS

1. Why don't we have more donors giving to Charity?
2. Is there a restriction on the amount to donate?
3. Are we considering the cost of living in the states our donor live to know if it affects their donations
4. Does their job field also affect their level of contribution?
5. Are we organizing enough promotional/marketing activities to make the Organization visible
6. How many courses are free and paid for each subject?

INSIGHTS FROM THE DATA SET PROVIDED

My first step was to import both datasets into SQLite and run some queries to provide the insight I needed

QUERY 1: To view the content of both dataset

Viewing the data individually

```
SELECT * FROM Donation_Data;
SELECT * FROM Donor_Data2;
```

Viewing the data as a merged set

```
SELECT *
FROM Donation_Data d
JOIN Donor_Data2 e Donor_Data2 e
ON d.id=e.id;
```

Query 2: To know the ratio of male donors to female donors and their average donations

```
SELECT gender, count(gender) as Total_no_of_donors, round(avg(donation),2) AS
average_donation
FROM Donation_Data
group by gender;
```

Query 3 – To view the maximum and minimum donation

```
SELECT MAX(donation) AS max_donation_amount, MIN(donation) AS
min_donation_amount
FROM Donation_Data;
```

Query 4 – To view the number of donor and total donation per state

```
SELECT state, count(id) AS Total_population, sum(donation) AS Total_donation_by_state
from Donation_Data
group by state
ORDER BY Total_donation_by_state DESC
```

Query 5 - To view the average donations by frequency and no of donations per frequency

```
SELECT
   donation_frequency,
   count(donation_frequency) AS no_of_donation,
   round(avg(donation),2) AS average_donation
FROM Donation_Data d
JOIN Donor_Data2 e
ON d.id = e.id
GROUP BY donation_frequency;
```

Query 6- To view the total donation by job_field

```
SELECT
        job_field ,
        SUM(donation) as Total_donations
FROM Donation_Data
GROUP BY job_field
ORDER BY Total_donations DESC
```

Query 7- To view when the donation is empty (result = 0)

```
SELECT
        d.id
FROM Donation_Data d
WHERE donation IS NULL;
```

Query 8 - To know the top 10 donors;

```
SELECT  * FROM Donation_Data d
INNER JOIN Donor_Data2 e
on d.id = e.id
ORDER BY donation DESC
LIMIT 10
```

Query 9- To view the number of donors who went to a university and the sum of the donations

```
SELECT SUM(donation) AS SUM_OF_DONATION, count(donation),
 CASE
        WHEN university IS NULL THEN 'NO'
         WHEN university IS NOT NULL THEN 'YES'
 END AS Attended_university
FROM donation_data d
right JOIN Donor_Data2 e
ON d.id = e.id
GROUP BY Attended_university;
```

Query 10- To view the most common donations where number of donors is greater than 4

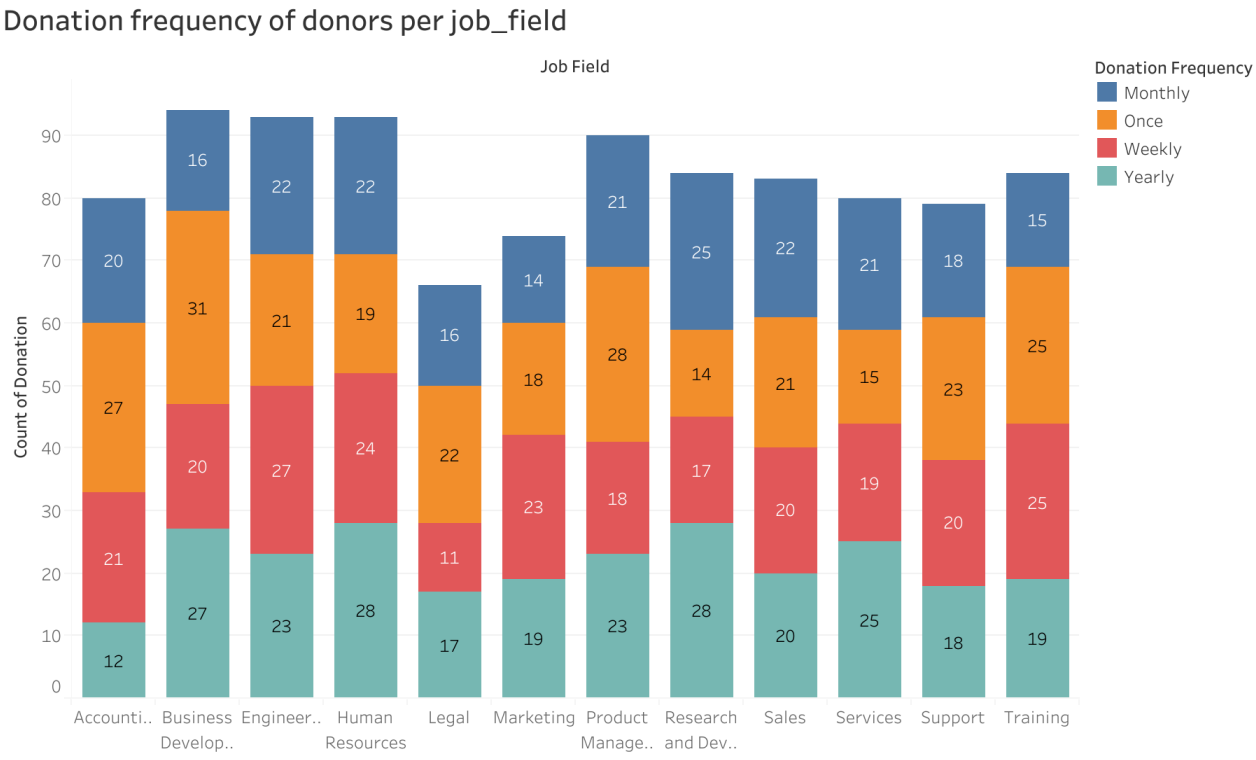
```
SELECT donation, COUNT(donation) AS no_of_donations  FROM Donation_Data
GROUP BY donation
HAVING COUNT(donation) > 4
ORDER BY COUNT(donation) DESC;
```

Query 11- To know the full name of donaors that donated between 400 and 500

```
SELECT first_name ||' '|| last_name AS full_name, donation, donation_frequency
FROM donation_data d
right JOIN Donor_Data2 e
ON d.id = e.id
where donation BETWEEN 400 and 500;
```

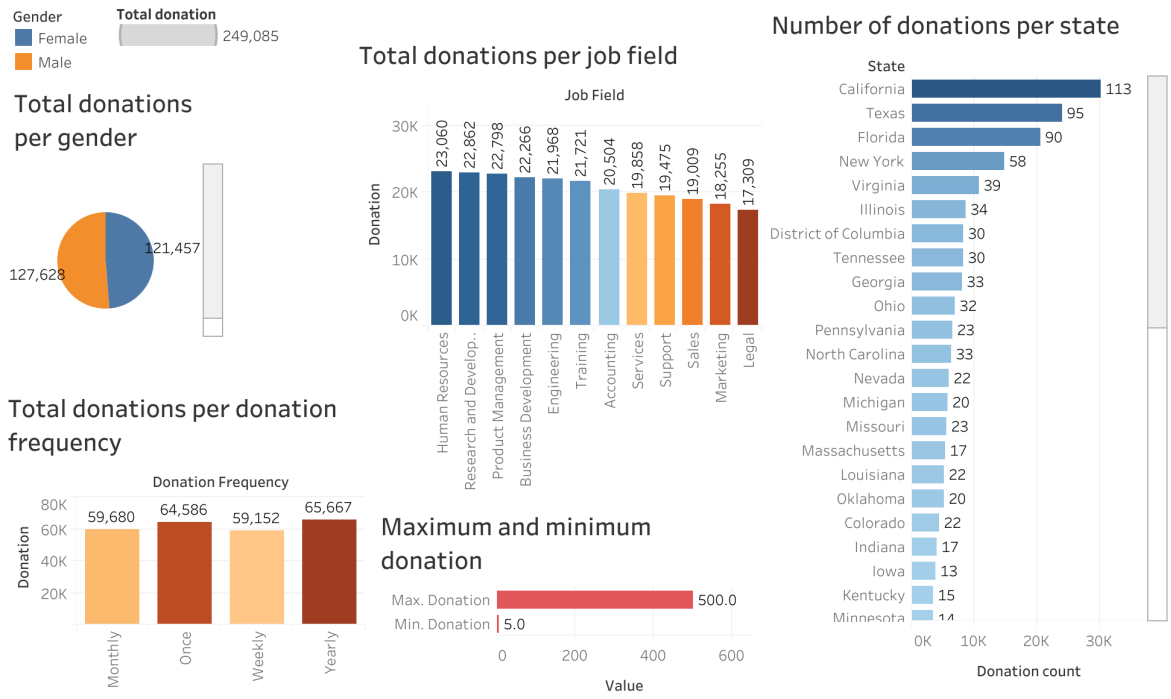
VISUAL FINDINGS

I proceeded in using Tableau to transform my findings to pictures so this can be easily understood beyond the queries



FINDINGS

1- The number of donors in the dataset is 1000 where 508 are female and 492 are male.
2- The total value of all donations made is $249,085.00
3- While the job field of the donors vary from Accounting, Business Development, Engineering, Human Resources, Legal ,Marketing, Research and Development, Sales, Services, Support and Training, Human Resources recorded the highest amount of donations of about $23,060.00 while Legal recorded the least of about $17,309.00
4- While 75.3% of the donation accounts for donors who went to a university, 25.7% of the donation are generated from donors who never attended a university
5- The highest donation amount is $500.00 while the smallest donation amount is $50.00



Summary of findings in a dashboard

RECOMMENDATIONS

A)

With the highest donation frequency of once, followed by yearly, the organisation needs to increase the donation frequency.

donation_frequency	no_of_donation	average_donation
Monthly	232	257.24
Once	264	244.64
Weekly	245	241.44

Yearly	259	253.54

One way the organisation can do this is to offer incentives. Since we currently have some personal details like the donor email and genre of movie loved by the donors, a movie fest could be organised and an email sent to the donors who love such movies

At the end of such movie, donors should also be asked to give to support the cause of the Charity

B)

Looking at the Top 4 states with the highest number of donors(California, Texas, Florida and New York), the Organisation needs to gather more insight as to why more donors are found in this State. Could it be because of a lower cost of living than other states or the population of individuals in these states are large compared to others.

While research is being done, targeted marketing should be done to the donors in these States. Since the Organisation currently have the shirt size and colours of current donors, a customized cloth could be given to the donors with them paying an extra cost for the sake of the Charity.

Campaigns and walks could also be organised in this state where donors are asked to come along with their customized shirt to participate thereby attracting others that are non-donors. While this is being done, other States should also have their Campaigns from time to time