Using Donor Insights to Grow Donations: Strategies for 2023

Use Case Study(Personal Project)

About me

I’m passionate about using data to drive business decisions and make an impact. With a background in Business Analysis, I’m well versed in data analysis techniques and tools.

Catherine is driven to uncover insights and create actionable strategies that drive organizational growth. I’m a lifelong learner, always looking to stay updated on the latest industry trends and best practices.

My enthusiasm and passion towards data is unmatched and I love to work with a team that challenges me to reach my full potential.

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Introduction

This project is a hypothetical situation that I am a Data Analyst working for the charity, Education for ALL.
I have been asked by the Head of Fundraising to present the data on donor insights and donation rates. Within the Fundraising team, my objectives are to:

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

In two weeks, I needed to present insights from the donation data to my team and inform my fundraising strategy to increase donations for the following year.

I used the data sets FOR_Donation_Data and FOR_Donor_Data to answer the business problem. I applied SQL commands to analyse data: JOIN, ORDER BY, WHERE, BETWEEN, AND, OR, SUM(), COUNT(), AVG(), GROUP BY, HAVING.

Also, I used Root Cause Analysis to understand the problem and ask right questions. As a result, I have found out crucial insights of provided data sets, prepared visualisations, and report for my team.

Root Cause Analysis Process

A root cause analysis is a tool used to identify the contributing factors that led to a problem, and to to develop solutions to prevent or correct them. In this case, I needed to analyse existing data bases of Donors and Donations to identify the key factors that impact donation rates and overall success in fundraising.

Furthermore, I should present important numbers and visualisations of our data

sets. I decided to ask some questions to dig the problem deeper:

- How many donors do we have in our existing database?
- How often are our donors donating?
- What is the amount of their donations?
- Who are the top 10 donors?
- Does the amount of donation depend on gender, job field, university degree, movie genre and location?

Also, I realised that I should figure out what is happening, why some people donate regularly and some of them do not. I had to specify main symptoms and trends of the dataset.

Finally, I applied **Root Cause Analysis** to ask:

1. Why is it important to increase the effectiveness of the charity's fundraising efforts?
Answer; Because we have low number of donors in the database.

2. Why do we have low number of donors in the database?
Answer; Because there are no new donors joining the Organization.

3. Why are there no new donors joining the Organization?
Answer; Because the Organization is not reaching out to more potential Donors.

4. Why are they not reaching out to more potential donors?
Answer; because they do not have an effective donation campaign strategy.

5. Why is the donation campaign strategy ineffective?
Answer; because the Company is not using the right channels to reach the potential donors.

6. Why is the Organization not using the right channels to reach the potential Donors?
Answer; because of lack of clarity regarding their audience's characteristics and preferred communication channels.

Data Collection

I have been provided with 2 relational databases such as: FO_Donation_Data and EFO_Donor_Data to answer the business problem.

phpMyAdmin(MySQL) Database Management System was used to find out main insights.

Tableau was used as a very powerful tool for data analysis and visualisation.

EFO_Donation_Data
Contains the following data

- `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

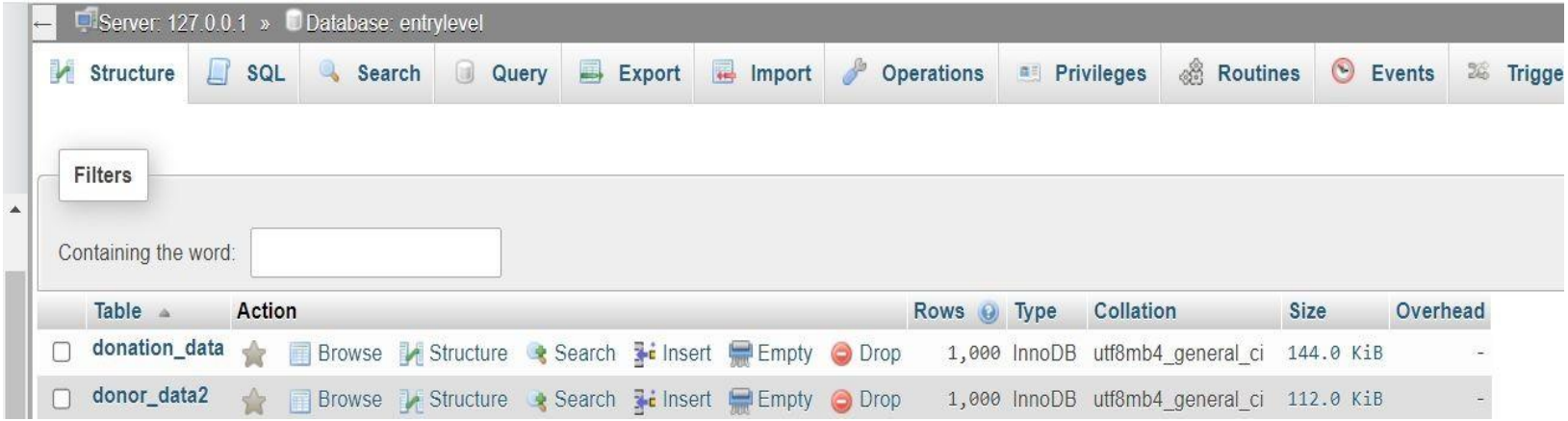
EFO_Donor_Data
Contains the following data

- `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

Data Preparation

I have been provided with 2 relational databases such as: FO_Donation_Data and EFO_Donor_Data to answer the business problem.

Both datasets where imported into phpMyAdmin.



Data Processing with SQL

SELECT statement was used to fetch data from a database

```
SELECT (*)
FROM donation_data;
```

```
SELECT (*)
FROM donor_data2;
```

To find the total number of donors with the COUNT() Function, I used a command like this;

```
SELECT COUNT(donation)
FROM donation_data;
```

To find the total sum of donations I used SUM():

```
SELECT SUM(donation)
FROM donation_data;
```

MAX() was applied to find the largest amount of donations:

```
SELECT MAX(donation)
FROM donation_data;
```

MIN() was applied to find the least amount of donations:

```
SELECT MIN(donation)
FROM donation_data;
```

To find the top 10 and least 10 donors:

The INNER JOIN clause allows us to join different columns from multiple tables together. WHERE was used to filter the result of a set to include only rows where a specified condition is true. ORDER BY function with DESC order was used to order the donor data by the highest to lowest donations.

```
/*find the top 10 donors*/
SELECT MAX(donation_data.donation), donation_data.gender, donor_data2.donation_frequency, donor_data2.university AS school,
COUNT(*)
FROM donation_data
JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE university != 'Null'
GROUP BY donation
ORDER BY donation DESC
LIMIT 10;
```

```
/*find the least 10donors*/
SELECT MIN(donation_data.donation), donation_data.gender, donor_data2.donation_frequency, donor_data2.university AS school,
COUNT(*)
FROM donation_data
JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE university != 'Null'
GROUP BY  donation
ORDER BY donation
LIMIT 10;
```

INNER JOIN was used to figure out the Donation Frequencies.

```sql
/*find the donation frequency*/
SELECT  SUM(donation_data.donation), donation_data.gender,  donor_data2.donation_frequency
FROM donation_data
JOIN donor_data2
ON donation_data.id = donor_data2.id
GROUP BY donation_frequency
ORDER BY SUM(donation) DESC;
```

Here, i want to find out how many States have over 50 donors. The HAVING clause restricts the query to states with 50 or more donors.

```sql

/*to find the total number of donations per location*/
SELECT state AS location, COUNT(*)
FROM donation_data
GROUP BY location
HAVING COUNT(*) > 50
ORDER BY COUNT(*) DESC
LIMIT 5;
```

I used LEFT JOIN command on Donor_Data and Donation_Data to understand how many females and males **with university education** donated.

```sql
/*to find the total number of male students who donated*/
SELECT donor_data2.donation_frequency, donation_data.gender, donor_data2.university AS school, donation_data.donation, COUNT(*)
FROM donation_data
LEFT JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE gender = 'male'
AND university != 'Null'
GROUP BY school
ORDER BY donation DESC;
```

```sql
/*to find the total number of female students who donated*/
SELECT donor_data2.donation_frequency, donation_data.gender, donation_data.donation, donor_data2.university AS school, COUNT(*)
FROM donation_data
LEFT JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE university != 'NULL'
AND gender = 'female'
GROUP BY school
ORDER BY donation DESC;
```

Also, I found out how many males and females **without university education** donated

```sql
/*to find the total number of female without university education who donated*/
SELECT donation_data.gender, donation_data.donation, donor_data2.university AS school, COUNT(*)
FROM donation_data
LEFT JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE university IS NULL
AND gender = 'female'
GROUP BY donation
ORDER BY donation DESC;
```

```sql
/*to find the total number of male without university education who donated*/
SELECT donation_data.gender, donation_data.donation, donor_data2.university AS school, COUNT(*)
FROM donation_data
LEFT JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE university IS NULL
AND gender = 'male'
GROUP BY donation
ORDER BY donation DESC;
```

I also found out the number of donors by **Gender and Industry**

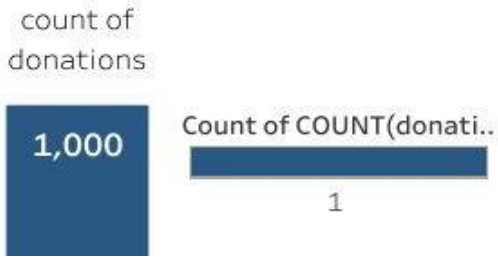
```
/*To find the total number of donors by gender and industry*/
SELECT donor_data2.donation_frequency, donation_data.job_field AS industry, donation_data.gender, COUNT(*)
FROM donation_data
JOIN donor_data2
ON donation_data.id = donor_data2.id
GROUP BY industry
HAVING COUNT(*)>20
ORDER BY COUNT(*) DESC;
```

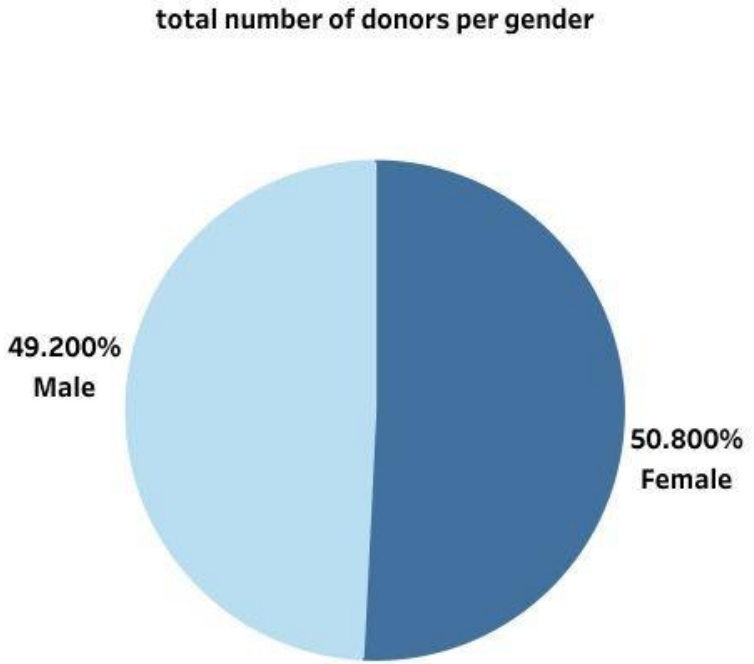
To find the total number of donors by **Movie Genre**

```
/*To find total number of donors per genre*/
SELECT donor_data2.donation_frequency, donation_data.gender, donor_data2.movie_genre, donation_data.donation,  COUNT(*)
FROM donation_data
JOIN donor_data2
ON donation_data.id = donor_data2.id
WHERE movie_genre != 'Null'
GROUP BY movie_genre
ORDER BY COUNT(*) DESC
LIMIT 5;
```

Business Question 1

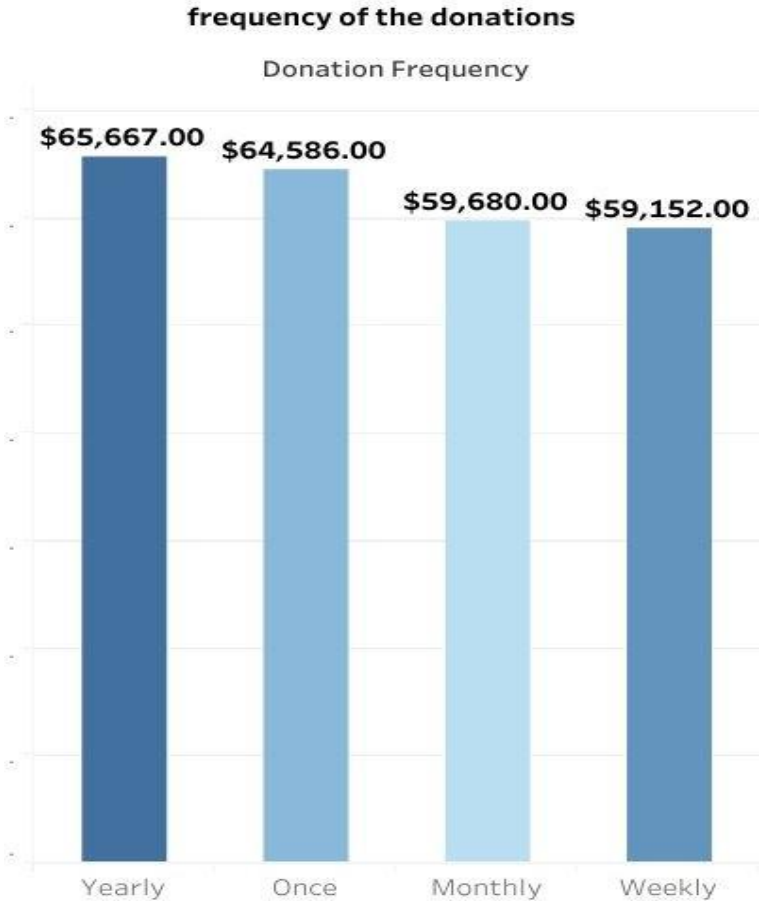
How many donors do we have in our existing database?





Business Question 2

How often are our donors donating?

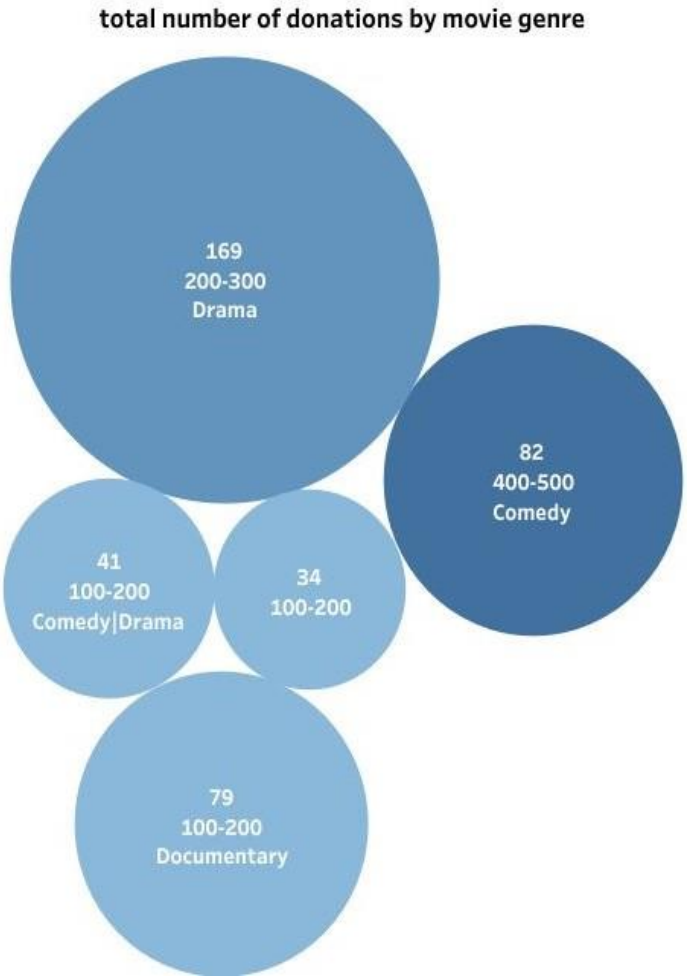


Business Question 3

How many states have over 50 donors?

Business Question 4

Which movie genre donates the most?



Business Question 5

Which industry donates the most?

total number of donations by job field

Industry	Count(*)
Business Development	94
Human Resources	93
Engineering	93
Product Management	90
Training	84
Research and Development	84
Sales	83
Services	80
Accounting	80
Support	79
Marketing	74
Legal	66

Count(*): 66 – 94

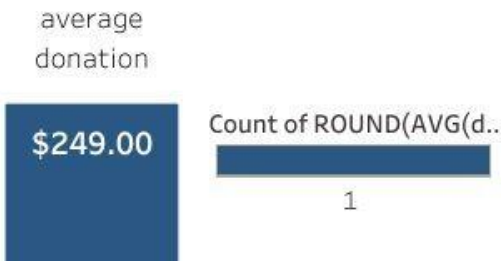
total number of donations by gender and industry

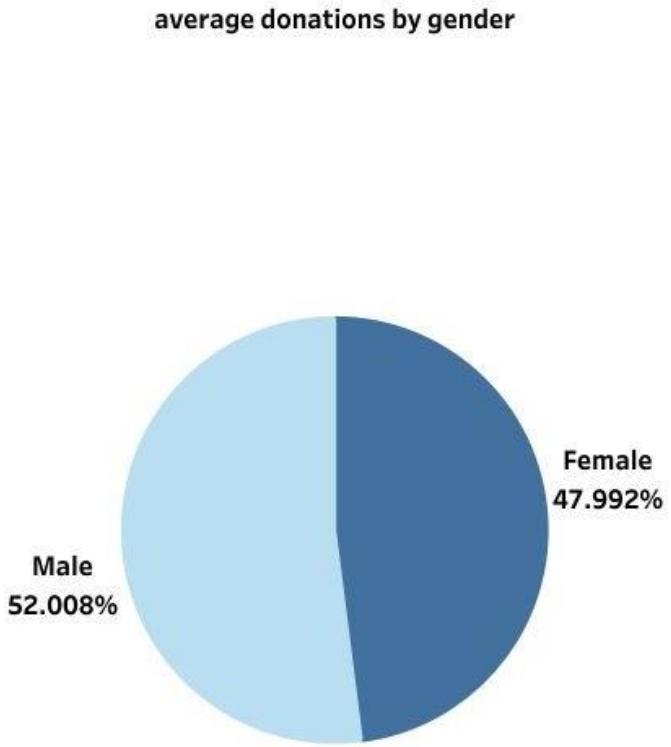
Gender	Industry	Count(*)
Female	Engineering	93
	Training	84
	Services	80
	Legal	66
Male	Business Development	94
	Human Resources	93
	Product Management	90
	Research and Develop..	84
	Sales	83
	Accounting	80
	Support	79
	Marketing	74

Count(*): 66 – 94

Business Question 6

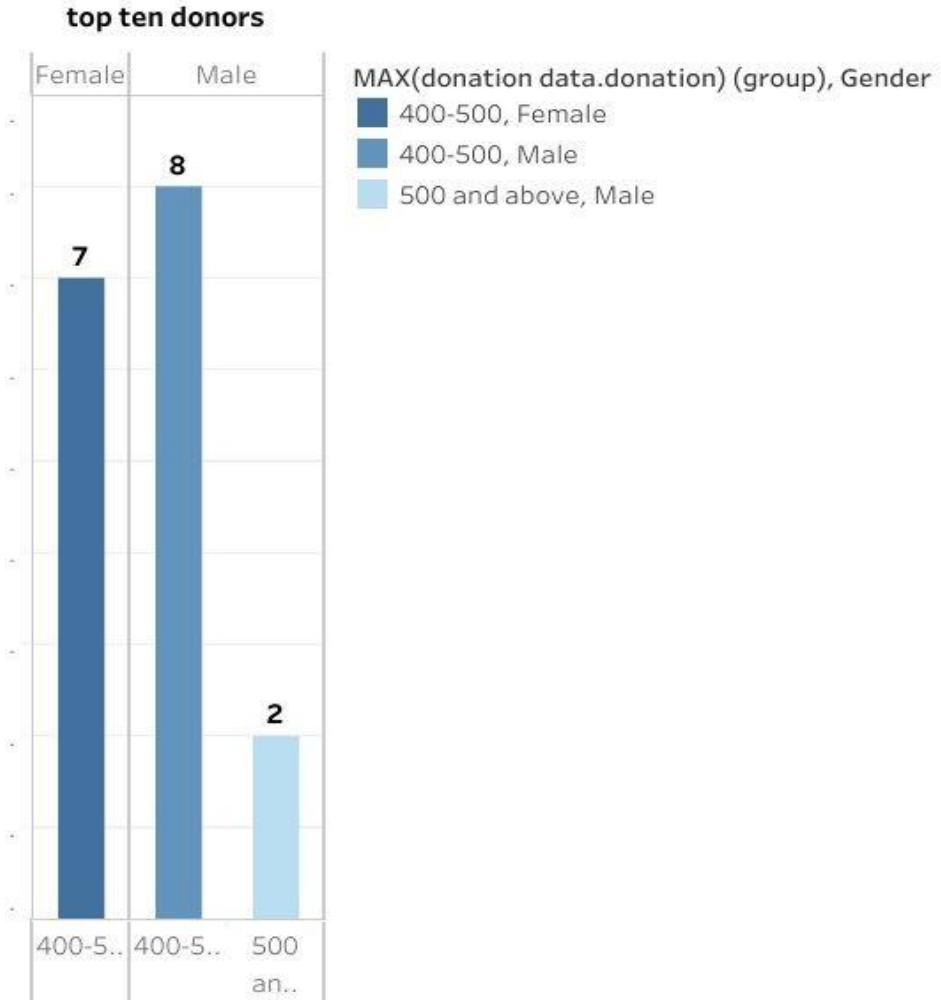
What is the average donation by gender?





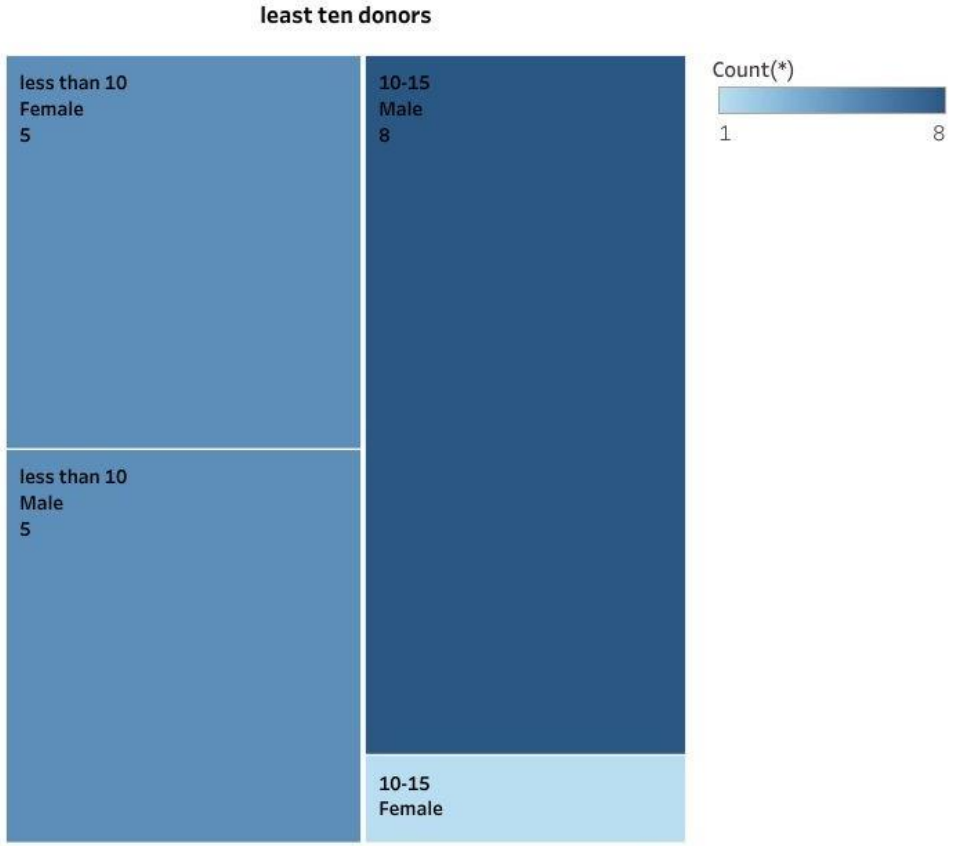
Business Question 7

Who are the top ten donors?



Business Question 8

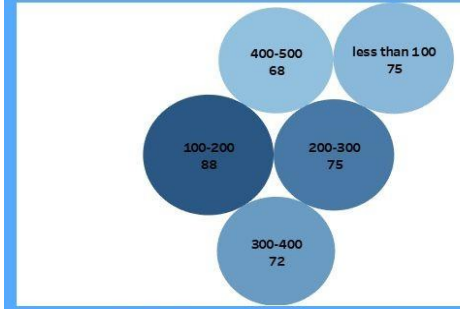
Who are the least ten donors?



Donor Insights Dashboard

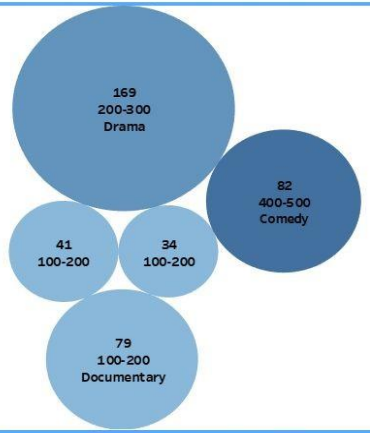
maximum donation	minimum donation	sum of donation	count of donations	average donation
$500.00	$5.00	$249,085.00	1,000	$249.00

female students who are donors



donations per state

total number of donations by movie genre



average donations by gender

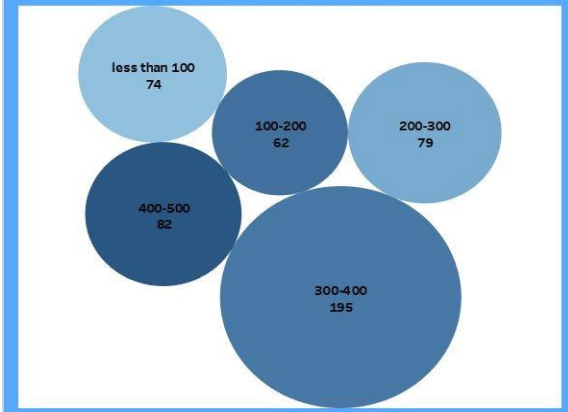
total number of donors per gender

total number of donations by gender and industry

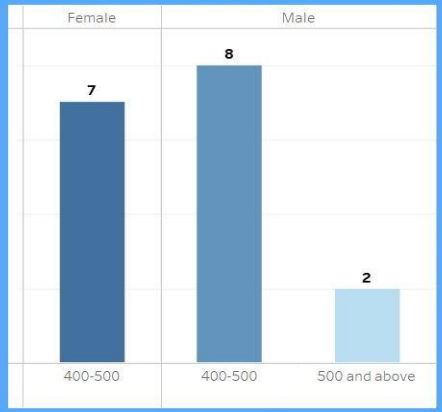
Gender	Industry	
Female	Engineering	93
	Training	84
	Services	80
	Legal	66
Male	Business Development	94
	Human Resources	93
	Product Management	90
	Research and Develop..	84
	Sales	83
	Accounting	80
	Support	79
	Marketing	74

frequency of the donations

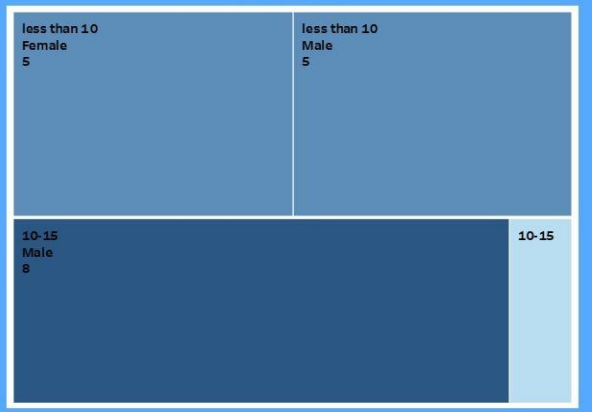
male students who are donors



top ten donors



least ten donors



female donors without education

Donation (group)	
less than 100	34
100-200	30
400-500	28
200-300	22
300-400	16

male donors without education

Donation (group)	
400-500	28
100-200	26
300-400	24
200-300	24
less than 100	20

total number of donations by job field

Industry	
Business Development	94
Human Resources	93
Engineering	93
Product Management	90
Training	84
Research and Development	84
Sales	83
Services	80
Accounting	80
Support	79
Marketing	74
Legal	66

Analysis

Based on the analysis, I found the following key insights:

- The total number of donors we have in the database is 1000
- The sum of donations we collected is $249,085
- The largest amount of donations is $500
- The smallest amount of donation is $5
- There are more female donors(508) than male donors(492) by a difference of 16. However, the male donors with an average donation score of $520 performed better than female donors with an average donation of $489.
- The ‘Drama’, ‘Comedy’ and ‘Documentary’ Movie genres have the highest number of donations(169, 82 and 79) respectively..
- We received majority of donations with frequency ‘Yearly’ and ‘Once’.
- Majority of our donors live in California, Texas, New York and Florida. However, donors from Texas donated higher amount of $44K whereas donors from California even though were the highest number of donors, donated a total of amount of $33k.
- The highest number of donors come from the Business Development, Human Resources, Engineering and Product Management Job fields.

Actionable Insights

Having analysed 2 data sets FO_Donation_Data and EFO_Donor_Data to help Education for ALL to understand business problem of increasing the number of donors more deeply and find a way to raise more donations with regular frequency.

Therefore, our donors are very dissimilar people. They live in different states, work in absolutely unsimilar job fields, some of them have university education while some of them do not. Amount of donation also vary between $5 and $500 dollars.

There could be a few reasons why donations rate from the *female donors are low*.

It could be due to a lack of awareness or knowledge of the causes, lack of trust in the organization, lack of access to donation platforms or a lack of motivation to make a donation. It could also be due to a perceived lack of impact or influence that the donation could make.

Poor donations from *Movie genres* are often due to the lack of a targeted audience. Many people may be unaware of the movie and its cause, or feel that their money would be better spent elsewhere. Additionally, movies may not have a wide enough reach to bring in donations from a large enough audience.

There could be a number of reasons why donations are low in most states in the United States. Some of the most common reasons include lack of awareness and understanding of the importance of donating, lack of incentives for donating, and lack of access to donation centres or resources. Additionally, some states have stricter laws and regulations regarding donations, which can contribute to lower donation rates.

There could be a variety of reasons why we have low donations from different Professions. It could be that certain professions are not aware of the Organization, lack of knowledge of the cause, or that they may not have the financial resources available to donate.

It might be useful to conduct some research or surveys to better understand why donations from certain professions are low.

Recommendations

1. There are several ways to increase donation rates for donation campaigns:

First, the organization need to consider creating a targeted, personalised message that resonates with potential donors. Leveraging technology such as email automation and social media campaigns can help spread the word and reach more people.

Create incentives for attendees to donate, such as discounted refreshments or free passes for future movie events.

Additionally, providing incentives such as discounts or free gifts may also encourage donors to give more.

Finally, consider partnering with other organizations and businesses to help raise awareness and bring more donations.

2. There are few ways to improve the **frequency of donations**:

One option is to create incentives for donors such as discounts or personalized thank-you notes for those who make **weekly** or **monthly** donations.

Additionally, we can experiment with different types of donation requests, such as matching donations or recurring donations, to better meet the needs of our target audience.

Finally, track our progress with analytics and metrics to measure the effectiveness of our efforts.

3. In order to increase the value of donations for Education for All:

- Reach out to local businesses and ask for donations in kind, such as products or services.
- Leverage online giving platforms, such as PayPal or GoFundMe, to make it easier for people to contribute financially.
- Use social media to drive more awareness to our campaign.
- Create an attractive and compelling donation page on our website.
- Develop partnerships with other charities or like-minded organizations to expand our reach.


THANK YOU