

# Data Analysis Portfolio

Prepared By  
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# Professional background

## Data Analysis Portfolio

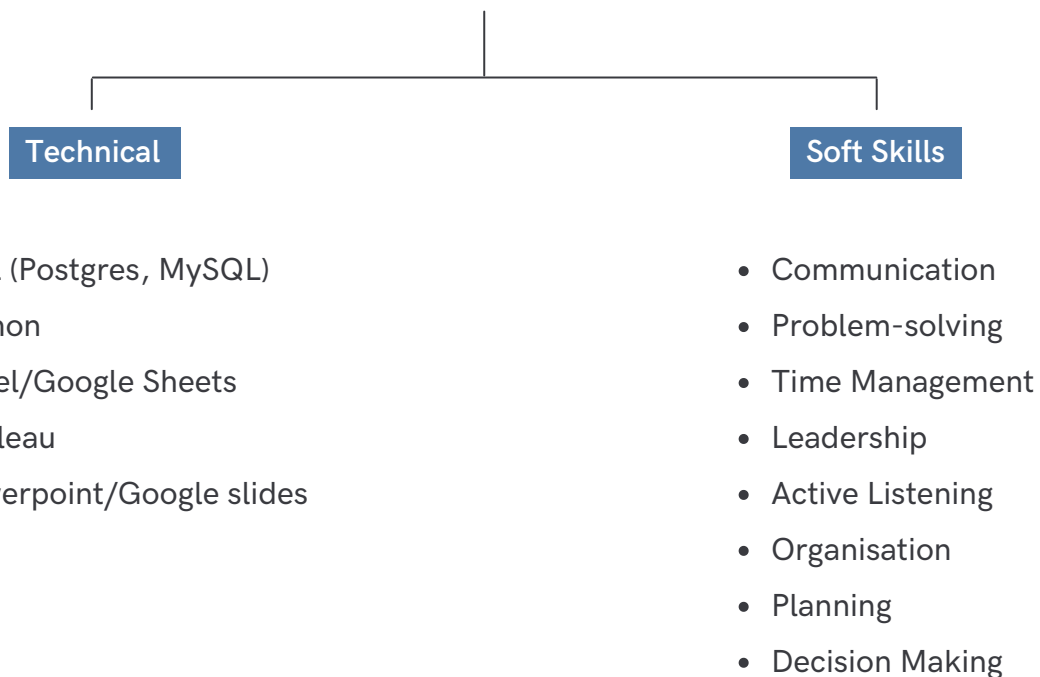
### Jayank Gupta

3rd year undergraduate, MNIT Jaipur

A devoted chemical engineer undergrad student with academic and extracurricular success. A driven individual with a zeal to learn, with an aim to help the company function at its peak. Looking for more opportunities to learn via experience in the near future.

Seeks to employ top analytical skills and experience via these projects.

### Skills



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# Donation Data Project

## Introduction

Working as a Data Analyst for the charity, 'Education for All', I had to present data on donor insights and donation rates to the Head of Fundraising. I was handed the responsibility of increasing the number of donors, increasing the donation frequency, and also increasing the value of donations by analyzing the given data.

The report had to be made by the end of 2 weeks before a team meeting for discussion of fundraising strategies for the upcoming year.

There were two sets of data that I had access to. One contained information about donation and its data, and the other had information about the personal information and/or preferences of the donors, i.e. donor data.

I consolidated the relevant data and used visualization platforms like Tableau to reach an analysis.

I reached a conclusion and came up with recommendations that fulfill the objectives of this report. Suggestions can be seen at the end of the report.

# Root Cause Analysis

Let's start with a few questions regarding the problem here,

**Q:** Why didn't our team raise the target amount of money?

**A:** The number of donations is significantly low for a country with a population of more than 300 million.

**Q:** Why aren't there enough donations in our database?

**A:** Donations from states like South Carolina, New Jersey, Utah, Alabama, etc., have been low.

**Q:** Why is the number of donations from these states meager?

**A:** Lack of awareness in these states due to the absence of top donating industries.

**Q:** Why is there a lack of awareness in these states?

**A:** These states are not as popular as some of the other states due to which information about the charity could not have reached people.

**Q:** Why is information about the charity not reaching people?

**A:** Lack of advertisement and promotional schemes can be the reason for fewer donations.

*The focus should be on the states with potential. Coming up with new marketing schemes will help increase the number of donations.*

# Insights

- Total Donation = \$2,49,085
- Maximum Donation = \$500
- Average Donation = \$249
- Minimum Donation = \$5

## Frequency of Donation

```
SELECT
b.donation_frequency,
max(a.donation),
min(a.donation),
round(avg(a.donation)),
COUNT(a.donation),
COUNT(DISTINCT(a.donation))
FROM Donation_Data AS a
JOIN Donor_Data2 AS b
ON a.id = b.id
GROUP BY donation_frequency;
```

| Frequency | Max. Donation | Min. Donation | Avg. Donation | No. of Donations | No. of Unique Donations |
|-----------|---------------|---------------|---------------|------------------|-------------------------|
| Monthly   | \$500         | \$7           | \$257         | 232              | 185                     |
| Once      | \$491         | \$5           | \$245         | 264              | 205                     |
| Weekly    | \$497         | \$5           | \$241         | 245              | 196                     |
| Yearly    | \$500         | \$6           | \$254         | 259              | 200                     |

## Gender-wise Donations

```
SELECT
gender,
max(donation),
min(donation),
avg(donation),
COUNT(donation),
COUNT(DISTINCT(donation))
FROM Donation_Data
GROUP BY gender;
```

| Gender | Max. Donation | Min. Donation | Avg. Donation | No. of Donations | No. of Unique Donations |
|--------|---------------|---------------|---------------|------------------|-------------------------|
| Female | \$499         | \$5           | \$239         | 508              | 311                     |
| Male   | \$500         | \$5           | \$259         | 492              | 319                     |

## Top 10 State-wise Donations

```
SELECT
state,
max(donation),
min(donation),
avg(donation),
COUNT(donation),
COUNT(DISTINCT(donation))
FROM Donation_Data
GROUP BY state;
```

| State          | Max. Donation | Min. Donation | Avg. Donation | No. of Donations | No. of Unique Donations |
|----------------|---------------|---------------|---------------|------------------|-------------------------|
| California     | \$494         | \$6           | \$268         | 113              | 94                      |
| Texas          | \$487         | \$7           | \$254         | 95               | 86                      |
| Florida        | \$492         | \$7           | \$228         | 90               | 84                      |
| New York       | \$500         | \$17          | \$254         | 58               | 54                      |
| Virginia       | \$499         | \$21          | \$276         | 39               | 37                      |
| Illinois       | \$488         | \$15          | \$255         | 34               | 34                      |
| Georgia        | \$472         | \$12          | \$244         | 33               | 32                      |
| North Carolina | \$423         | \$6           | \$192         | 33               | 32                      |
| Ohio           | \$452         | \$7           | \$215         | 32               | 32                      |

## Top 5 Favourite Colours

```
SELECT
b.favourite_colour,
max(a.donation),
min(a.donation),
round(avg(a.donation)),
COUNT(a.donation),
COUNT(DISTINCT(a.donation))
FROM Donation_Data AS a
JOIN Donor_Data2 AS b
ON a.id = b.id
GROUP BY favourite_colour
ORDER BY COUNT(a.donation) DESC
LIMIT 5;
```

| Favourite Colour | Max. Donation | Min. Donation | Avg. Donation | No. of Donations | No. of Unique Donations |
|------------------|---------------|---------------|---------------|------------------|-------------------------|
| Indigo           | \$484         | \$10          | \$262         | 66               | 62                      |
| Teal             | \$494         | \$28          | \$269         | 61               | 58                      |
| Goldenrod        | \$490         | \$25          | \$246         | 61               | 59                      |
| Red              | \$491         | \$7           | \$260         | 59               | 55                      |
| Aquamarine       | \$493         | \$18          | \$299         | 55               | 50                      |

## Donations per Job Field

```
SELECT
job_field,
max(donation),
min(donation),
avg(donation),
COUNT(donation),
COUNT(DISTINCT(donation))
FROM Donation_Data
GROUP BY job_field;
```

| Job Field                | Max. Donation | Min. Donation | Avg. Donation | No. of Donations | No. of Unique Donations |
|--------------------------|---------------|---------------|---------------|------------------|-------------------------|
| Accounting               | \$487         | \$13          | \$256         | 80               | 75                      |
| Business Development     | \$493         | \$6           | \$237         | 94               | 87                      |
| Engineering              | \$491         | \$5           | \$236         | 93               | 87                      |
| Human Resources          | \$494         | \$5           | \$248         | 93               | 86                      |
| Legal                    | \$499         | \$25          | \$262         | 66               | 61                      |
| Marketing                | \$489         | \$9           | \$247         | 74               | 63                      |
| Product Management       | \$500         | \$7           | \$253         | 90               | 80                      |
| Research and Development | \$497         | \$9           | \$272         | 84               | 76                      |
| Sales                    | \$499         | \$15          | \$229         | 83               | 74                      |
| Services                 | \$487         | \$6           | \$248         | 80               | 75                      |
| Support                  | \$500         | \$9           | \$247         | 79               | 74                      |
| Training                 | \$492         | \$10          | \$259         | 84               | 79                      |

## Top 20 Donors

```
SELECT
*
FROM Donation_Data AS a
JOIN Donor_Data2 AS b
ON a.id = b.id
ORDER BY donation DESC
LIMIT 20;
```

| ID  | First Name | Last Name      | Email                                | Gender | Job Field                | Donation | State      | Shirt Size | Frequency | University  | Car           | Favourite Colour | Movie Genre                |
|-----|------------|----------------|--------------------------------------|--------|--------------------------|----------|------------|------------|-----------|-------------|---------------|------------------|----------------------------|
| 139 | Beverlie   | Andriesse      | bandriesse3u@squidoo.com             | Male   | Support                  | \$500    | Michigan   | S          | Yearly    | Walaski     | Honda         | Maroon           | Crime Mystery              |
| 264 | Wailie     | Leather        | wleather7b@taobao.com                | Male   | Product Management       | \$500    | New York   | 3XL        | Monthly   | Leithgoe    | Pontiac       | Yellow           | Documentary                |
| 35  | Clevie     | Camilletti     | ccamilletti@quantcast.com            | Female | Legal                    | \$499    | Virginia   | S          | Yearly    | Sparhawk    | Ford          | Mauv             | Crime Drama Thriller       |
| 769 | Peder      | Rilton         | priltonc@trellian.com                | Female | Sales                    | \$499    | Delaware   | L          | Yearly    | Antoszewski | Ford          | Maroon           | Drama                      |
| 480 | Worthy     | Le feaver      | wlefeaverdb@edublogs.org             | Male   | Sales                    | \$498    | Wisconsin  | XL         | Monthly   | Trotton     | Volvo         | Purple           | Animation                  |
| 965 | Amalea     | Knill          | aknills@devhub.com                   | Male   | Research and Development | \$497    | New York   | 2XL        | Weekly    | Rockcliffe  | Maserati      | Pink             | Crime Drama                |
| 76  | Tonnie     | Stockney       | tstockney23@examiner.com             | Male   | Support                  | \$494    | California | 2XL        | Weekly    | Cominetti   | Kia           | Maroon           | Drama                      |
| 500 | Corbett    | Lansdale       | clansdale@ovh.net                    | Female | Product Management       | \$494    | California | 3XL        | Monthly   | Coates      | Maybach       | Mauv             | Drama                      |
| 969 | Nathaniel  | McGenn         | nmcgennqw@nih.gov                    | Male   | Human Resources          | \$494    | California | 2XL        | Monthly   | Baumber     | Dodge         | Teal             | Documentary Musical        |
| 565 | Beverlee   | Camacke        | bcamackefo@cloudflare.com            | Male   | Product Management       | \$493    | Maryland   | L          | Monthly   | Armatidge   | Infiniti      | Aquamarine       | Comedy Drama War           |
| 941 | Corbin     | Rawne          | crawneq4@reuters.com                 | Male   | Business Development     | \$493    | Louisiana  | M          | Yearly    | null        | Chevrolet     | Teal             | Drama                      |
| 290 | Hurley     | Bogey          | hbogey81@cpanel.net                  | Female | Business Development     | \$492    | Florida    | XS         | Weekly    | null        | Ford          | Puce             | Drama Romance              |
| 729 | Eddi       | Atcherley      | eatcherleyk8@google.ru               | Female | Training                 | \$492    | New York   | 2XL        | Yearly    | Minthorpe   | Mercedes-Benz | Green            | Documentary                |
| 153 | Emmit      | McKenzie       | emckenzie48@rambler.ru               | Male   | Training                 | \$491    | Nevada     | L          | Once      | McIlmorow   | Mercury       | Aquamarine       | Crime Drama Thriller       |
| 296 | Babbette   | Fyers          | bfyers87@nymag.com                   | Female | Engineering              | \$491    | New Mexico | S          | Monthly   | Blackborn   | Mercedes-Benz | Red              | Adventure Children Musical |
| 765 | Karilynn   | Ivan           | kivan8@addthis.com                   | Female | Engineering              | \$490    | Kentucky   | M          | Monthly   | Heinert     | Mercedes-Benz | Goldenrod        | Comedy                     |
| 90  | Charlotta  | Bellison       | cbellison2h@epa.gov                  | Female | Marketing                | \$489    | Florida    | M          | Weekly    | Fraser      | BMW           | Yellow           | Drama                      |
| 203 | Ludvig     | Alexsandrowicz | laalexsandrowicz5m@independent.co.uk | Male   | Training                 | \$489    | California | M          | Monthly   | Menci       | Audi          | Fuscia           | Drama                      |
| 561 | Broderick  | Dimitrijevic   | bdimitrijevicf@mashable.com          | Male   | Engineering              | \$489    | Arizona    | M          | Yearly    | Blythin     | Saab          | Goldenrod        | Comedy Romance             |
| 251 | Maura      | Feroli         | mferoli6y@icio.us                    | Female | Research and Development | \$488    | California | L          | Weekly    | Turford     | Chevrolet     | Red              | Fantasy                    |



## Bottom 5 donors who are female, working in the Legal Industry and gave over \$300

```
SELECT *
FROM Donation_Data
WHERE
job_field = 'Legal'
AND
gender = 'Female'
AND
donation > 300
ORDER BY donation
LIMIT 5;
```

| ID  | First Name | Last Name  | Email                   | Gender | Job Field | Donation | State        | Shirt Size |
|-----|------------|------------|-------------------------|--------|-----------|----------|--------------|------------|
| 798 | Benedicta  | Coaten     | bcoatenm5@zdnnet.com    | Female | Legal     | 303      | Pennsylvania | M          |
| 644 | Carson     | Dies       | cdieshv@statcounter.com | Female | Legal     | 324      | Texas        | 3XL        |
| 196 | Thurstan   | McLenaghan | tmclenaghan5f@nih.gov   | Female | Legal     | 335      | Connecticut  | M          |
| 134 | Evelina    | Whitely    | ewhitely3p@blogs.com    | Female | Legal     | 338      | Michigan     | L          |
| 513 | Reeta      | Kenewel    | rkenewe8@google.ru      | Female | Legal     | 361      | Virginia     | M          |

## Top 10 donors from the Sales Industry

```
SELECT
a.first_name,
a.last_name,
a.email,
a.donation,
a.job_field,
b.donation_frequency,
b.favourite_colour
FROM Donation_Data AS a
LEFT JOIN Donor_Data2 AS b
ON a.id = b.id
WHERE job_field = 'Sales'
ORDER BY donation DESC;
```

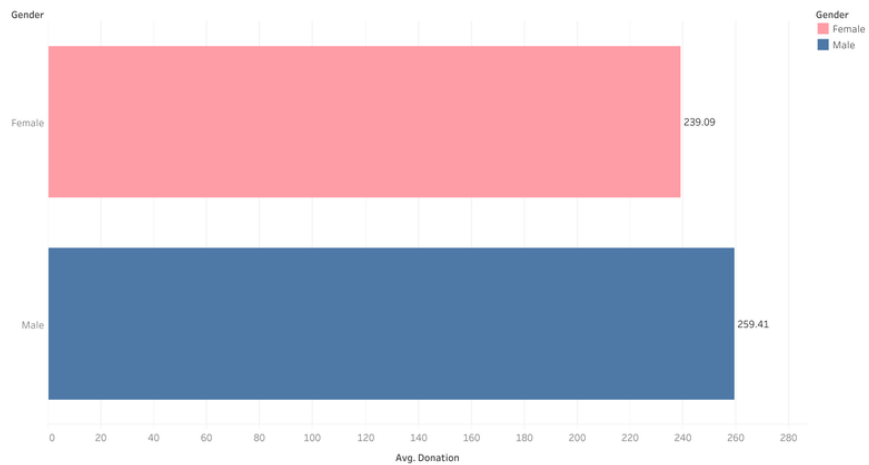
| First Name | Last Name  | Email                       | Job Field | Donation | Frequency | Favourite Colour |
|------------|------------|-----------------------------|-----------|----------|-----------|------------------|
| Peder      | Rilton     | priltonlc@trellian.com      | Sales     | 499      | null      | null             |
| Worthy     | Le feaver  | wlefeaverdb@edublogs.org    | Sales     | 498      | Monthly   | Maroon           |
| Nico       | Twinterman | ntwintermanq9@flickr.com    | Sales     | 484      | null      | null             |
| Hedwig     | Ioselev    | hioselevp9@newsvine.com     | Sales     | 482      | null      | null             |
| Minnie     | Bruyet     | mbruyetot@wordpress.com     | Sales     | 472      | null      | null             |
| Dana       | Alster     | dalsterqx@linkedin.com      | Sales     | 452      | null      | null             |
| Moises     | Shewon     | mshewon3n@ox.ac.uk          | Sales     | 451      | Often     | Turquoise        |
| Reeba      | Del Dello  | rdeldelloou@liveinternet.ru | Sales     | 433      | null      | null             |
| Sissie     | Burnside   | sburnsidejo@google.fr       | Sales     | 431      | null      | null             |

## Top 20 Donors who donate Weekly or Monthly

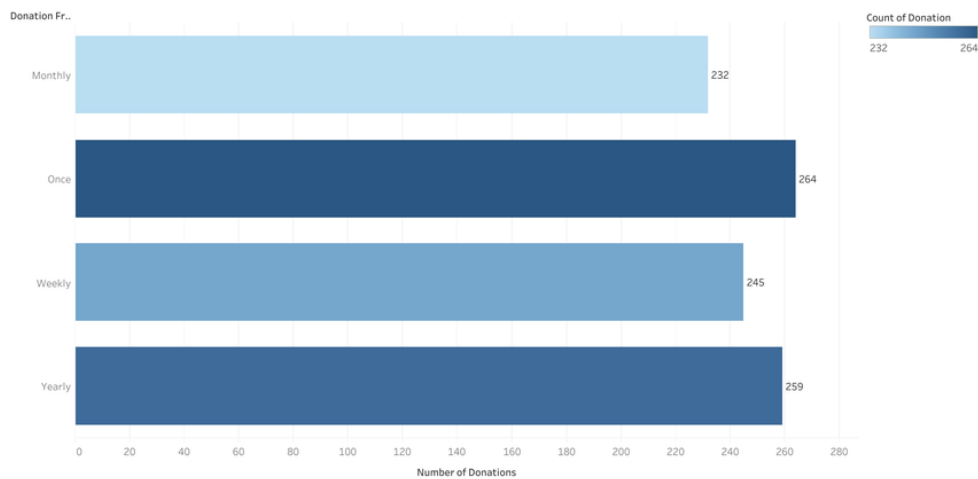
```
SELECT
a.first_name,
a.last_name,
a.email,
a.donation,
a.job_field,
b.donation_frequency
FROM Donation_Data AS a
JOIN Donor_Data2 AS b
ON a.id = b.id
WHERE donation_frequency = 'Weekly'
OR donation_frequency = 'Monthly'
ORDER BY donation DESC
LIMIT 20;
```

| First Name | Last Name      | Email                               | Donation | Frequency | Job Field                |
|------------|----------------|-------------------------------------|----------|-----------|--------------------------|
| Wallie     | Leather        | wleather7b@taobao.com               | 500      | Monthly   | Product Management       |
| Worthy     | Le feaver      | wlefeaverdb@edublogs.org            | 498      | Monthly   | Sales                    |
| Amalea     | Knill          | aknillqs@devhub.com                 | 497      | Weekly    | Research and Development |
| Tonnie     | Stockney       | tstockney23@examiner.com            | 494      | Weekly    | Support                  |
| Corbett    | Lansdale       | clansdalev@ovh.net                  | 494      | Monthly   | Product Management       |
| Nathaniel  | McGenn         | nmcgennqw@nih.gov                   | 494      | Monthly   | Human Resources          |
| Beverlee   | Camacke        | bcamacke@cloudflare.com             | 493      | Monthly   | Product Management       |
| Hurley     | Bogey          | hbogey81@cpanel.net                 | 492      | Weekly    | Business Development     |
| Babbette   | Fyers          | bfyers87@nymag.com                  | 491      | Monthly   | Engineering              |
| Karilynn   | Ivan           | kivanl8@addthis.com                 | 490      | Monthly   | Engineering              |
| Charlotta  | Bellison       | cbellison2h@epa.gov                 | 489      | Weekly    | Marketing                |
| Ludvig     | Alexsandrowicz | lalexsandrowicz5m@independent.co.uk | 489      | Monthly   | Training                 |
| Maura      | Ferrolis       | mferrolis6y@icio.us                 | 488      | Weekly    | Research and Development |
| Karena     | Andrieu        | kandrieucq@blogspot.com             | 487      | Weekly    | Marketing                |
| Nico       | Twinterman     | ntwintermanq9@flickr.com            | 484      | Weekly    | Sales                    |
| Emery      | Rospars        | erospars2n@studiopress.com          | 483      | Monthly   | Product Management       |
| Wilma      | Tummond        | wtummond7v@sbwire.com               | 483      | Monthly   | Legal                    |
| Shana      | Farnsworth     | sfarnsworth4@1688.com               | 482      | Weekly    | Business Development     |
| Hedwig     | Ioselev        | hioselevp9@newsvine.com             | 482      | Monthly   | Sales                    |
| Huntlee    | Durbin         | hdurbin3i@uiuc.edu                  | 480      | Monthly   | Human Resources          |

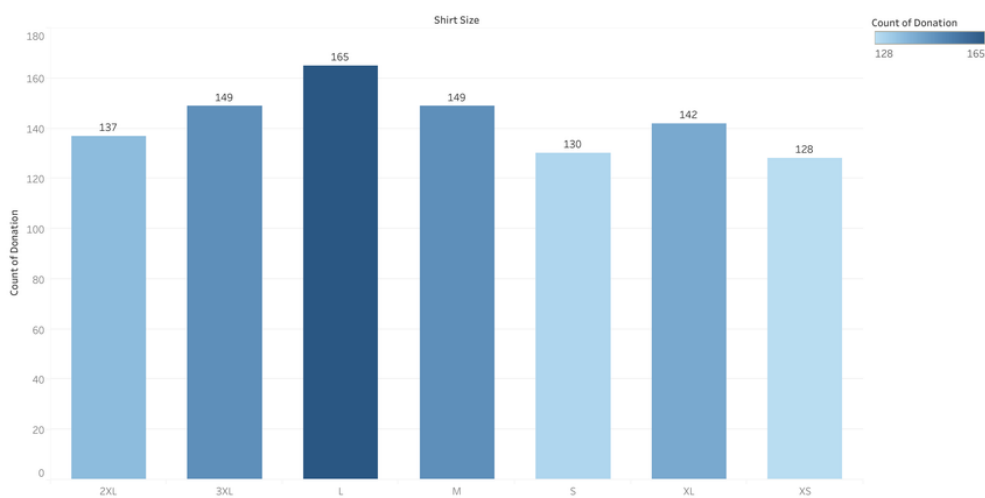
## Average Donation per Gender



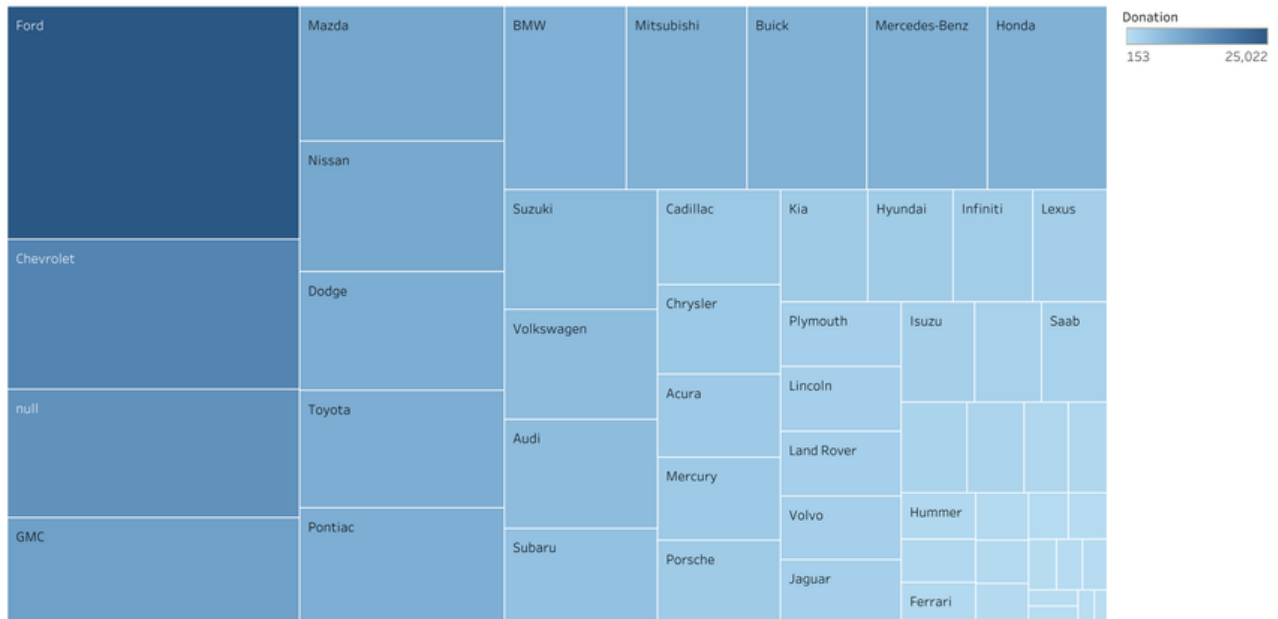
## Number of Donations based on Frequency



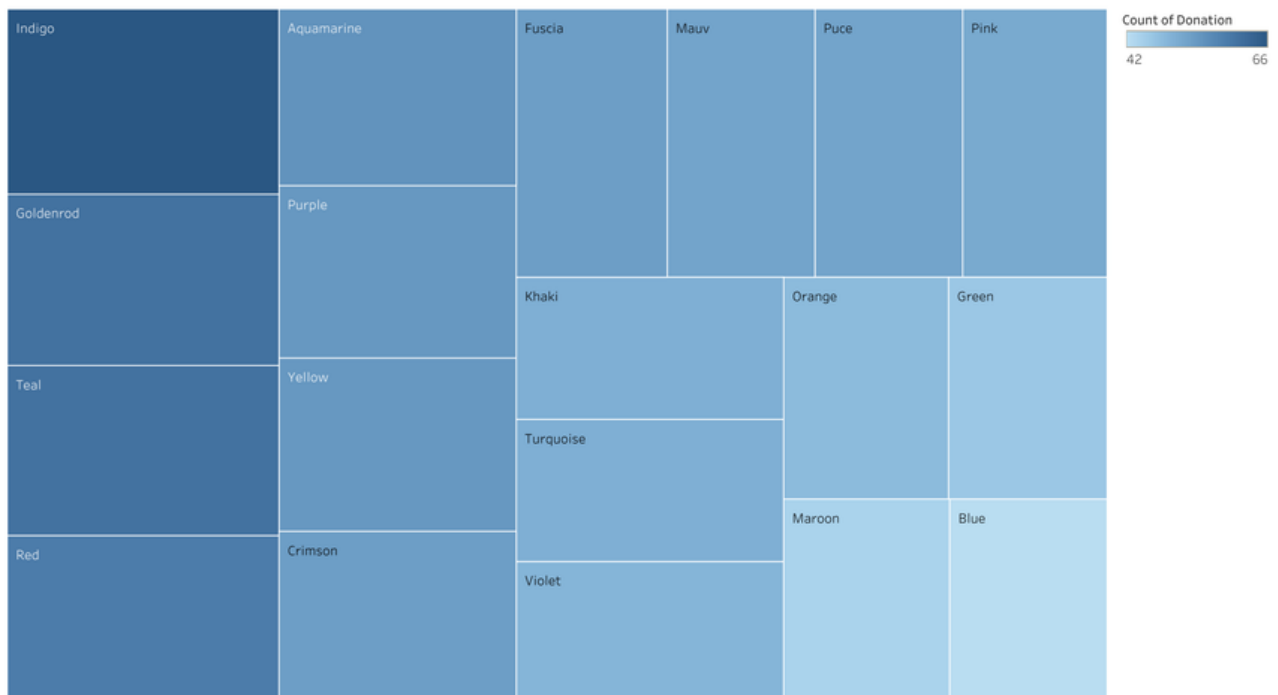
## Number of Donations for different Shirt Sizes



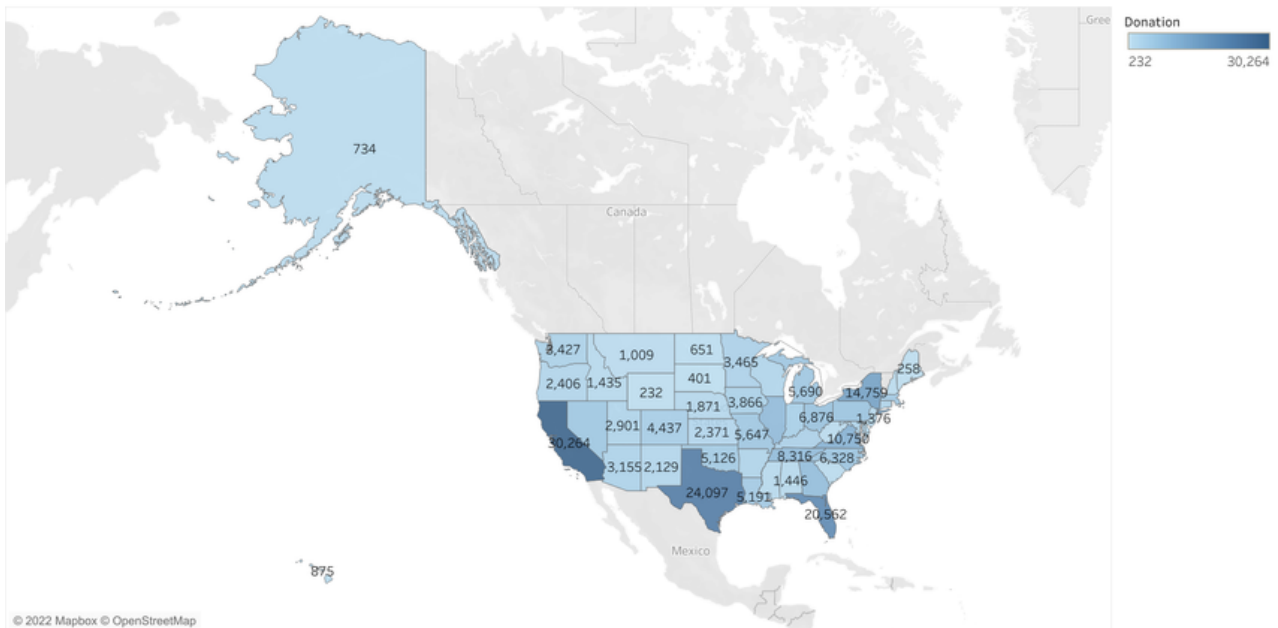
## Sum of Donations per Car make of Donor's car



## Number of Donations for different favourite colours



## Sum of Donations from different States



## Number of Donations for different Job Fields per Gender



# Findings

- The total number of donors is 1000, and the total amount raised is \$2,49,085, out of which the average amount of donations is \$249.
- 264 donors have donated only once, and 259 donors donate yearly; which equals more than half of the total donors.
- The highest number of donations are received from California, New York, and Texas.
- The highest number of donations are from the industries of Business Development, Engineering, Human Resources, and Product Management. The average donation is highest for Research and Development industry.
- The least number of donations are from the industries of Marketing and Legal.
- The top 20 donors are mostly from highly populated states like New York and California, where the majority donates monthly.
- Female donors are more than male donors in 7 industries out of a total of 12 industries.
- People who own Ford and Mazda tend to donate more, while people with other expensive cars have a lower donation frequency but a higher donation amount.
- Indigo, goldenrod, teal, and red are some of the most popular color choices among donors.
- There are about the same number of donations against different shirt sizes.

# Recommendations

## **To increase the number of donors,**

- Send emails requesting the universities of the top 20 donors to ask for more volunteers and mention the names of the current volunteers.
- Creating awareness about the charity in the states where donations have been significantly less, will in turn get more donors

## **To increase the donation frequency of the donors,**

- Send gifts as a way of gratitude to the donors, who have donated yearly or once, in the form of shirts of the donors' favorite colors so that they get encouraged and humbled to donate again.
- Acknowledge the top 20 donors in online/offline mode as a way of thanks, this will motivate them to donate more often.

## **To increase the value of donations,**

- Start a scheme to sell merchandise in order to donate the money raised. This will create an incentive for the donors, and they will also receive value for their donations. This will help add a feel-good factor.

The donors should be sent a weekly newsletter via email. This newsletter should contain all the information about the usage of their money. And also about the impact, their donation has made in several lives. This would inform them that their money is in good hands, and also provide an incentive to donate more.

# Conclusion

A lot of insights are taken by analyzing the data on donations and donors. Recommendations have been made in order to help the charity collect more donations.

A conclusion could be formed after analyzing the data to increase donations in the name of the charity. By analyzing the donors' personal choices, suggestions about how donations or donation frequencies can be increased are discussed.

The said measures need to be taken in order to improve the collection of money.







# Appendix

Data Analysis Portfolio

Thank you!

Contact

Jayank Gupta