

# Data Analysis Portfolio

Prepared By  
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# Professional background

## Data Analysis Portfolio

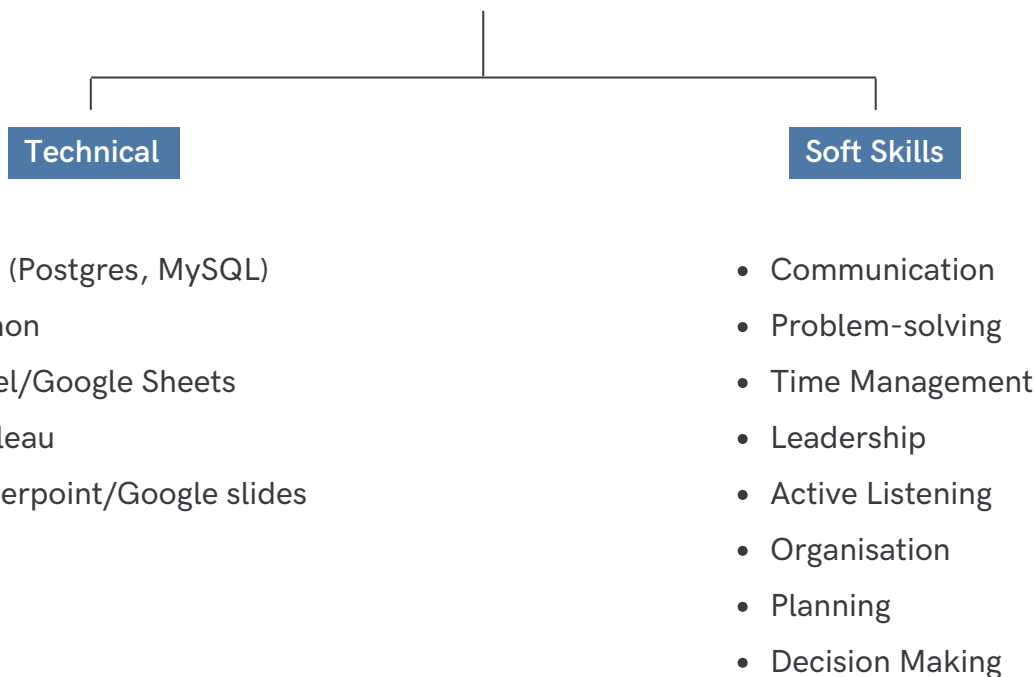
### Khushi Bindal

3rd year undergraduate, JECRC 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



# Table of Contents

Professional Background	01
Table of Contents	02
Introduction	03
Root Cause Analysis	04
Insights	
Insights 1	05
Insights 2	06
Insights 3	07
Insights 4	08
Insights 5	09
Visualisations 1	10
Visualisations 2	11
Visualisations 3	12
Findings	13
Recommendations	14
Conclusion	15
Appendix	16

# 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

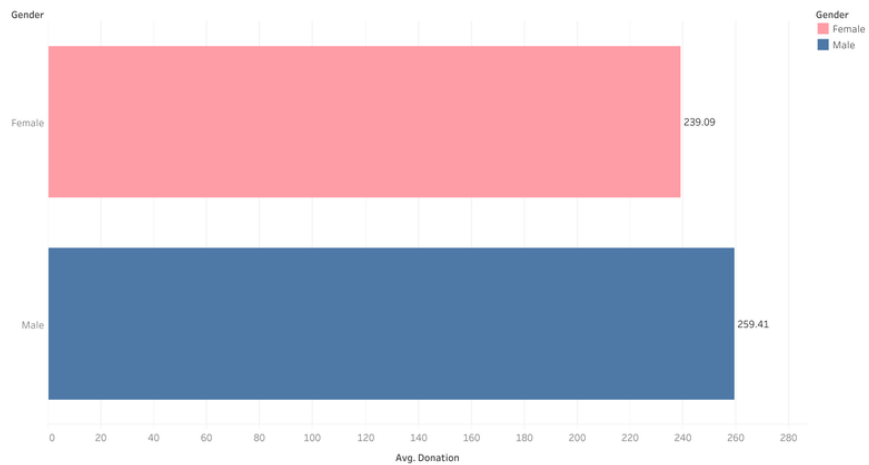
```

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;

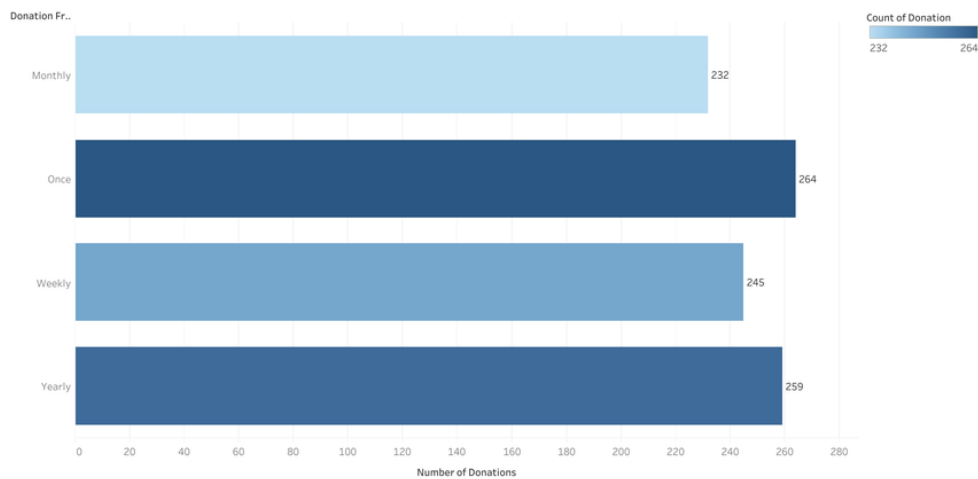
```

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

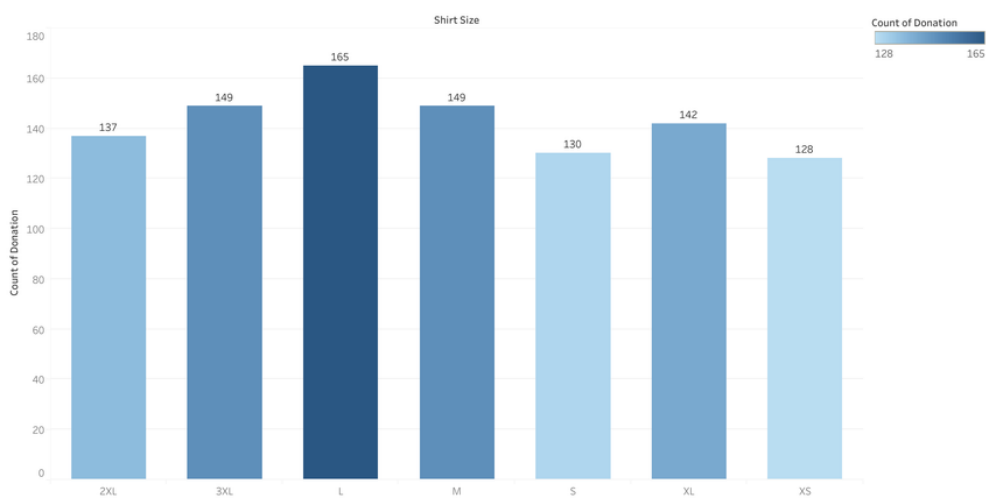
## Average Donation per Gender



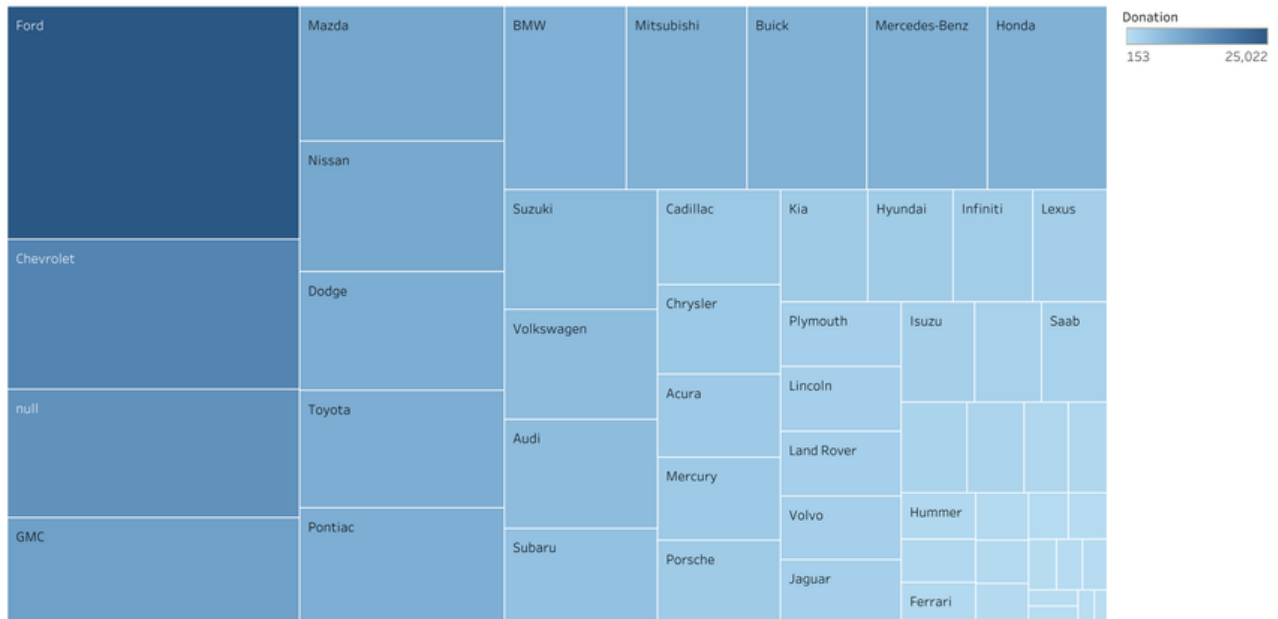
## Number of Donations based on Frequency



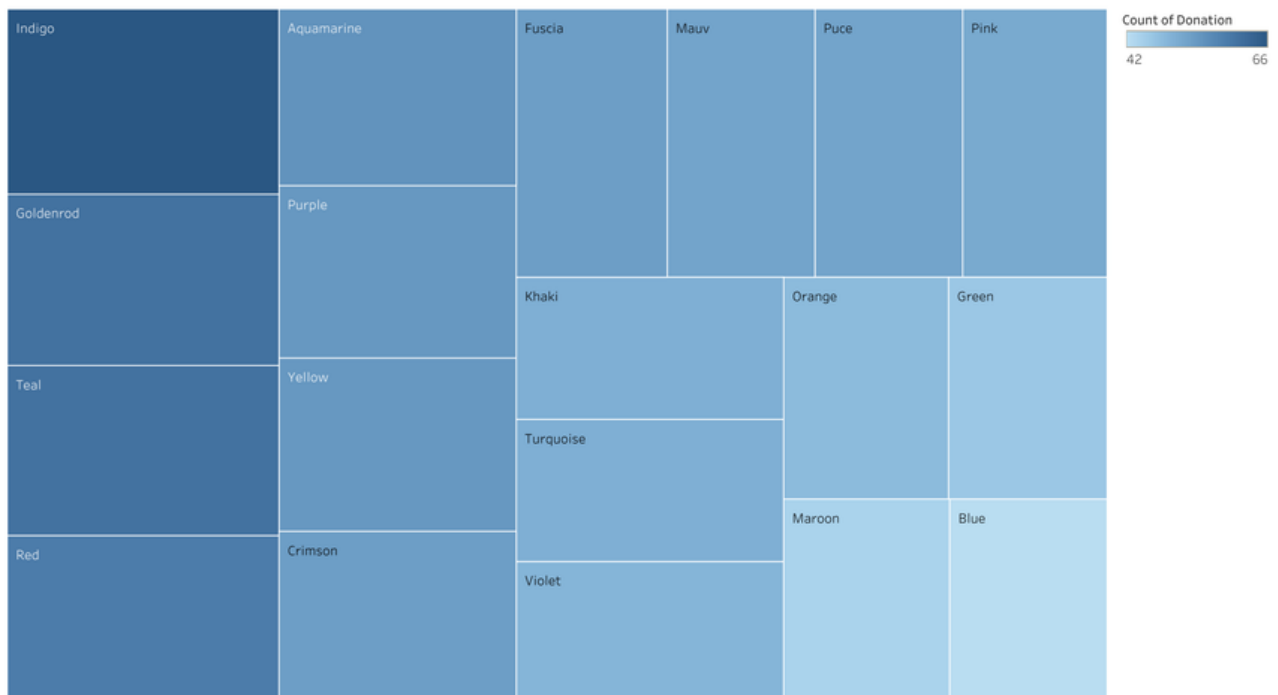
## Number of Donations for different Shirt Sizes



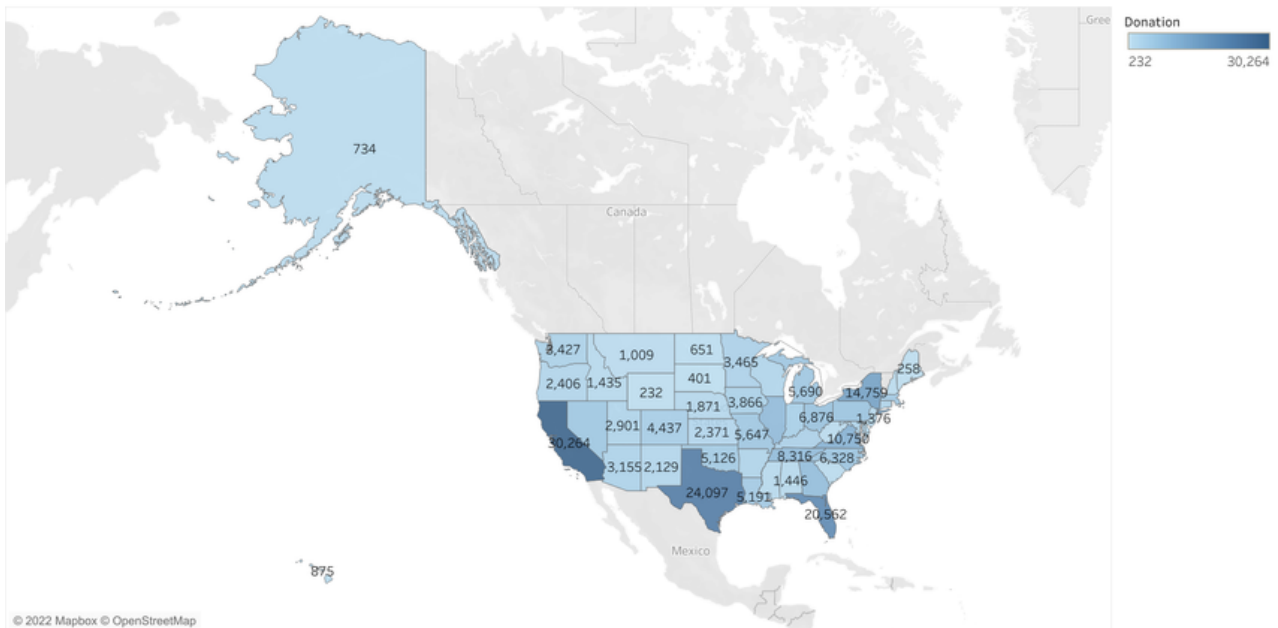
## Sum of Donations per Car make of Donor's car



## 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

Khushi Bindal