DATA ANALYSIS 2 PORTFOLIO

PROFESSIONAL BACKGROUND

I am a graduate of linguistics from the University of Ilorin, Kwara State, Nigeria. After my undergraduate degree, I worked as a graduate intern for my compulsory National Youth Service Corps (NYSC). I worked for ten (10) months at the Lagos State Office of Transformation, Creativity, and Information (OTCI), where I worked at the Management Services Department to maintain and update reference books needed for office consultancy assignments. I also assisted in the organization review and restructuring of Ministries, Departments, and Agencies (MDAs). As well as work with the department during internal consultancy services and monitoring of MDAs in Lagos State, Nigeria.

Upon completing my NYSC, my desire to change career paths was born, and I decided to transition into the tech industry. To aid my transition into the tech industry, I took various courses. I started by taking level 1–3 Health, Safety, and Environment courses, which earned me a British International Safety Organization HSE Certification. I also took the Fundamentals of Digital Marketing course offered by Google Digital Garage. In a bid to further improve my tech knowledge, I did several Udemy courses, such as Complete Creative Writing – All Genres, Tableau 2022 Training for Beginners + Tableau Certification, and Complete Microsoft SQL Server Database Administration Course. After completing these courses, I had a desire to achieve more, so I took up a project management course, which earned me a Professional and Graduate Project Management Certificate from the British Project Management Academy. After my project management course, I took up the scrum master course and successfully passed the Professional Scrum Master 1 assessment with a 93.8% score, thereby becoming a certified scrum master with a PSM I certificate. To further develop my scrum master abilities, I participated in a Cousera project course on how to create a Jira Scrum project.

Having gained ample experiences during my graduate internship and earning various certificates, it helped me develop skills such as agile methodology, Jira, project management, time management, teamwork, creative writing, and lots more. However, I yearned for more, birthing the desire to do data analysis. I took a course on data analysis using Google Sheets for the cleaning, consolidation, and analysis of the data, and I used Tableau for the visualisation of the data. I have been involved in several projects, which gave me the urge to further my data analytics skills by doing data analysis in SQL.

PORTFOLIO OVERVIEW

INTRODUCTION

INTRODUCTION

I will be working hypothetically as a data analyst for a charity known as EDUCATION FOR ALL. The Head of Fundraising has requested I give statistical analysis on donor insights and donation rates. Along with the fundraising team, I aim to do the following:

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

In two weeks, I need to share my insights from the donation data with the fundraising team and share my fundraising plan to boost donations for the following year.

The data sets EFO_Donation_Data and EFO_Donor_Data were used to solve the business problem. I analysed the data using the following SQL commands:

- JOIN
- WHERE
- ON
- ORDER BY ()
- BETWEEN
- AND
- LEFT JOIN
- OR
- GROUP BY ()
- HAVING
- LIMIT
- DESC
- ASC
- SUM ()
- COUNT ()
- MAX ()
- MIN ()
- AVG ()
- ROUND ()

In addition, I used root cause analysis to comprehend the problem and run pertinent queries. As a result of this, I have obtained vital insights from the offered datasets, created visualisations, and compiled a report for the team.

ROOT CAUSE ANALYSIS

ROOT CAUSE ANALYSIS

The business problem of the charity Education for All is the charity growing in terms of donors, increase in funds from donors and increase in the donation frequency from donors. Hence, in two weeks myself and the fundraising team must find a way to increase the number of donors, as well as increase the donation from donors already in the database and those coming into the database. We must also find a way to increase the donation frequency of existing and incoming donors.

Looking at the donor and donation data existing in the database, I had to ask some key questions, thereby analysing the data using the questions and doing a visual analysis of the data.

After thoroughly getting insights from the questions asked, I used root cause analysis to ask the following:

- Why are there not enough donations for the charity and regular donation in the charity?
  A: because there are not enough donors for the charity.
- Why don't we have enough donors in the charity?
  A: because majority of donors are from some job fields and state?
- Why are majority of donors in particular job fields and state?
  A: because some states have not or barely heard of the charity?
- Why is it that some states have not or barely heard of the charity?
  A: because we don't have a record of how our donors got to know about the charity
- Why don't we have a record of how the donors got to know about the charity?
  A: because the product management team does not ask the donors how they got to know or hear about the charity.

INSIGHTS

ANALYSIS INSIGHTS

To solve the business problem, the following datasets were presented to me EFO_Donation_Data and EFO_Donor_Data. SQLite Database Management System was used to query and analyse the datasets. Also, Tableau was used to visually represent the analysed data.

The data in the datasets includes the following:
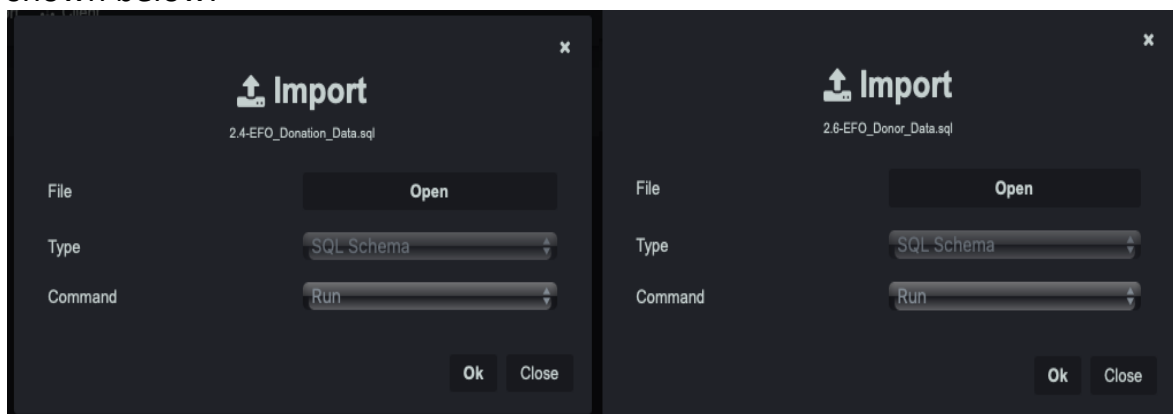EFO_Donation_Data:
- id
- first_name
- last_name
- email
- gender
- job_field
- donation
- state
- shirt_size

EFO_Donor_Data
- id
- donation_frequency
- university
- car
- second_language
- favourite_colour
- movie_genre

The datasets were imported into the SQLite Database Management System as shown below:

To get data from the datasets, the SELECT statement was used as follows:

```sql
SELECT * FROM Donation_Data;

SELECT * FROM Donor_Data2;
```

To get the total number of donors in the database, the COUNT () function was used:

```sql
1  SELECT COUNT(donation)
2  FROM Donation_Data;
```

To get the sum of all donations, I used the SUM () function as shown below:

```sql
1  SELECT SUM(donation)
2  FROM Donation_Data;
```

To get the maximum donation, the MAX () function was used:

```sql
1  SELECT MAX(donation)
2  FROM Donation_Data;
```

To get the minimum donation, the MIN () function was used:

```sql
1  SELECT MIN(donation)
2  FROM Donation_Data;
```

To get the average donation, the AVG () function was used and to round the average donation to 2 decimal places, the ROUND () function was used alongside the AVG () function as shown below:

```sql
1  SELECT ROUND (AVG(donation), 2)
2  FROM Donation_Data;
```

Given that there are two datasets, the JOIN clause was used to merge the two datasets together as shown in the query in the image below:

```sql
1 SELECT *
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id;
```

Also using the JOIN clause and WHERE clause, the amount of donations using donation frequency; ONCE, WEEKLY, MONTHLY and YEARLY was calculated as shown:

```sql
1 SELECT Donation_Data.donation, Donor_Data2.donation_frequency, SUM(donation)
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE donation_frequency = 'Once';
```

```sql
1 SELECT Donation_Data.donation, Donor_Data2.donation_frequency, SUM(donation)
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE donation_frequency = 'Weekly';
```

```sql
1 SELECT Donation_Data.donation, Donor_Data2.donation_frequency, SUM(donation)
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE donation_frequency = 'Monthly';
```

```sql
1 SELECT Donation_Data.donation, Donor_Data2.donation_frequency, SUM(donation)
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE donation_frequency = 'Yearly';
```

Using the GROUP BY, HAVING, ORDER BY and DESC queries, I was able to get the states with more than 80 donors.

```
1  SELECT  state,  COUNT(*)
2  FROM Donation_Data
3  GROUP  BY  state
4  HAVING  COUNT(*)  >  80
5  ORDER  BY  COUNT(*)  DESC;
```

To get the male and female donors with university degrees that contributed between $250 and $500, the JOIN and WHERE clause, combined with the AND, BETWEEN, ORDER BY and DESC queries, were used.

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donor_Data2.university, Donation_Data.job_field
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE gender = 'Female'
6 AND university != 'NULL'
7 AND donation BETWEEN 250 AND 500
8 ORDER BY donation DESC;
```

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donor_Data2.university, Donation_Data.job_field
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE gender = 'Male'
6 AND university != 'NULL'
7 AND donation BETWEEN 250 AND 500
8 ORDER BY donation DESC;
```

To find the male and female donors who gave between $250 and $500 but did not have a university degree, we used the JOIN and WHERE clauses in conjunction with the AND, BETWEEN, ORDER BY, and DESC queries.

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donor_Data2.university, Donation_Data.job_field
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE gender = 'Female'
6 AND university IS NULL
7 AND donation BETWEEN 250 AND 500
8 ORDER BY donation DESC;
```

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donor_Data2.university, Donation_Data.job_field
2 FROM Donation_Data
3 JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE gender = 'Male'
6 AND university IS NULL
7 AND donation BETWEEN 250 AND 500
8 ORDER BY donation DESC;
```

To get the job fields with over 80 donors, the queries shown in the image below were used.

```sql
1 SELECT job_field, COUNT(*)
2 FROM Donation_Data
3 GROUP BY job_field
4 HAVING COUNT(*) > 80
5 ORDER BY COUNT(*) DESC;
```

The following queries, shown in the image below, show the total number of donations for each donation frequency for the BUSINESS DEVELOPMENT job field.

```sql
1 SELECT Donation_Data.job_field, Donor_Data2.donation_frequency, COUNT(donation_frequency)
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 AND donation_frequency = 'Once';
```

```sql
1 SELECT Donation_Data.job_field, Donor_Data2.donation_frequency, COUNT(donation_frequency)
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 AND donation_frequency = 'Weekly';
```

```sql
1 SELECT Donation_Data.job_field, Donor_Data2.donation_frequency, COUNT(donation_frequency)
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 AND donation_frequency = 'Monthly';
```

```sql
1 SELECT Donation_Data.job_field, Donor_Data2.donation_frequency, COUNT(donation_frequency)
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 AND donation_frequency = 'Yearly';
```

From the image depicted below, the query shown was used to get the job filed with the highest donations.

```
1 SELECT Donation_Data.job_field, SUM(donation)
2 FROM Donation_Data
3 GROUP BY job_field
4 ORDER BY SUM(donation) DESC;
```

The images below show the queries used to get the top 10 and least 10 donors in the BUSINESS DEVELOPMENT job field.

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donation_Data.job_field, Donor_Data2.donation_frequency, Donor_Data2.car, Donor_Data2.universit
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 ORDER BY donation ASC
7 LIMIT 10;
```

```
1 SELECT Donation_Data.gender, Donation_Data.donation, Donation_Data.job_field, Donor_Data2.donation_frequency, Donor_Data2.car, Donor_Data2.universit
2 FROM Donation_Data
3 LEFT JOIN Donor_Data2
4 ON Donation_Data.id = Donor_Data2.id
5 WHERE job_field = 'Business Development'
6 ORDER BY donation DESC
7 LIMIT 10;
```

Tableau was used to bring the queried data into visualisation.

The total number of donors in job fields with more than 80 donors was visualised using Tableau, as shown in the image below:

Total number of donor in job fields with more than 80 donors
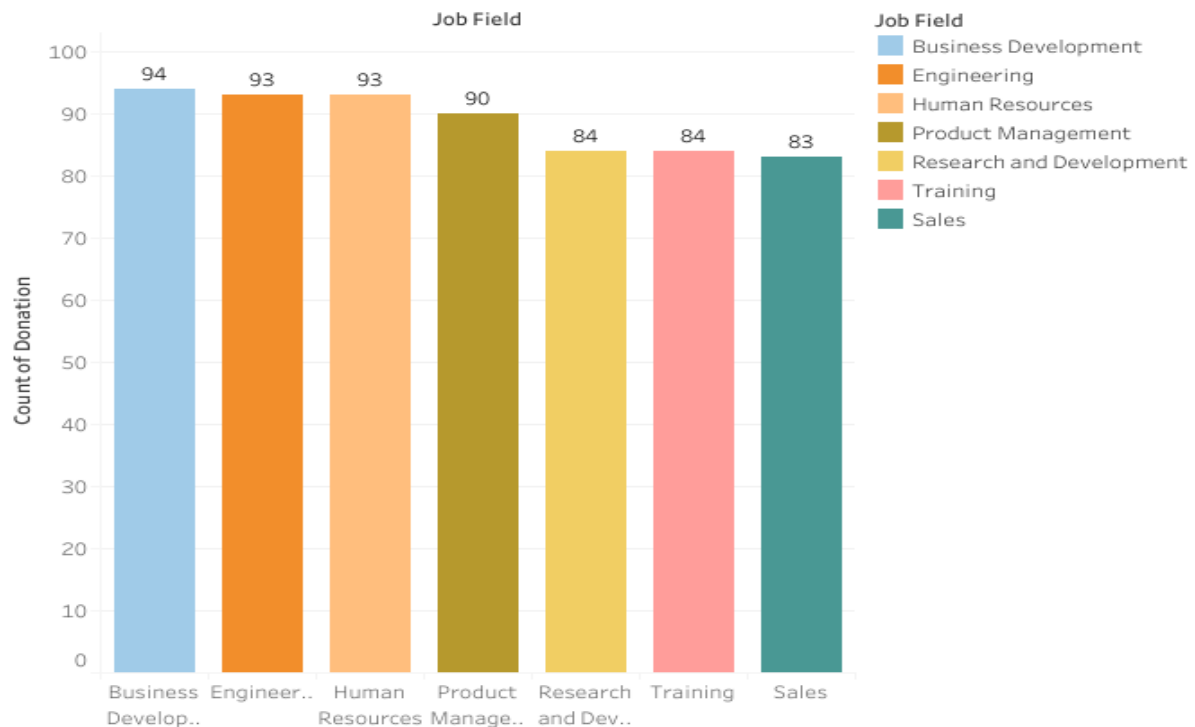
Shown below is a visual representation of the sum of donations in each job field.

Total sum of donation in each job field
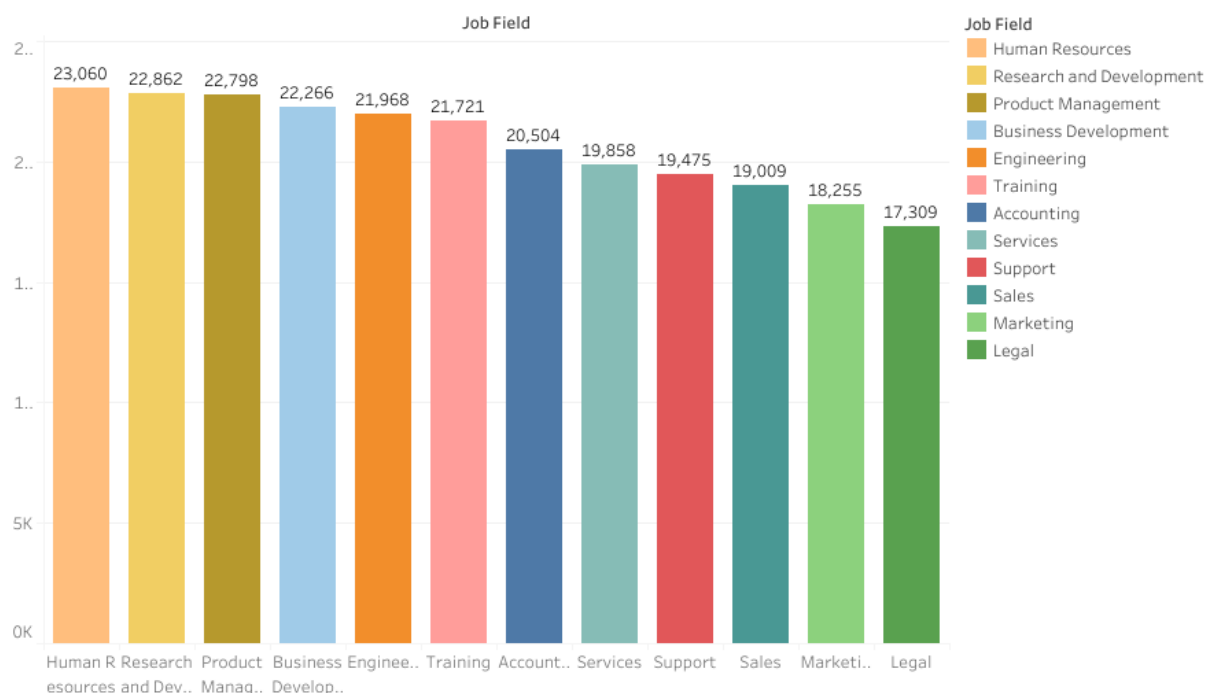
The following image provides a visual analysis of the total number of donors, total donations, and donation frequency in the Business Development job field:

Total number of donors and donation in Business Development job field and their donation frequency
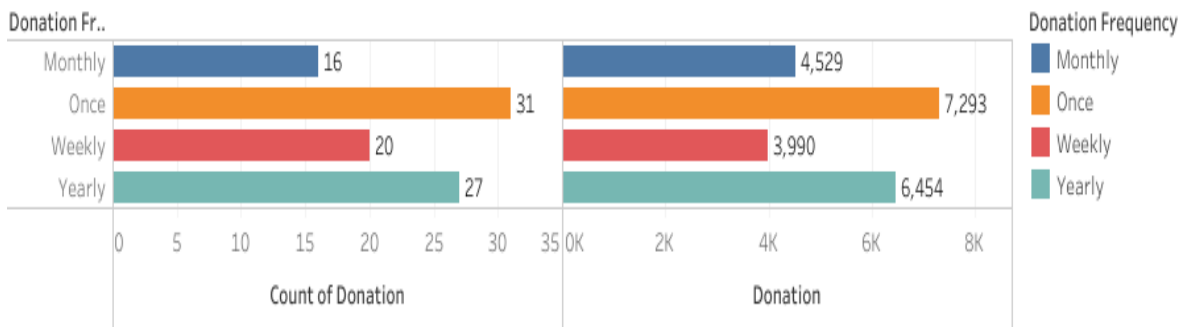
The image below highlights the states with more than 80 donors.

States with more than 80 donors

© 2023 Mapbox © OpenStreetMap
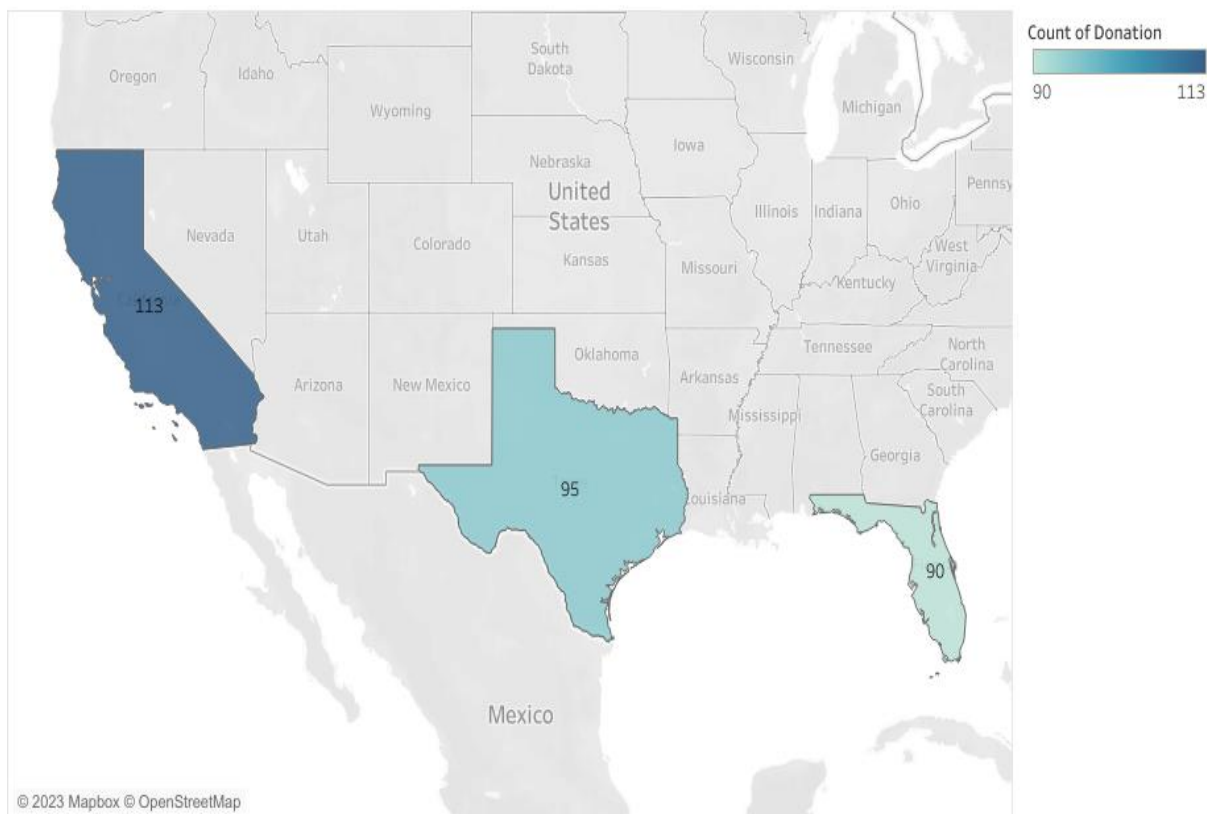
The Image below shows the total number of donations and donation frequency in each state.

Total number of donors and their donation frequency in each state
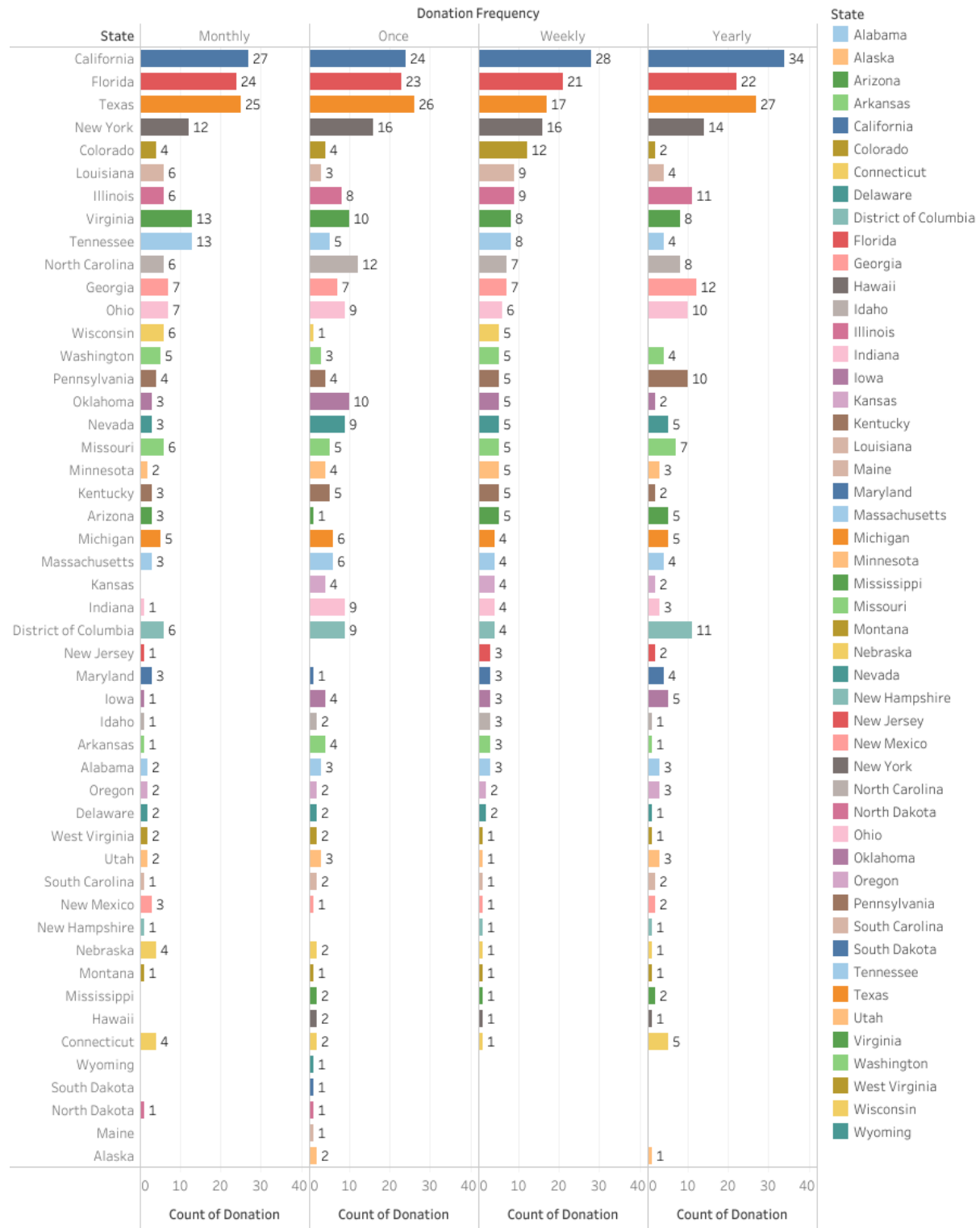
FINDINGS AND RECOMMENDATIONS

FINDINGS AND RECOMMENDATIONS

Following the analysis carried out on the Donation and Donor datasets, the following was found out:

- The total number of donors is 1000.
- The sum donations are $249085.
- The maximum amount of donation is $500.
- The minimum amount of donation is $5.
- The average donation rounded to 2 decimal places is $249.09.

I found out the sum of donations and number of donations in each donation frequency.

donation	donation_frequency	SUM (donation)
292	Once	64586
28	Weekly	59152
178	Monthly	59680
255	Yearly	65667

From the above table, it is evident that in the database, there are only 753 active donors out of the 1000 donors recorded. Hence, 247 donors don't donate. With this, the 247 non-active donors should be sensitised and encouraged to donate. Evidently, it shows that donors who donate once are most of the active donors but don't make up the highest number of donations; hence, they should be encouraged to donate more.

States with more than 80 donors

state	COUNT (*)
California	113
Texas	95
Florida	90

From the statistics presented above, most states have extremely few donors, since just three states have more than 80 donors. So, to grow donations, we should concentrate on attracting donations from the states above as well as expanding their donor base in other states.

Male and Female donors with university degrees that donated between $250 and $500.

Female

gender	donation	university	job_field
female	499	Sparhawk	Legal
female	499	Antoszewski	Sales
female	494	Coates	Product Management
female	492	Minthorpe	Training
female	491	Blackborn	Engineering
female	490	Heinert	Engineering
female	489	Fraser	Marketing
female	488	Turford	Research and Development
female	487	Forrington	Marketing
female	487	Deeks	Accounting
female	487	Wichard	Human Resources
female	487	Drewet	Services
female	486	Sackes	Marketing
female	483	Gorch	Product Management
female	482	Mellonby	Support
female	481	Khristoforov	Services
female	476	Royan	Human Resources
female	474	Damant	Accounting
female	473	Mundy	Support
female	465	Tayloe	Business Development
female	465	Rubert	Support
female	462	Ledrane	Product Management
female	462	Smethurst	Business Development
female	460	Gratten	Human Resources
female	458	Maric	Human Resources
female	456	Cadamy	Services
female	455	Mylchreest	Engineering
female	452	Enevoldsen	Accounting
female	451	Olive	Sales

female	451	Murrigans	Engineering
female	451	Chrippes	Business Development
female	450	Bertram	Research and Development
female	449	Markus	Legal
female	447	Meeny	Product Management
female	444	McAlindon	Accounting
female	444	Petticrow	Legal
female	442	Laughrey	Accounting
female	442	Josuweit	Training
female	440	Rudolf	Legal
female	440	Gronaller	Support
female	439	Ipsly	Accounting
female	439	Turmel	Legal
female	436	Hazelgreave	Marketing
female	436	Clowney	Engineering
female	435	Minci	Training
female	434	Thurgood	Product Management
female	433	Inger	Product Management
female	431	Scullard	Sales
female	431	Darton	Support
female	428	Anglish	Legal
female	428	Carrivick	Training
female	427	Renne	Accounting
female	423	Littlejohn	Marketing
female	423	Trehearn	Research and Development
female	422	Barham	Training
female	422	Pullar	Training
female	421	Effnert	Business Development
female	421	Finby	Sales
female	420	Chillingsworth	Marketing
female	420	Grasha	Marketing

female			Product Management
female	420	Powling	Product Management
female	420	Brettell	Research and Development
female	418	Cluatt	Accounting
female	417	Hardacre	Accounting
female	417	Izatson	Support
female	409	Flanner	Engineering
female	400	Windless	Business Development
female	397	Flockhart	Engineering
female	394	Dexter	Marketing
female	393	Lacoste	Engineering
female	393	Uden	Research and Development
female	392	Lidster	Product Management
female	391	Lambert	Research and Development
female	391	Swaddle	Marketing
female	389	Roose	Legal
female	388	Kitcher	Human Resources
female	387	Aish	Engineering
female	387	Brotheridge	Product Management
female	386	Stud	Research and Development
female	385	Mansell	Sales
female	384	Matas	Marketing
female	383	Plowman	Sales
female	380	Chretien	Human Resources
female	379	Tansly	Engineering
female	378	Tadgell	Legal
female	375	Kreber	Engineering
female	372	Courtenay	Engineering
female	371	Burnage	Accounting
female	370	Holsey	Training
female	369	Renshall	Research and Development

female	369	Angood	Accounting
female	368	Wyss	Support
female	364	Abthorpe	Human Resources
female	364	Skiplorne	Accounting
female	364	Fidgin	Business Development
female	362	Antonin	Business Development
female	358	Eddington	Services
female	355	McNish	Services
female	355	Mitrikhin	Human Resources
female	351	Wheal	Product Management
female	351	Parkman	Product Management
female	349	Lethabridge	Accounting
female	349	Reditt	Accounting
female	348	Gritskov	Support
female	348	Allflatt	Sales
female	347	Franceschi	Research and Development
female	345	Tomaszynski	Support
female	342	Hoffmann	Human Resources
female	342	Comiam	Training
female	340	Silverstone	Engineering
female	338	Shadbolt	Legal
female	337	MacAindreis	Marketing
female	335	Leaf	Engineering
female	334	Crippill	Support
female	334	Whellams	Human Resources
female	334	Blackbourn	Marketing
female	334	Crunkhurn	Training
female	332	Parzis	Engineering
female	329	Gavin	Sales
female	328	Elleton	Research and Development
female	324	Broster	Legal
female	323	Taffley	Sales
female	323	Matusovsky	Sales

female	322	Harraway	Support
female	321	Roads	Marketing
female	321	Birbeck	Accounting
female	320	D'Acth	Research and Development
female	320	Allmann	Human Resources
female	317	Winger	Training
female	317	Albutt	Services
female	315	Athersmith	Sales
female	314	O'Caine	Accounting
female	313	McLenahan	Training
female	312	Kippie	Business Development
female	310	Scocroft	Sales
female	310	Agastina	Engineering
female	309	Madgwick	Marketing
female	309	Askell	Research and Development
female	303	Bouch	Legal
female	299	Panks	Legal
female	299	Trimming	Training
female	296	Cowdroy	Research and Development
female	296	Burnip	Services
female	296	Capelen	Engineering
female	292	Featherstonhaugh	Engineering
female	292	Draisey	Legal
female	290	Perrygo	Sales
female	287	Serjeantson	Engineering
female	287	Litchfield	Human Resources
female	287	Disbrow	Services
female	286	Mallock	Training
female	285	Strathern	Engineering
female	283	Tedridge	Support
female	281	Ferns	Human Resources
female	280	Harle	Business Development
female	275	Bennike	Sales
female	274	Cronkshaw	Training

gender	donation	university	job_field
female	273	Sturdey	Research and Development
female	273	Goodey	Research and Development
female	272	Eldrett	Sales
female	271	Blaiklock	Services
female	270	Krink	Accounting
female	270	Hornung	Engineering
female	269	Castle	Services
female	268	Lengthorn	Training
female	265	Muttock	Engineering
female	263	Muris	Research and Development
female	261	O'Keaveny	Marketing
female	261	Leathe	Research and Development
female	259	Stathor	Accounting
female	257	Hutten	Research and Development
female	256	Sterley	Training
female	256	Bassom	Research and Development
female	256	Titterton	Support
female	255	Hanretty	Legal
female	254	Albrighton	Human Resources
female	252	D'Alesio	Accounting
female	251	MacQuist	Research and Development
female	251	Baddeley	Services
female	250	Verissimo	Support

Male

gender	donation	university	job_field
Male	500	Walasik	Support
Male	500	Leithgoe	Product Management
Male	498	Trotton	Sales
Male	497	Rockcliffe	Research and Development

Male	494	Cominetti	Support
Male	494	Baumber	Human Resources
Male	493	Armatidge	Product Management
Male	491	McIlmorow	Training
Male	489	Menci	Training
Male	489	Blythin	Engineering
Male	487	Naerup	Services
Male	486	Brooke	Business Development
Male	484	Grimoldby	Engineering
Male	484	Laugharne	Training
Male	482	Ellerey	Training
Male	482	Gunby	Product Management
Male	482	Tew	Human Resources
Male	482	Sodeau	Business Development
Male	482	Guerrier	Business Development
Male	482	Baford	Sales
Male	479	Shallcross	Research and Development
Male	478	Pardoe	Services
Male	477	Lowis	Marketing
Male	474	Finlayson	Engineering
Male	472	Jakubovicz	Business Development
Male	472	Scraney	Sales
Male	470	Thams	Product Management
Male	468	Gorler	Legal
Male	468	Parkman	Business Development
Male	466	Losty	Business Development
Male	466	Hunting	Training
Male	465	Burehill	Services

Male	465	Morhall	Research and Development
Male	461	Foffano	Research and Development
Male	461	Dartnall	Business Development
Male	460	Owtram	Product Management
Male	460	Bushill	Product Management
Male	460	Daughtery	Training
Male	459	Cropton	Human Resources
Male	458	Mallall	Support
Male	457	McKall	Research and Development
Male	455	Trays	Training
Male	452	McGlashan	Services
Male	451	Blount	Accounting
Male	451	Dinneen	Product Management
Male	450	Ambrosch	Human Resources
Male	447	Devlin	Research and Development
Male	447	Zecchetti	Support
Male	444	Edgeler	Services
Male	444	Douglass	Training
Male	442	Layfield	Research and Development
Male	441	Barnes	Human Resources
Male	439	Botte	Accounting
Male	437	Blackford	Training
Male	436	Cobbold	Marketing
Male	436	Finey	Support
Male	435	Brabon	Training
Male	434	Mines	Human Resources
Male	433	Oxherd	Sales
Male	430	Pear	Sales
Male	428	Ellacott	Business Development

Male	427	Georgi	Product Management
Male	427	Statton	Research and Development
Male	423	Nolot	Accounting
Male	421	Greenlees	Support
Male	419	Tranmer	Accounting
Male	417	O'Flannery	Accounting
Male	417	Bensusan	Legal
Male	416	Messent	Human Resources
Male	415	Lennon	Business Development
Male	414	Micklem	Research and Development
Male	411	Domenichelli	Human Resources
Male	411	Ackeroyd	Sales
Male	409	Alyokhin	Product Management
Male	409	Andreolli	Product Management
Male	409	Luppitt	Research and Development
Male	409	Dulanty	Support
Male	408	Gubbin	Product Management
Male	408	O'Lehane	Engineering
Male	401	Casella	Research and Development
Male	400	Carillo	Services
Male	400	Rowswell	Sales
Male	398	Pitfield	Services
Male	397	Austen	Training
Male	396	Twelvetrees	Marketing
Male	395	Adamthwaite	Human Resources
Male	393	Elliman	Business Development
Male	391	Lethley	Services
Male	391	Holbie	Marketing
Male	390	Roycroft	Support

Male	389	Gibbens	Services
Male	387	Flucks	Services
Male	387	Kenworthey	Legal
Male	386	Elger	Services
Male	382	Okeshott	Marketing
Male	382	Willshee	Support
Male	382	Nathan	Accounting
Male	378	Mingauld	Research and Development
Male	376	Grabeham	Business Development
Male	375	Harget	Research and Development
Male	375	Willmer	Support
Male	373	Slyman	Legal
Male	369	Savil	Training
Male	369	Wofenden	Product Management
Male	368	Brewin	Marketing
Male	367	Sacaze	Engineering
Male	365	Pounder	Business Development
Male	364	Barniss	Legal
Male	363	Tring	Human Resources
Male	363	Tytler	Human Resources
Male	358	Lyddiard	Product Management
Male	356	Browett	Marketing
Male	355	Whiffin	Business Development
Male	355	Shird	Accounting
Male	354	Deniseau	Sales
Male	353	Tuckett	Legal
Male	351	Puig	Services
Male	350	Janeczek	Training
Male	348	Lavalle	Human Resources
Male	346	Santhouse	Product Management
Male	345	Cordrey	Engineering

Male	344	Bell	Product Management
Male	343	Jellett	Training
Male	343	Berthot	Training
Male	341	Ennion	Research and Development
Male	339	Proschke	Product Management
Male	338	Kopec	Human Resources
Male	337	Hellen	Accounting
Male	335	Kaye	Marketing
Male	332	Janouch	Research and Development
Male	328	Worssam	Product Management
Male	327	Winckworth	Human Resources
Male	327	Curragh	Engineering
Male	327	Gosart	Support
Male	326	Gedney	Research and Development
Male	326	Veysey	Research and Development
Male	325	Wraight	Training
Male	324	Karpushkin	Marketing
Male	324	Parriss	Marketing
Male	321	Roddell	Research and Development
Male	320	Kernock	Research and Development
Male	320	Fencott	Legal
Male	319	Coetzee	Services
Male	319	Vedstra	Support
Male	317	Biddlecombe	Services
Male	316	Boylin	Research and Development
Male	315	Giorgiutti	Accounting
Male	309	Haskayne	Human Resources
Male	307	Vero	Sales
Male	307	Vida	Human Resources

Male	305	Pead	Engineering
Male	304	Twamley	Training
Male	303	Casserley	Engineering
Male	301	Mutimer	Human Resources
Male	300	Sharma	Research and Development
Male	297	Weeden	Marketing
Male	295	Feehely	Training
Male	295	Highnam	Research and Development
Male	292	Ferrelli	Human Resources
Male	291	Biskup	Accounting
Male	285	Peaker	Human Resources
Male	283	Raubenheimer	Marketing
Male	282	Gaunt	Engineering
Male	282	Lavin	Engineering
Male	281	Crilley	Training
Male	280	Blanden	Engineering
Male	279	Harflete	Product Management
Male	279	Le Provost	Product Management
Male	279	Grindle	Sales
Male	278	Readhead	Services
Male	278	Higginbottam	Product Management
Male	277	Wolvey	Accounting
Male	277	Drackford	Engineering
Male	274	Strathern	Business Development
Male	274	Osgar	Services
Male	273	Tempest	Services
Male	272	Lymbourne	Services
Male	270	Verne	Legal
Male	269	Jovicevic	Services
Male	268	Jerwood	Research and Development
Male	265	Scholey	Business Development

gender	donation	university	job_field
Male	262	Rousel	Product Management
Male	262	Rhydderch	Product Management
Male	260	Karpenko	Accounting
Male	260	Koeppe	Services
Male	260	Perrington	Legal
Male	259	Aylesbury	Support
Male	258	Di Matteo	Sales
Male	255	Clayal	Marketing
Male	254	McGovern	Business Development
Male	254	Lister	Engineering
Male	253	Deeson	Legal
Male	251	Cummings	Human Resources
Male	251	Hiscoe	Support

Looking at the above tables, it shows that 180 females and 194 males donate between \$250 and \$500, which is above the average donation value. However, this shows that just 37.4% of the total donors have a university degree and donate above the average donation value.

Male and Female donors without university degrees that donated between \$250 and \$500.

Female
gender	donation	university	job_field
Female	492	null	Business Development
Female	483	null	Legal
Female	482	null	Research and Development
Female	480	null	Engineering
Female	476	null	Product Management
Female	473	null	Training
Female	468	null	Engineering
Female	468	null	Accounting
Female	467	null	Business Development

Female	462	null	Support
Female	461	null	Research and Development
Female	455	null	Marketing
Female	453	null	Business Development
Female	450	null	Human Resources
Female	442	null	Business Development
Female	436	null	Accounting
Female	426	null	Support
Female	424	null	Sales
Female	423	null	Product Management
Female	423	null	Marketing
Female	422	null	Marketing
Female	422	null	Training
Female	420	null	Services
Female	413	null	Training
Female	408	null	Accounting
Female	407	null	Services
Female	405	null	Legal
Female	405	null	Human Resources
Female	399	null	Services
Female	399	null	Research and Development
Female	396	null	Sales
Female	387	null	Support
Female	387	null	Legal
Female	365	null	Sales
Female	365	null	Human Resources
Female	361	null	Legal
Female	359	null	Services
Female	359	null	Human Resources
Female	356	null	Research and Development
Female	353	null	Human Resources
Female	345	null	Sales
Female	335	null	Legal

Female	321	null	Support
Female	307	null	Product Management
Female	297	null	Training
Female	297	null	Marketing
Female	296	null	Accounting
Female	287	null	Product Management
Female	286	null	Accounting
Female	284	null	Marketing
Female	275	null	Sales
Female	273	null	Sales
Female	262	null	Training
Female	261	null	Sales
Female	252	null	Research and Development

Male

gender	donation	university	job_field
Male	493	null	Business Development
Male	488	null	Product Management
Male	484	null	Sales
Male	480	null	Human Resources
Male	469	null	Research and Development
Male	467	null	Legal
Male	463	null	Engineering
Male	462	null	Services
Male	458	null	Marketing
Male	452	null	Sales
Male	449	null	Legal
Male	446	null	Services
Male	446	null	Accounting
Male	442	null	Business Development
Male	441	null	Support
Male	426	null	Services

Male	419	null	Research and Development
Male	418	null	Support
Male	414	null	Support
Male	411	null	Support
Male	411	null	Engineering
Male	411	null	Marketing
Male	410	null	Engineering
Male	408	null	Human Resources
Male	406	null	Accounting
Male	402	null	Sales
Male	400	null	Sales
Male	400	null	Legal
Male	399	null	Business Development
Male	395	null	Product Management
Male	388	null	Services
Male	377	null	Support
Male	372	null	Legal
Male	368	null	Marketing
Male	365	null	Services
Male	363	null	Training
Male	358	null	Business Development
Male	354	null	Engineering
Male	352	null	Product Management
Male	350	null	Business Development
Male	349	null	Training
Male	347	null	Training
Male	347	null	Human Resources
Male	344	null	Accounting
Male	341	null	Research and Development
Male	321	null	Product Management
Male	319	null	Accounting

			Research and Development
Male	319	null	Research and Development
Male	314	null	Services
Male	312	null	Human Resources
Male	304	null	Sales
Male	302	null	Support
Male	299	null	Human Resources
Male	299	null	Human Resources
Male	296	null	Research and Development
Male	286	null	Product Management
Male	286	null	Business Development
Male	283	null	Accounting
Male	277	null	Business Development
Male	270	null	Accounting
Male	267	null	Product Management
Male	266	null	Support
Male	266	null	Human Resources
Male	262	null	Product Management
Male	261	null	Legal
Male	259	null	Engineering
Male	258	null	Engineering

From the tables above, it shows 55 Females and 67 Males without university degree donate above the average donation value which is between $250 and $500. This makes up 12.2% of the total donors. This denotes that the individuals without university degree should be sensitised to donate more.

Job field with over 80 donors

job_field	COUNT (*)
Business Development	94
Human Resources	93
Engineering	93
Product Management	90
Training	84
Research and Development	84
Sales	83

The table simply explains that 7 of all the job fields have more than 80 donors, while Business Development has the highest number with 94 individuals. Hence, other job fields should be thoroughly enlightened to increase the number of donors in those job fields.

The total number of donations for each donation frequency for the BUSINESS DEVELOPMENT job field.

job_field	donation_frequency	COUNT (donation_frequency)
Business Development	Once	31
Business Development	Weekly	20
Business Development	Monthly	16
Business Development	Yearly	27

Looking at the business development job field donation frequency table, it shows most of the donors donate once and a minority of the donors donate monthly. Therefore, it is advised that donors be encouraged to donate much more frequently than once.

The sum of donation in all job fields

job_field	SUM (donation)
Human Resources	23060
Research and Development	22862
Product Management	22798
Business Development	22266
Engineering	21968
Training	21721
Accounting	20504
Services	19858
Support	19475
Sales	19009
Marketing	18255
Legal	17309

Looking at the total amount donated across all job fields reveals that, despite having the most donors, Business Development does not have the most donations. This suggests that donors should be encouraged to raise the value of their donations in Business Development and other job fields.

The top 10 and least 10 donors in the BUSINESS DEVELOPMENT job field.

Top 10 Donors

gender	donation	job_field	donation_frequency	car	university	State
Male	493	Business Development	Yearly	Chevrolet	null	Louisiana
Female	492	Business Development	Weekly	Ford	null	Florida
Male	486	Business Development	Once	Ford	Brooke	Florida
Male	482	Business Development	Yearly	Honda	Sodeau	Mississippi

Male	482	Business Development	Weekly	Infiniti	Guerrier	Texas
Male	472	Business Development	Yearly	Dodge	Jakubovicz	Georgia
Male	468	Business Development	Once	Pontiac	Parkman	Nevada
Female	467	Business Development	Once	Nissan	null	California
Male	466	Business Development	Once	Suzuki	Losty	Massachusetts
Female	465	Business Development	Once	Ford	Tayloe	Florida

Least 10 Donors

gender	donation	job_field	donation_frequency	car	university	state
Female	6	Business Development	Yearly	Audi	Seeborne	Missouri
Female	10	Business Development	Weekly	null	null	Florida
Female	15	Business Development	Monthly	Hyundai	Gethyn	Illinois
Male	16	Business Development	Weekly	Kia	Havers	Kansas
Male	19	Business Development	Weekly	Land Rover	Kincla	Michigan
Female	22	Business Development	Once	Lexus	Cottrill	Mississippi

Female	36	Business Development	Weekly	Mazda	null	Florida
Female	38	Business Development	Once	Volvo	Yashaev	Kentucky
Male	39	Business Development	Yearly	Volvo	Howden	California
Female	40	Business Development	Weekly	Mitsubishi	Claasen	Florida

According to the two tables above, men are more likely to donate in the field of Business Development than women are. Seven of the top 10 donors are men, while seven of the least 10 are women. Hence, it's important for women in Business Development to learn more about the organisation.

CONCLUSION

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After carefully querying, analysing, and visualising the charity Education for All's EFO Donation Data and EFO Donor Data, I was able to draw a number of conclusions and make a number of recommendations based on my findings regarding the business problems of increasing donors in the database, increasing donation value, and increasing donation frequency.

The statistics reveal, first, that 24.7% of the donors are inactive and provide no donations, drastically reducing the value of the donations received. Yet, 292 of the active contributors only give once, indicating that the vast majority of active donors only give once, driving down the value of donations. Based on these observations, it's prudent to take steps that educate and sensibilize lapsed donors into making at least one contribution, which boosts the value of all donations, and that also encourage active contributors to make more contributions, which boosts donations even further.

From the data, it is also clear that weekly donors are few. However, the weekly donation frequency may be increased by targeting the inactive contributors in the database with a call to action, as the 3.7% of donors who do donate weekly now account for 23.7% of the overall donation.

The fact that just three states have more than 80 contributors demonstrates that the vast majority of states have very few donors. In order to address this, considerable education about the charity is needed in these other states.

The data also shows that individuals with a university degree who donate more than the median value of donation, which is between $250 and $500, make up 37.4% of all donors, while those without a university degree make up only 12.2% of all donors. This finding simply means that individuals without a university degree need to be encouraged by explaining more of the advantages of the charity to them in order to increase their donations.

When further questions are asked of the datasets, it becomes clear that while individuals working in Business Development make up the largest single group of donors, those working in Human Resources provide the most donations as a group. Many reasons contribute to this situation, including the fact that most people in the Business Development profession only make a single donation. Hence, we need to get more people working in Business Development to donate more often, and we need to get them to give more. Increasing the number of

contributors in the Human Resources industry and donations overall requires raising awareness about the charity among professionals in that field.

Unfortunately, several dataset columns did not give substantial insights into solving the business challenge of growing contributors, donations, and donation frequency, including car, shirt size, second language, movie genre, and favourite colour. It's clear that there are some pertinent inquiries to be made, such as how the contributors heard about the organisation and whether or not they support other charities. The charity may use the answers to these types of questions and the resulting data to focus its efforts on the areas of greatest need in terms of sensitization and enlightenment and therefore attract a larger donation pool. Donation frequency can be improved by gathering information on whether or not contributors are active with other charitable organisations. The value of donations will rise in tandem with the number of contributors and the regularity with which they make contributions thanks to them.