

Officers Survey Report

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Abstract

This report is part of the project “Building efficiency in Philanthropy”

Introduction

This is a report of the online survey that will help us answer the question of whether corporate/big philanthropy officers have confidence in their giving systems. It aimed at understanding community-based environmental and climate justice organizations’ experiences with donors, corporations, and finance organizations. The source of the data are samples pulled from panel made up of CBO’s, nonprofits and org leaders. It consisted of seven questions:

1. Please state your exact title.
2. What is your industry sector?
3. Do you believe that the current funding processes of corporate and philanthropic giving officers are efficient?
4. Do you think the current process for distributing funding earmarked for social justice topics is transparent and reliable?
5. Do you believe that the current funding and reporting processes of corporate and philanthropic giving reflect the experiences of the communities they hope to reach?
6. Would you be interested in establishing more transparent relationships with community groups and finance organizations?
7. To ensure engagement, please select ‘no’ as your answer selection (not further considered here. All participants selected ‘no’ as an answer)

Initial data cleaning and exploration

The cleaning steps include renaming and excluding blank columns, excluding blank rows, title casing, etc.

```

# Import libraries
import pandas as pd
import seaborn as sns
import seaborn.objects as so
import matplotlib.pyplot as plt
import numpy as np
import warnings
warnings.simplefilter("ignore", category=FutureWarning)

# import raw dataset
data = pd.read_csv('./officers_survey_result.csv', index_col = False)

# insert proper column names
col_names = ['session_id', 'publish_id', 'collector', 'language', 'start', 'end', 'status',
             'q1', 'q2', 'q3', 'q4', 'q5', 'q6', 'q7', 'aid', 'score', 'Unnamed: 18', 'Unnam
             'Unnamed: 21', 'Unnamed: 22', 'source', 'Unnamed: 24', 'help_answer', 'Unnamed:
             'assumptions', 'Unnamed: 29', 'Unnamed: 30', 'limitations']
data.columns = col_names

# drop columns that do not add meaning to analysis
col_to_remove = ['publish_id', 'collector', 'language', 'status', 'progress', 'help_answer',
                 'limitations', 'score', 'source', 'aid', 'start', 'end']
data = data.drop(col_to_remove, axis = 1)

# drop "Unnamed" columns
data = data.drop(data.filter(regex='Unnamed').columns, axis=1)

# exclude first 2 lines that do not contain survey responses
data = data.drop([0,1])

# reset index
data = data.reset_index(drop = True)

# saving cleaned df
data.to_csv('officers_survey_result_cleaned.csv', index=False)

```

There are 7 questions (q1 to q7) with 12 recordings each. The question 7 will not be considered in further analysis.

```

df = pd.read_csv('./officers_survey_result_cleaned.csv', index_col = False)
df= df.drop(['duration_sec', 'q7'], axis = 1)
df.head()

```

	session_id	q1	q2
0	451fd04e-3246-4bff-bb5f-3f95d1443749	Librarian	Education
1	d9466ec0-520b-405c-bef6-b67b1908af9e	director	non profit
2	cab83fa9-429a-4cab-92cc-d294ecc1b4b6	HR Specialist	Non profit mental health
3	ebdcf7ae-3eb6-4e2c-908c-5c14daac4575	Director of Special Events & Projects	Hospitality
4	0dab20ee-c443-418a-8b1d-f141c687794d	Consultant	Education

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 12 entries, 0 to 11
Data columns (total 7 columns):
#   Column      Non-Null Count  Dtype
---  -
0   session_id  12 non-null    object
1   q1          12 non-null    object
2   q2          12 non-null    object
3   q3          12 non-null    object
4   q4          12 non-null    object
5   q5          12 non-null    object
6   q6          12 non-null    object
dtypes: object(7)
memory usage: 800.0+ bytes
```

Exploring the first question (“Please state your exact title”), it is noticeable that there are 10 unique titles. The Director position was the only one repeated.

```
df['q1'].value_counts()
```

```
q1
Librarian          1
director           1
HR Specialist      1
Director of Special Events & Projects  1
Consultant         1
Director of donations  1
Teacher            1
Nurse              1
founder and ED     1
Director           1
```

```

CIO 1
Media Specialist 1
Name: count, dtype: int64

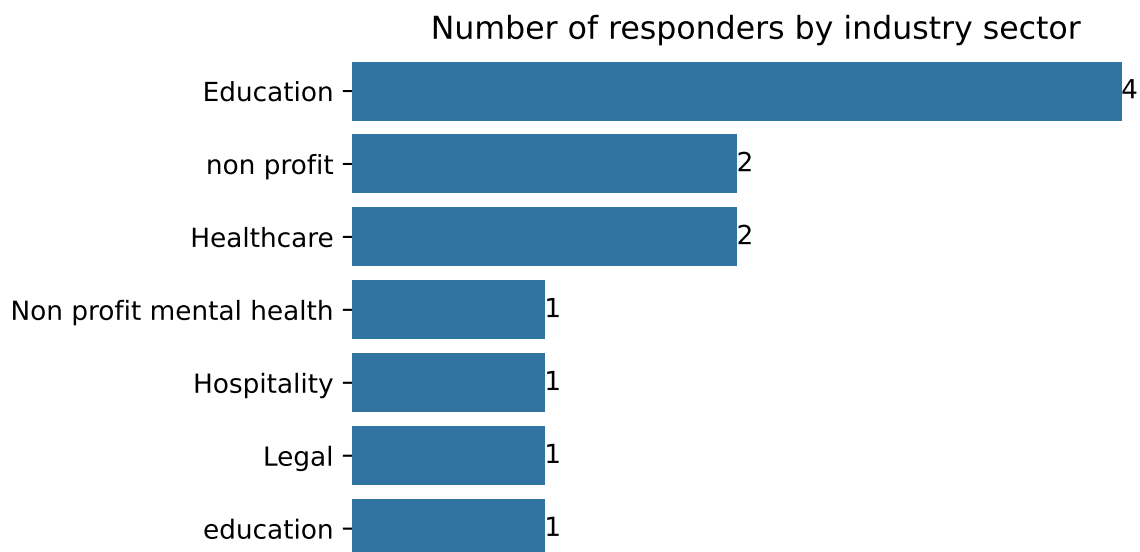
```

Most responders belong to the Education industry.

```

ax = sns.countplot(y='q2', data=df, order=df['q2'].value_counts().index)
ax.set(xlabel='', ylabel='', xticks=[],
       title='Number of responders by industry sector', frame_on=False)
ax.bar_label(ax.containers[0])
plt.show()

```



It is possible to see that the majority of responders are interested in establishing a more transparent relationship with the community and finance organizations (Q6). On the opposite side, most participants believe that current funding and reporting processes of corporate and philanthropic giving do not reflect the experiences of the communities they hope to reach (Q5). Only 3 responders think that the current process for distributing funding is transparent and reliable (Q4).

```

def create_subplots(df, columns, titles):
    fig, axes = plt.subplots(4, 1, figsize=(7, 14))

    for ax, column, title in zip(axes.flatten(), columns, titles):
        plot = sns.countplot(df, x=column, ax=ax, order=order, palette=palette)
        plot.tick_params(length=0)

```

```

plot.set(xlabel='', ylabel='', yticks=[], title=column, frame_on=True)
plot.set_title(title, fontsize=15, pad= 10, loc='center', weight='bold')

for container in plot.containers:
    labels = [int(v.get_height()) if v.get_height() > 0
              else '' for v in container]
    plot.bar_label(container, labels=labels, label_type='center')

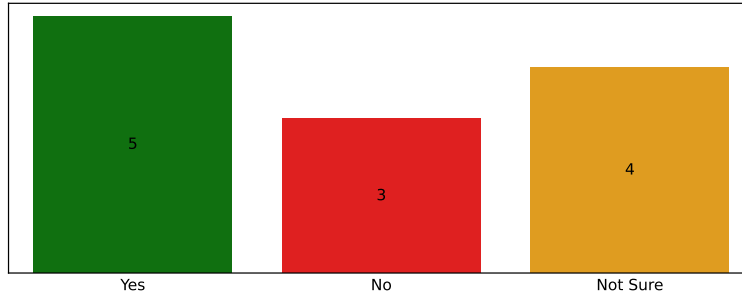
plt.tight_layout()
plt.show()

palette = {'No': 'red', 'Yes': 'green', 'Not Sure': 'orange'}
order = ['Yes', 'No', 'Not Sure']
titles = ['Q3 - Do you believe that the current funding processes of \n corporate and philanthropy are
          'Q4 - Do you think the current process for distributing funding \n earmarked for social impact
          'Q5 - Do you believe that the current funding and reporting processes \n of corporate and philanthropy
          'Q6 - Would you be interested in establishing more transparent \n relationships with the community?']
columns = ['q3', 'q4', 'q5', 'q6']

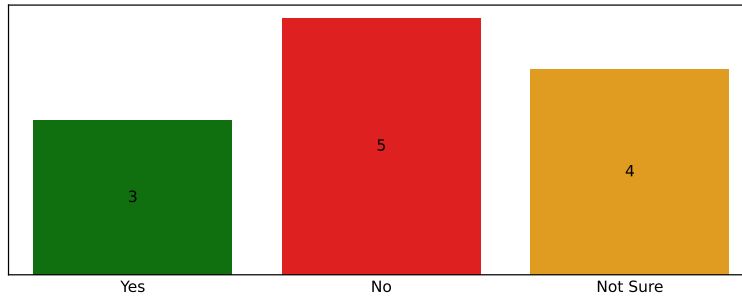
create_subplots(df, columns, titles)

```

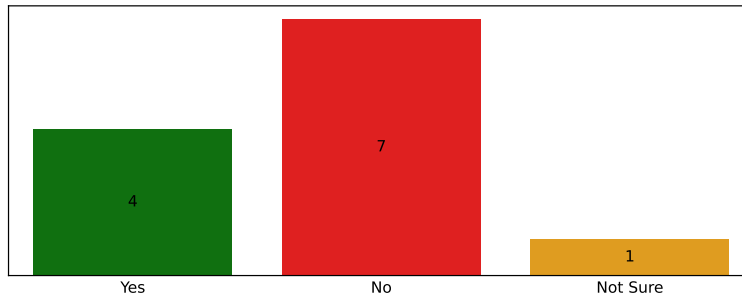
Q3 - Do you believe that the current funding processes of corporate and philanthropic giving officers are efficient?



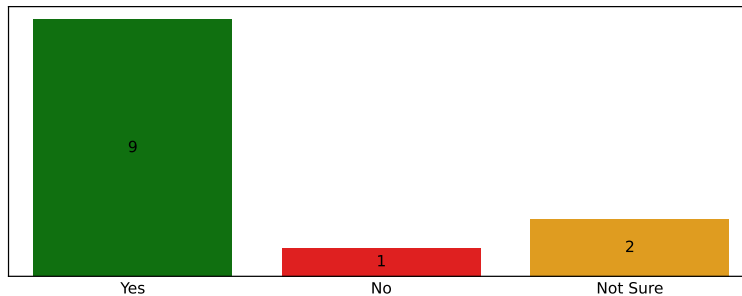
Q4 - Do you think the current process for distributing funding earmarked for social justice topics is transparent and reliable?



Q5 - Do you believe that the current funding and reporting processes of corporate and philanthropic giving reflect the experiences of the communities they hope to reach?



Q6 - Would you be interested in establishing more transparent relationships with community groups and finance organizations?



Another way to display the above plots is by taking the proportion of yes, no and not sure from the total of answers for each question.

```
# Creating df with count of all answers
all_answers = []

for i in range(3,7):
    row_name = {'count':f'Q{i}'}
    df_answer = pd.DataFrame(df[f'q{i}'].value_counts()).T.rename(index=row_name)
    all_answers.append(df_answer)

df_all_answers = pd.concat(all_answers)

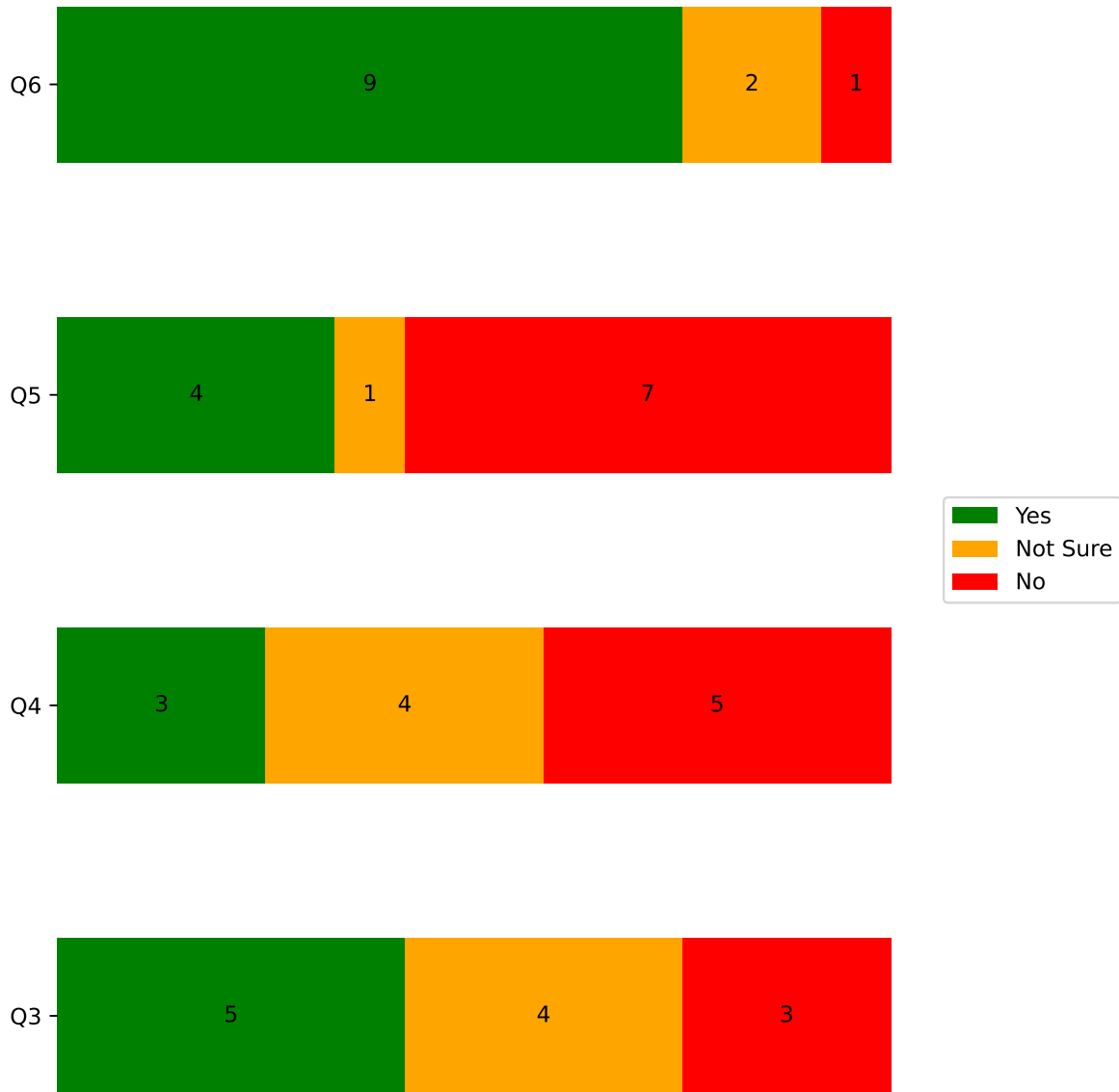
# Proportion plot
fig, ax = plt.subplots(figsize=(7, 10))

df_all_answers.plot(kind='barh', stacked=True, ax=ax, color=palette)
ax.legend(loc='center left', bbox_to_anchor=(1, 0.5))
ax.set(xlabel='', ylabel='', xticks=[], frame_on=False)
ax.set_title('Proportion of answers to questions 3 to 6', fontsize=15, pad= 0,
loc='center', weight='bold')

for container in ax.containers:
    labels = [int(v.get_width()) if v.get_width() > 0
              else '' for v in container]
    ax.bar_label(container, labels=labels, label_type='center')

plt.show()
```

Proportion of answers to questions 3 to 6

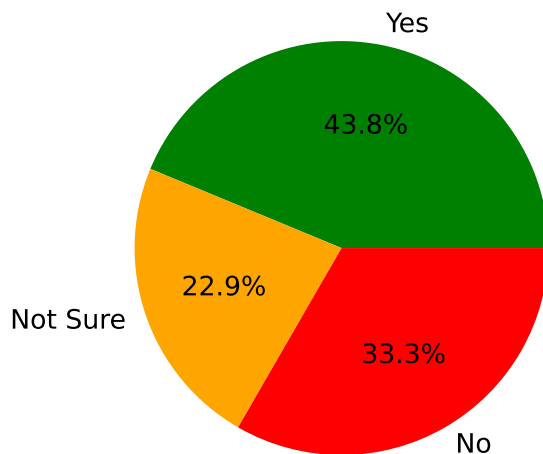


We can see in the pie chart below, summing answers for questions 3 to 6, that around 44% of answers were “Yes”.


```
# Overall proportion of answers: Pie chart
labels = 'Yes', 'Not Sure', 'No'
sizes = df_all_answers.sum()

fig, ax = plt.subplots()
ax.pie(sizes, labels=labels, autopct = '%1.1f%%',
       colors=['green', 'orange', 'red'])
ax.set_title('Overall proportion of answers to questions 3 to 6')
plt.show()
```

Overall proportion of answers to questions 3 to 6



Below is the breakdown of how responders, aggregated by industry sector, replied the questions 3 to 6. People belonging to same industry sector seem to rarely fully agree on the answers provided, with few exceptions.

```
# Creating pivot tables to be plotted
def pivot_df(col_columns, col_rows='q2', df=df):
    """Function to create pivoted tables of Industry and Questions"""
    return df.groupby([col_rows, col_columns]).size().reset_index().pivot(columns=col_columns)

df_q2_q3 = pivot_df('q3')
df_q2_q4 = pivot_df('q4')
df_q2_q5 = pivot_df('q5')
df_q2_q6 = pivot_df('q6')

def hor_stacked_plot(df, title, ax):
```

```

"""Horizontal stacked barplots of answers by industry to each question"""
# sorting df
df = df.loc[df.sum(axis=1).sort_values(ascending=True).index]

# plot
df.plot(kind='barh', stacked=True, ax=ax, color=palette)
ax.legend(loc=0)
ax.set(xlabel='', ylabel='', xticks=[])
ax.set_title(title, fontsize=15, pad= 10, loc='center', weight='bold')

# Add bar labels for all containers, excluding zero values
for container in ax.containers:
    labels = [int(v.get_width()) if v.get_width() > 0
               else '' for v in container]
    ax.bar_label(container, labels=labels, label_type='center')

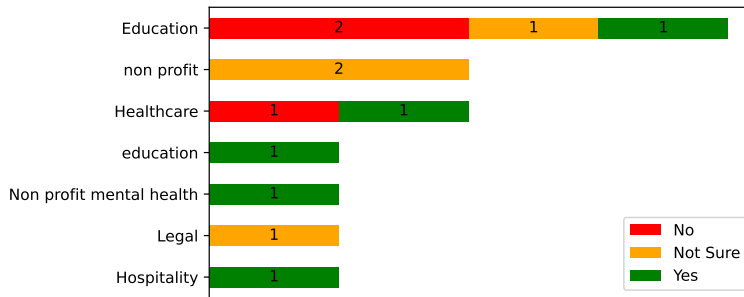
# Plotting figures
fig, axs = plt.subplots(4, 1, figsize=(7, 14))

hor_stacked_plot(df_q2_q3, titles[0], ax = axs[0])
hor_stacked_plot(df_q2_q4, titles[1], axs[1])
hor_stacked_plot(df_q2_q5, titles[2], axs[2])
hor_stacked_plot(df_q2_q6, titles[3], axs[3])

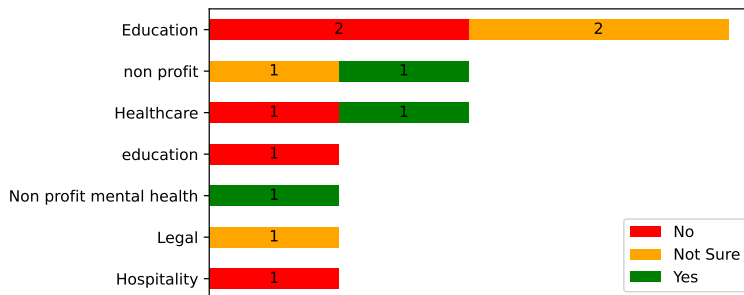
plt.tight_layout()
plt.show()

```

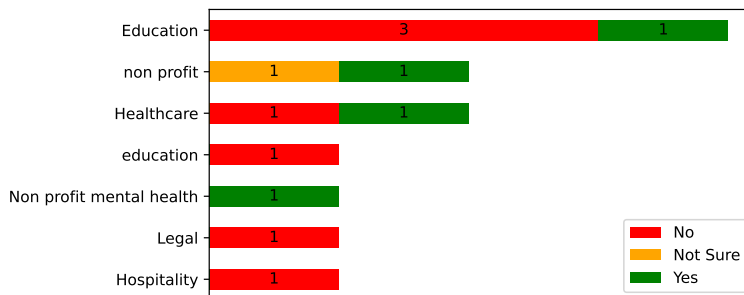
Q3 - Do you believe that the current funding processes of corporate and philanthropic giving officers are efficient?



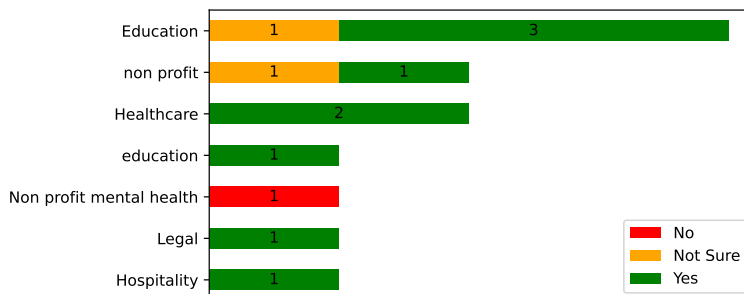
Q4 - Do you think the current process for distributing funding earmarked for social justice topics is transparent and reliable?



Q5 - Do you believe that the current funding and reporting processes of corporate and philanthropic giving reflect the experiences of the communities they hope to reach?



Q6 - Would you be interested in establishing more transparent relationships with community groups and finance organizations?



Finally, an alternative way to visualize answers is by splitting each answer by the industry sector. This way we can see how each industry contributed to the answers. As expected, education plays an important role since most responders are from this industry.

```
# Create stacked barplots of what each industry replied to each question
def vert_stacked_plot(df, title, ax):
    """Vertical stacked bar plots of answers by industry to each question"""
    # plot
    df.plot.bar(stacked=True, ax=ax, rot = 0)
    ax.legend(loc='center left', bbox_to_anchor=(1, 0.5))
    ax.set(xlabel='', ylabel='', yticks=[])
    ax.set_title(title, fontsize=15, pad= 10, loc='center', weight='bold')

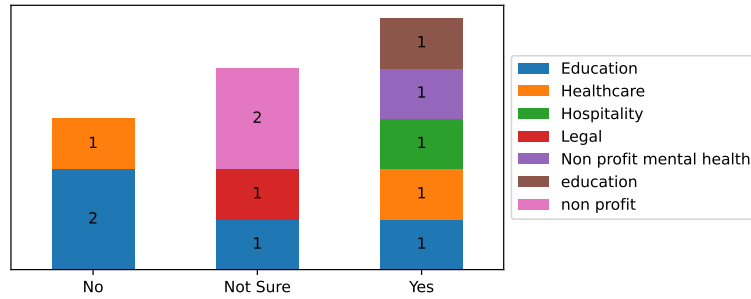
    # Add bar labels for all containers
    for container in ax.containers:
        labels = [int(v.get_height()) if v.get_height() > 0
                  else '' for v in container]
        ax.bar_label(container, labels=labels, label_type='center')

fig, axs = plt.subplots(4, 1, figsize=(7, 14))

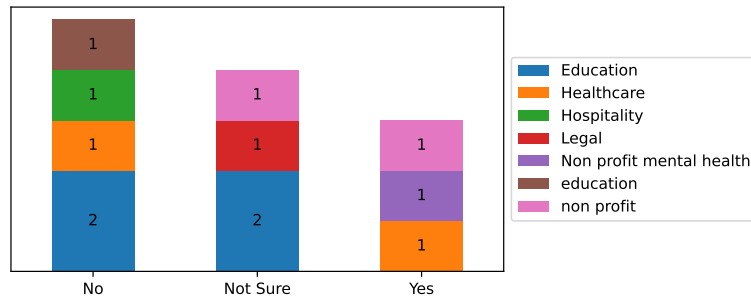
vert_stacked_plot(df_q2_q3.T, titles[0], ax = axs[0])
vert_stacked_plot(df_q2_q4.T, titles[1], axs[1])
vert_stacked_plot(df_q2_q5.T, titles[2], axs[2])
vert_stacked_plot(df_q2_q6.T, titles[3], axs[3])

plt.tight_layout()
plt.show()
```

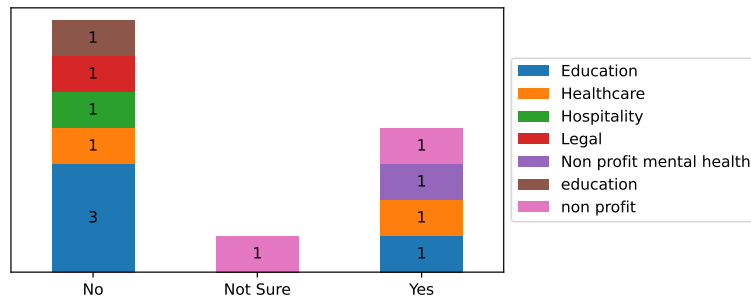
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