

# Data analysis and visualisations of grant making activity for small and medium charitable trusts in the UK.



## Introduction

Fundraising is considered to be one of the core activities of the non-profit sector. The performance of fundraising activities is a crucial benchmark of growth and development for non-profit organisations. Without a sustainable stream of income, an organisation will not be able to complete its charitable activities. Thus, charities are continually working on adjusting their fundraising strategies and techniques to secure sustainable resources for their projects and to develop new ideas<sup>1</sup>.

This report summarises the findings from a collaborative dissertation with the British Red Cross organisation in 2020 in partial fulfilment of the requirement for the degree of MSc in Urban Analytics. The main project objective is to visualise the giving of donors with interest in refugees and asylum seekers in the UK using secondary data. This would provide data-driven evidence that supports the decision making both for strategy development, and for asking better questions to cocreate a new approach.

To do this, the data for 51 small and medium charitable foundations collected from an open-source governmental database. An additional data of a few large donors were also collected, but the primary focus was on the small-medium size trusts market – this expands the understanding beyond the already available analysis of large trust data. Further information includes the funded topics and size of recipient organisations has been extracted using Python programming language. The graphic representation demonstrated in an interactive dashboard format using R programming (shiny app) and Tableau software. It mainly focused on visualising the changes of the charitable activities in term of grant size, funded topics, and size of recipient organisation over time.

## Methodologies

A mix of data visualisation and programming tools includes, Python R programming and Tableau software was used extract additional information and to create users friendly and interactive dashboards<sup>2</sup> that illustrate the major trends in the dataset. Statistical analysis includes analysis of variances (ANOVA) to determine whether there is a significant difference between the average grants awarded to the funded topics, recipient organisation and award years. Further Ad-hoc tests was performed, to identify the exact combinations of these groups that differ significantly.

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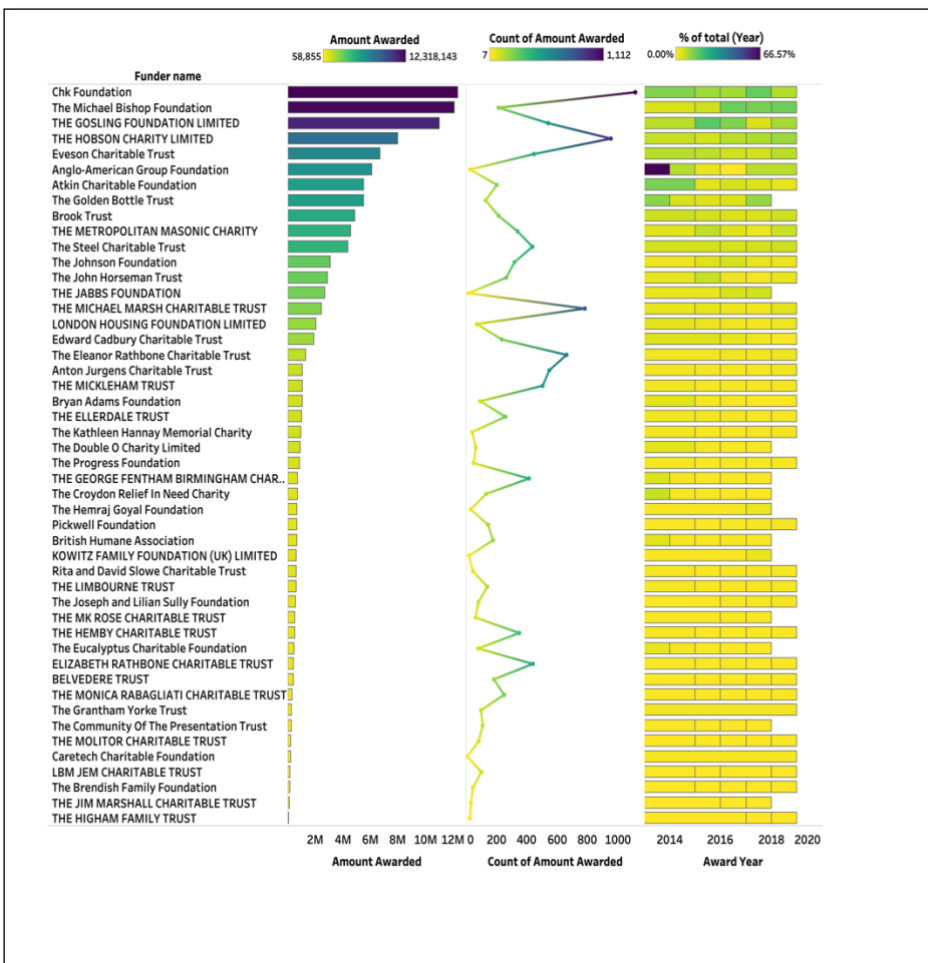
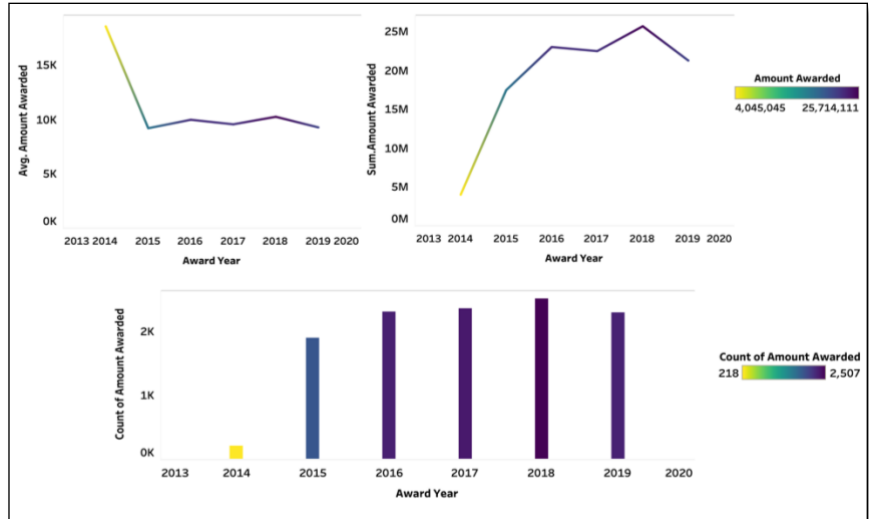
<sup>1</sup> Waters, R.D., 2011. Increasing fundraising efficiency through evaluation: Applying communication theory to the nonprofit organization—donor relationship. *Nonprofit and Voluntary Sector Quarterly*, 40(3), pp.458-475.

<sup>2</sup> full details about the created dashboards and visualisations can be accessed [Funding dashboard](#), [The trend of less popular topics over time](#) and [BRC presentation](#)

# Key findings

## Changes of Grants size over time

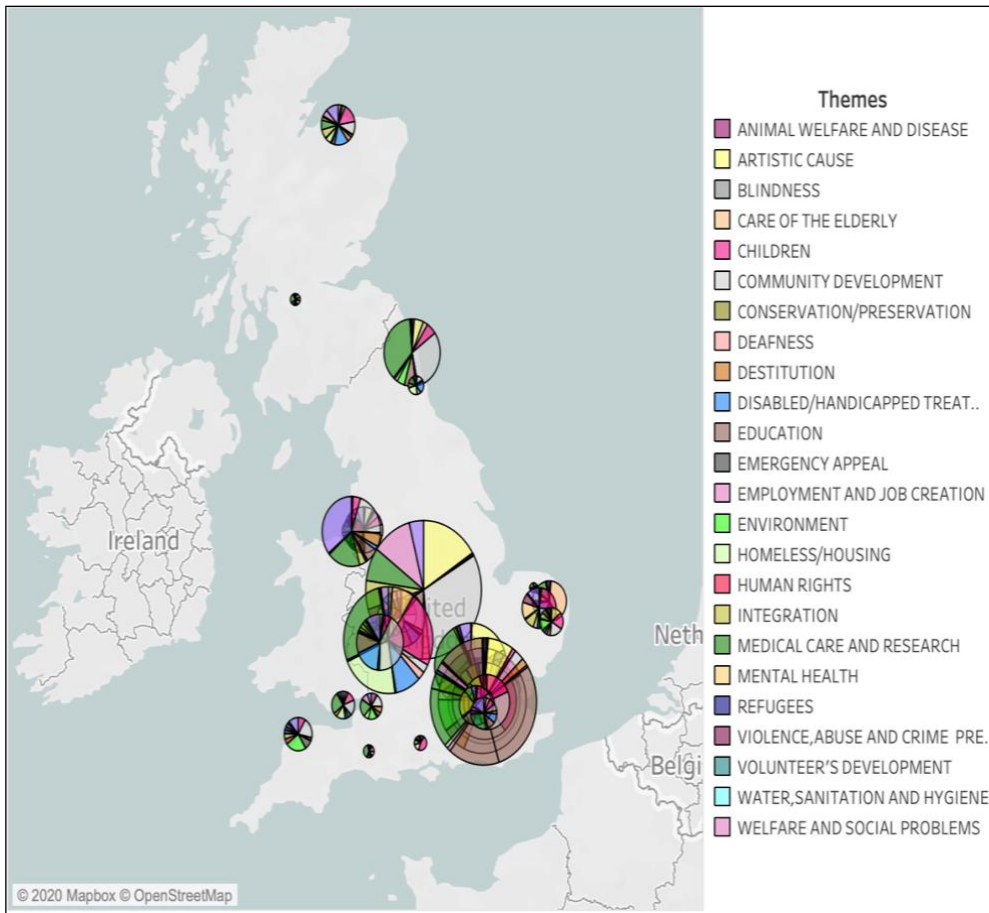
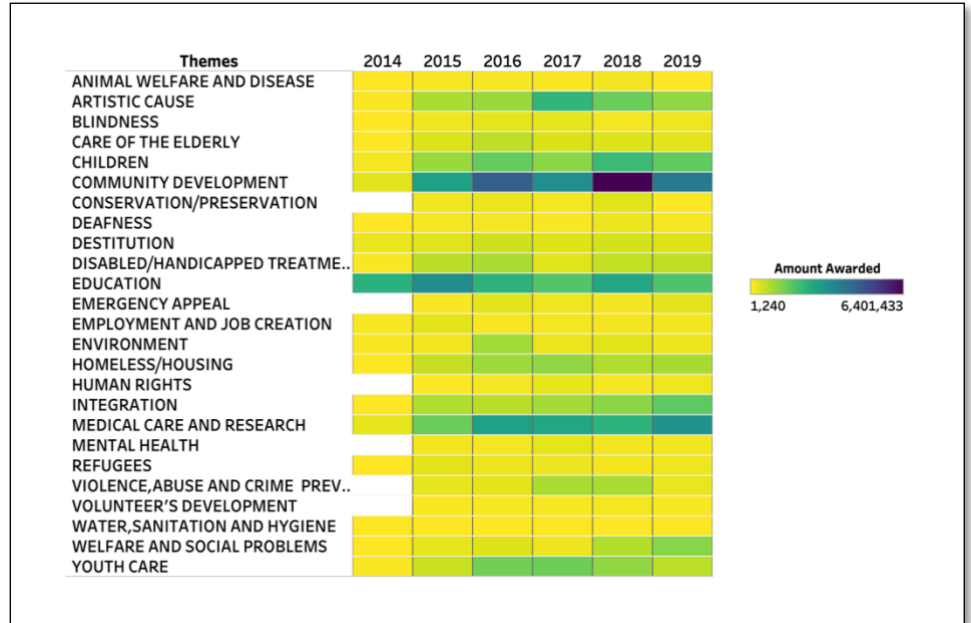
The total grant awarded significantly increased over time, reaching its peak in the year 2018. In contrast, the average grant size decreased from 2014 and maintained a steady pattern throughout the considered period.



From another perspective, the grant distribution among the funders was varied. Major donors in term of total grant size are the CHK Foundation, the Gosling Trust and Michael Bishop Foundation, with over £36M of total grants and more than 500 annual gifts contributing for over 50% of total grants awarded within the past five years. It has been generally observed that donors making fewer awards tend to have larger grant average while grant size is small for those with a high number of donations made.

## Changes of funded topics over time

**Community development, Education and Medical care and research** were the main trending topics attracting the majority of total grants from 2015. In term of migration-related topics includes (Human rights, destitution and refugees **Integration** is the most trending theme over the past five years, accounting for 85.57% of total grants awarded to relevant topics.



It is noticeable as well that funders with higher frequencies of annual grants are more likely to fund a broader range of topics.

However, as previously mentioned, the frequency of annual grants would affect grant size. Although, other factors include the vision of the trust and settlor interest in funding a specific topic can also influence the trends of certain topics.

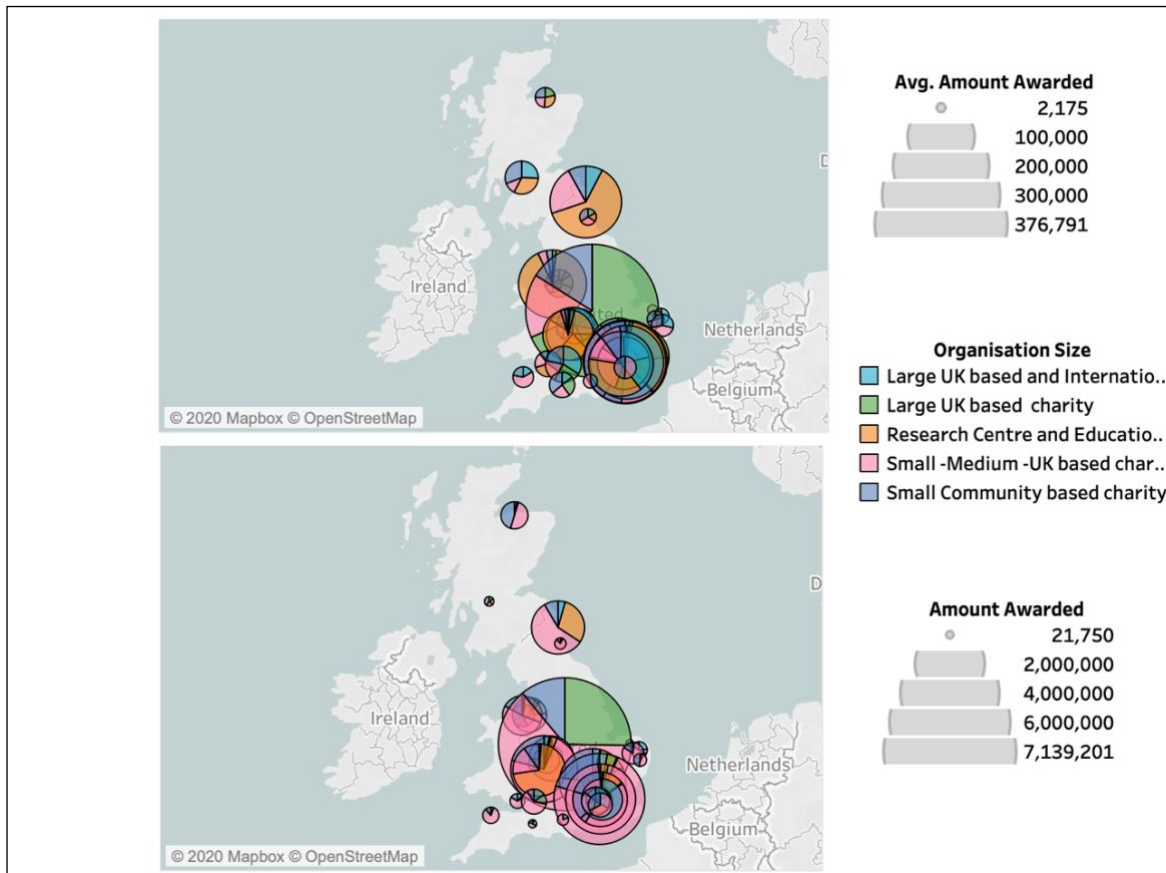
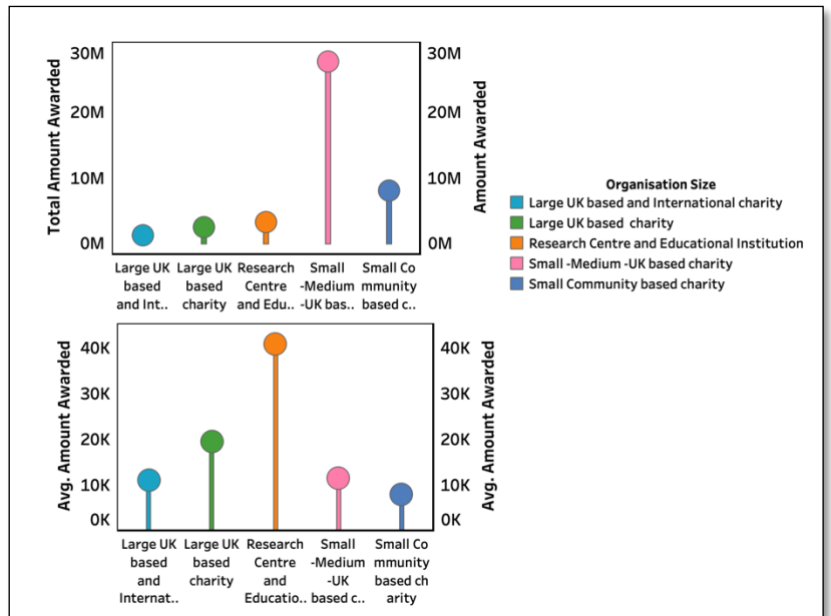
Interestingly, looking at funders geographical distribution in the UK, the distribution of grant to topics become more explicit, which can therefore be considered as an influential factor.

## Changes of recipient organization sizes over time

**Small-Medium sized charities** received the majority of grants while **Research Centre and educational Institutions** have a higher average size of gifts. **Larger UK Based Charities** received higher grants averages comparing to small-medium size ones.

Location wise, a higher number of grants awarded to **small medium and community-based charities** sourced from funder based in Midlands northern England regions. The lower number of grants with a relatively higher average awarded to **large international charities** came from London based trusts.

Overall, the results indicate that most funders have more tendency to support many local causes represented by **smaller charities, and Research and Educational Institutions** rather than large charities who support broader generic topics.



## Statistical analysis

Prior the analysis of variances test (ANOVA) test, the variables in the dataset has been divided into three groups (Themes, Organisation size and Award years) to check if there is a significant difference in the average grants awarded to each of these groups.

The test reveals fully significant differences between the amount awarded to **themes** and a clear sign of differences in **organisation size**.

Groups	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Themes	23	109156532965	4745936216	1.495	0.061 .
Award Year	5	18140145102	3628029020	1.143	0.335
Org size	4	98919062391	24729765598	7.789	0.00000308 ***

In simple terms there was a lot of variety in grant sizes across themes and organisation sizes however, over time, the amounts awarded are pretty similar across topics and organisation type. The outlier for this is **Welfare and social problems** and **Youth care** topics. Here there is considerable variation in grant- and organisation- size which may mean there is a lot more scope for influence.

## Recommendations

- **Impact Funding:** Given the fluctuation in the total grants awarded throughout the years it will be beneficial to the British Red Cross to adopt more impact-based approaches when developing fundable projects. This can be particularly useful given the current Covid-19 outbreak and the economic recession that is already affecting the sector as charities reported a 48% decline in income and a high surge in demand<sup>3</sup>. Thus, addressing the positive impacts of funders contributions would encourage donors to achieve more with their donations than they have done before
- **Grant frequencies** It was remarkable that funders with higher frequencies of grants tend to support various topics. Thus, in order to attract funding for less popular causes. It is worth targeting those funders with a higher number of annual grants. However, the prospected grant size might be diminished.
- **Bigger is not necessarily better** There was clear evidence from both data visualisation and statistical tests that small-medium size and community-based organisations are dominating most of the funding. Thus, repositioning as a network of the local branch such as 'The British Red Cross of Glasgow' rather than a large nationwide organisation would be advantageous in term of developing close bonds with both local communities but also, at the donor level who view spreading funds across, local organisations can have an overall broader impact<sup>4</sup>.
- **Donors Geographical Distribution** Demonstrating donor distribution country wide can be a useful tool to support strategy development as it helps to spot donors interests and funding stream. Accordingly, developing a proactive approach that focuses on specific areas or topics that fulfils both donors interest and beneficiaries needs.

<sup>3</sup> Institute of Fundraising. 2020 [online] Available at: <https://www.institute-of-fundraising.org.uk/news/coronavirus-impact-survey-results-charities-cannot-meet-the>

<sup>4</sup> Garland, Lewis , 2015. [online] Fundraising.co.uk. Available at: <https://fundraising.co.uk/2015/09/10/why-charities-should-make-a-big-deal-of-being-small>