

# **Mapping Below the Radar organisations on crowdfunding platforms**

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## Abstract

Mapping Below The Radar is a project aimed at exploring how data driven methods can be deployed to identify UK-based below the radar (BTR) groups on crowdfunding platforms. On the one hand, it provides a methodology to map BTR activity on two crowdfunding platforms: Spacehive and Crowdfunder. Crowdfunding platforms were deemed a suitable environment to identify data on BTR organisations, as they can provide these organisations with the financial resources needed to carry out their work. As BTR groups are characterised by their activity, the project was the unit of analysis selected to account for this type of organisations. This methodology has been developed into a software prototype that uses web crawling techniques to navigate crowdfunding projects through hyperlinks and capture those projects complying with certain criteria. Namely, projects are expected to be run by BTR organisations if:

- 1) they meet the condition upon which co-link analysis is based;
- 2) have reached their funding target and
- 3) are not run by registered organisations.

On the other hand, the application has been used to collect data in order to conduct a case study for each of the platforms. This paper further explains the methodological approach undertaken and the development and evaluation of the methods based on the results obtained in the case studies. It will conclude with a summary of the lessons learnt across the two case studies and the next steps to be taken in the development of data driven methods for BTR research.

JEL Classification: C81, O33, Z13, L39

Keywords: BTR research, Third Sector research, social action, civil society organisations, community groups, crowdfunding platforms, data-driven methods, co-link analysis.

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# **1. Methodology to track BTR activity on crowdfunding platforms**

The first thing that becomes apparent when conducting any kind of research on BTR activity is the need to establish a working definition for such a concept. To that purpose, a very concrete notion as to what can be considered a BTR organisation was selected from the multiple definitions documented in the Third Sector Research literature.

Namely, the term BTR organisations is used in the context of this project to refer to those organisations that, while carrying out voluntary activity with a social purpose, remain unregistered and unregulated. That is to say, they do not appear in official registers such as the Register of Charities by the Charity Commission. In summary, it describes those organisations that are under the ‘regulatory radar’<sup>1</sup>.

Crowdfunding is defined as ‘the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the Internet’<sup>2</sup>. The fact that BTR organisations lack a legal structure implies that they might not be able to raise funds for their activity through the conventional channels used by organisations with a registered formal status. Therefore, crowdfunding platforms constitute an available alternative to BTR organisations in terms of funding.

## **1.1. Selection of suitable platforms**

In order to select the crowdfunding platforms to be used in the project the following questions were posed: what platforms are likely to be broadly used by BTR groups in the UK in order to reach their targeted audience? What platforms do actually have enough data on groups that can be considered BTR organisations? What platforms present a suitable data structure to allow for the deployment of co-link analysis, the method selected to map BTR activity?

As the scope of this project is limited to the study of BTR organisations within the UK, CrowdingIn.com, a directory of crowdfunding platforms that operate in this country, was used

to select the platforms. Crowdfunder and Spacehive seemed to be the best option in that both present sufficient data on the type of organisations sought.

Spacehive is said to be the world's first crowdfunding platform for civic projects<sup>3</sup>. It is primarily aimed at local projects of an infrastructural nature. A civic project, as defined on the platform, is 'anything that brings a benefit to a space that's accessible to the public - either permanently or temporarily. Projects could be new community centres, free public WiFi networks, rooftop gardens, street festivals'<sup>4</sup> and so on. As projects on this platform are intended for public use, they can be deemed to have a social purpose to a certain extent. As a result, it seemed that Spacehive would be a suitable place to look for projects run by BTR organisations.

Crowdfunder is currently the UK's leading reward-based crowdfunding platform. By April 2014, it was found to have more projects than all other UK platforms<sup>5</sup>. Thus, even if it is a more general-purpose platform, it presents a significant amount of projects with the kind of social purpose that characterises BTR groups. Or in other words, enough relevant data. Furthermore, both platforms present an appropriate data structure to deploy co-link analysis, as further explained in the subsection below.

In going through the process of selecting platforms for the project, other types of platforms were also taken into account. In fact, Facebook was initially selected along with the two crowdfunding platforms above. Namely, Facebook Groups<sup>6</sup>. However, the idea of using Facebook for this project was eventually dropped, as it was not possible to get Facebook consent to collect data from the platform in the intended way<sup>7</sup>.

## **1.2. Co-link analysis as a way to identify thematically related projects**

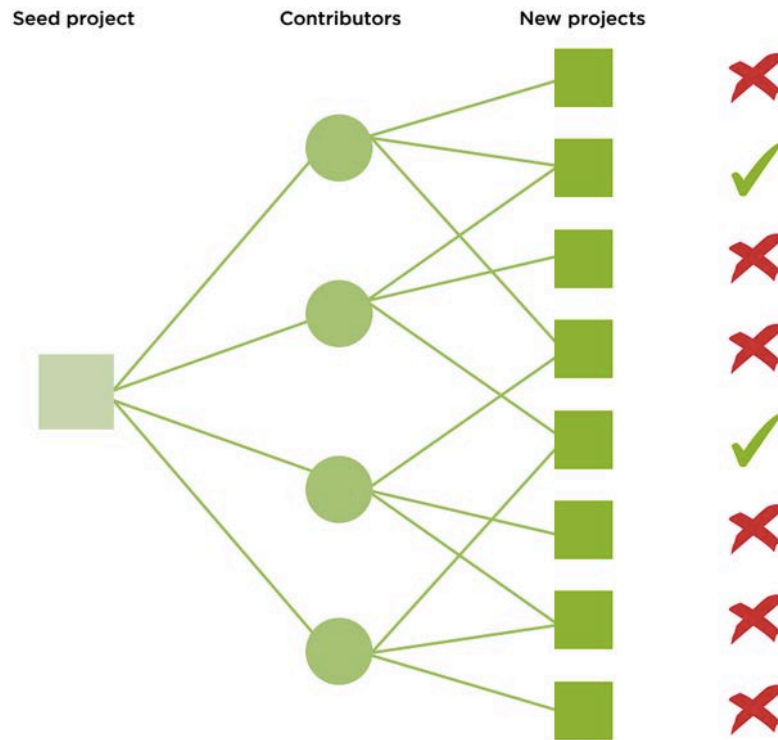
The main method used to identify new BTR groups in crowdfunding platforms is co-link analysis, which was implemented for the first time in the Issue Crawler. The Issue Crawler, a web application developed by the Digital Methods Initiative, deploys co-link analysis to enable the location and analysis of 'issue networks' on the Web, defined as a set of web pages 'dealing with a common theme that are connected by hyperlinks'<sup>89</sup>.

The Issue Crawler deploys co-link analysis in the following way: from a set of seeds or website URLs entered by the user, the crawler<sup>10</sup> returns only the URLs of those sites that receive links from at least two of the seeds. The resulting websites will be part of the issue network of the seeds. In order to achieve a set of results that effectively represent an issue space, it is advisable that the seeds be representative actors within that particular issue space. Issue Crawler has been used in the past to render visible ‘issue spaces’ such as climate change<sup>11</sup>.

In the framework of this project, co-link analysis is used to identify a set of crowdfunding projects thematically related, rather than web pages, departing from a single seed project. Any project on those platforms could be used as a seed, that is to say, as the initial project from where to start the search - or crawl - of new projects by following its hyperlinks.

As this implies shifting the focus from crawling the whole Web to crawling specific platforms, co-link had to be adapted to fit the particular data structure on the selected platforms. On these platforms, projects do not show hyperlinks to other projects. Instead, each project has hyperlinks to its backers’ profile pages, and these pages, hyperlinks to the pages of all the projects they have pledge money to.

As a result, co-link analysis is deployed to follow the connections or hyperlinks between two different objects: the projects concerned and their contributors. Thus, given a single seed project, new projects can be obtained. The premise here is that only the projects that have at least two contributors in common with the seed will be captured for further analysis. That is to say, projects that have been funded by at least two people who also pledged funds to the seed project.



**Figure 1: Co-link analysis as deployed in this project**

The new projects are expected to present a thematic relation with the seed and between themselves. That is to say, if a seed project is selected that pursues a social aim that has to do with the environment, the projects obtained from that seed will all be expected to revolve around a similar theme.

### 1.3. Complementary conditions

Meeting the premise above didn't prove to be a sufficient condition to ensure that the new projects are run by the type of organisations sought in this research. Therefore, two extra conditions were established in order filter the projects resulting from the co-link. Namely:

- **Being run by BTR organisations.** It is usual to find projects on these platforms that, while aimed at a social purpose, were created by registered organisations, from charities to different types of social enterprises, and therefore, do not count as being below the radar.

In order to identify those projects run by BTR organisations, two different filters were developed, as explained in the next section.

- **Being worth studying.** Projects on crowdfunding platforms are often developed over an extended period of time during which the organisations behind them can be considered to be active. Thus, the successfully funded project seemed a good indicator of sufficient and significant activity beyond the purely digital domain. As only successful projects do actually receive the money to be realised, projects that have not reached their funding target will be discarded.

#### **1.4. Project classification: platform categories vs external categories**

Using categories to classify both the seed projects and the projects resulting from deploying co-link analysis seemed a suitable approach to the exploration of thematic relations between projects. The initial idea was to select a set of external categories. To that aim, different classification systems used in previous voluntary sector research in the UK to categorise third sector organisations were explored. The classification system used by the National Survey of Charities and Social Enterprises seemed a good alternative for this project.

External categories seemed the best option for Facebook, as groups on this platform are not labelled with a thematic category. However, as projects on the crowdfunding platforms selected do present a thematic category, the above approach was discarded. As a result, platform categories rather than external categories were eventually used to classify the projects obtained from these platforms.

## **2. Development of methods**

Both the co-link analysis and the conditions above were implemented into an application intended to identify projects created by BTR organisations on Crowdfunder and Spacehive. This section offers a description on how the methods were developed to fit platform



specificities. Further on, it presents the different features on the application that deploys those methods for both platforms.

## **2.1. Deploying the methodology on Crowdfunder**

When testing the use of co-link analysis as presented above, it became apparent that the number of new projects returned was too low considering that the complementary filters had not been applied yet. Therefore, a second iteration of co-link analysis was developed in order to obtain a higher number of projects from a single seed project.

That is to say, the projects returned when running the co-link analysis using the initial seed project, are then used as the seeds for the second iteration. The resulting set of projects output by the app will include those projects obtained from both, the first and the second iteration of co-link analysis.

The original method aimed at filtering out projects by BTR organisations was not eventually developed for Crowdfunder, only for Spacehive, as described in the next subsection. Instead, an alternative method was implemented for that purpose. This method is based on the fact that registered organisations tend to make explicit their legal status on the description of their projects on the platform.

In developing the method, a set of keywords were selected from the description of a sample of projects on Crowdfunder to account for the most common ways in which registered organisations describe their legal status on the platform<sup>12</sup>. This method is deployed such that the app checks whether the selected keywords are shown on the description of the projects returned from the co-link, and if so, discards them, keeping only projects that do not contain those specific keywords.

The filter that checks if projects are worth studying was implemented to return only those projects that had reached their funding target within the present or previous year. The later

allows to ensure that the organisations behind projects are ‘alive’ at the moment data is collected. This information can be extracted from the panel on the right side of project pages.

## **2.2. Deploying the methodology on Spacehive**

Even though the data structure on this platform is suited to deploy co-link analysis, this method was not eventually employed due to the lack of the relational data needed for that purpose. That is to say, at the time the method was being implemented it became apparent that funders hardly ever contribute to more than one project. This might be due to the local nature of Spacehive projects that results in funders contributing exclusively to projects in their own area.

The reason why it was decided to go ahead with the deployment of a more simple methodology for this platform is that Spacehive is specifically addressed at civic projects, which are presumed to have a social purpose. Thus, it seemed that development of suitable methods to filter out projects based on the complementary conditions would nevertheless allow to identify BTR organisations on this platform.

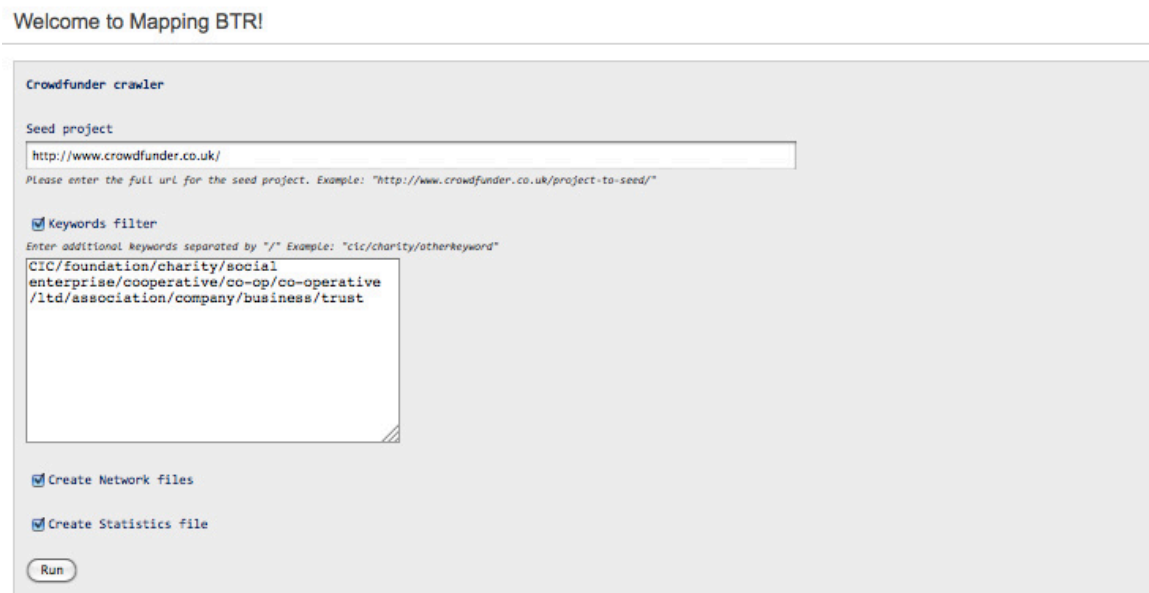
As co-link analysis was not being used, an alternative way to primarily select new projects had to be devised. Opportunely, Spacehive presents ways to filter out results based on certain conditions. Thus, a crawler was developed that uses that platform feature to capture projects from all categories that comply with the condition of having succeeded in meeting their funding target. As Spacehive do not provide the date in which projects reached their target, all successfully funded projects are kept for further analysis.

The method intended to identify projects run by BTR organisations combines two different filters: the keywords filter already described and another one that checks whether the names of the organisations behind Spacehive projects appear on certain registers<sup>13</sup>. If this happens to be the case, the project is discarded. Otherwise, it will be included in the results output by the app. This filter was implemented for Spacehive because on this platform, unlike on Crowdfunder, the username of the project promoter usually matches the name of the organisation behind the project, provided it is a registered organisation<sup>14</sup>.

### 2.3. The resulting application

In what follows, a description is provided of the different options shown on the app interface. The section under the title ‘Crowdfunder crawler’ presents firstly an input box for the user to enter the whole URL of a project on the platform. This project will be used by the app as the seed to deploy co-link analysis.

The second feature on the Crowdfunder crawler comprises a check box that allows the user to deactivate the keywords filter in order to get results that include registered organisations along with BTR ones. When enabled, an input box appears that contains the selected keywords mentioned above. The user can add more keywords to the box or use the default ones.



**Figure 2: Crowdfunder application**

Under the keywords feature, there are another two checkboxes. Provided both of them are unchecked, the app merely returns a list with the name and URL of the resulting projects. When the checkbox ‘Create network files’ is checked, the program will return also two exportable files in the appropriate format for Gephi, an open-source network analysis and visualization software package.

When imported into Gephi, these two csv – comma-separated values - files are used to create a network visualisation: nodes on the network represent the projects returned by the app and the edges, the relations between them based on their common contributors. In fact, one of the files will contain the information about the nodes, such as the name of the project, its URL on the platform or its category on the platform, and the other file the information of the edges, such as the id of the two nodes the specific edge is connecting, the number of connections or common contributors to both projects and the username on the platforms of those contributors.

By leaving also checked the box ‘Create Statistics file’, an additional file is created that contains the username of the contributors of the resulting projects, the money they pledged and so on. This file can be used to create a histogram with Google Charts for each of those projects, which will show the distribution of the total amount pledged by its backers. These histograms are intended to be used in combination with Google Maps to create an interactive visualisation showing the location of crowdfunding projects on a UK map. When clicking on a marker on the map, the histogram for that specific project will be displayed.

The Spacehive crawler is based on a simpler development and accordingly presents less features. On the one hand, it does not deploy co-link analysis, and therefore, there is no need for the user to provide a seed. On the other hand, the option to create the files for Gephi does not feature due to the same reason that co-link analysis is not used: in Spacehive it is not usual to find funders who had contributed to more than one project. Thus, it makes no sense to create a network with few or no relations at all.

Moreover, even though the app displays the input box for the keywords, this restriction can not be deactivated for the Spacehive crawler. However, it does present the option to create the statistics file for the interactive map.



**Figure 3: Spacehive application**

Not being granted permission by Facebook to collect data through automated data collection techniques made us aware about the importance of obtaining explicit consent to deploy our method for the other two platforms. The fact that we were allowed to perform data collection on these platforms does not imply that permission is granted to other people too. Therefore, if someone else went to use the application, it would be advisable for them to ask for consent to the platforms teams again.

It should be advised that crawling and scraping techniques rather than APIs are used to navigate and collect data from the two crowdfunding platforms. This is a significant disadvantage for the purpose of application development<sup>15</sup>. As a consequence, even if a user is granted permission to collect data, they would likely have to make changes to the app before using it, what requires to some extent technical expertise.

### **3. Case study I: mapping BTR activity in Crowdfunder**

The Crowdfunder crawler was used to collect data for a case study aimed at testing the efficiency of the methods in identifying BTR organisation on Crowdfunder and exploring what insights can be drawn from the analysis of BTR activity data on crowdfunding platforms. Data on the network visualisations have been used in the evaluation of the methods deployed and the interactive map visualisation in the analysis of the BTR projects found.

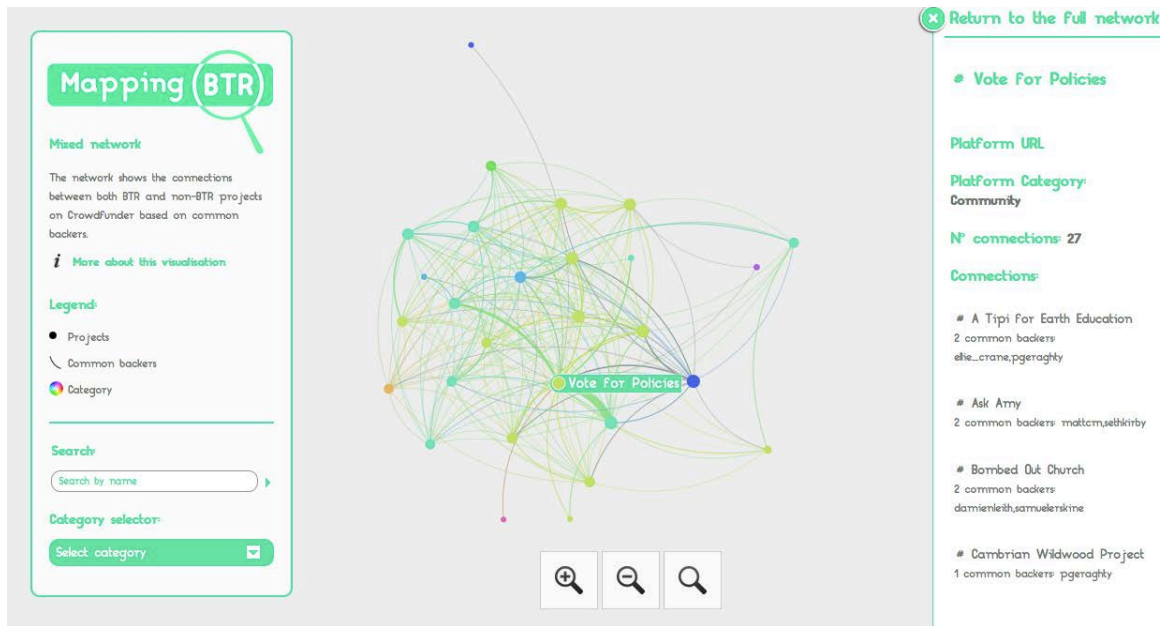
### 3.1. Data Collection and visualisation

The first step undertaken was to select a suitable seed project for the study. In doing so, the application was tested using different seeds, all of which had a social purpose and a large number of backers contributing also to other projects. From those seed projects, the one that returned the highest number of results leaving the keywords checkbox enabled – and using the default keywords shown in the input box - was selected. Namely, ‘Grow a Future for Families’, which returned a total of sixteen new projects presumably created by BTR organisations. The two files required to create the network visualisation with Gephi were exported from the app.

Then, the application was run a second time using the same seed. This time the keyword feature was unchecked, collecting a total of sixty-one projects run by BTR along with registered organisations<sup>16</sup>. The aim was to build a bigger network of projects in order to allow for a more accurate evaluation of the co-link analysis, as this method is being employed to track thematic relations between projects regardless of the legal status of the organisations behind them. This time, both, the files to create the network, and the statistic file to create the histograms linked to the map, were exported.

In order to create the two network visualisations, the corresponding files were imported into Gephi. Some of the settings in Gephi were adjusted to customise both networks for subsequent analysis. So for instance, nodes were resized based on number of connections to other nodes, and their colour was set based on the project category on the platform.

The later was done to allow for hypothesis testing: nodes sharing at least two connections or contributors are expected to have a similar theme, determined by their category on the platform, and therefore, be coloured alike. Then, the resulting networks were exported using the Sigma.js exporter, a plugin for Gephi that produces as output an interactive network in a web-enabled format<sup>17</sup>.



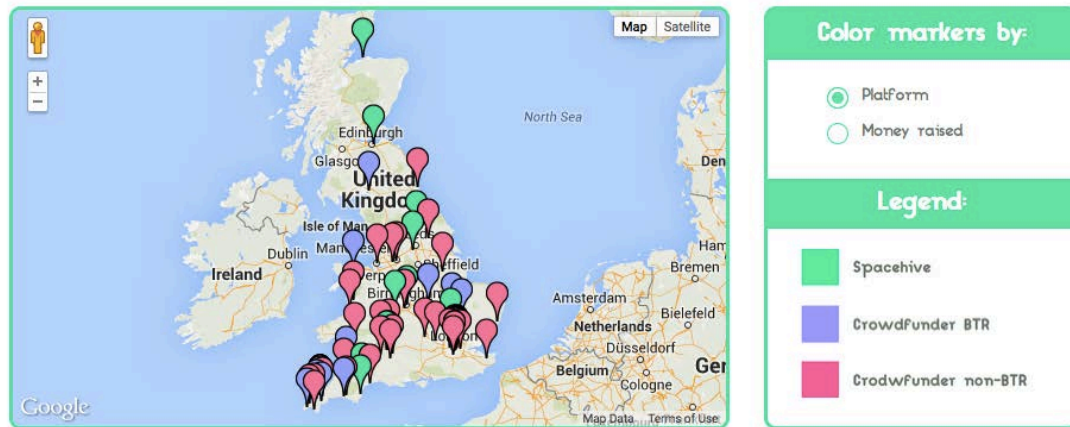
**Figure 4: Network of projects when clicking on a node**

The second visualization type created comprises two different components: a map where the resulting projects from both platforms are placed – the sixty-one Crowdfunder projects and the thirteen Spacehive ones - and a histogram to be shown every time a project is clicked on the map. The data to create the map was manually collected from both platforms and entered into a single csv file. Each row in the file refers to a different project and contains the following information: the name of the project, its geographical coordinates -latitude and longitude-, its category on the platform, the name of the platform and so on.

For the sixty-one Crowdfunder projects, it is also specified whether the project is BTR or not. That is to say, whether it was found by applying the keywords filter or without using it. This file was then used to create the map with the Google Maps API. Likewise, the two statistics files exported from the app were used to create the histogram with the Google Charts API<sup>18</sup>.

Projects are located on the map based on their coordinates and represented by markers. The panel on the right side of the map allows to colour markers based on two different criteria: the platform where projects were found, and the amount of money they successfully raised. When clicking on a marker on the map, the histogram that shows the distribution of the money raised

by the project appears below the map. Each column on the histogram represents the number of backers that has pledged a given amount of money.



**Figure 5: Map of projects**

### 3.2. Analysing results I: methods evaluation

In order to test the efficiency of the methods for Crowdfunder the following questions were formulated: do the resulting projects pursue a social purpose? Are these projects thematically related? To which extent platform categories can be used to determine that? With regard to those projects that are supposedly run by BTR organisations, is this the case? To answer the questions above, both network visualisations were used, although it was also necessary to dive deeper into the context of projects by looking up their pages on the platform and other external websites.

As to the first question, most of the projects on both networks were found to pursue a social purpose. The most common category on both networks is ‘Community’, and the second one, ‘Environment’, the category of the seed. While the number of projects is similar for both categories on the BTR projects network – with only one project falling under a different category -, on the network of mixed projects, the number of ‘Community’ projects is more than double the number of ‘Environment’ ones.



Moreover, projects from these two categories are highly connected through common contributors on this network. This might be due to the fact that these two categories inherently imply a social purpose, what is not the case for other categories on the platform. However, it seems to be another reason why specific projects from different categories are highly connected.

When going through the description of projects on the platform it became apparent that projects often do not stick to a single theme defined by their category, but rather, they present several thematic dimensions. As a consequence, it is usual to find highly connected projects that share a theme other than the one reflected on their category. In order to illustrate this, the different clusters of well-connected projects shown in the mixed network are presented as follows.

The biggest cluster, placed in the left side of the network, is made up of projects under the two categories already mentioned. As an example of the above, within this cluster there are two projects, 'Snact' and 'The Happy Pig', which reflect strong environmental values, although they were assigned categories different than 'Environment'. And in fact, both projects, specially 'The Happy Pig', present a significant number of connections to projects under that category.

Likewise, the project 'Vote for policies' is highly connected to other projects with which it shares the theme of institutional politics. As this theme does not match an existing category on the platform, they were assigned other categories.



**Figure 6: Whole network of projects**

Another smaller but well-defined cluster appears in the bottom right side of the network. It is mostly made up of projects that match the category of ‘Sports’ and that have to do surf. However, not all surf-related projects in this cluster belong to that category. Two of them were instead assigned the category of ‘Community’. On the top part of the network there are two thematic areas, rather than differentiated clusters, loosely connected to the main cluster.

One of them is composed of projects within the category of ‘Food and drink’ or that otherwise revolve around a similar theme. One of these projects, ‘Made in Hackney’, which is about eco-community kitchens, is also well connected to projects on the other thematic area. Most of the projects in this area are about community spaces driven by environmental values and have been assigned the category of ‘Community’.

With regard to the last question, only six out of the sixteen projects on the BTR network were found to be run by BTR organisations. Namely: ‘Enchanted Acres’, ‘The happy pig’, ‘The Big Sun Flower project’, ‘A Tipi for Earth Education’, ‘Annan Harbour reopening’ and ‘Ask Amy’. In the next section, the context of these projects will be further analysed for a better understanding of the complex ecosystem in which BTR activity is produced.

The reason for that seems to be the inherent limitations of the method based on the keywords filter. Firstly, the fact that the keywords used to run the app were selected from the observation of a limited sample of projects. As a consequence, potential keywords that did not feature in the sample were neglected.

Another drawback of this method does not take into account the context of the keyword. Thus, all projects whose description contains any of the selected keywords will be discarded, regardless whether or not the keyword has been used to refer to the legal status of the organisation behind the project. Furthermore, it was found that among the results on the BTR network there are instances of projects run by registered organisations that only revealed their legal status on their own websites, but not in Crowdfunder.

As a conclusion, the assumption upon which co-link analysis is based proved certain to a great extent, as most of the projects returned by the app have a social purpose and are often thematically related to those other projects with which they share connections, although not necessarily through their category on the platform. Therefore, co-link analysis seems to be an appropriate method to map thematically related activity on Crowdfunder. However, the analysis of the results on the BTR network showed evidence that the keywords filter should be further developed or substituted by other methods.

### **3.3. Analysing results II: further analysis of projects and organisations**

In this section, the specific context of the six BTR projects identified will be further analysed. In doing so, I will look, among other things, at the specific ways in which the organisations behind them are supported by other organisations in order to allow for the effective development or /and continuity of those projects.

Both 'Enchanted Acres' and 'A tipi for earth education' belong to the same category than the seed, 'Environment'. The former project is defined on the platform as a 'permaculture and skill sharing project' and was created by a couple based both in Portugal and Cornwall. The project

intends to provide a space where people can learn about sustainable ways of living. To that aim, they will offer people accommodation and workshops at no cost.

The money raised by their crowdfunding campaign will be employed to improve the facilities of their new space in Portugal. In order to ensure the continuity of the project, they plan to build and sell tipis and offer the site as a holiday destination, commercial activities that are likely to be somehow registered. Therefore, the space facilities will be used complementarily for business and BTR activities.

Moreover, this project is part of the Crowdfund Cornwall Campaign on the platform, aimed at raising money for projects on that area. The campaign has established a partnership with the Cornwall Community Foundation, which has pledged a total amount of £50,000 to fund projects within the campaign.

‘A tipi for earth education’, is a project aimed at raising funds to build a tipi for school visits where children can learn environmental values and connect with nature. The project was created by a couple, who in their spare time set up the Cambridge Sustainability Centre on their organic farm in Cambridge, where they run courses to teach people how to live more sustainably. The schools visits are part of its activity programme. In order to make the centre financially independent, they intend to offer weekends stays in the tipi. Once again, economic and BTR activity will be carried out in the same facilities.

The next four projects were assigned the platform category of ‘Community’ on the platform. Despite of that, the project ‘The happy pig’ presents a lot of similarities with the above projects. This project is aimed at converting a pig barn into a space fitted with dorms and learning resources for people to explore a variety of topics, lots of them similar to the ones mentioned on the Enchanted Acres project.

The project, which intends to provide all of that free of charge, is being created by a group of individuals at ‘An Teach Saort’, their permaculture and gift economy based small holding in Cornwall - although evidence has been found that is actually based on Ireland. I could not

figure out about whether they plan to carry out some sort of commercial activity in the holding in order to make their BTR activity sustainable in the long term, although it might well be the case.

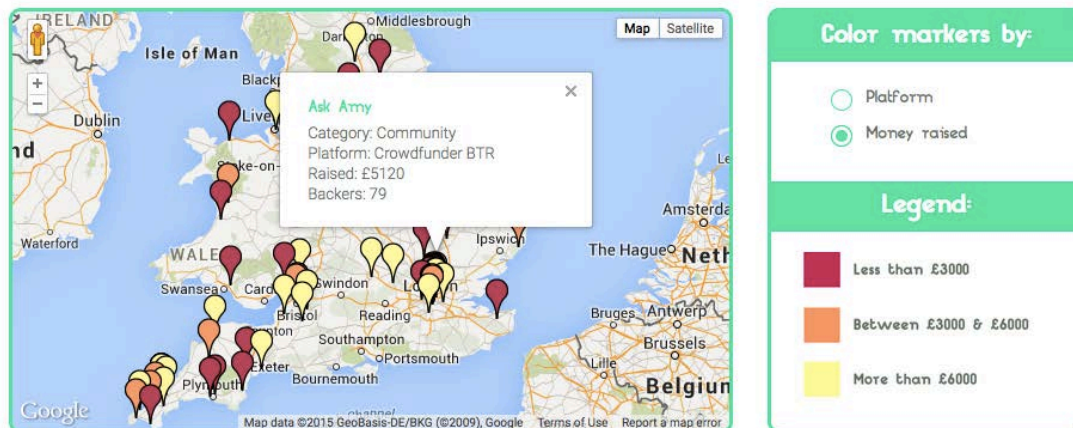
Behind the 'Big Sunflower project' there is a person living with the rare neuromuscular condition centronuclear myopathy. She set up the Information Point for the Centronuclear and Myotubular Myopathy website in order to raise awareness of the condition. With the same aim, she has also been running the Big Sunflower project once a year since 2011, consisting of sending out sunflower seeds at no cost to be grown by participants. Her project on Crowdfunder intended to raise funds to buy the stamps and envelopes for the last year campaign.

As opposed to the previous projects, this is a relatively small one, run by a single person with virtually no resources nor spaces where to develop her activity. The fact that this small project is not intended to grow into a bigger venture might explain why in this case BTR activity does not appear intertwined with commercial activity nor is supported by other organisations.

'Annan Harbour reopening' was created by a group of local volunteers with the goal of bringing together the necessary resources to clear the local harbour in the town of Annan of the silt accumulated over 50 years and turn it into a community asset. The group has been working since 2011 in a number of initiatives to improve the harbour facilities. At the time the project was created on the platform, it had been granted funding by the European Fisheries Fund (EFF) under the condition of getting a complementary source of funding to ensure its viability.

'Ask Amy' is an app prototype aimed at increasing the number of people in their 20s and 30s accessing and getting involved in politics in order to improve the legitimacy of democracy. The project on the platform intended to raise money to develop the prototype into a fully functional application. The organisation behind the project, No One Ever Told Me About Politics, is run by a group of volunteers coming from a range of private, public and third sector organisations. They have been sponsored by the Firefly Communications Group and, at present, are looking for other sponsors to support their job.

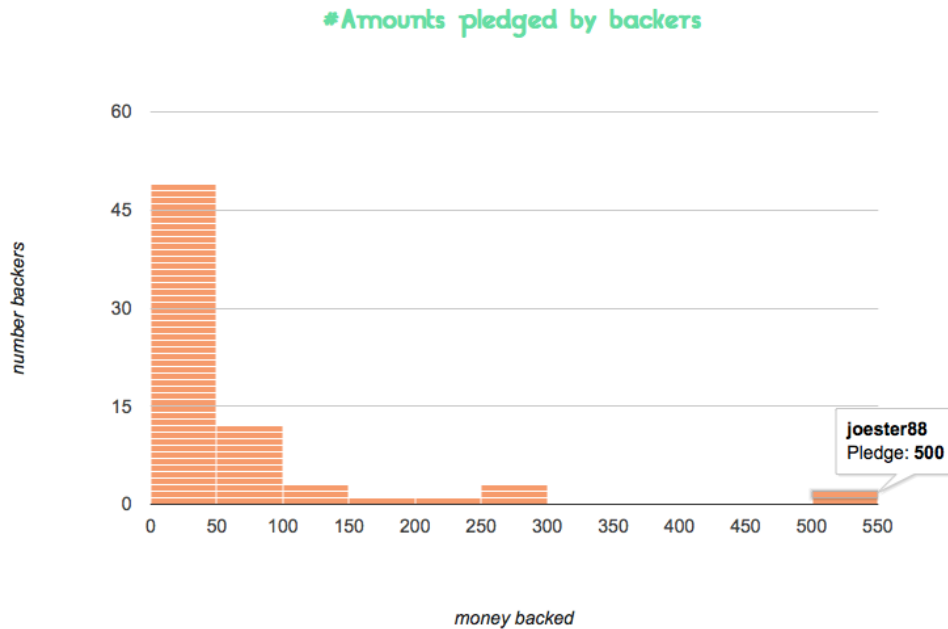
The amount set as funding target for the projects above depends on their specific aim and scope. This explains why this amount is that much lower for the ‘Big Sunflower project’: While the funding target of the other five projects was above £2000, this small project only aimed at raising £250.



**Figure 7: Map of projects when clicking on a marker**

Moreover, the higher the amount set as funding target, the higher the number of backers, although the correlation between the two variables is not very strong. Another trend that can be observed on the histogram displayed for each project on the map visualisation is the negative correlation between the number of backers and the amount pledged. For all projects, most of the backers have pledged an amount in between £50 and £100 and the number of backers gradually decreases for the next money brackets.

However, quite often histograms show a number of outliers that have pledged high amounts of money rather far from the average. These backers are likely to be potential participants in the projects and/or benefit in some way from their realisation. Thus, for instance, the main backer of the project ‘Annan Harbour reopening’ is the project owner himself.



**Figure 8: Histogram for ‘Ask Amy’**

## 4. Case study II: mapping BTR activity in Spacehive

As this case study was conducted for the same purposes than the previous study, similar steps are described in this section. To collect the data from Spacehive, the Spacehive Crawler was run a single time living untouched the default keywords in the input box. Up to thirteen new projects were returned.

The app does not provide relational data for this platform, and thus, the network visualisation was not created for this study. As explained above, the statistics files for both platforms were merged and used to inform the interactive map and the histograms. Spacehive data on this visualisation was used in the analysis of the thirteen BTR projects found.

### 4.1. Analysing results I: methods evaluation

Since the methods to map BTR activity on Spacehive are different from the methods deployed on Crowdfunder, other questions were posed for their evaluation: is the fact that the platform is aimed at civic projects a sufficient condition to ensure that the resulting projects pursue the type of social purpose that characterises BTR organisations? Do the resulting projects actually belong to BTR organisations? To answer these questions, both project pages on the platform and other online sources were consulted.

From the resulting thirteen projects at least nine were found to pursue a social purpose. Although, the other four, 'Park and Slide', 'Recipes for food and architecture', 'The Queen's Jubillegal Head' and 'Ripon Christmas Lights', present a community-oriented approach, its purpose can hardly be considered a 'social' one, in terms of what is expected from BTR activity.

But even among those nine projects, there are a few whose main output consists in an artistic intervention, and therefore, the extent to which they can be considered as having a social impact is limited. At this respect, it seemed that civic projects on Spacehive don't always pursue the wider social purpose characteristic of both formal and informal voluntary organisations. As a result, it became apparent that co-link analysis, based on crawling the common preferences of contributors, would better fit the purpose of finding projects on this platform with the type of social purpose sought.

As for the second question, the combination of both methods, the keywords filter and the method using registers, worked relatively well in that it was found that six out of the nine projects that had a social purpose, had indeed been created by BTR organisations. Those projects are: 'After the riots, Happiness in Tottenham', 'A Child's Dream', 'Drum Together Brum Street Party', 'Northgate Herb and Fruit Beds', 'The Party Light Box' and 'Burghead Tennis'.

However, further improvements to those methods are needed. As with the keywords filter, the second method presents its own limitation. Namely, that the names of project creators on the platform do not always match the actual names of the organisations behind those projects for



different reasons. Moreover, it should be noted that a proper copy of all concerned registers would allow for more refined results.

#### **4.2. Analysing results II: further analysis of projects and organisations**

On Spacehive, apart from the name of the project promoter, the person or organisation that created the project on the platform, project pages present other valuable information, featured on a list on the right side of the page, as to the specific ways in which projects are supported by or interact with other organisations. This allows for a richer understanding of the specific context in which BTR activity is produced.

Thus, for instance, under the heading ‘council’, it is shown whether the local council has pledged support or granted official permission to the project. Other information includes the name of the ‘delivery manager’, in charge of receiving and spending the funds raised, being it either an organisation or an individual, the ‘project verifier’, the organisation that reviews the project proposal in order to ensure its viability, and the ‘contractor’, the people or organisation responsible for building or installing the project.

Not all this information is shown for every project. Furthermore, in some cases the role of the project promoter overlaps with the role of the contractor or the delivery manager. Other times, the project promoter asks other organisations to deliver and carry out the actual work.

The goal of the project ‘Northgate Herb and Fruit Beds’ was to convert a derelict eyesore into small community garden where people can grow and harvest their own fruits and vegetables. The project promoter is an organisation called Dewsbury Town Team, a group of local residents who came together with the purpose of improving their town centre. Although the project is supported by the Kirklees Metropolitan Council, it remains unclear what this support consists of. The delivery manager is an individual engaged in local community and voluntary action, and the contractor, the project promoter itself.

Similarly, the purpose of the project ‘A Child’s Dream’ is to build a pilot sensory garden for a

young girl with autism in her school, located in the town of Letchworth Garden City. The small amount raised through Spacehive will be applied in buying chalkboards for the users of the sensory garden. The project's long-term goal is to apply the skills learnt by the local community during the development of the pilot in the construction of a community garden accessible to all.

The project promoter is the Wilbury Community Forum, a group of neighbours from the Letchworth Willbury Ward who run a free community cafe offering information, outreach services and different types of activities to the local community at no cost. This project also receives some type of support from a council. The contractor is another BTR organisation called Arch Community Group. That the name of the delivery manager does not appear in the page suggests that it is the organisation above that is in charge of the delivery of the project.

The later two projects are both under the category of 'Green Space' and represent clear examples of the type of BTR activity and organisations sought. The next three projects present a more artistic approach to their purpose, and in fact, two of them belong to the category of 'Art & Performance' on the platform.

The project 'After the riots - Happiness in Tottenham' raised money to set up an exhibition in an arts centre in Haringey, Greater London. The exhibition is based on a series of proposals intended to address the psychological and financial impact that the riots of 2011 had on this area. The project promoter is 'Happiness Tottenham', a couple of architects, who together with students at Birmingham City University, conducted research over one year to create the proposals for the exhibition.

The studio of one of those architects, Dominic McKenzie Architects, figures as the contractor on the page. The extent to which this project can be seen as being below the regulatory radar depends on who is considered to be behind the project: the group of individuals, the two architects and the students, or the studio. The reasons why it was eventually regarded as BTR activity are that the project promoter is different from the studio and the exhibition is not featured on the studio's website as one of its projects. The project has been granted official permission by the Haringey Council.

The project ‘Drum Together Brum Street Party’ aimed at creating a one-day free event for the local community in the city of Birmingham, featuring a program of live music performances and workshops. The project promoter is Drum Together Brum, a community-drumming group. In this case, the delivery manager is an above the radar organisation. Namely a community interest company called Superact, which delivers social impact projects in the area of music and the arts.

The company organises ‘Our Big Gig’, an annual event intended to encourage people to develop their musical skills and extend their networks within the local community. The project was intended to take part in this bigger event, and therefore, it can be argued that it does not count as BTR activity. Nonetheless, the project promoter can still be considered a below the radar organisations in its own right. Once again, this project receives some type of support from Birmingham City Council.

‘The Porty Light Box’ is a project intended to raise funds to turn a decommissioned phonebox in Portobello, Edinburgh, into a light box from which to display images by local artists, schoolchildren or other local groups. The project promoter is a member of the Portobello Community Council. A community council is a public representative body in Great Britain.

Made up local people, community councils have the aim of representing communities before the local authorities. Therefore, it is not surprising that the project has been granted official permission by the Edinburgh City Council. Again, there is evidence that the project promoter covers the role of the delivery manager.

The project ‘Burghead Tennis’ was aimed at raising funds to purchase a portable tennis net and other equipment to be used in a schoolyard by a tennis club and the local communities of Burghead, as the town lacked this sport facility. The project was granted official permission by the Moray Council. At first it was unclear who was behind the project, as the information about the project promoter does not clarify this.

However, it was further found that the individual featuring as the delivery manager was a local

councillor acting on behalf of the Burghead community. In summary, even if the two last projects can be considered BTR in a strict sense, as they were not created by registered organisations, the direct involvement of public bodies and officers on their realisation make them borderline instances of BTR activity.

Compared to the BTR projects found on Crowdfunder, Spacehive projects have a smaller scope. This is reflected on the overall lower amount set as funding target for the later. In fact, only one of the projects described above showed a funding target greater than £1000. As with Crowdfunder projects, a correlation can be observed between the amount raised and the number of backers, but again, it is not very strong. Furthermore, the negative correlation between the number of backers and the amount pledged also holds for Spacehive projects, along with the outliers pleading considerably higher amounts than the average.

## **5. Conclusions**

This section summarises the successes and constrains of the methods used and the insights drawn from the analysis of BTR activity on crowdfunding platforms. It finishes with a few recommendations as to how to those methods could be further developed to improve their efficiency in identifying BTR organisations on Crowdfunder and Spacehive.

### **5.1. Lessons learned across the two case studies**

With regard to the methods deployed to map BTR activity and organisation on both platforms, two are the main insights drawn from the case studies. One the one hand, co-link analysis seems a suitable method to map new projects thematically related, both in terms of having a similar purpose and a similar theme. Applying this method to Spacehive would allow to obtain better results, however this is not possible at present due to the lack of the relational data required on this platform.

On the other hand, both methods aimed at checking whether social projects on crowdfunding platforms are indeed running by BTR and not other type of organisations would have to be

improved to overcome the limitations earlier described. Regardless of their respective limitations, the method based on using the pertinent registers provides a more consistent approach in checking for the legal status of organisations.

The notion of BTR organisations as those being under the regulatory radar seems appropriate for the purpose of developing automated data collection methods. Nonetheless, when conducting the case studies it became apparent that for a richer understanding on BTR activity on crowdfunding platforms, a more nuanced analysis of the projects and organisations identified using those methods was needed.

In doing so, it was found that BTR activity appears combined in varied ways with that of registered organisations and governmental bodies. Thus, individuals and organisations behind crowdfunding projects that remind under the regulatory radar can however be seeing as being above other types of radar, such as the ‘policy radar’ or the ‘support radar’<sup>19</sup>.

The former is the case for those projects on Spacehive that were granted official permission, receive support from local councils or are even partially run by people holding public offices. The later is the case for all those crowdfunding projects that receive support from other organisations -in the form of funding, material resources or spaces- in order to guarantee their continuity.

It was also noted a salient trend in the BTR projects found on both platforms that reflects on a pervasive feature of BTR activity across the UK: the creation of green spaces to learn and put into practice environmental values and skills through a variety of activities offered to community members at no cost as part of their philosophy. These spaces range from environmental centres to farms and community gardens, both in cities and rural areas.

## **5.2. Next steps for improving the efficiency of BTR methods**

In summary, co-link analysis is valid method to map new projects thematically related, which if combined with a second method to checks the legal status of the organisations behind those

projects, can serve to efficiently identify BTR groups in crowdfunding platforms. Having the data in a format that suits methodological requirements would allow to make the necessary improvements to both methods, co-link analysis and the method based on the registers. To that aim, it seems that a form of partnership with the platforms concerned would be crucial. Thus, for instance, **making available through an API the data required to deploy co-link analysis would allow the development of a more robust application.**

Likewise, it would be extremely useful if platforms would **enable a mechanism to make users enter as the project owner / promoter username the name of the organisation they work for whenever they are acting on its behalf.** This would make it possible to systematically identify registered organisations on the registers used.

## References

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<sup>1</sup> McCabe, A., Phillimore, J. 2009. Exploring below the radar: issues of theme and focus. <http://www.birmingham.ac.uk/generic/tsrc/documents/tsrc/working-papers/working-paper-8.pdf>

<sup>2</sup> <http://www.oxforddictionaries.com/>

<sup>3</sup> <http://www.bigsocietycapital.com/how-we-invest/spacehive>

<sup>4</sup> <https://spacehive.com/Home/HowItWorks>

<sup>5</sup> <http://www.ukbusinessangelsassociation.org.uk/news/crowdfunder-smashes-through-500000-funding-target-just-over-3-hours-equity-crowdfund-campaign>

<sup>6</sup> Facebook Groups, seemed a good option according to the project purpose for several reasons. Firstly, Facebook is at present the most popular social networking platform within the UK\*, what makes it suitable for BTR groups that want to reach a broad audience in order to be widely heard and joint by potential members. Secondly, the data structure on Facebook Groups allows the deployment of co-link analysis, as the pages of groups link with the individual pages of their members on the platform and vice versa.

Furthermore, Facebook Groups, as its name suggests, is specifically addressed to groups. This presents a big advantage. Namely, that the object of study and the unit of analysis on the platform refer to the same thing, 'groups of people', what makes the identification of BTR

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organisations more straightforward. Moreover, the tools made available by Facebook Groups make it specially suitable for informal groups like BTR organisations, as they might lack the IT tools that registered organisations use for the coordination of their activity.

\*<http://www.socialmediatoday.com/content/uk-social-media-statistics-2014>

<sup>7</sup> While Facebook provides an API that can be used by applications to collect user data, it does not allow to collect data by other means such as harvesting bots, robots, spiders, or scrapers, unless formal permission is obtained. As the data needed to deploy co-link analysis was not available through the Facebook API, it became apparent that the only possible way to deploy the method was to develop a crawler or spider, for which formal permission was asked. However, no response was ever received.

<sup>8</sup> Marres, N. 2012. The re-distribution of methods: On intervention in digital social research, broadly conceived.

[http://research.gold.ac.uk/7773/1/Marres\\_redistribution\\_of\\_methods.pdf](http://research.gold.ac.uk/7773/1/Marres_redistribution_of_methods.pdf)

<sup>9</sup> The Issue Crawler deploys co-link analysis in the following way: from a set of seeds or website URLs entered by the user, the crawler returns only the URLs of those sites that receive links from at least two of the seeds. The resulting websites are expected to be relevant actors on the Issue Network of the particular theme introduced by the seeds.

<sup>10</sup> A crawler is a program that automatically visits a list of URLs entered by the user, called 'seeds', identifies the hyperlinks shown on each of those pages, and adds them to the list of URLs to visit.

<sup>11</sup> Marres, N., Rogers, R. 2005. Recipe for tracing the fate of issues and their publics on the Web. [http://research.gold.ac.uk/6548/1/Marres\\_05\\_Rogers\\_recipe\\_copy.pdf](http://research.gold.ac.uk/6548/1/Marres_05_Rogers_recipe_copy.pdf)

<sup>12</sup> The keywords used were: CIC, foundation, charity, social enterprise, cooperative, co-op, co-operative, ltd, association, company, business, trust. It should be noted that these keywords were selected from the observation of a limited sample of projects. Thus, adding other well-documented keywords to that list would help to achieve more accurate results.

<sup>13</sup> Up to three different registers were found susceptible to contain the types of formal organisations present on crowdfunding platforms: the Register of Charities by the Charity Commission, the Register of Companies by the Companies House, which includes regular companies, CIC and other social enterprises, the Mutuals Public Register by the Financial Conduct Authority, which includes organisations such as Co-operatives.

Although it was not possible to get an official copy of those registers on a suitable format, I could get through more informal channels two updated files with the names of all registered charities and community interest companies. In order to get more accurate results, a proper version of all the above registers should be used instead.

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<sup>14</sup> This method was not eventually developed for Crowdfunder due to the fact that relatively often project owners do not register on the platform with the name of the organisation they work for, but use instead their own name or a random username.

<sup>15</sup> An API, or application programming interface, enables applications to access platform data in an easy and stable way. As a result, apps that use API's do not need to be modified every time the data structure on platform pages changes. This is however the case for those applications using web crawling techniques.

<sup>16</sup> Data collection from both platforms was carried out on 25/11/2014.

<sup>17</sup> When opened with a browser, the whole network is shown, and on its left side, there is a panel with information about the network and features to navigate it. The feature right on the bottom allows to filter projects by category. When clicking on top of a node, only the nodes connected to that specific node will remain visible and a right side panel will pop up with information about the project: its name, URL and category on the platform and its number of connections to other projects, which are listed right below, together with the username of the backers that contributed to both projects.

<sup>18</sup> The first step in creating the visualisation was to merge the statistics files from both platforms into a single csv file. Then, this file together with the file for the map were uploaded into a database and stored into two different tables. Data in both tables can be matched through their common field 'project id'. Thus, when a marker on the map is clicked, the histogram gets fed with the specific statistic data for that project.

<sup>19</sup> McCabe, A., Phillimore, J. 2009. Exploring below the radar: issues of theme and focus. <http://www.birmingham.ac.uk/generic/tsrc/documents/tsrc/working-papers/working-paper-8.pdf>