AQMeN (Applied Quantitative Methods Network)

Collaborative Small Grants Scheme

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Piloting a Collaborative Quantitative Research Development Programme in the Third Sector: Understanding Volunteering in Scotland

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The project

Overview

There is increasing enthusiasm for exploiting "big data", and making better use of quantitative data from both social surveys and administrative sources. However, this poses a significant challenge for organisations that do not have adequate quantitative methods expertise. This is particularly true for third sector organisations; both charities providing services and infrastructure bodies such as third sector interfaces.

This project piloted a collaborative development programme to involve third sector practitioners in the analysis of a linked administrative and social survey data on charities and volunteering. Participants developed their quantitative methods skills, while building a better understanding of the benefits and challenges of using different types of secondary data. The analysis conducted through this project helped us to better understand both the demand and supply of volunteers in Scotland. It also brought together the organisations involved in collecting and using that data, including the Office of the Scottish Charity Regulator (OSCR), Volunteer Development Scotland (VDS) and Ipsos Mori, to develop existing and future opportunities for collaborative research. In addition, support with conducting data linkage was provided by the Scottish Government.

This project built on previous work (also funded through an AQMeN Small Grant) developing the quantitative skills of a third sector organisation to further explore the potential for third sector organisations to use both social survey and administrative data sources to better understand both the characteristics and distribution of volunteering participation. The extended collaboration outlined here has been made possible through networks developed during the previous AQMeN Small Grant.

Investigators

Principal Investigator:	Dr Alasdair Rutherford (University of Stirling)
Co-Investigators:	Dr Helen Harper (Volunteer Development Scotland)
	Dr Louise Meikleham (Offce of the Scottish Chartity Regulator)
	Steven Hope (Ipsos MORI)
Research Assistance:	Diarmuid McDonnell (University of Stirling)

Methodology – Analysis

Analysis of Scottish Household Survey data

Alongside the pilot development programme, the project combined data from six years of the SHS (2006 to 2011) over which the volunteering questions were relatively stable. The charity register dataset was first converted into a Stata .dta file. Some data cleansing was performed on the charity register to prepare it for merging with the Scottish Index of Multiple Deprivation (SIMD) Postcode Lookup; for example, charities with a non-Scottish address were removed from the dataset. The SIMD Postcode Lookup dataset was then converted into a Stata .dta file and merged with the charity register. This matched each charity with an intermediate geographical zone. This process left some 600 charities without an assigned zone, due to inaccuracies in their postcode details. These charities were assigned an intermediate zone based on their proximity to other charities with an accurate zone. Summary statistics were then calculated for each intermediate zone.

Following an application to the Scottish Government for access to a special SHS dataset, the SHS team at the Scottish Government conducted a data matching exercise to match the aggregate charity register data at the intermediate geography level to individual observations within the SHS. These included:

- Number of charities per IntZone;
- Number of charities by constitutional form per IntZone;
- Number of charities by geographical area per IntZone;
- Number of charities by paid staff per IntZone;
- Number of charities by trustees per IntZone;
- Number of charities by beneficiary group per IntZone;
- Number of charities by charitable purpose per IntZone;
- Some preliminary analysis of this data was carried out, and the linked dataset will now be used for further analysis.

We then estimated a binary logit model of volunteering participation that included charity data as well as individual, household and neighbourhood level characteristics. The covariates for the model were selected based on a theoretical model of volunteering participation drawn from the literature. Model specifications incorporating a range of the charity and local area characteristics were then estimated, and the model results compared.

Activities

Quantitative methods training for third sector organisations

A group of eight third sector practitioners who use data as part of their role were brought together on a pilot programme to develop their quantitative methods skills and build links with data holders. The programme involved attendance at 3 full-day workshops over 3 months, hosted by the University of Stirling, Volunteer Development Scotland, and the Office of the Scottish Charity Regulator. The third sector practitioners participating in this project developed their understanding of the quantitative data available, both its potential and challenges, and developed their quantitative methods skills through a mix of training and hands-on analysis of data.

The third sector practitioners who participated in the project were:

- Argyll Voluntary Action
- Volunteer Centre East Ayrshire
- Glasgow Life
- Stirlingshire Voluntary Enterprise
- Volunteer Edinburgh
- British Red Cross
- Volunteer Centre Dundee
- Voluntary Action Shetland

Workshops

Workshop One: Methods to explore local level volunteering data

The workshop provided an overview of some quantitative data analysis methods, covering a selection of those statistical techniques which are most commonly employed in social science research. It also covered practical training in the application of quantitative methods to volunteering data in Scotland.

Workshop Two: Accessing and working with data

This workshop provided an introduction to sources of administrative and social survey data. The first session of the workshop was led by OSCR and provided an overview of the information held on the Scottish Charity Register; the second session, led by Ipsos MORI, focused on the volunteering data captured by the Scottish Household Survey (SHS).

Workshop Three: Understanding the value of data to develop volunteering

This workshop covered key issues to consider when looking at a piece of data or research. These included: assessing quality of data and research, eliciting the hidden stories behind the data, identifying gaps, and thinking about relevance to your own analysis.

Findings/ Outputs

Quantitative methods training for third sector organisations

Pre-programme

The majority of participants had no prior training in quantitative data analysis; those that did referenced single modules as part of their university education. Participants had a range of motivations and expectations associated with the programme. Most focused on their anticipated improvement in quantitative analysis skills, enabling them to both produce and communicate information more effectively to funders, colleagues and management. As one participant stated:

> *[I am] keen to gain knowledge to better enable meaningful analysis of the variety of data sources available to us to better drive service redesign and resource allocation.*

Other participants remarked on the importance of the programme for improving service design and delivery, as well as the key process of gathering relevant data.

In order to assess their quantitative data analysis skills, participants were encouraged to indicate their skill level in relation to three common statistical techniques:

Please indicate your skill level in relation to the following quantitative methods:

Answered: 7 Skipped: 0

	Weak	Acceptable	Good	Very good	Total	Average Rating
Calculating means/standard deviations	57.14% 4	42.86% 3	0% 0	0% 0	7	1.00
Producing cross-tabulations and bar charts	57.14% 4	28.57% 2	14.29% 1	0% 0	7	1.00
Producing association statistics	100% 7	0% 0	0% 0	0% 0	7	1.00

Figure 1-Participant skill levels (pre)

The participants' expressed similar sentiments when prompted to record their confidence in accessing and using quantitative data to support their work:

How confident are you in your ability to access quantitative data to support your work?

Answered: 7 Skipped: 0

	Not at all confident	Not very confident	Confident	Very confident	Total	Average Rating
	28.57% 2	42.86% 3	28.57% 2	0% 0	7	1.00

Figure 2-Confidence in accessing data (pre)

How confident are you in your ability to use quantitative data to support your work?

Answered: 7 Skipped: 0

	Not at all confident	Not very confident	Confident	Very confident	Total	Average Rating
	42.86% 3	42.86% 3	14.29% 1	0% 0	7	1.00

Figure 3-Confidence in using data (pre)

Post-programme

Overall, participants expressed satisfaction with the programme. All but one participant stated that the programme met their expectations; the person who claimed it did not explained that this was due to not knowing what to expect from the programme. When questioned about the impact the programme had on their work with voluntary sector data, the vast majority of participants claimed it had a medium or high impact. Even those who still expressed a lack of confidence in their ability to undertake quantitative analysis understood the benefits of engaging with this programme:

Although I have put 'not very confident' and 'weak' I am more confident than before the course and have a greater awareness. Some of the more 'technical aspects' were a bit bewildering but the basics were very good. And I now know where I can get assistance and am keen to try out some basic data gathering and analysing from what I learnt on the programme.

There was a small but encouraging shift in the skills and confidence of the participants:

Please indicate your skill level in relation to the following quantitative methods:

Answered: 6 Skipped: 0

	Weak	Acceptable	Good	Very good	Total	Average Rating
Calculating means/standard deviations	33.33% 2	33.33% 2	33.33% 2	0% 0	6	1.00
Producing cross-tabulations and bar charts	16.67% 1	50% 3	33.33% 2	0% 0	6	1.00
Producing association statistics	33.33% 2	33.33% 2	33.33% 2	0% 0	6	1.00

Figure 4-Participant skill levels (post)

How confident are you in your ability to access quantitative data to support your work?

Answered: 6 Skipped: 0

	Not at all confident	Not very confident	Confident	Very confident	Total	Average Rating
	0% 0	33.33% 2	66.67% 4	0% 0	6	1.00

Figure 5-Confidence in accessing data (post)

How confident are you in your ability to use quantitative data to support your work?

Answered: 6 Skipped: 0

	Not at all confident	Not very confident	Confident	Very confident	Total	Average Rating
	0% 0	33.33% 2	66.67% 4	0% 0	6	1.00

Figure 6-Confidence in using data (post)

The project collaborators also expressed satisfaction at the delivery and impact of the programme overall. They felt that the success of the project would be in enabling the participants to understand their own data needs and have the confidence to address them; as seen from the questionnaire results, the project achieved this aim. Other benefits/strengths of the project include: the project generated ideas for their own knowledge exchange activities; fostered links with voluntary sector stakeholders. One of the key insights derived from the programme was the issue of meeting the disparate needs of programme participants. There were also questions surrounding the applicability of the content of the workshops to the participants' own analysis, though the focus on volunteering data provided a common topic.

Stakeholders were prompted to propose any improvements or lessons that could be garnered from the project. Most important in their eyes is to tailor any future programme to the data needs of the participants; workshop sessions should address specific analysis questions relevant to the participants. Consequently, some of the more 'basic' material that needs to be covered can be sent to participants prior to the sessions. While stakeholders agreed that the workshops should have a practical focus – working with the data wherever possible – a balance must be struck between hands-on experience and a more didactic approach. Other important insights expressed were: ensuring there is a consistent message delivered across all programme sessions; awareness of the terminological barriers to learning; and working with as large a group as possible.

In terms of the building on the success of the pilot, project stakeholders expressed the importance of ascertaining the data analysis needs of the participants prior to undertaking any other actions. Once established, developing a directory where data relevant to the voluntary sector can be stored/listed is an important next step. Thematic groups (for example, health and social care) could also be established for voluntary sector organisations interested in data analysis. Mentoring or coaching the participants through their own analysis was also suggested as a priority. Finally,

participants should be encouraged to share their learning and experience with contemporaries and other stakeholders in the sector.

Finally, through discussions with participants and collaborators, the project unearthed various suggestions for ways to improve how third sector organisations use quantitative data:

- provide guidance on what data is available and where;
- release more accessible and inclusive guidance notes with datasets;
- improve the ability of voluntary organisations to interpret the data that is available;
- ensure national-level organisations know how to access and use quantitative data. They can then identify local and regional data needs;
- communicate the potential of using quantitative data to support service delivery and development (not just for internal accountability);
- demystify the concept of (quantitative) data analysis – materials/training need to be pitched at the right level and use language appropriate for a practitioner audience;
- provide examples of best practice; this in turn will encourage peer learning, sharing and support.

A. Project beneficiaries

The direct beneficiaries of this project include:

Volunteer Development Scotland (VDS)

Office of the Scottish Charity Regulator (OSCR)

Ipsos Mori

Argyll Voluntary Action

Volunteer Centre East Ayrshire

Glasgow Life

Stirlingshire Voluntary Enterprise

Volunteer Edinburgh

British Red Cross

Volunteer Centre Dundee

Voluntary Action Shetland

B. Project impact

There is great opportunity for sustaining impacts beyond the lifetime of the project, through developing partnerships, improving skills to use data, increasing motivation to use and improve the quality of administrative data, and potential to share the project outcomes with other third sector organisations in similar contexts via the project partners.

Volunteer Development Scotland (VDS) benefited by developing relations with key third sector organisations. This enables VDS to capture the data needs of these organisations, allowing them to design and tailor their services appropriately. The project fitted well with VDS's strategy to create new knowledge, particularly using existing data, and knowledge exchange, furthering understanding of what the demand is for data amongst practitioners, how they can encourage others to use data on volunteering, and helping influence the producers of data to meet those needs.

OSCR benefited from developing stronger links with academia and with third sector organisations that wish to use Charity Register data to inform practice. From participating in the project OSCR were able to share the knowledge and understanding of the data that they collect and hold with the project partners to establish closer collaborative working relationships. A key future benefit for OSCR will be the potential for transfer of knowledge back to the sector.

Ipsos Mori has a long term strategic interest in promoting understanding and use of the Scottish Household Survey data throughout the policy community in Scotland. They benefited from developing stronger links to both academia and users of social survey data. The project also helped generate interest in using the SHS data amongst third sector organisations. They benefited from developing a better understanding of how the third sector uses research evidence and from helping to develop understanding of how service planning and development could benefit from improved application of research evidence.

The Participant organisations benefited by developing their in-house use of quantitative methods, and increasing their understanding of the benefits and challenges of making use of both administrative and social survey data.

The project generated a linked Scottish Household Survey/Scottish Charity Register dataset which will now be used for research into the determinants of volunteering in Scotland by the PI.

The PI is now setting up a Scottish network for third sector data researchers and users to share information about the collection, analysis and use of third sector data.

C. Collaborative components

The project was led by Dr Alasdair Rutherford based at the University of Stirling. The focus of the data analysis was volunteering, but the specific research questions were demand-led by the participants, whose data needs were captured using feedback generated by surveys conducted after each workshop. Support with analysis, quantitative methods training and project administration was carried out by a research assistant drawn from the graduate school at the University of Stirling.

Support with access and analysis of the OSCR data was provided in-kind by Dr Louise Meikleham from OSCR.

Support with the use of social survey data was provided in-kind by Steven Hope of Ipsos Mori.

Support with interpretation and policy and practice implications was provided in-kind by Volunteer Development Scotland.

The Scottish Government's Scottish Household Survey team again helped with the anonymous linking of the local area register data to individual SHS survey respondents. Each workshop was also designed in collaboration with the project stakeholders.

D. Innovative use of advanced quantitative methods

This project made use of descriptive statistics, association statistics and data visualisation to describe the characteristics and distribution of charities and volunteering. It also made use of binary logistic regression to estimate individual probabilities of volunteering contingent on individual, local area and charity characteristics. The dataset used in this project was constructed by matching administrative data held in the Scottish Charity Register on charitable organisations in Scotland to social survey data in the Scottish Household Survey, matched at intermediate geographies.

E. Knowledge exchange value of the project

This project facilitated the sharing of knowledge between partners in academia, the private sector, the public sector and voluntary organisations. The knowledge shared included the collection, linkage, use and analysis of both survey and administrative data, and how that analysis could be applied to practice.