



Shared Systems Research

Carried out by



In partnership with

Pipal Associates

March 2008

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“Shared Systems” in the voluntary and community sector

Context

Technology can increase and enrich the impact of voluntary and community organisations (VCOs). One of the most inventive and fruitful ways in which organisations are already making use of technology to aid their wider goals of social change is in sharing ICT systems. Little is known, however, about particular experiences of VCOs who share ICT resources and create and develop these ‘shared systems’

The line of research taken up by in report follows on from the ICT Hub’s work on *Collaborative working to make more effective use of ICT* which aimed “to inspire organisations to see collaboration as a potential solution to the ICT issues they face”¹. The sharing of ICT systems or systems which themselves share, are just such solutions. In contrast to past work, this piece of research aimed to uncover motivations, benefits, challenges and limitations through a critical, in-depth look at a range of case studies.

Definition

Shared systems, for the purposes of this research, were defined as **“pieces of hardware, or software, developed and used by more than one voluntary and community organisation, for the same purpose or purposes and mutual benefit”** (ICT Hub).

Method

The recruitment for this research was purposive rather than statistically representative, since the aim was not to provide a complete picture of the sharing of systems in the sector but rather to provide a range of examples demonstrating experiences, and to focus on deeper qualitative insights gained from a diverse set of organisations from national, regional and local levels. Systems were identified by using the knowledge of experts in the area of ICT services for the voluntary sector, particularly circuit riders. Telephone interviews were conducted

¹ *Collaborative working to make more effective use of ICT*. ICT Hub. December 2006; see also *ICT tools to support collaborative working: A model of collaborative working*. ICT Hub. July 2006.

with experts involved in developing, implementing and using the systems, thereby giving a well-rounded technical and non-technical description of each system. As far as possible, all systems were looked at from a conceptual, 'ideal' case perspective and an on-the-ground, user perspective.

A note on “sharing” from the research

The definition of shared systems used for this research is notably broad. This enables a comparison of a range of ways of collaborative working. The research revealed, however, that this broad definition also brought with it the danger of not comparing 'like with like'. The systems analysed below were designed with a range of goals in mind and using widely disparate technologies. As discussed below, the extent of sharing between organisations in many of the examples was limited to systems which merely collected information on other organisations in a single database but with no input from organisations themselves. Indeed, sharing itself was not often mentioned as the principle motivation for setting up shared systems. Nevertheless, this work does demonstrate some of the potential of sharing ICT resources and describes a spectrum of ways in which sharing is currently occurring in the voluntary sector. As discussed later on, there is some evidence, even from this relatively small sample, that points towards the argument that sharing ICT resources within the sector will become more common in the future.

What kinds of organisations are sharing ICT systems and what are they sharing?

Who is sharing?

The systems studied involved a range of organisations from local government infrastructure bodies and Citizens Advice Bureaux to a collective of charities active on a residential estate and two groups of otherwise unrelated charities accessing two different shared services. In addition to the research outlined here, ESRO researchers conducted an informal survey of smaller voluntary and community organisations (VCOs) and to some extent the findings below can be seen as representing a wider community than just the case-studies listed.

The research confirmed a pattern that had been anticipated by desk research and expert consultation, namely that medium-sized organisations are more likely to make use of shared systems than small charities (some reasons for this are given below).

Case studies included:

- Databases
- Content Management Systems
- Case Management systems

- Websites
- A dedicated online expert Q&A panel
- A payments scheme
- A community wireless network and “one-stop community shop” where different charities offer counselling to clients
- ‘Packages’ including some of the above and other software or services

A full set of case studies can be found throughout the report and in the appendices.

Local infrastructure and sharing based on existing shared structures

Six of the case studies of shared systems were impelled by, or involved, a Council for Voluntary Services or CVS. CVSs are especially likely to benefit from shared systems since part of their *raison d’être* is to coordinate and draw together voluntary and community activity in a given region or locality and to represent a wide variety of independent organisations. Hence, a system which centralises information about member organisations has clear benefits for CVSs. Most of the systems used by CVSs, and which are then shared by their member organisations, were comprised of or included a database. Benefits perceived by respondents in CVSs included better data quality, less data duplication, less overall staff-hours across organisations in managing the data, and a better understanding of the sector when talking to local councils and funders. The relevance of this finding goes beyond the CVSs themselves. Similar benefits were described by the National Association of Citizens Advice Bureaux (NACAB) in relation to their centralised data and case management systems. NACAB, like local CVS organisations, has as one of its primary functions, a list of members and aims to draw together information and services for and from a large number of individual actors. So,

- the benefit of sharing is already perceived especially by organisations which are already working collaboratively or sharing in some other way, and
- organisations already working collaboratively with other organisations benefit directly from shared ICT systems.

Smaller organisations

Our research did not find a great deal of evidence of fully developed ICT systems developed by smaller organisation themselves. Nevertheless all of the case-studies did feature smaller organisations using the systems, the difference was that they had not had key roles in developing, managing and maintaining the systems.

There are several reasons for this:

- Smaller organisations are unlikely to have an in house ICT team or dedicated individual staff member, and therefore might be less aware of the possibility of this kind of collaboration.
- They might perceive of themselves as less able to manage and maintain this kind of a project.
- Lack of funding.
- ICT in general is not high on the list of priorities and is often seen as a necessary evil rather than an opportunity for finding new ways to deliver services.

Therefore the emphasis in this research is on systems shared in their *use* or *purchase*, not in their *development*. For those smaller organisations that did engage however, benefits cited included precisely the ability to access technologies that would not otherwise be within their reach (this is discussed further below in relation to costs). There are some innovative smaller scale developments in the making, such as the “Hackney Wick Community Map”². It looks to map community events, organisations, local services and planning proposals and provide a discussion forum which will be updated and accessed via the web, by local residents and community organisations. It is worth noting however, that such projects taken on by smaller organisations are likely to face all of the challenges examined below.

Visibility

Many shared systems, other than specifically web-based or website based features, will be invisible to outsiders. This is because many of them are not featured on organisations’ websites. This can add to the impression that sharing is not going on and does not help in encouraging their further development. It also means that is difficult to determine from the desktop, who is sharing.

In contrast, a well maintained and frequently updated website may contribute to increasing the system’s visibility and accessibility. Smaller organisations with more rudimentary websites then, might be disadvantaged to some extent when it comes to sharing knowledge about what they are involved with. Marketing is a problem which we deal with in more detail below.

How are shared systems developed?

All but one of the systems studied was developed by an organisation or company other than the principal users³. In most cases the system had been developed or customised by companies offering dedicated ICT services for the third sector or for sole use by the VCO. In some cases (e.g. CP Terminal and Expertsonline) the system was actually hosted and maintained by the company which had

² <http://clubplan.org/CMS/page.asp?org=2673&id=593>

³ Commercially commissioned development of technology affected respondents’ ability to comment on costs and technologies involved.

developed it. It is important therefore to repeat that the emphasis here is on systems shared in their use and not, primarily, in their development. Nevertheless VCOs did describe developing detailed specs and setting up steering groups to direct the projects.

There were several reasons for VCOs to go down the commercial route:

- Time constraints on in house staff prevented them from developing systems themselves.
- A lack of full-time dedicated ICT staff.
- Bespoke systems can be as expensive as commercial options.
- VCOs are already overstretched in terms of finding resources to maintain a system.
- Many were already aware of suitable corporate products which matched their needs closely, hence there was no need to develop “from scratch”.

An Interviewee at the North Yorkshire Forum for Voluntary Organisations put the decision to use a private company in the following words:

"Underlying the application..it is [all] really complex, and there isn't expertise in the sector to look after it after that date [of completion]... So we took the decision that we wouldn't put that burden of resource on the voluntary sector itself, we would use the experts to do that. It seemed a safer approach."(Common Database)

In contrast, for some respondents the notion of sharing had other implications. For them the technological side of sharing (the ‘shared’ in shared system) was necessarily synonymous with using “open source” software and open source code, at least as far as possible. This reflected a more political approach to the use of technology.

Open source software like Drupal, CIVIcrm and Open Office was used to provide cheaper alternatives to bespoke or commercial products. The problem here is based on two things: 1) Supporting and maintaining a system built on open-source software requires training of lay-staff or the cost of ICT support and, 2) VCOs thinking of creating a shared system must somehow be made aware of the available open-source resources which are often not well known outside of the specialist ICT community.

Benefits of sharing

Benefits of the shared systems are more fully discussed in detail below, along with challenges. Bearing in mind that systems were all trying to achieve different objectives and were doing so using different technologies, we can summarise some of the benefits as follows:

Better data quality	Less data duplication	Better customer relations
Faster work turnarounds	Better reporting to funders	Streamlined mailings
Less duplication of work within organisations	Less duplication of work across organisations	Better knowledge of the sector
Opening new doors for knowledge	New opportunities for generating revenue	Improving relations between membership organisations and its members
Complying with commercial or legal standards/Professionalising	Cost savings	Consistency and consolidation across organisations who have a common goal
Better monitoring and evaluation	Better communication	Better ICT skills

Some testimonies:

"We've got 450 member bureaux out there so the risk of having 450 different databases recording different things" (CASE)

"People aren't scribbling credit card numbers on bits of paper and leaving them in in-trays anymore" (CP Terminal)

"We now have a far more consistent approach to data management in the sub-region. We have far better access to mailing tools so we can get information out to our beneficiaries, the organisations we support, in a much better way and avoid duplication between infrastructure. We have a much more coherent approach to dissemination" (Common database/ThankQ)

"People like the big funders, the government, Scottish Enterprise, key public sector partners are aware of [the shared database] and, hopefully, buying into the concept. We'd like to see that when research is commissioned in the sector, then researchers as part of the contract need to make sure they go to the CVS to make sure they get up-to-date data rather than trying to get it from different sources" (Falkirk Shared Database)

Case Study 1: CASE (National Association of Citizens Advice Bureaux)

What does the shared system do	A Case Management System shared between all CABs. Records all meetings with a client, all interventions, contact with authorities. Documents can be scanned in and attached. While individual cases are not shared between CABs, the National Association can obtain statistics for research and reporting to funders.
Technology	Oracle database and Windows based Microsoft front-end written in Visual Basic. Hosted on NACAB's behalf at HP, accessed through a private network managed by Azuri.
Funding	Funded partially through lottery grant and central government grant. Costs for CABs included in membership fee

Motivation for setting it up

NACAB felt the need to become more business driven and answerable to funders. NACAB already has a central computer system called CIT-A, which provides every CAB with an SDSL BT line; and providing internet. In the future, files will be shared. In this way CABs can be seen as already sharing to a great extent. In addition NACAB is increasingly seen as a national organisation. NACAB wanted to look at providing more services nationally. A shared case management system including a common database was seen as a step in this direction and would provide some consistency in handling cases and reporting to funders.

Benefits

- Cases now recorded consistently and accurately in one place. This saves CABs the trouble and responsibility of managing their own database and eliminates peripheral issues such as bad handwriting.
- Automated process of capturing and recording statistical data, so saves time, no more counting.

Challenges

- The scale of the project, with over 1000 outlets and 20,000 users.
- Catering for a myriad of funding reporting requirements.
- Because of the success of the system, it is becoming a membership requirement to use the system and to report client statistics to NACAB, therefore needed to support some CABs in acquiring the hardware. Hardship funds were made available and NACAB worked with other charities to provide refurbished computers.
- Some CABs were worried they would lose volunteer resources by forcing people to use computers, and move away from paper. Some volunteers probably were lost but volunteers were in turn equipped with new skills.

Lessons learnt

Where there is a pressure to share, VCOs initiating the sharing need to plan how to assist smaller organisations with skills, hardware and resource issues.

VCOs are developing and commissioning shared ICT systems for a variety of reasons and benefits vary widely depending on the objectives of the project.

Shared databases, in particular, have attractions for all the sharing partners. Including better data quality, less data duplication, and less duplication of work as well as benefits already mentioned. Other work has stated that shared databases can also go some way towards creating communities⁴ since they can foster collaborative working more generally.

⁴ *Creating Communities from Databases*. Lisa Thyer. 2007. ICT Hub Knowledgebase

Case Study 2: Shared Database (Falkirk CVS)

What does the shared system do	Shared Database. Records activity and contacts; feeds into website. Putting consultations out, newsletters, feeding into performance evaluations. Can be accessed by general public as an online directory. Modification of content by organisations themselves is being rolled out. The system is integrated into the local Volunteer Centre.
Technology	SQL server 2000 database. Developed in-house.
Funding	Funded by local council.

Motivation for setting it up

Falkirk CVS wanted to be the first and single point of contact for enquiries on the voluntary sector in Falkirk. The aims in creating the system focussed on obtaining a better understanding of the local sector and a means to better target communications. Before the database was implemented there had been too much duplicated effort with out-of-date information circulating. The CVS would receive phone calls from the upset spouses of former heads or trustees of a charity who had deceased, because they had been sending them letters drawing on an out-of-date database. Falkirk CVS looked at examples in England, Canada and the USA to design the system.

Benefits

- Putting consultations out, newsletters etc.
- Recording activity for performance evaluation.
- Better communications with Community Planning Partners (public sector).
- The success of the system has brought it to the attention of 7 other CVSs who are now using their own versions of it, at no cost.

Challenges

- The scale of the project became a problem, as the first of its kind in Scotland it required time-consuming initial interviews of 1 to 1 1/2 hour interviews with organisations to obtain all of their information.
- The system grew rather than being delivered complete. This allowed for greater flexibility and adaptability but also means that some of the data collected before has been dropped (e.g. about ICT) and some new data included (e.g. on social economy).

Lessons learnt

The system has depended on buy-in and trust with stakeholders. An agreement was set up with local partners that they wouldn't start or maintain their own databases and that if they wanted to contact the sector it would be through the CVS and that any changes be made through the shared database. Organisations have now come to appreciate time and cost savings of this approach.

Costs and funding

“The benefit of sharing is it brings the cost down” (Common database/ThankQ)

Sharing the costs of technology between organisations means that VCOs who would otherwise be unable to afford a software or service are able to gain access to important tools. Spreading the costs is indeed one of the motivations and benefits cited by many respondents in the research. To illustrate the point, one shared system identified in earlier ICT Hub research, a ‘wiki’ (online, user-driven information point) developed by Ladder4learning, has ceased to exist because of funding being withdrawn. Several participants on this project cited lack of money as one of their biggest day-to-day challenges.

Many organisations have technology needs which could be met by commercial products. Because of the size of the organisation and its relative lack of funding, however, these kinds of software remain out of reach. Sharing is one way of making commercially available technologies accessible. A group of sharers also have the benefit of customising commercial products and making them more relevant to the sector. For an example see CP Terminal.

External funding can also enable shared systems to be set up. Some of the funders mentioned in these case studies include Changeup/Capacitybuilders, Local Council, the Big Lottery fund, the Learning and Skills Council, ESF, central government and the Scottish government. Most organisations had applied for funding to set up the systems initially. However, some funding had exceeded expectations and was used to fund maintenance of the system. On the other hand where funding did not cover all of the set up costs, organisations met the remaining costs themselves. Several case studies revealed the need to complement both self and outside funding with money from users, most often in the form of subscription costs.

In the case of the NYFVO, an umbrella organisation of the CVS in North Yorkshire, the ‘common database’ (modelled on ThankQ) had Capacitybuilders funding for the first 3 years of the project (which included its development and initial running costs). Funding is due to run out soon and so users, such as CVSs will be faced with a subscription cost of £400 annually.

Case Study 3: CP Terminal (Charity Technology Trust)

What does the shared system do	Used by around 100 organisations this is a web-based, secure system for processing VCOs multiple currency, single or recurring, credit or debit card transactions, and online or offline payments, including donations, membership and direct mail payments. It is accessed using a simple URL, user name and password. It is a direct replacement for the standard credit card terminal. It allows users to create and link an unlimited number of online donation pages. It offers real time reporting, including gift aid reports in line with Inland Revenue requirements.
Technology	Proprietary software developed with private company RSM including aggregation software for transactions and the front-end including the features. Sits on 2 secure servers.
Funding	Organisations pay a one-off set up fee (£300) and monthly merchant account (£20), charges on transactions cover the running costs of the system. Any profits are reinvested into developing the system further.

Motivation for setting it up

Charities process credit-card payments from multiple offices and users and are constrained by processing from individual terminals using individual merchant accounts making reconciliation complex, expensive and insecure. CP Terminal was inspired by 'Virtual Payments Systems' available in the commercial world. The Charity Technology Trust wanted to design a simpler system, financially accessible for the voluntary sector, but not less effective.

Benefits

The Royal British Legion, which had 10 different merchant accounts, has seen the following benefits since CP Terminal's introduction: a significant increase in the number of transactions processed on a daily basis, considerable time savings thanks to the automated gift aid reporting. An increase in the overall level of security associated with the handling of credit card and debit card information and cost reductions. The Royal British Legion now plans to use CP Terminal to process donations received by other departments within the organisation.

Another benefit is for charities' transactions to become compliant with credit-card industry standards.

Challenges

Making it simple to use with minimum amount of necessary guidance as training would drive costs up. A demo system was set up and training/introduction video was created for marketing and training purposes.

Lessons learnt

Users can be a valuable source of information on how to grow and improve the system. Capturing this knowledge needs to be planned for.

While most users who pay subscription costs state that costs are well balanced by benefits and they are happy to pay the subscription, some users admitted that they were not sure of how much they were currently paying and what benefits they are receiving. Perhaps as a reaction to this, several developing organisations stated that they were considering implementing subscription levels to account for different user needs and levels, for instance depending on size of the organisation or on features used (see Expertsonline).

“We need a big number of people to keep it going. Expertsonline is cross-subsidized all over the place, that’s the model, we couldn’t keep it running for 600 individual people it just wouldn’t work, each paying individually, we have to have arrangements where lots of networks pay for their members to have access to it ” Expertsonline

Systems might need a minimum number of users (either individual or organisations) to make themselves cost-effective. It is useful therefore to speak about shared purchasing in its own right as well as shared developing or use of systems.

An interesting pattern has emerged from the research which concerns shared systems’ potential to generate revenue for VCOs. This was found to be the case in 4 of the 11 systems, with an additional system in the process of development in which revenue generation is being designed into the system.

- Profits could be generating from the use of the system by users, these profits could be reinvested into the expansion of the project (e.g. Expertsonline, CP Terminal)
- Where organisations were in possession of the copyright, the system or licences for it could be sold on to other organisations (e.g. VCO Connect, Shared System for Westminster)
- In addition, revenue could be generated where information could be extracted from the system and statistics could be provided on the sector to statutory bodies (e.g. Common Database/ThankQ)

Case Study 4: VCO Connect (Voluntary Action Sheffield)

What does the shared system do	Holds contact information, records interventions with groups and individuals, manages all mailings/networks and manages training course and event administration from one central location. The system also needed to be web based, accessible to staff working out of the office and also wanted the opportunity to allow our members and customers to update their details themselves, which the system does provide. Provides statistics on groups worked with Provides enquiry tracking and edit logging. Guest login is being rolled out for online directory accessible to the general public.
Technology	SQL database, hosted internally. Developed externally.
Funding	Has been sold on to 4 other organisations.

Motivation for setting it up

VAS had experienced customer service issues, with contacts duplicated. VAS wanted a centralised web-based system that would manage and monitor all business activities, manage all training courses and events, booking people on to courses and sending confirmation letters, manage all mailings lists, newsletters, forums, and hold contact details of member organisations. A modular system was required.

Benefits

- Improved Customer Services: “now we know a lot more about them [clients] and their history”.
- VAS own the copyright and the product outright. The system has been recommended by a ‘customer first’ assessor to other infrastructure organisations and as a result VAS have been approached by them to purchase the system. They have now sold a licence to a number of other organisations (for a fraction of the original cost) to use the system and VAS have now realised they have a very marketable product for the sector.

Challenges

- The data collection process, time needed for this task had been underestimated.
- Difficulties in getting all CVS staff on board especially those still on paper, who felt a loss of ownership and felt over-controlled.
- Staff training was challenging had to buy in extra training took 3 months to get everyone trained up. Different levels of training were needed e.g. administrators needed to know a lot, other users had to know only the basics.

Lessons learnt

Holding the copyright means VAS can capitalise on their technology investment.

Challenges

While most respondents perceived huge benefits to the systems they were sharing over past methods of working, there were a number of challenges to be overcome in setting up and implementing the systems. These can be broadly categorised as technological and non-technological problems. The majority of respondents in the research felt that challenges were mainly located in the non-technological arena. Partially this is due to most of the systems being developed commercially or by a company dedicated to the development and to software often existing beforehand and being adapted to the organisations' needs. Research could not reveal all of the technical detail since some systems were proprietary.

Technological challenges

Technological difficulties mentioned included problems with data duplication in a database shared between CVSs where some information was being lost and other information duplicated when merged into the database. CVSs were in consultation with the company about solving the problem but the problem had delayed implementation for around 6 months (Common database/ThankQ).

In Waltham Forest CVS a system was required that could be used by landlords but which did not require constant administration. This would allow landlords to upload information without having to wait for that information to be approved by a Waltham Forest administrator. Also it was a requirement that the system be integrated with other VA-WF online databases but proprietary constraints and a lack of open-source code in other systems, made this particularly difficult.

Some other difficulties concern access to the technologies rather than technical barriers themselves. For example, where shared systems were being rolled out across a number of smaller organisations, hardware problems could be an issue. At the National Association of Citizens Advice Bureaux, where use of the Case Management System is about to become a membership requirement, some of the smaller CABs lacked equipment to run the system. NACAB supported these CABs by making funding available, such as in the form of hardship funds and applying for more money to update hardware.

Case Study 5: Community Connected (Kingston Voluntary Action/Locustworld)

What does the shared system do	A community wireless network. Universal wireless internet access, for Cambridge Road estate residents plus a "Community Shop" where clients receive advice and counselling and access to online self help.
Technology	Locustworlds' Meshbox, Computers used by residents and Community shop run on Linux.
Funding	Learning and Skills Council funding. VCOs pay very low rate to maintain the 'Community Shop'.

Motivation for setting it up

"Simply providing internet access doesn't empower you without a whole lot of support services. The Community Shop provides assistance in connectivity and internet access in the first place but it also is a host for the various different voluntary agencies who can come and do their business there." Locustworld

Benefits

- Free wireless internet for residents of the estate
- Integrated working of charities on the estate
- Computers are provided free to residents
- Refugee Action, who has a lot of clients on the estate has been able to support clients in new ways, both more locally and pointing them in the direction of help and advice on other areas covered by the other organisations. Many clients have benefited from acquiring ICT skills and increasing their chances of employment.

Challenges

- The cost of proprietorial software was prohibitive, so open source was used.
- Hardware for all of the families and the community shop needed to be obtained. This was solved in conjunction with a charity providing refurbished computers.
- Sufficient funding for such an ambitious project (partnership with many organisations giving help in kind has been particularly helpful here).

Lessons Learned

Shared systems and a sharing of knowledge and funds have allowed for an innovative ICT programme which has many benefits unrelated to just information and data sharing. Here, local residents were provided with online training courses and access to online learning which have

Non-technological challenges

The vast majority of obstacles mentioned by users and creators of shared systems concerned non-technological issues, particularly regarding the uptake of staff and users.

Shared databases in particular presented some common problems since they involved independent organisations

- Sending out data protection forms, getting data back, chasing information, 'cleaning up' information.
- How does a system generate users? Especially if it is aimed at a wide audience who must actively come and join.
- Persuading users that they weren't losing anything by sharing their data.
- Difficulty in getting all CVS staff on board especially those still working on paper, loss of ownership, feeling a bit like big brother.
- One database initially required a questionnaire of 1 to 1 1/2 hour interviews with organisations and so proved very time consuming.

"Obviously there are issues around data protection, people don't really understand the legislation and get a little bit paranoid about it... [so we provided] education around that and the fact that they were getting a huge return on the data they were putting in, so they put in 150 records and they were getting access to nearly 4000". (Common database / ThankQ)

A particular problem can be presented by systems which aim to bring very diverse organisations together for collaboration. The disparity between information systems already used in organisations can result in difficulties for the consolidation task. Tools already used by large and small organisations range from Word Docs and Excel sheets to Access databases and hand written paperwork. There can be issues in bringing more basic data systems up to the standards of more advanced ones. A lot of effort can be put into getting users accustomed to more complicated systems in place of, for instance, simple spreadsheets. Part of this problem was described by respondents as a difference in 'attitude' towards data, or in the words of one respondent "Some (organisations) really took care of their data while for others it was a secondary thought. Some even produced a new list every time they had to do a new mailing. So we first of all had to decide what their real set of data was". It is because of these discrepancies that some organisations may not see the value in taking part in a shared system, often because doing so would require a commitment of staff or resources that the organisation in question may not be able to provide. In this case many VCOs reacted by making accommodations so that these overstretched organisations could still benefit from shared systems, such as providing read-only access to a shared database.

Many problems related to resources, both financial and in terms of staff and more specifically skilled ICT staff:

- Complex systems can be a burden on already overstretched VCOs.
- Some organisations may prefer to opt out rather than take on the responsibility of a system which requires a lot of maintenance or learning.

"Shared systems can put a drain on resources of the organisation that is managing that sharing, so it's ok to say yes it's going to save us money in the long run and be more efficient but that's not necessarily the case for all organisations involved" (Common database/ThankQ)

Some problems were put down to a difference in VCO 'mentality'. Respondents described reluctance by VCOs to consider commercial products and the assumption that new technology had to be invented in house when actually it already existed "out there". This, it was felt, led to over-intensive man hour costs in setting up systems which could more easily and efficiently be adapted from commercially available products.

In some cases organisations had to ask themselves whether sharing was even desirable. This problem might be seen as "ideological" rather than practical, and concerned CVSs in particular. Questions over the value of shared systems here were linked to questions about what role CVSs should play in the voluntary sector more generally. In these cases organisations had to consider both arguments for and against sharing systems such as databases; particularly where it was felt that setting up such systems would somehow compromise CVSs commitment to its members. Some CVSs found themselves asking "Should we store the data centrally or should we de-centralise? Do we help local organisations or the sector generally?" (Falkirk shared database).

Training was seen as one way of overcoming some of these problems and was seen by many research participants as one of the most important factors in the success of shared systems.

Training

"Some of [the staff] took a little persuading, it's about the technology and getting used to something they don't know, once we had gone through a comprehensive training programme they were quite happy with it and could see the enormous benefits they could get from [the system]: to be able to manage their data and get accurate lists produced and things like that.. If you look at the full application, everything that's in there, it looks quite daunting... so it's very important to break down into chunks that they can manage so they can get confidence in one bit before they move on to the next" (Common database/ThankQ)

The case studies revealed that there was perhaps a greater role for training than that which organisations were realistically able to offer or participate in:

- On the user side, many respondents stated that training would have helped them make better use of the system.
- Training could also be a way of overcoming user resistance.
- Training could require extra financial resources.
- Where training was not originally envisaged it sometimes had to be bought in afterwards, without having been budgeted for:
 - At Voluntary Action Sheffield staff training was one of the challenges to overcome. Training had to be bought-in separately and it took 3 months to get everyone trained. In addition, different user types and levels meant that there had to be different kinds of training, for example administrators needed different training from regular users (VCO Connect).
- Training of a few staff could be maximised by escalating knowledge (i.e. by teaching and training staff to, in turn, train users:
 - At the North Yorkshire Forum for Voluntary Organisations training was budgeted in at 25%-30% of the total budget of the project. ESIT provided training to 2-3 of people of each infrastructure organisation. In turn these trained up users passed on the knowledge to users in their own organisations. (Common database/ThankQ).
- In training staff it made particular sense to maximise already existing ICT knowledge and skills as well as combining these with existing hardware and networks and building on these assets to introduce the new system.

“A dedicated project team working around the country assisted individual bureaux, making sure they had the right PCs in the right places with the right requirements. Making sure the individual advisers had the basic skills required to train to use CASE” (CASE)

Trends

The case studies suggest that challenges and difficulties encountered in implementing shared systems were problematic but nevertheless well matched by the potential benefits gained from shared systems.

More sharing in the future?

As the voluntary sector grows and strengthens, opportunities for collaboration in ICT may become more frequent. In addition, the increasing pressure to become self-sustaining and standardise working procedures for charities, community organisations and social enterprises may mean that sharing can provide innovative solutions for some of their most pressing needs be it providing computers and internet access to low-income families or simply storing data on clients. The tendency for sharing will surely depend partially on future roles for CVSs since these organisations can be seen as those which are already

encouraging collaborative working. In any case, it seems true that shared systems are already becoming more critical to CVSs in performing their basic functions.

While the scope of this research was clearly focussed on the UK there is scope for comparative research on sharing ICT systems at a wider geographical level. Even at the level of the UK some interesting regional differences are bearing out. Scotland's voluntary sector appears to be taking more determined steps towards sharing. As this research revealed, sharing and collaboration are an emphasis of a recent Big Lottery fund grant to the Scottish Council for Voluntary Organisations (SCVO) which envisions, in particular, the development of a shared data platform, and a standardised approach to data collection, to aid analysis and avoid duplication. The project plans include promotion to national, regional and local partners and plans for the use of the data obtained. A Data Management Consortium including some trailblazing CVSs, established some years earlier, had already identified a common goal to standardise a sector taxonomy and common fields for information gathering across Scotland. This was aimed at ease of data collection, collation, and comparison across the country. From the start CVSs were seen as the best route to achieving these goals.

Several pieces of evidence also emerged during research for the idea that the future will hold more sharing of ICT systems between VCOs.

- Some funders are placing emphasis on sharing by the projects they target funding at, including making sharing a condition of funding (e.g. Big Lottery fund in Scotland).
- Sharing of ICT systems may increasingly become a membership requirement in membership organisations (such as CVSs, National Associations etc.) which members cannot opt out of.
- Many organisations are realising the potential to generate revenue from services and products such as shared system and they may become vital to VCOs increasing self-sustainability...
- ... which also frees up money to reinvest in systems.
- Users are having more and more input into systems; requesting added features, functions and requiring more support.
- Systems are expanding and developing in new and innovative ways.
- Organisations are beginning to talk to each other about ICT products and services and some organisations are realising the need for a marketing strategy for their products.
- Funders are requiring more data on the sector as a whole and organisations are professionalising their reports.
- Smaller organisations are showing signs of developing interesting shareable applications.

Unintended consequences

"Initially they were sceptical about having one organisation to manage the data for them. It's made the relationship stronger in that they know they can rely on us" (Common Database/ThankQ)

Any project can have effects or outcomes that were not initially intended by its designers. In the case of shared ICT systems some of these 'unintended consequences' can be maximised for the benefit of VCOs. Case studies showed that where successful users were coming to rely more and more on shared systems so different functions emerged:

- Where users accept and welcome a system, they are starting to think "what else?" There is a push for innovative new features from within.
- Users are asking what else can be shared for instance on the same server (e.g. Common Database/ThankQ and Expertsonline).
- Respondents reported that attitudes to data are changing among users, users are realising how important it is to have accurate data and to take care of it, they are realising the impact of wrong or out-of-date data.

"People are more aware of the impact of the data they hold has on people or organisations" (Common Database/ThankQ)

- Some respondents stated that having the shared system was forcing them to improve communications with other organisations such as between CVSs, this included more frequent meetings and more in-synch working (e.g. Common Database/ThankQ).

Opportunities

Going forward

The research has flagged up several concrete actionable opportunities for supporting organisations embarking on the development and implementation of shared ICT systems.

These include:

- Providing a wide variety of resources for training, enabling VCOs to offer training either themselves or through third parties. Training keeps projects alive and is vital to staff and user buy-in.
- Help in sourcing hardware and software, including information on how to purchase cheap, refurbished hardware and on how to bring hardware up-to-date as well as educating about open-source options and the availability of ICT expertise.
- Support in developing user feedback systems; users can provide valuable feedback on systems' impact on the ground and this research showed that

- users often came back with ideas on changes and new features which were later added to the systems, this role for users was rarely conceived of in the initial planning stages. Support could be given in incorporating feedback methods into the planning of new shared systems and this would entail supporting organisations in designing, implementing and making better use of users' experience.
- Because of the interest taken by respondents in the research particularly in looking at systems which are shared and hearing about the existence of similar systems, there seems to be space for the dissemination about research on the subject and for the commissioning of further research or the creation of a dedicated database of shared-systems along with the resources used to set them up and the experts who inspired them.

The corporate sector

This research did not point towards any gaps in the corporate sector in terms of products. Instead it is probably a lack of knowledge in the VCS about existing technology solutions that is preventing more organisations from making use of technology. For organisations without dedicated ICT staff, and even some with ICT staff, it can be more cost effective to purchase corporate products and customise them, or to commission software to be developed based on knowledge of corporate products. Therefore linking those without ICT skills and knowledge to those who have it would make a significant impact. One suggestion might be to host events in which VCOs can learn about what technology is out there and how powerful it can be at a relatively low cost. What is needed is a mediator between the two sectors.

Marketing

Some VCOs are realising the potential of the systems they have created in particular for generating revenue, much of which is being reinvested in expanding the systems. Many have also realised the power of enhanced data collection in becoming a key component of working relations with funders and government.

At the same time many respondents reported initial problems with staff buy-in, which could present an obstacle in the initial stages. Some organisations also seemed unsure of how to take the system to a next step and how to develop it further.

A marketing strategy which included both internal and external marketing and which is integral to the planning of the system could be vital in the systems' success and sustainability. This applies particularly to those organisations dependent on initial funding which will run out in the future. A marketing strategy can ensure the system survives beyond its initial pilot. Part of this strategy should include initiatives towards making systems more visible, in particular improving visibility on the web through better websites and perhaps making at least parts of it available to the general public.

New ideas

- There needs to be awareness around the difference in perspectives between those who provide the impulse for systems, who most often manage and host, and the users of a system. It could be useful to think of “Initiators” as opposed to “Users only”. Support must cater to this perspective. Support could be tailored to those who are going to host; in management, project planning and consolidation for example, whilst support for those who are going to *users only* might be more focused on training and motivation.
- There is a real need for help in long-term project planning, such as a best-practise guide. This might include:
 - workflows
 - detailed timescales, including preparation time and roll-out
 - planning for ongoing support (in terms of staff and money)
 - ongoing user-base feedback system
 - post launch day-to-day running
 - internal and external marketing strategies
 - training strategies
- Given the interest from users and a growing acceptability of sharing, there is an opportunity for innovation processes. Open Innovation, an idea gaining increasing currency in the commercial world, involves bringing together disparate stakeholders to think and explore ideas in forums designed specifically to come up with new ideas. Shared Systems seem ripe for this kind of thinking. A forum or programme which brought together innovators, experts and local organisations to look at coming up with new ways to integrate their ICT functions or use ICT sharing to solve seemingly unrelated problems (as with Community Connect) could be immensely valuable in promoting sharing within the sector.

Appendix

ESRO would like to thank all of those who took part in the research project for both their time and their input.

Case Study 6: Waltham Forest

What does the shared system do	A database of venues in the Waltham Forest area. It is an online database of venues which could be used by local VCOs, searchable by a number of criteria e.g. disabled accessible, size etc. Landlords can submit details of their own venues. It does not require registration or login. There are currently 85 venues in the database.
Technology	The system is a custom database written by an independent web-programmer and fully owned and operated by VA-WF. Any future developments will be done in-house.
Funding	VA-WF funding. Set-up cost was a one-off payment to the web-designer (undisclosed). Running cost is 0.5 days a month administration time. There is potential for future revenue generation from selling the system.

Motivation for setting it up

VA-WF had identified the need to create a database of venues suitable for use by voluntary organisations (such as those that provide space at lower prices or have good accessibility). Waltham Forest has a large amount of suitable venues but local VCOs were finding them difficult to locate. Putting the database online simply makes accessing the database easy without having to call VA-WF.

Benefits

The system is accessible to anyone with internet access. It is simple and easy to use. Landlords can submit their own details meaning that users are generating the content. It saves time for VA-WF in terms of cutting calls and having an easily referenced database on-hand. It links providers and users and the technology is fully owned by VA-WF which means that they are not reliant on an outside provider for support or upgrades or future access to the code.

Challenges

The single biggest challenge facing the system is maintenance. The database may have been out-of-date the moment it went live. The main problem is that landlords who submit details have to wait for admin approval. Internal motivation and resources to fulfil this task was lacking which in turn discouraged landlords from updating.

Lessons learnt

Planning for maintenance is key to the success of a system. A live database needs live administration either by users (new developments are likely to allow landlords to post directly to the database without admin approval) or by staff (by delegating a clear admin).

Case Study 7: Expertsonline (Ruralnetuk)

What does the shared system do	Expertsonline is a dedicated online expert Q&A panel developed by Ruralnetuk, a rural regeneration charity, and currently used by 3000 users in 15 organisations. Users pay a subscription to log on, they are able to search and browse questions and answers and submit questions. Named experts answer the questions and post responses in 24-48 hours. Experts come from the voluntary sector itself and as new organisations subscribe with expanding needs and fields of interest, new experts are recruited. Organisations share the benefit of expanding expertise. RSS feeds can be embedded into VCOs websites. Open to any voluntary organisation.
Technology	Developed in-house using Drupal.
Funding	Member networks pay a subscription.

Motivation for setting it up

Previously an online forum was used but it had very low activity with hardly anyone answering the questions. The old system relied on individual users finding the website, understanding what Ruralnet do and going there. Using the Netgain process to look at Ruralnet's ICT strategy a need was identified for Ruralnet to better serve its members. Expertsonline allows Ruralnet to deliver services through other organisation's websites and to be more relevant to them.

Benefits

From the perspective of Ruralnet, Expertsonline lets them support organisations as an umbrella organisation by being where they are needed. Compared to the old system there are fewer user calls about technical problems. From user perspectives Expertsonline has replaced bespoke research, is a much faster way of problem solving and compares to other paid-for alternatives. Users use it to verify information and solve problems, for some it has become "a comfort blanket". As well as posting their own questions and feeding back results to advisers and clients, users very regularly read up on other questions being posted and answered, so their fields of knowledge are expanding through use.

Challenges

- Because they were going from a free service just on the website to a subscription service there was an ebb in usage for the first six months, this resulted in low morale among the ICT staff and they needed reassurance that it was going to work.
- Moving Expertsonline from the old to new platform involved 4 people in the ICT team taking on completely new skills (especially when learning to use the open-source Drupal CMS)
- It needs a large number of member networks to make it cost effective.
- A lot of work goes into managing the experts, recruiting experts, paying them, and ensuring quality of the answers provided on the forum.

Lessons learnt

Expertsonline is a good example of the value in shared purchasing, making a service accessible to a number of organisations who wouldn't otherwise have access. The system itself depends on having a large number of users to keep costs down. As use grows and diversifies, so does the system and the means of accessing it.

Case Study 8: Volunteering Opportunities Database (Volunteer Development Scotland)

What does the shared system do	Database to match volunteers with volunteering opportunities. Every Volunteer Centre has the system installed. Allows them to manage opportunities supplied by their organisations and manage volunteers. Charities can log in and add own opportunities. Volunteers can upload profiles and search opportunities on the web side. Used by 33 organisations.
Technology	SQL Server on the back-end. Frontend developed using Visual Studio, Microsoft.net. Microsoft Clickonce used for updates to the system. Developed in-house.
Funding	European Social Fund (ESF), Scottish Government.

Motivation for setting it up

Volunteer centres have been moving towards a more networked way of working, recognising that their goals were all the same. Organisations wanted to have one place for all volunteers to go and the website now serves as a national portal. The paper-based system in place before did not allow for detailed reporting to funders and stakeholders.

Benefits

- Serves as single place of contact for potential and current volunteers.
- Less data entry for Volunteer centres.
- More visibility for charities volunteering opportunities.
- Functions as contact management system, to view contacts and meetings.
- Functions as a local management tool for volunteer centres. Can track placed volunteers, track how many hours they have done, when they start and finish, any issues along the way.
- Improves reporting. Volunteer Centres can produce more detailed, professional reports themselves. VDS, as the national centre, can generate national reports which are used by the in-house research team to produce annual statistics especially when liaising with Scottish Government.

Challenges

- “Trying to get 33 independent organisations to agree on what data fields to capture”.
- Reluctance to use user forums for support.

Lessons learnt

“We had underestimated the level of user support and we didn’t have enough funding. So [organisations] need to make sure that if you look for funding, you have that covered. Even a year after deployment, a good training program needs to be in place”

Case Study 9: Common Database/ThankQ (North Yorkshire Forum for Voluntary Organisations)

What does the shared system do	Shared database, customer relationship management tool, event planning, mailing tools.
Technology	Hosted at NYFVO with remote access for other organisation via desktop, Backend: SQL server. Developed by ESIT and base on their product ESIT, customised fro NYFVO.
Funding	Capacitybuilders funding covered all the set up costs and the first 4 years of running it. Once funding runs out users will pay an annual subscription. Generates revenue to offset maintenance costs by providing surveys on the sector and information to statutory bodies.

Motivation for setting it up

NYFVO is a sub-regional umbrella organisation for CVSs in North Yorkshire. An Infrastructure consortium was set up with all CVSs and it was decided that one source of data was needed.

There were several shortcomings with the current ways of working:

- the regional infrastructure orgs had about 150-200 records of organisations in the area, but as regional organisation NYFVO was aware of far more
- resources such as mailings were being duplicated, a better control of data management was needed
- NYFVO often received requests for data on how many organisations were working on particular subjects or areas by the county council or local authorities and couldn't give definitive answers

The Consortium put in for funding with Capacitybuilders and realised they could do more with the money awarded than just a simple shared database, they could use the system as a customer relationship management tool, event planning, mailing tools. A tender was put out and ESIT came back with most rounded approach modelled on their product ThankQ but customised for NYFVO.

Benefits

- Less administration man-hours.
- Improving data quality and consistence throughout the region, especially for those organisations lagging behind.
- Costs are kept down by sharing.
- Revenue is being generated by using making the data available for surveys.

Challenges

- Some technical issues around data consolidation.
- Persuading organisations that they weren't going to loose any data.
- Getting users used to a more complicated system.
- Consolidating a wide range of levels of sophistication in data management.

Lessons learnt

NYFVO planned in training from the start and designated 25%-30% of the budget was spent on training. This helped in getting user buy-in. The relationship with supplier is important, they need to be sympathetic to how voluntary sector works. The role of the management team is important in seeing the project through, this shouldn't be too large and should only get those people on board who are really interested and committed.

Case Study 10: Shared System for Voluntary Action Westminster (Thirdsectordesign)

What does the shared system do	Database, Website, Content Management System, Customer Relation System, Case Management System.
Technology	All open source, CMS.
Funding	Funding will come initially from CVSs.

Motivation for setting it up

The system is currently in development in a partnership between Thirdsectordesign and Voluntary Action Westminster as the lead customer plus 20 other CVSs. The idea is to cater for all the information needs of VAW and to replicate the solution for other CVSs. It is inspired by ideas of open innovation and open source.

Benefits

- Less data duplication and better data quality.
- More open, competitive and flexible maintenance of the system since it is not proprietary.
- More standardisation across the sector.

Challenges

- Finding the clients, at the moment the system depends on marketing by recommendation.
- VAW bears the brunt of the fixed development costs, hard to estimate costs before sharing partners are lined up.

Lessons learnt

While the system being developed is a pilot for Voluntary Action Westminster, there are plans to sell it on to other organisations. There are plans to release the source code under open licence. It is likely that organisations receive maintenance from a third company.

Case Study 11: Frontline Online (Waltham Forest)

What does the shared system do	Database, Website, Content Management System, Provides web space and a portal to local and member VCOs. Features include a calendar, forums and a news feed.
Technology	Commercial product hosted and maintained by Uniservity Ltd.
Funding	Funding will come initially from CVSs.

Motivation for setting it up

The system provides a free web space to members (membership is free to organisations with an income <£20,000) on which they can create a web portal a diary, news and events feed and forums. The system utilises a content management system and VA-WF will provide training to those who want it. Since these portals are all linked to a searchable database, it also acts as a database of VCOs in Waltham Forest. Initial basic details of VCOs have been added by staff at VA-WF. Additional portal content is generated by users.

Benefits

- Provides free web space and hosting service to VCOs.
- Creates a detailed map and database of the local voluntary and community sector.
- Provided a stepping stone for many local charities to move on and develop their own web presence... an unintended benefit.
- Users have noted that the tool can be very useful for sharing information and files with their own client members. Again this was an unintended consequence of having a fully featured system.

Challenges

- The system is driven by the efforts of a single individual with ICT skills.
- The site is quite complex and requires user and staff training to maintain. It is noted that although providing web-space, users who were technically knowledgeable enough to use it – may well find their own solutions.
- Users have found it hard to maintain and develop the site due to the technical learning required and the time required to maintain a live and active web portal.

Lessons learnt

Too much complexity excludes users without time and resources to commit to maintenance and engagement and ironically excludes those who can use it because they will have developed their own systems.

Training is critical to the maintenance of an up-to-date and vibrant system, especially when that system intends to create its own kind of community.