PART ONE:

THE REVIEW

Contents

INTRODUCTION

This report was commissioned by the Higher Education Funding Council for England on behalf of the Research Support Libraries Group. The purpose of the study is to inform the Group's thinking about collaborative activity by identifying examples from overseas that offer lessons on which the Group could build.

Aim and objectives

The overall aim of the study is to identify, describe and analyse the international experience of collaboration in research library provision.

Within this overall aim the study has seven specific objectives:

- To identify the range of relevant international experience of collaboration in research library provision on a local, regional and national basis.

- To identify the events or pressures leading to collaboration

- To identify and consider the stated aims and objectives of those instituting the collaboration and the services or materials to which it applied.

- To identify and consider the management arrangements put in place and any effects these have had on the outcome.

- To identify any costs incurred in setting up the collaboration.

- To assess – in quantitative terms as far as possible – the success and effectiveness of the collaboration, including in relation to the achievements of the participants working alone.

- To identify any transferable success criteria and lessons to be learned.

The scope of the work

In the specification for the work, the Research Support Libraries Group identified six types of collaborative activity in which they had a particular interest:

- Collection management and development
- Joint licensing of electronic information
- Preservation and retention
- Bibliographic access
- Record creation
- Inter-library lending.

For each of these types of collaboration, they asked us to explore four key issues:

- The aims and objectives
- The factors that led to collaboration
- The management arrangements
- The costs, successes and effectiveness.

We were thus able to construct a matrix, which we used as the framework within which we analysed the information that we collected.

Analytical framework

	Aims and objectives	Factors leading to collaboration	Management arrangements	Costs, success and effectiveness
Collection management and development				
Joint licensing of electronic information				
Preservation and retention				
Bibliographic access				
Record creation				
Inter-lending				

We also had to set geographical limits on the study. Following discussion with the Steering Group for the project, we agreed to concentrate on countries that were similar to the United Kingdom in terms of their:

- Overall level of social and economic development
- Their population size and density
- Their administrative and political structures.

These limits were interpreted generously. We found, for example, much that was useful in Australia, which has a smaller, and much less densely spread population; similarly the USA offered at least three exemplars, despite being bigger in population terms and having a markedly different administrative and political structure.

Equally, a language barrier prevented us from obtaining much useful material from Japan, even though it is closer to the UK in population and administrative terms and is thought to offer useful examples of collaboration.

The final dimension was time. The Group is clearly most interested in current practice, which places the emphasis on the period post-1995. By its nature, however, collaboration is a lengthy process that takes time to develop and mature. In view of this, we decided to extend our literature search back to 1985 although, in the event, we did not draw heavily on much of the earlier material.

Our approach

We began the study with an extensive review of published literature and Internet material. This generated a considerable volume of information. This is listed in the Bibliography at the end of this report.

The literature and, in particular, the internet searches provided us with a broad context for the work. We supplemented this with direct contact with about 35 individuals across the World who were known to have an involvement with, or to have views about collaboration among research libraries. They provided us with valuable insights that helped us to interpret the material we had collected. To them we are very grateful.

Having conducted the general review, we were in a position to identify, in consultation with the Steering Group, ten case studies which we studied in greater detail. These were:

- Australia
    Council of Australian University Librarians
    National Library of Australia

- Canada
    Canadian National Site Licensing Project

- Germany
    Deutsche Forschungsgemeinshaft

- The Netherlands
    Koninklijke Bibliotheek

- Sweden
    BIBSAM

- The USA
    Association of Research Libraries
    Research Libraries Group
    Greater Western Library Alliance
    OhioLINK

Each of these case studies were selected first, on the grounds that there seemed to be interesting lessons to be learned and secondly in the belief that the lessons could realistically be applied to the United Kingdom. When selecting the US case studies we also tried to get a balance that reflected our local-regional-national split. Thus we selected the Association of Research Libraries and the Research Libraries group to illustrate national collaboration (arguably international in the case of the RLG). The Greater Western Library Alliance was selected as a regional example and OhioLINK as an example of local collaboration.

The original selection of case studies included CIBIT - the Italian Inter-university Library Centre for the Italian Telematic Library. In the event, however, it was not possible to gather sufficient information within the time allowed to permit detailed analysis.

We had also planned to include the Center for Research Libraries but this proved impossible since the Chief Executive had only

recently been appointed and was reviewing the organisation's strategic objectives and was unable to respond to our request.

Having selected the case studies we carried out detailed Internet searches to obtain as much background information as possible. In some cases we supplemented this with telephone interviews with key individuals.

Based on the information gathered, we produced relatively brief descriptions of each case study, which were sent to the relevant individual, usually the director of the cooperative, for verification. These descriptions are included in Part Two of this report.

The case studies, combined with the overview information then provided the basis for our analysis of the key issues, which is the subject of Part One of the report.

Acknowledgements

At this point we should acknowledge the great help that people have given us in our hunt for information. Our initial contacts steered us in useful directions. Then, within the case studies, people were unfailingly generous with their time, both providing answers to our questions and providing thoughtful commentaries on our descriptions of their activities. The study would not have been possible without all this help and we would like to take this opportunity to say thank you.

THE EXTENT AND NATURE OF COLLABORATION

The first point to make is that there does seem to be a lot of collaborative activity going on and has been taking place in different ways for many years. The evidence provided by our literature review suggested that in many countries, and in different circumstances, research libraries are working together to find solutions to their problems. Further, it became clear that this collaboration is a dynamic process and, at present, the agenda for collaboration is shifting significantly in response to the new demands generated by digital information.

In this section of the report we try to identify the main activities that are taking place, exploring the key issues that arise. We also attempt to indicate what seem to be the emerging trends.

Collection management and development

There seems to be a prevailing view that collaborative collection management and development is desirable in theory but difficult in practice. A number of schemes have collapsed or have failed to become as well established as their creators had hoped.

There seem to be two principal models of collaboration in this area. The first could be designated a 'centres of excellence' model. In these cases, a coordinating agency designates a number of institutions as centres of excellence. Each institution is selected on the grounds that they already have nationally-significant collections within a specified subject.

The coordinating agency provides the centres of excellence with resources that will enable them to build and manage the specialist collections for the benefit of the wider community. These additional resources are intended to cover the additional, or marginal costs that the institution bears over and above what it would have spent to maintain collections for the use of their own people.

A key feature of the centres of excellence model as it operates within Europe and Scandinavia is that the coverage is universal, or near-universal in the sense that all subjects are covered by the scheme.

The classic example of this approach is the Deutsche Forschungsgemeinschaft in Germany where over 120 special collections have been designated in 40 different institutions. A very similar arrangement exists in Sweden and one has emerged in the Netherlands. Finland also established a collaborative arrangement along these lines, but it does not seem to have thrived.

The alternative approach is what could be called a distributed model. Here a group of libraries come together and collectively decide to introduce a degree of specialisation. The aim is to build on the individual strengths of particular institutions for the benefit of the whole group. The best examples of this arrangement is probably that operated by the Association of Research Libraries in the USA. The Research Libraries Group operated a comparable scheme, based on Conspectus, but the costs were not felt to be commensurate with the benefits and, consequently, it was wound up in 1996.

The decentralised model seems to be less robust as it is dependent for its financial support on mutual aid or on the contributions of an external benefactor, which, in the case of the Association of Research Libraries, is the Mellon Foundation.

In contrast to the universality of the centres of excellence model, decentralised collaborative collection development is more usually piecemeal.

One thing that is clear from both models is that the collaboration needs to be backed by real financial incentives. The participating libraries must be assured that the marginal costs of undertaking the wider collecting role will be covered by funds from outside the institution. There are very distinct limits to institutional altruism.

It is also clear that there needs to be either an acceptance of strong central direction or a high level of consensus among the participants. In Germany, it appears that the Sondersammelgebietsbiblioteken, or subject specialist libraries had little option in 1949 but to comply with the requirements of the Deutsche Forschungsgemeinschaft when it so designated them.

And the system has carried on to this date, surviving the process of reunification almost intact.

In contrast, a scheme that was launched in Australia failed to live up to expectation, in part, because there was not a sufficiently high level of commitment from the university libraries or from bodies like the Australian Research Council. What was intended as a universal, national scheme has been reduced to 36 bi-lateral collecting agreements between the national library and other individual university libraries with significant collections.

Where systems of collaborative collection management and development have been established, it is clear that they bring significant benefits and provide the basis for much other joint working. They do, however, require fairly centralised administrative and political structures, without which the collaboration depends on the more nebulous principle of mutual benefit.

Given the high degree of autonomy enjoyed by higher education institutions in the UK, there seems to be little scope for a centralised model of collaborative collection development, such as is found in Germany. The de-centralised model appears to offer more scope but even this would be dependent upon first, the development of a strong consensus among participating librarians and secondly, the availability of reasonably substantial incentive payments which would, presumably, be top-sliced by the higher education funding bodies.

Joint licensing of electronic information

This seems to be the current big issue. In many countries, research libraries are coming together to negotiate joint licences for the use of electronic journals and other information in digital form.

In Denmark, for example, the Technical Knowledge Centre and Library of Denmark is taking the lead in consortial licensing, co-operating with other Danish and Nordic institutions.   A similar approach has been adopted in Italy with the Italian Inter-university Library Centre for the Italian Telematic Library (CIBIT). While in Spain, the Digital Library of Catalonia aims to offer a core collection of electronic resources to institutional members of the Consortium of Academic Libraries and to all researchers, regardless of the institution they belong to.

The primary aim is to increase the negotiating power of institutions in the face of what are perceived to be powerful, multi-national publishers. In Australia, for example, the Council of Australian Librarians' Electronic Information Resources Committee has been negotiating on behalf of member libraries since 1993 because the members felt that they were in a weak bargaining position when operating alone. The Canadian National Site Licensing Project was established for similar reasons.

In addition to negotiating licences, collaboration has enabled some to establish benchmark terms and conditions, which are better than those on offer from the publishers. This is regarded as one of the real successes of BIBSAM in Sweden and similar approaches have been developed in the Netherlands and Germany.

In the longer term, joint licensing activity seems to provide a stepping stone to more extensive work on digital libraries. In the USA, for example, OhioLINK has developed a Digital Media Center to host a wide range of digital images, sounds, video, numeric data and other types of information. In the Netherlands an experimental electronic academic library - DELTA - was established. While this has not resulted in a full operational service, it has enabled the national library and its partners to explore the practicalities involved in such a service.

Joint licensing has also raised more general issues about scholarly communication, particularly in the USA. The Association of Research Libraries (ARL) has established the Scholarly Publishing and Academic Resources Coalition (SPARC) to explore new models of digital publication. A set of principles - the Tempe Principles – have been written which serve as a basis for re-shaping scholarly communication. They have provided the foundation for the creation of BioOne – a joint scholarly publishing initiative between SPARC, the ARL, the Greater Western Library Alliance (GWLA) and the American Institute of Biological Sciences.

Joint licensing of electronic information offers concrete, measurable benefits to participating libraries, it is perhaps not surprising, therefore, that it has taken off so successfully in different countries. Within the UK, the JISC DNER arrangements operate very effectively and there does not appear to be much that the UK research library community can learn from others overseas.

The longer-term benefits of joint licensing, however, might accrue from the impetus that it provides for work on digital libraries and scholarly communication. The eLib Programme enabled the UK

research library community to experiment and to advance the development of hybrid and digital libraries and, arguably, thinking is as advanced in the UK as it is anywhere else. We appear, though, to have much to learn about scholarly communications in a digital environment from the SPARC Programme in the USA.

Preservation and retention

There seems to be relatively little collaborative activity directed towards the preservation and retention of printed material. In contrast, a number of collaborative initiatives are directed towards the preservation of digital material.

The best-established programme is that operated by the Research Libraries Group. Preservation was, indeed, one of the main reasons for establishing the Group in the 1970s. Initially it focused on microfilming printed documents. More recently, attention has shifted towards the preservation of digital material.

The Metamorfoze project in the Netherlands is another example of concrete collaborative action to preserve printed material. It involves the microfilming of nationally significant material produced between 1840 and 1950 that is held in the Koninklijke Bibliotheek and in Dutch university libraries.

An alternative approach is to ensure that last copies of books and other printed materials are retained somewhere in the system. This can usually be ensured in the collaborative collection management and development schemes based on centres of excellence.

In Finland, there is a national repository library that retains copies of little-used material. In Australia, where the attempt to establish a distributed national collection failed, a regional initiative to ensure retention of last copies has been established in Victoria. The Caval Archival and Research Materials Centre is a collaborative storage facility, which holds single copies of low use research materials. It is being used as a model for a project that will, in due course, cover the whole country.[1]
In contrast to the relative dearth of collaborative activity on the preservation of printed material, there seems to be a considerable

---

[1] The collaborative storage of research materials is described in depth in *A study of the collaborative storage of library resources,* (O'Connor, Wells and Collier 2001), commissioned for the Higher Education/British Library Task Force, June 2001.

amount of work going on to preserve digital material. In Australia, for example, there are several interesting projects. The National Library is leading on or involved in national initiatives such as PANDORA (Preserving and Accessing Networked Documentary Resources) and the Australian Digital Theses Project. The Council of Australian University Librarians has also established a digital theses project.

In Scandinavia, the Nordic Digital Library Centre, based in the National Library of Norway, is looking at the digital representation of audio-visual information, such as photographs, film collections and historical TV and radio broadcasts. It aims to increase the knowledge in Nordic libraries with regard to digital handling of their collections in order to preserve and give access to the Nordic cultural heritage. NORDINFO and the National Library of Norway fund it jointly.

In Denmark, the Danish Audio History project is providing web access to historical sound recordings such as political speeches, dialect recordings, literary readings and music. The website has been created so that blind and visually-impaired people can access it. One of the main problems has been copyright issues.

Once again, the UK research library community compares well with the collaborative ventures overseas. The National Preservation Office has done much to advance thinking about the preservation of printed and manuscript material and has developed a range of useful tools and techniques. And the NewsPlan newspaper preservation programme is a concrete example of successful collaboration. Further, the Coalition for Digital Preservation is advancing thinking and, in doing so, is working in conjunction with parallel developments in the USA.

Bibliographic access

Research libraries in the United Kingdom face particular problems with bibliographic access. The diverse range of cataloguing systems has made it difficult to create a unified catalogue. Few other countries have faced a comparable need to integrate such diverse cataloguing systems.

In countries like Sweden, the Netherlands, and Germany, most, if not all the research libraries use the same system, which has made it much easier to build a single system of bibliographic access. In

Ohio, the creation of OhioLINK was made possible by the fact that all the key libraries in the state used the OCLC system.

Other countries have not been in such a fortunate position. They, therefore, offer more useful lessons for the UK. One comparator is Catalonia, in Spain. The Consortium of Academic Libraries of Catalonia was formed in 1996, arising out of an informal collaboration between the eight publicly funded universities and the Library of Catalonia. In 1995, the group gained funding from the Catalonian government for the creation of a union catalogue – the Collective Catalogue of the Universities of Catalonia. This has been a significant achievement, since there was no history of collective cataloguing in Spain, and the Collective Catalogue now gives access to the collections of over a hundred libraries. It is accessible on the web, with links to local catalogues and to other digital resources.

The growth of the Internet and, in particular, the ubiquity of the World Wide Web has dramatically altered the position. It is now much easier for individual libraries to gain access to union catalogues or to the catalogues of other institutions. In Australia, for example, the World Wide Web has made recent developments in the National Library's Kinetica system and the Australian Libraries Gateway possible. Similarly, regional initiatives such as COOL-CAT, a union catalogue operated by CAVAL, which gives access to the collections in the university and research libraries in Victoria depends for its existence on the World Wide Web.

In the USA, the Research Libraries Group has developed a web interface to enable access to all the resources on the union catalogue and, from this, to other major catalogues using Z39.50 protocols.

In Denmark, the DTV Article Database Service began in 1998 at the Technical Knowledge Centre and Library of Denmark. Since then, other Danish and Nordic institutions have entered into agreements on the service, which is based on tables of contents. In Finland, the LINDA database includes the monographs and serials in all Finnish academic libraries, the Parliamentary Library and the Repository Library and is accessible to libraries and researchers

The emphasis is shifting quite rapidly from conventional bibliographical access to a concern with providing access to digital resources. In the USA, the Association of Research Libraries is building a 'scholars' portal' to provide structured access to web-

based resources. A similar service operates in the Netherlands as DutchESS - the Dutch Electronic Subject Service. In Australia the national library has built the Australian Libraries Gateway which is an integral part of Australia's Cultural Network.

It seems likely that in future, the provision of access to digital resources will receive a higher priority than conventional bibliographic access among many of the collaborative schemes.

The UK, with its diverse range of computer cataloguing systems faces particular problems in the provision of bibliographical access. The CURL union catalogue, however, shows that it is possible to overcome the difficulties given a sufficient level of resources and commitment.

Much useful work has also been undertaken in the UK on the provision of access to digital, and, in particular, internet resources. The Resource Discovery Network and other work under the JISC DNER umbrella, demonstrate that we are among the leaders in the field. Given the dynamic nature of work in this area, however, it seems likely that there might be much that could be learned from an exchange of experience among the leading players.

There is a further dimension to bibliographic access that appears to be lacking amongst the overseas collaborative ventures, and that is the systematic creation of collection-level descriptions. It is true that the Research Libraries Group pioneered work in this area with the development of Conspectus. In recent years, however, the UK seems to have taken the lead, with important work in the research library sector being funded by the Research Support Libraries Programme and the British Library's Cooperation and Partnership Programme.

Record creation

We found few current examples of collaborative record creation. Such activity was a key driver for some collaborative ventures. It was, for example, a major objective of the Research Libraries Group when it was first established. The development of local integrated, or turnkey, systems in the 1980s, along with the ubiquity of large vendors like OCLC has meant that collaborative work on record creation has concentrated on specialist areas. The Research Libraries Group, for example, provides cataloguing support for original script material in languages such as Chinese, Korean, Japanese, Cyrillic, Hebrew, Yiddish, Arabic and Persian.

Clearly, the near-universal cataloguing systems like LIBRIS in Sweden, Kinetica in Australia, Pica in the Netherlands and OCLC in the USA have created conditions within which collaboration could flourish. But they now exist outside the framework of the collaborative activity, even though some of them, notably OCLC, originated as collaborative ventures. They are a given factor that facilitates collaboration.

Inter-library lending

Most collaborative schemes operate a decentralised inter-library lending system, based around a union catalogue, hence the importance of near-universal cataloguing systems like LIBRIS, Pica and OCLC. Nowhere did we find any attempt to replicate the kind of centralised, national inter-library lending facility that can be found in the British Library's Document Supply Centre.

Instead, the model adopted to manage inter-library lending is a de-centralised one in which libraries borrow from each other, either using a union catalogue to identify the existence of material, or relying on the comprehensive nature of designated special collections. Australia's Kinetica, the Research Libraries Group's SHARES scheme and OhioLINK are examples of the former, while Germany's Sondersammelgebietsbiblioteken are an example of the latter. Sweden's BIBSAM and the Dutch system represent a mixture of the two approaches.

The Catalonian Consortium of Academic Libraries provides a good demonstration of what can be achieved. The Consortium began its interlibrary loan programme in 1997. Prior to this, there was little inter-lending in Catalonia and the quality was poor in terms of success rate and response time. Since then, the number of loans has increased dramatically and response times reduced to nine days for most requests. This is also true of OhioLINK with a goal of two days for document delivery, which has seen an enormous increase in user borrowing in the ten years since its creation.

There are limits to what can be achieved through an unassisted mutual exchange system. In Sweden, they found that increased financial autonomy reduced the efficiency and effectiveness of the de-centralised inter-library lending system. The net lenders began to resent the extra costs involved and, as a result, the system was in danger of breaking down. The position was reversed when BIBSAM instituted a system of grants that were designed to

reimburse net lenders for the marginal costs of participating in the scheme. It would seem, therefore, that the limitations of mutuality need to be overcome through the provision of financial incentives.

There is currently a degree of interest in developing codes and benchmarks. In Australia the National Resource Sharing Working Group has developed an Inter-Library Resource Sharing Code and has recently completed a benchmark study, while in the USA, the ARL is pressing ahead with the development of the International Standards Organisation Inter-Library Lending Protocol.

Increasingly, attention is shifting from inter-library lending to electronic document delivery. The Deutsche Forschungsgemeinschaft is currently funding a range of research and development projects that are testing different systems for digital document delivery. A similar concern can be identified in many of the collaborative schemes.

While inter-library lending may not be on the top of many priority lists, its importance should not be minimised. Most of the collaborative inter-library schemes are dealing with very substantial volumes of material: within the OhioLINK system, for example, over a million volumes travel between libraries each year. This level of activity serves to cement relationships and to strengthen the foundations on which other collaborative activity can be built.

THE DYNAMICS OF COLLABORATION

One thing that became apparent from our review was that collaboration is not a static activity. Indeed, it is a highly topical issue and collaborative solutions are commonly seen as the most cost-effective way of addressing some of the pressing issues that face research libraries.

In this section, therefore, we try to identify the pressures that have stimulated collaboration and that have kept it going. We consider the factors that contribute to the success or failure of the schemes and we attempt to identify the issues that appear to be moving up the collaborative agenda.

The pressures leading to collaboration

Without doubt, the single most important pressure leading to collaboration is money - or rather, the lack of it.

All the consortia commented that they faced increasing constraints on resources. In many cases this was manifest in a decline in the real purchasing power of their budgets. It was usually compounded by the growth in the volume and cost of publications. An example of the magnitude of the problem was provided by the Koninklijke Bibliotheek. They noted that between 1980 and 1990 the number of volumes added to stock by the 13 university libraries fell by between 30 and 50 per cent, despite an overall increase of 28 per cent in the acquisitions budget.

In small countries, the position was exacerbated by shifts in exchange rates and the need to purchase a significant volume of material from publishers outside the country.

There was, therefore, a perceived need to get the best possible value out of the material that was acquired.

It was not just the pressures on the materials budget that provided the spur to collaboration. The Ohio Board of Regents, for example,

created OhioLINK in response to the urgent need to provide additional space for their growing research collections. Interestingly this pressure for collaborative storage was barely mentioned in connection with more recent activity.

There was also perceived scope for achieving savings through joint action, particularly in relation to the acquisition of digital material. In Australia and Canada, for example, librarians came together, to strengthen their market power in relation to powerful multi-national publishers. They were able not only to negotiate more favourable prices but also to purchase on their own terms rather than on those set by the suppliers.

There is also a need to demonstrate cost effectiveness in the use of resources. In Sweden, for example, a general attempt to increase the efficiency of the public sector had an impact on research libraries. There was a feeling that the libraries needed to be able to demonstrate that they were adopting the most cost-effective solutions to long-term problems. This perception was not confined to Sweden: it was also apparent among the Association of Research Libraries.

In a more general way, there seemed to be a feeling that new digital technologies offered new opportunities to collaborate and to achieve improvements in cost-effectiveness. In some instances, the technology itself encouraged collaborative action: the negotiation of joint licences for electronic resources being the most concrete example.

There is a perceptible need clearly apparent, to share knowledge in order to keep abreast of developments. Technology, in particular, is felt to be changing very quickly, creating new challenges and new possibilities. Librarians seem to feel the need to approach these challenges and opportunities collectively. In Sweden, for example, one of the current successes of the BIBSAM service is the employment of a legal specialist who is able to offer advice, consultancy and training on the legal issues that are emerging with the growing availability of digital resources.

In Sweden, the administrative changes that are referred to above, served to introduce institutional autonomy into what was previously regarded as an integrated national service. This raised the fear that fragmentation would occur when the centralised system was de-centralised. The solution was to re-build the spirit of collaboration within a new framework. That is not to say that BIBSAM simply perpetuated the old ways of working. Far from it.

Its creation enabled the librarians to discover new ways of working together within the terms of the changed administrative arrangements.

Allied to this was a common view that increased competition was being introduced into the management of a previously cooperative system. Higher education institutions were being encouraged to compete against each other, producing pressures on resources and engendering a sense of isolation. While this may have benefited the management of the overall system, it did little to improve the cost-effectiveness of the library services and to counter the deleterious effects, new ways of working together needed to be invented.

There is, therefore, no single factor that can be said to cause collaboration, although there is a consistent undercurrent of financial pressure. It should be acknowledged, however, that collaboration is not simply an attempt to overcome a disadvantageous set of circumstances. Many participants in collaborative ventures clearly saw the activities as very positive steps towards service improvements. By working together they were able to share experience, to pool resources and efforts, to create synergies and to become empowered in ways that would not have been possible if they were left to work alone.

Management arrangements

There seem to be two possible ways of managing collaboration among research libraries. One is to incorporate the management into an already-existing organisation. Thus we have BIBSAM located in the Swedish national library, the Dutch Koninklijke Biliotheek's activity, the Canadian National Site Licensing Project located in the library of the University of Ottawa, and so on.

In this model much, clearly, depends on the attitude, initiative and leadership of the host institution, often the national library. In many cases the current host body took the lead - the University of Ottawa and site licensing is a case in point.

In the alternative model, the collaborating partners combine to establish a mutually-funded management organisation. This is the model that has been adopted by the Association of Research Libraries and by the Council of Australian University Librarians. The costs of the central organisation are met through subscriptions from the partners, often supplemented by grants

from external agencies. These may be official government agencies or they may be charitable foundations.

Some of these have established independent offices. In others a host organisation, which is usually one of the collaborating libraries, provides the management of pay and rations to an otherwise autonomous management body. The hosting of the Greater Western Library Alliance by the Linda Hall Library in Kansas City is an example of this.

The former model - in which the administration of the collaborative organisation is incorporated into a national or leading library - appears to be the model most likely to succeed in the UK. It also seems to offer the greatest benefits in terms of continuity and financial stability although, clearly, much will depend on the quality of the relationship between the lead organisation and the others.

Success factors

A wide range of factors seem to contribute to the success or otherwise of collaborative schemes.

Perhaps most important is a clear sense of vision: one that is shared by all participants in the collaborative venture. Not only is the overall vision important, it is also critical that the collaborative goals correspond to goals of individual institutions. Without that genuine collaboration is not possible.

This raises the issue of leadership and, in particular, the role of the national library. Many of the collaborative schemes have been driven forward by a lead organisation. This has frequently been the national library but others, notably the University of Ottawa, have played a leading role. Leadership is particularly important in the early days of collaborative ventures and at times when major changes in direction are called for. Leadership alone, however, is not enough, as the attempt to establish collaborative collection development in Australia showed: it must be allied to shared goals.

The next most important success factor is money. Collaboration is, at its heart, a voluntary activity. Participants must feel that the collaboration brings tangible benefits and this usually means financial benefits of some kind.

A minimum requirement is that the cost of collaboration does not unduly erode core budgets. In many cases the funds to support collaboration are top-sliced before they ever get to the institution, so the issue arises at one remove, but it is an issue that, nonetheless is very real. Where librarians have to make a contribution out of their actual budgets, they must be convinced that they are getting good value for money in return.

In some cases the value for money is represented in the form of grants that are linked to the marginal costs of the collaborative activity. The Swedish system of reimbursing net lenders for their participation in the inter-library lending scheme is a case in point. In other cases, the return can be in the form of lower prices or more advantageous terms for access to electronic journals. From our study, however, it became clear that many, if not most, of the partners in collaborative schemes kept a close eye on the issues of cost and value for money.

Many collaborative ventures have high start-up costs and one of the success factors appeared to be the availability of pump-priming funds that could lead to sustainability. The Canadian National Site Licensing project and the Australian CAUL Electronic Information Resources Committee both benefited from an initial injection of funds to cover start-up costs. In the case of the Australian CEIRC the funds were relatively small but they have led to a robust scheme. In the Canadian case, the University of Ottawa, and its partners, received a grant of $20 million (£8.3 million) from the Canadian Foundation for Innovation to pump-prime the site licensing project.

Critical mass is also important. The number of participants in an inter-library lending scheme, or in schemes to provide bibliographic access, can be critical. Unless coverage is near universal, much of the value is lost. There is, therefore, a form of network effect. Similarly, the more participants there are in joint licensing schemes, the greater is their negotiating strength.

Within the cost-structure of a collaborative venture there are usually distinct economies of scale. The joint licensing of digital material is a particular case in point

The size of the central organisation can also be critical. Too few and there are real limitations on the amount that can be achieved. Too many and the organisation can become unwieldy and can be perceived as being very expensive. Much of the success of

OhioLINK seems to be attributable to the fact that it is relatively well-staffed.

The cultural context is also important in determining, not only the success of a collaborative venture, but the most appropriate structure to be adopted. Within the German research system, for example, there is a tradition of the federal government, working through the Deutsche Forschungsgemeinschaft, to create centres of research excellence. This is an arrangement that has been operating for over 70 years and is now very well entrenched.

In marked contrast, the Australian higher education system has a very high level of institutional autonomy and competition built into it, while in the Netherlands there is a tradition of cooperation among autonomous institutions. The key to success seems to be to work with the grain of culture and tradition rather than trying to cut across it.

In de-centralised systems consisting of autonomous institutions, some people tend to regret the fact that central bodies lack the power to coerce others into doing what is good for the system as a whole - one only has to look at the actions of our present government to observe the phenomenon. Interestingly, this lack of the power to coerce was cited by Kjell Nilsson, the Director of BIBSAM in Sweden as both a strength and a weakness:

> *One of the basic difficulties we are confronted with is that we have no formal authority over any other institution, just economic incentives. But at the same that is partly a good thing, because we cannot come up with any crazy idea and expect that the libraries will follow our lead.* (Personal communication)

Constraints

Counteracting the factors that contribute to success are a number of constraints that can limit the potential offered by collaboration. [2] First among these is, once again, money, or the lack of it. In most cases it is necessary to spend money in order to realise other benefits. Few collaborative ventures are able to exist without the partners making a financial contribution, either in the form of direct subscriptions or in top-sliced funds that are foregone. The

---

[2] A study of the barriers to collaboration has been funded by the Research Support Libraries Programme and, at the time of writing, was due to report.

lack of subscriptions or funds to top-slice places a severe constraint on all collaborative ventures.

The competitive model for managing higher education also imposes a constraint on collaboration. It is probably no accident that countries like Sweden, Germany and the Netherlands, each of which has a tradition of cooperation or central direction, or both, have examples of the most stable research library collaborative ventures. Indeed, in Sweden, the spirit of collaboration was strengthened by the perception that increased competition would fragment a viable cooperative system. In contrast, the competitive regime in Australia is believed to have been one of the main reasons why it proved impossible to launch a nationally coordinated collection management and development programme.

One respondent cited the failure to keep up with the pace of change, as a constraint on collaboration. In well-established ventures there is a pattern of activity and a long-standing agenda for collaboration. If all the members of the venture need to agree, it is often difficult to ensure that the agenda keeps abreast of changes such as those that have arisen from the developments in digital technology.

A more common concern of members of a collaborative scheme is the perceived or real loss of individual control. In some countries, institutional autonomy is highly valued and, even if the librarian appreciates the benefits that might be realised, the people controlling the institution as a whole may resent what they see as a loss of control.

There is also the issue of marginality. In many areas, libraries will collaborate over the things that are marginal to their primary purpose. Control over anything that is central to that purpose will be retained within the institution and will, probably, be jealously guarded. So, a library may be prepared to relegate marginal material to a collaborative store or they will agree to forego purchase of marginal material if they know that other libraries will buy it. In these areas, the very marginality of the activity tends to define the level of commitment that will be given to collaborative activity.

Inter-relationships

There is a high level of inter-relationship between the different collaborative activities in the sense that collaboration in one area

facilitates collaboration in others. A collective approach to bibliographic access, for example, facilitates inter-library lending.

It is also clear that one thing leads to another. Work on record creation, for example, led to collaborative provision of bibliographical access, which in turn is leading on to an interest in collection-level description and the provision of subject gateways to internet resources. Similarly, joint licensing of electronic resources has led to a concern about the preservation and archiving of digital material and an interest in scholarly communication in a digital environment. These chains of progression, and others, are shown in Figure 1.

Figure 1. Library collaboration: a multi-functional approach
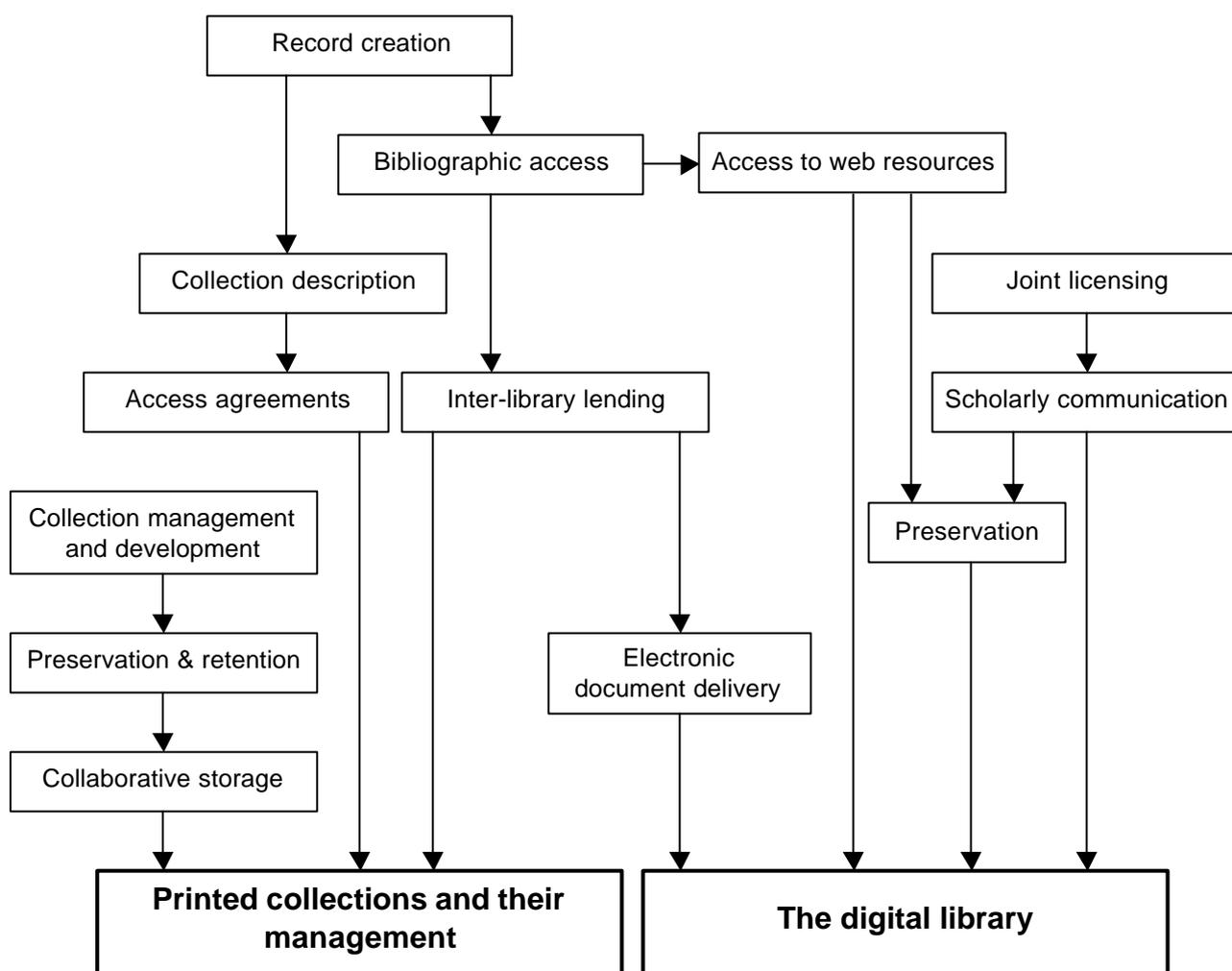
It appears that the collaborative ventures that are most successful are those that are multi-functional. The Koninklijke Bibliotheek in the Netherlands, for example, is leading a collaboration with the university libraries that encompasses collection management and development, preservation, joint licensing, the creation of subject gateways, the creation of digital resources, inter-library lending and joint subject indexing. BIBSAM in Sweden has a similarly broad range of activities.

It is also apparent that there are two strands of collaboration emerging. One is concerned with conventional print-based collections and includes issues such as bibliographical access, collection description, inter-library lending, collaborative storage and preservation. The other is concerned with digital libraries and includes subject gateways to digital resources, joint licensing, scholarly publishing, electronic document delivery and the preservation and archiving of digital material.

While there are issues that are common to both printed and digital strands, preservation being a notable example, the concerns appear to be diverging. The issues associated with printed collections are perceived by some as being the traditional concerns of collaboration, requiring less development and energy. In contrast, the issues concerned with digital libraries, particularly access to digital resources, joint licensing and scholarly communication are regarded as the new and interesting topics requiring innovation and creativity.

A developing collaborative agenda

If we are correct in our view that collaboration is a dynamic process with an agenda that is shifting in response to technological and other changes, then it should be possible to identify some of the issues that, on the basis of current trends, look as if they will feature prominently in the years to come.

The first issue is concerned with digitisation and the development of digital libraries. This has already risen to the top of many agendas and will undoubtedly dominate thinking in the immediate future.

A number of the collaborative ventures are actively developing subject-based access to digital information and, as the volume of digital information grows, this will remain a pressing concern. Equally urgent is the need to address the issues of the

preservation and archiving of digital materials. A number of collaboratives are working on this but the solutions are far from apparent.

Closely related is the question of digital document delivery. This is the next logical step whether one starts from a concern about the fairly traditional activity of inter-library lending, or from an interest in digital libraries. Again it is an issue where the need is clearer than the solution.

A bigger issue in the long term concerns scholarly communication and the respective roles of academic institutions and commercial publishers. It is probable that we are at a critical point in the development of scholarly communication and much of the running in the years to come will be made by the Association of Research Libraries, by the Scholarly Publishing and Academic Resources Coalition and by other collaborative ventures.

At a time of rapid change, there is a pressing need for good continuing education and training. Both BIBSAM in Sweden and the Greater Western Library Alliance are giving education and training a high priority and others will probably follow suit.

There is also a need to respond to a developing legal and regulatory framework. The Association of Research Libraries clearly feels that it has a role to play in articulating the concerns of its members in legislative fora. And BIBSAM regards its employment of a specialist legal adviser as an important development.

Many of the developments that are taking place call for research and development. In Germany, for example, the Deutsche Forschungsgemeinschaft is funding a series of research and development projects into electronic document delivery. Activity of this kind could well form part of the agenda of collaborative ventures in the future.

The need for new standards and protocols is apparent. These range from general guidelines on issues like digital preservation, through model licences for digital resources to standards for resource description and protocols for inter-library lending. The library collaborative schemes represent the interest of many of the key players and it is likely that they will be expected to play their full part in the future development of standards and protocols.

Along with the pressures to be more cost-effective has come a need to demonstrate accountability and value for money. The

development of library statistics and tools for performance measurement is firmly on the current agenda of the Association of Research Libraries and BIBSAM. It is unlikely that the pressure for accountability will reduce and, as a consequence, collaborative ventures will be called upon to develop appropriate techniques on behalf of their members.

Finally, many of the issues that are identified above have an international dimension. The development of standards or scholarly communication systems, for example, is already being treated on a trans-national basis. In Europe, librarians in the Netherlands and Germany have worked together to evolve guiding principles for negotiating licences for digital resources. In the years to come, it seems certain that collaboration and collective approaches will span national boundaries, opening up new challenges and new opportunities.

CONCLUSION

The purpose of this study was to identify examples from overseas that could inform thinking in the UK about collaboration between research libraries. It is possible to identify a number of areas where we have much to learn. Equally, we can identify some areas where we have something to contribute and a third group where everyone would benefit from a general exchange of ideas and experience.

Areas where we have much to learn

The most significant area is the collaborative management and development of collections. The richness of research library collections, the pressure on resources, the population size of the UK and relatively small distances between institutions all suggest that there would be much to be gained from collaborating in the management and development of collections.

Yet this is clearly a difficult task: the scheme operated by the Research Libraries Group has been largely abandoned and that proposed by the Australian National Library failed to get off the ground.   In contrast, the schemes operating in Sweden, the Netherlands and Germany all seem to be generating tangible benefits. *Prima facie*, therefore, it would seem that we could learn some valuable lessons from both the current, and the abandoned schemes.

Much the same applies to the collaborative storage of materials. While this was outside the scope of this study, it is clear that there is much to be learned from the USA and from Australia.

The third specific area is in the provision of bibliographic access. The CURL union catalogue is a valuable resource but extending this principle to all other research libraries will not be easy, as the recent feasibility study has shown. [3]

More generally, we stand to learn much about how collaborative activity can best be managed. Here, it is important to bear in mind the historical, cultural and administrative differences between countries, to say nothing of variations in size. The Deutsche

---

[3] *UKNUC: a national catalogue for the UK?* http://www.uknuc.shef.ac.uk/

Forschungsgemeinschaft collaboration, for example clearly makes a significant impact, but it does not seem realistic to adopt it as a model as it is predicated on a strong, centrally directed research management system that has evolved over more than 50 years. A better example to study would be BIBSAM in Sweden. This has come into its own in a response to the restructuring of higher education along the lines of the arrangements prevailing in the UK.

Areas where we have something to contribute

It is clear that, in a number of areas, the UK research library community is in the forefront of developments. Perhaps the most notable is in the joint licensing of electronic information. The JISC DNER arrangement appears to work very well and seems to have served as a model for a number of other countries.

Similarly, the work of the National Preservation Office and, more recently the Coalition for Digital Preservation has ensured that we are in the front rank when it comes to preservation, along with the Research Libraries Group, Koninklijke Bibliotheek in the Netherlands with its Metamorfoze project and the Australian National Library with PADI and PANDORA.

A third area is concerned with collection-level description. It is true that in the 1980s and 1990s the Research Libraries Group were established as front-runners in this area with the Conspectus scheme. More recently, however, the UK work on collection description, much of it funded through the Research Support Libraries Programme, appears to have taken things further and more rapidly than in other countries.

Exchanging ideas and experience

The third category concerns areas where it would seem that there is scope for learning through the mutual exchange of ideas and experience. A significant number of the research library collaboratives, for example, are grappling with the problem of providing effective access to digital resources, whether in the form of digitised publications or internet resources that were 'born digital'.

The work that is taking place in the Resource Discovery Network has its parallels in the Netherlands with DutchESS, in the USA with the Association of Research Libraries' scholars' portal and in the Australian Libraries Gateway.

There is a similar range of experimentation and development taking place with digital libraries. Here the UK has a considerable body of expertise developed through the eLib Programme and other developments. Similar work is taking place in Germany, the Netherlands and in the USA. In such circumstances there would appear to be scope for working together to avoid re-inventing wheels.

The emerging agenda

The activities listed above constitute the generally accepted agenda of library collaboratives. It is clear, however, from the case studies that the agenda is a dynamic one and new issues are attracting more and more attention. These include: education and training; research and development; work on the legal and regulatory framework; the development of standards and protocols, and the development of performance measures. In each of these areas there is scope for the international exchange of experience.

In Sweden, for example, BIBSAM is undertaking research and development, supporting education and training programmes and is serving as a focal point for advice and assistance with the emerging legal and regulatory framework. In Germany, Deutsche Forschungsgemeinschaft is funding a range of research projects associated with the development of digital libraries and digital document delivery.

In the USA, the Association of Research Libraries is developing standards and protocols, notably the ISO protocol for inter-library lending, while the Research Libraries Group has contributed to the development of UNICODE and, more recently to the Encoded Archival Description.

Accountability, performance measurement and the need to demonstrate value for money is a recurring theme. Work is taking place on this in Sweden and in the Association of Research Libraries.

One of the emerging agenda items on which the UK research library community could take a lead is in the development of access to research resources across the domains of archives, libraries and museums. The government, working through Resource, is pushing a cross-domain agenda very hard and, as a result, archives, libraries and museums are beginning to work more closely together. It is quite possible that such cross-domain working will rise up the agenda of research libraries in other

countries and the UK would be well placed to contribute towards thinking in other countries.

Finally, it is clear that, with many issues, there is much to be gained when collaboration extends beyond national boundaries. The growth of the Research Libraries Group provides, perhaps the most obvious example of this. Within Europe, the Koninklijke Bibliotheek is working with Deutsche Forschungsgemeinschaft to develop a common set of guiding principles for negotiating licences for digital information. There would seem to be considerable scope for further development of cross-border collaboration of this kind, particularly within the framework of the European Union.

General lessons

A number of general lessons emerge from the literature and from the case studies. These have a bearing on the likely success of all collaborative ventures.

The importance of a clearly articulated, shared vision cannot be over-stated. All the collaborative schemes that are analysed in the case studies had clear statements of purpose and it was apparent that these were kept under regular review to ensure that they remained relevant.

Closely associated with vision is the importance of leadership. In some cases, collaboration emerges from the shared interests and aspirations of a small group of libraries - the Research Libraries Group is a case in point. More commonly, however, the lead is taken by a single institution, frequently the national library. The quality of this leadership appears to be an important factor in determining the success of the collaborative venture.

Of similar importance is the cultural, historical and administrative context within which the collaboration will operate. It seems most unlikely, for example, that the kind of collaboration that is managed in Germany by the Deutsche Forschungsgemeinschaft would succeed in the less centralised structure of the UK. (Indeed, it seems uncertain that the idea would take hold if it were introduced for the first time in modern Germany). The schemes that appear to work best are those that work with the grain of their cultural, historical and administrative traditions.

Money is clearly important and, for collaboration to work, it is clear that all partners must be certain that the collaboration produces tangible and, increasingly, measurable benefits. Further, the

benefits must clearly exceed the costs. In many cases, to ensure that this is so, a system of incentive payments is required in order to create the conditions within which collaboration flourishes.

Size does matter. The number of partners is important. In a number of areas of activity, benefits increase exponentially as the number of members grows, as a result of network effects. Union catalogues and collection-level description schemes are examples of this. In other cases, notably the joint licensing of electronic resources, there are distinct economies of scale, with unit costs reducing markedly as the number of partners increases.

To offset these network effects and economies of scale, the management arrangements become more complex and costly as the numbers of members grow. It is probable, however, that a point is reached where the number of members is such that management and policy-making is devolved to a small, representative group, becoming cheaper and more effective.

Perhaps allied to the issue of scale economies, it would seem that the more successful collaboratives are those that perform a range of related, and often complementary functions.

On the basis of our work we can conclude that, by working together, research librarians have been able to attain real benefits and to advance the provision of services to researchers. Moreover, a collaborative approach to service provision seems to be an effective way of addressing some of the key issues that are currently facing research librarians in this country and overseas.