A Delphi study of research needs for Swedish libraries

Final report

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Contents

Executive summary

1.   A Delphi investigation was carried out, involving a total of 91 participants, between 16th April and the 21st November, 2008. The investigation consisted of two rounds of questionnaire survey and a Workshop with the aim of identifying priorities among potential research areas in support of Swedish librarianship.

2.   The participants in the survey were selected following recommendations from their colleagues in the different library sectors in Sweden.

3.   The potential research areas were collated from a variety of sources, including Internet discussion lists, professional literature, and inputs from professionals in Sweden, in response to an e-mailed request for suggestions.

4.   The almost 200 research ideas were grouped into sixty-four topics for the first round questionnaire survey. The result showed minimal agreement on priorities between the overall response and the individual sectors. More consensus was displayed with regard to the least important areas.

5.   On the basis of aggregated mean scores on items, the sixty-four items in the first round were reduced to forty-two in the second round.

6.   In the second round, the ranks assigned by the different sectors were presented to participants, with a request that they review the rankings and assign their priorities afresh, both for present concerns and for the future.

7.   The second round revealed much higher, and significant, correlation between the overall rankings and the ranks derived from the mean scores for the separate library sectors, indicating a higher degree of consensus on the significance of research areas.

8.   Following analysis of the second round results, a Workshop was held, with 16 participants, representing the different sectors. The participants were presented with a list of the top fourteen topics on the basis of overall ranking of present and future significance and, using the 'diamond nine' priority setting technique, in two rounds, produced the following 'top ten' research areas, in rank order:

> Factors affecting strategic development
> The changing roles of libraries in their communities
> The impact of the library programmes on learning and transferable skills
> Children and libraries in the digital age.
> The impact on library users of activities for the promotion of reading and literature
> Evaluation of library work effectiveness and impact
> Developments in scholarly communication
> Developing the library as a creative space
> The role of new digital media in scholarship and research
> Libraries, learning and education: studying the impact of library and information

9.   While the process has resulted in a consensus on the research that is needed to support the library profession as a whole, it should be noted that certain key sectoral interests are not represented by these common priorities. This fact should be born in mind when exploring potential funding for research and closer attention should be payed to the more detailed results of this investigation presented in the body of the report.

10.   No investigation of this kind can be considered 'final': we recommend that the Swedish Library Association (SBF) establish a process whereby the results can be re-visited, annually, to ensure the continued validity of the priorities.

Introduction

The University of Borås declares as one of its main goals the relevance of its education and research for the professions and practice. This relevance is sought through close contacts with public and private organizations that could not only apply the results of research, but also take active part in designing and conducting research projects through sharing their professional experience.

Therefore, research in the University of Borås is conducted with two main aims in mind: first, it has to meet the requirements of national and international research community; second, it should be useful for practical professional activities and involve practitioners in research projects using a variety of approaches (Brorström et al. 2007).

The project presented in this report meets both, or rather all three requirements spelled out in the previous paragraph, but it was mainly born out of the idea that to meet the needs of the professional sector in society, in this case of the library sector in Sweden, it would be useful to find out how the practitioners perceive what should be researched at present and in the near future. The concerns of the future were included having in mind that research projects may last for several years. Besides, it was planned that library professionals should play an active part in producing the outcomes of the study with the researchers playing the role of organizers and facilitators. The role of the interpreters of the outcomes is to some extent withheld from this report, allowing the voices of librarians to dominate.

The idea, from the very beginning, found resonance with the professional library communities in Sweden. The study was suggested by Professor Tom Wilson in an address at the Biblioteksdagarna (Library Days) conference in Stockholm (2007) and was immediately supported by the Svensk Biblioteksförening – SBF (Swedish Library Association), which commissioned and financed the research and helped in making contact with librarians.

The project intended to determine the research needs of all types of library and information services: public, academic, school and children's libraries, and library and information services in business and industry.

The objectives of the investigation were to:
- ➢ solicit expert opinion on the kinds of research projects that will be of value to practice;
- ➢ establish opinions on the research needs over the next three to five years;
- ➢ determine the priorities among the identified research problems; and
- ➢ develop, as a result, an agenda for library research in Sweden.

The Delphi process

The Delphi process typically consists of two or more stages of data collection activities (such as questionnaire surveys), in which authoritative panel members are asked to indicate the significance of the listed items. The first stage results in a ranking, based on the average responses of all panel members. The ranked topics are then re-circulated to panel members so that they now have information on the perceived value of the topics and they are asked to re-evaluate the significance of the items. This process results in a gradual consensus about the most significant research topics.

The Delphi method had its origins in work at the RAND Corporation during the 1950s and 1960s as a forecasting technique. The original intention was to attempt to forecast the effect of new technologies on the conduct of war, but the method was quickly adapted to other areas and to assist decision making of all kinds.

A RAND Corporation report (Dalkey 1969) defines the method:

> *The Delphi technique is a method of eliciting and refining group judgements. The rationale for the procedures is primarily the age-old adage "Two heads are better than one", when the issue is one where exact knowledge is not available. The procedures have three features: (1) Anonymous response–opinions of members of the group are obtained by formal questionnaire. (2) Iteration and controlled feedback– interaction is effected by a systematic exercise conducted in several iterations, with carefully controlled feedback between rounds. (3) Statistical group response–the group opinion is defined as an appropriate aggregate of individual opinions on the final round. These features are designed to minimize the biasing effects of dominant individuals, of irrelevant communications, and of group pressure towards conformity.*

Following its development at RAND, the method was not without its critics. For example, Sackman (1974), also from RAND, suggested that the method should not be employed until it was more scientifically grounded. In spite of criticisms, however, the method continued to be developed and explored.

The strength of the method, with its anonymous responses and multiple rounds, is the possibility of eliciting ideas and thoughts from a group of individuals experienced in a particular field, to allow these individuals to learn about the ideas of each other and develop consensus and understanding of the priorities and strong differences. Both researchers and experts are bound to modify their initial impressions in this process.

Delphi studies in librarianship and information science

Delphi studies are known in library and information science and have been used for a variety of purposes. Some early investigations are now of only historic interest, since the forecast period has passed or because the issues discussed have become less salient. For example, a study carried out in Australia in 1986–1987 on the role of personal computers in public libraries (Willard 1992) is now irrelevant. A similar investigation in the Netherlands (Trier 1992) which forecast developments in 2000 has suffered a similar fate.

A short overview of LIS Delphi studies provided by Howze and Dalrymple (2004) shows that they are used in forecasting of trends and reaching consensus on policies and issues (p. 3). Most of these studies relate to creating some common understanding of very new and/or complex phenomena in LIS or for forecasting future developments and planning change in an ambiguous situation.

The Delphi technique has been used for a variety of managerial purposes in libraries, e.g., in quite an early study Pierce and Andrew used the method '*to obtain consensus between librarians, faculty and administrators on a set of objectives for a university library's resource*

allocations…' (1984: 35). Kao (1997) reports its use in making budgetary decisions and staff placement decisions for a university library in Taiwan. Also in Taiwan, Hsieh *et al.* (2006) used the method as part of a performance evaluation process for the digital libraries of universities; Ludwig and Starr (2005) explored the future of the library as a place, with '*An expert panel of health sciences librarians, building consultants, architects, and information technologists…'* (315). In another study, Cole and Harer (2005) identified aspects of quality measures for academic library services. Howze and Dalrymple (2004) used the Delphi method to determine the content of an information literacy programme and, in a related area, Green (2000) employed the method to select Web sites appropriate to adult learners in the field of business studies. Recently, a re-organization of the Institute of Library Science at Humboldt University in Berlin was based on the Delphi study involving an international group of expert opinions (Jänsch *et al.* 2005).

In the area of digital libraries a study by Kochtanek and Hein, employing a three-phase investigation involving twenty-one experts, concluded that,

> *'The reasoning behind the development of digital libraries appears to parallel that same rationale for the development of the modern library. Consensus opinion suggests that efforts associated with the development of digital libraries are primarily collaborative and that an array of expertise is required to collect, organize and deliver digitally-rendered information. Expert consensus found that a digital library has the potential to transform access to information services provided by existing libraries and that the primary role of librarians in DL development is an extension (albeit in a completely new digital environment) of what has been going on for decades.' (1999: 253)*

This conclusion suggests possible research topics such as: the extent and benefits of collaboration in the development of digital libraries; new competencies for library staff; and the investigation of user experience of access to digital resources.

Forecasts of possible futures have also been produced, e.g., Feret and Marcinek (2005), in a follow-up to an investigation carried out in 1999, polled thirty-six experts in twenty countries on the future of the academic library and the academic librarian. Research issues were not covered in the study, but the areas of concern identified are suggestive of research possibilities: for example, the role of the library in the overall university infrastructure, the role of cooperation in the digital age, changes in the required competencies of library staff, and so on. Forecasts have also been limited to specific countries, such as the investigation carried out by Baruchson-Arbib and Bronstein (2002), which surveyed views of the future of the library and information profession in Israel. This study also identified areas that may surface in this investigation as research possibilities: changing professional competencies, the varying roles of traditional and virtual libraries and the impact of the user-centred approach to service. An early study in Sweden (Tjernström 1971) explored possible developments in a variety of information functions, the early date, however, means that the projections to the mid-1980s are no longer of great interest. A later Finnish study (Koskiala and Huhtanen 1989) forecast developments in information technology use for 1996 and 2010. A number of the forecasts for 2010 ring true in 2008: for example, the proposition that by 2010 90% of scientific and technical information will be in electronic form and that small circulation journals will be electronic only. The method used in this study was to bring together 32 Finnish experts in two consecutive sessions and to supplement their views with those of 11 foreign experts.

Research in scholarly communication has implications for library research and Keller's (2001) study explored the future of the electronic journal through the Delphi method and a number of the judgements are of interest to libraries. For example, the belief that paper copies of e-journals will cease to be archived by libraries, that pay-per-use of articles will become more common, and that the benefits of consortia licence agreements are uncertain, have critical implications for libraries and may be worthy of research.

The technique has also been used in other fields to determine research needs, for example, Kirkwood *et al.* (2003) employed it in determining research needs in a UK National Health Service hospital. The authors note that the method proved useful and it is interesting to see that at least three research areas could well be replicated in libraries, i.e., recruitment and retention of staff, staff stress and morale, and staff training and education.

Most of the studies as Howze and Dalrymple (2004) have found use a group of experts dispersed over large areas or bring together those with different backgrounds and perspectives. Their own project was directed to reach a consensus in one organization by relatively homogenous group of participants. It is also directed to solving a '*real-life library problem*' (p. 3). Our study brings together a group of the library professionals from different types of libraries in Sweden. The group is dispersed geographically over the whole of Sweden and to some extent their location was taken into account to represent regional aspects of libraries. Their background is homogenous in respect that they are all the acknowledged authorities in the professional field, but they were deliberately chosen from different types of libraries.

As one can see from this review of previous Delphi studies, most of them are directed at the solution of pressing problems or determining the development directions of a variety of institutions (different libraries, library sectors, library and information science educational departments, etc.). Close involvement of the professionals as experts in these studies provides valid outcomes and forms a basis for further actions. Therefore, the Delphi study is very suitable for conducting a project, which has not only to produce solid research results, but also to build the trust of the professional communities that are in the position of using these results directly in their activities. Therefore, Delphi method is suitable to shape this study in line with the general strategic direction of research in the University of Borås and, in particular, the Swedish School of Library and Information Science.

The investigation

The project was carried out in one year from the beginning of January 2008 to the end of January 2009. The overall design of the study involved the following stages:

1. Formulating research issues and forming the experts panel;

2. First round questionnaire survey and analysis of its results;

3. Second round questionnaire survey and analysis of its results;

4. Consensus seeking workshop.

Formulation of research issues and development of the first questionnaire

The first step in the process was the creation of a list of potential research topics compiled by scanning a variety of sources: discussion lists on library and information matters (e.g., BIBLIST in Sweden, LITA-L, ACRL-FRM and CENTRALHEADS in the USA and LIS-LINK in the UK), Swedish, Danish, English, German and French professional journals (e.g., *Biblioteksbladet*, *Library + Information Update, Library Journal, Information Outlook, School Library Media Research* and others) and the library research literature (through searching the Web of Knowledge database). However, the main approach to the formulation of research topics was calling for ideas from the field through a message to discussion lists used by Swedish professionals. They responded by producing approximately 140 research issues.

The whole process resulted in an initial list of approximately 200 items. The next step was to reduce this list to manageable proportions by scanning it, identifying six broad thematic areas and then grouping the ideas into cognate categories. This was done by employing Wilson's (2001) Venn diagram (Figure 1 below), which shows the connections between elements that define the scope of librarianship. Each category was then reviewed with a view to identifying a researchable theme that would cover all, or a number of, the items. Several seemingly similar topics may appear in several areas covering specific research aspects of a complex issue.
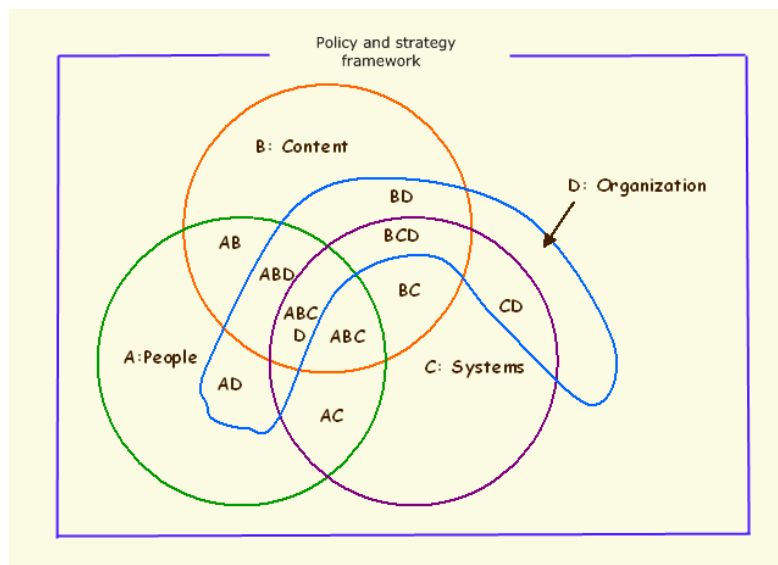

Figure 1: Wilson's Venn diagram (Wilson 2007)

The eight broad thematic areas were:

1. Library policy and legislation issues (Bibliotekspolitik och bibliotekslagstiftning) [The contextual framework of the diagram above]

2. Research issues relating to the acquisition, organization, digitization, etc., of library and information resources and collections. (Biblioteks- och informationsresurser och bestånd: förärv, organization, digitalisering, osv.) [Section BD[1]]

3. Users (Användare) [Section ABD in the diagram]

4. Technology and tools for library resource management (Teknologi och verktyg för bibliotekens resurshantering) [Section BCD in the diagram]

5. Library management I – strategy and co-operation (I – strategier och samarbete) [Section D]

6. Library management II – management of library work (Biblioteksadministration II – hantering av biblioteksarbete) [Section CD]

7. The changing profession (Den förändrade yrkesrollen) [Section AD]

8. Service delivery and development (Biblioteksjänster: utvekling och genomförande) [Section ABCD]

Selection of the panel members

In the literature review above, it will be noted that panel members are not selected randomly from a given population. This limits the application of statistical methods, but statistical generalization to the population as a whole is never an objective of a Delphi study. Rather, the aim is obtain 'expert' judgements. Consequently, our rationale for choosing the 'expert' group as our respondents was, first, that experience in the field is likely to be of value in making judgements about the research the field needs and, secondly, that persons perceived as active in the field and perceived by others to be expert in their opinions, would give 'face validity' to the results (that is, recognition as valid by the profession at large) as well as acceptance by the profession.

We wanted to be sure that the panel in this study consisted of experts trusted by the professional community rather than select them on some other basis. Therefore, we asked the librarians to nominate to the panel those whom they considered to be experts in their library sector. The Svensk Biblioteksförening and other professional bodies were also consulted.

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[1] Allocation of the areas in the Venn diagram is conditional. It is assumed that the blue area refers to a library as an organization, therefore all library related issues are situated within the blue lined area, though in fact in many cases they they will found outside it.

Initially, 125 librarians were invited to participate, equally distributed over the different library sectors, and ultimately we formed a panel of 97 members who had accepted the invitation, distributed over the different sectors as follows:

- County and regional librarians…………………… 18
- Public librarians………………………………… 15
- Academic and research librarians ………….….... 23
- School librarians ………………………………… 23
- Special librarians ………………………….…... 18

Stage I survey

Distribution of the questionnaires: the first round questionnaire was distributed to the panel members by e-mail on the 16th April 2008, and they were asked to return their completed response either by e-mail or by ordinary mail by May 8. On May 6 an e-mail message was sent to all panel members reminding them of the due date for return. This resulted in further returns and some apologies for having to withdraw from the panel because of illness or unexpected work pressures.

Response rate: 78 responses were received by the final due date, a response rate of 80% of the original panel, or of 86% when the six withdrawals are taken into account. Given the way the panel was chosen and their prior agreement to participate, we had hoped for a 100% response rate; however, we regard the achieved rate as very satisfactory for a study of this kind. The responses were distributed over the different sectors as follows:

County and regional librarians …………………... 18 (100%)
Public librarians ………………………………. 13 (87%)
Academic and research librarians ………….......... 19 (83%)
School librarians ………………………………. 15 (65%)
Special librarians ………………………………. 13 (72%)

As may be seen, an excellent response from the different sectors was achieved (apart, perhaps, from the school librarians, five of whom reported being ill and unable to participate).

Results

The mean priority scores of all items were calculated (see Annex III, Table 4) and the results divided according to the five library sectors. All items were then arranged in overall rank order, by mean score and also ranked according to the scores within the library sectors (see Annex III, Table 1). Thus, overall, the item receiving the highest mean score (8.5) was *7.2 Bibliotek, lärande och undervisning: att studera effekten av biblioteks- och informationsservice (Libraries, learning and education)*, and was ranked 1, while the item receiving the lowest score (4.2) was *6.4 Roller och funktioner hos professionella föreningar i utvecklingen av profession (Role of professional organizations)*, and was ranked 64. The differences between the overall ranking and the sectoral ranking can be illustrated by the following example: in responses from the Academic and research sector, the highest mean score was achieved by the item *1.8 Utveckling inom vetenskaplig kommunikation och konsekvenser för biblioteken (Developments in scholarly communication and their impact on, and support from, libraries)*. However, this topic was ranked 10th overall. (County and regional librarians ranked the topic 46th, public librarians 41st, School librarians 27th, and Special librarians 2nd).

The top twenty ranked items, based on all responses, are shown in Table 1 below, with the ranks assigned by the individual sectors. (For the complete table, see, Appendix III, Table 1.)

Table 1: Ranking of research topics, derived from mean scores of respondents

Research topic	All resp. rank	County rank	Public rank	Acad rank	School rank	Special rank
7.2: Libraries in education	1	4	6	3	2	22
1.4: Changing roles of libraries	2	2	11	15	7	4
3.7: Impact of the library programmes on learning	3	6	4	9	5	20
5.12: Evaluation of library work	4	7	5	12	12	6
3.8: Guidelines for information literacy programmes	5	20	35	4	2	8
3.9: Children and libraries	6	3	2	26	7	42
6.5: Librarian and education	7	11	27	5	1	39
3.2: Library as a creative space	8	1	7	31	11	40
7.9: Evaluation of services	9	18	11	7	17	8
3.6: Reading research	10	9	3	40	4	44
3.3: Marketing library and information services	11	5	9	35	21	10
1.5: Economic significance of libraries	12	35	8	9	24	3
1.8: Scholarly communication	13	46	41	1	27	2
3.1: Implication of user studies	14	8	10	8	39	23
3.5: Impact of the promotion of reading	15	13	1	33	9	53
5.5: Library integration	16	21	16	35	6	25
3.4: Reference service in the digital age	17	18	11	19	14	29
7.6: Impact of digitisation projects	18	29	20	6	43	5
7.8: Impact of digital services	19	25	16	13	39	17
7.1: Strategic development of new services	20	10	16	22	29	34

A Spearman rank correlation analysis of the data showed that there were rather strong positive correlations between the Academic and Special sectors, and between Regional, Public and School librarian responses. There were also strong correlations between each sector and the Overall response ranking, the strongest being with Regional, Public and School librarian responses. (Measures of significance are not shown, as the data were not derived from a random sample.)

Table 2: Spearman rank correlation coefficients

	County	Public	School	Special	Overall
Academic	,440	,524	,489	,696	,746
Regional		,893	,707	,320	,840
Public			,723	,419	,892
School				,403	,829
Special					,629

Sectoral differences in the answers to the first questionnaire were visible in the research issues ranked highly, however, there was a significant consensus among all librarians regarding the low ranked issues:

Table 3: Low ranked issues in the first round survey

Research topic	All resp. rank	County rank	Public rank	Acad Rank	School rank	Special rank
1.9: Mapping of library services	50	44	57	59	13	42
4.9: Implications of new technology	51	50	47	47	42	44
4.4: Change in classification systems	52	37	42	57	34	56
5.7: How parent organizations affect library management	53	54	43	33	53	49
5.11: Security issues in libraries	54	59	58	40	46	24
6.2: Librarianship as a profession	55	53	45	47	49	57
1.7: European Space	56	61	51	53	55	52
6.7: Human resources management	57	56	53	49	58	59
4.8: Virtual reality	58	49	55	55	64	58
6.3: Job satisfaction and identity	59	57	58	61	62	63
2.5: Digitization projects in Sweden	60	63	63	58	61	55
1.1: Historical development of libraries	61	60	62	60	57	61
4.6: Implementing wireless networks	62	58	64	61	59	61
6.1: Public image of librarians	63	61	60	64	63	60
6.4: Role of professional associations	64	64	61	63	59	63

Only three issues in three library sectors receive a significantly higher ranking than in the other sectors, as shown by the shading in the table.

The answers to the open questions in the first questionnaire and the discussions in the later stages of the study show that the experts from all the library types had similar reasons for assigning low priority scores to the fifteen issues in the table.

The first questionnaire provided a significant space for the expression of the individual opinions of the respondents through open questions at the end of the sections. Forty-five respondents took this opportunity to express individual opinions. Some provided very substantial comments, others just short observations or remarks in one or two areas.

The comments in the open questions are of two types:

➢ Comments on the questionnaire (often given under open question 8.2).

➢ Additional research questions or aspects in relation to broad research areas.

The comments of the first type show that some respondents were confused by some parts of the questionnaire or questions (five comments) or had difficulties in scoring particular topics, others felt a necessity to explain their choices and provide comments on concrete research issues or express their interest in the outcomes of the research. These responses shed some light on the motives of scoring the issues in a particular way (see the section *The workshop*).

The suggested additional research areas mainly emphasised certain aspects of already formulated ones: "it is necessary to discuss not only bibliometrics but also webometrics in relation to the evaluation of universities", "what are the consequences of information illiteracy for different types of organizations", "Children's reading habits - library... Children's media reception – library". However, there were no substantial additions to the formulated questions.

Stage II survey

Stage II questionnaire. Using the rankings shown in Table 1, the top twenty items ranked by representatives of the different sectors were selected, giving a total of forty-two research areas. These were listed in one sequence, without the division into the sub-sectors used in the first round questionnaire. Panelists were again asked to score the priority of each item, but were provided with information on how the topic had been ranked in the first round. They were also asked to indicate what priority they believed the topic would have five years from now. The form of the questions is shown in the example below.

2.3: The role of new digital media in scholarship and research.

This was ranked in the first round.

Akad	Län/reg	Folk	Skol	Spec.
2	55	39	18	7

Please indicate how important you believe research on this topic to be at the present time:

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Now, indicate how important you believe research on this topic will be in five years time

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Figure 2: A question presented in the Round 2 questionnaire

The theory behind Delphi method implies that the respondents will be influenced by the ranking results of other experts and will reconsider their own priorities. Therefore, in the second round of ranking the opinions should express more similar opinions.

Results

The amount of work involved in responding to the Delphi questionnaire during the first round proved to be somewhat overwhelming for several respondents and we received some requests to take some names out of our list. Thus, 92 questionnaires were sent out during the second round. Four messages were returned, as delivery to the indicated addresses has failed. One person was unable to answer. The overall response rate of 70% is shown in Table 3. This is a little disappointing, since we had hoped that the panel selected would remain with the project throughout its courses. On the other hand, some questionnaires were sent by the members who were not able to take part in the first survey. The response is sufficiently high to provide us with useful data.

Table 4: Number of questionnaires sent out and received during the second round

Sector	Sent out	Returned	Percent
Academic/research library	23	14	61,0
Public library	15	14	93,0
County library	18	13	72,0
School library	21	12	57,0
Special library	15	11	73,0
Total	92	64	70.0

The distribution of the answers from the representatives of different types of libraries, however, is rather equal, which provides a useful basis for comparison.

Table 5: Response rates from different types of libraries

Sector	Frequency	Percent
Academic/research library	14	21,9
Public library	14	21,9
County library	13	20,3
School library	12	18,8
Special library	11	17,2
Total	64	100.0

The top twenty (according to the overall response) of the 42 items in the second round questionnaire are shown in Table 6. Highlighting indicates the top ten items in the different library sectors. (For the full table, see Table 2 in Appendix III).

Table 6: Round two, rank order, all respondents

Ranks based on present significance

Topic	All rank	County rank	Public rank	Acad. rank	School rank	Special rank
3-7 Impact of the library programmes on learning	1	3	2	3	2	14
1-4 Changing roles of libraries	2	1	6	18	5	7
7-2 Libraries in education	3	10	9	6.5	4	5
3-9 Children and libraries	4	2	1	27	3	32
5-12 Evaluation of library work	5	11	4	9	13	21
6-5 Librarian and education	6	22	21	4	1	35
3-4 Reference service in the digital age	7	21	12	13	18	6
3-5 Impact of the reading promotion	8	4	3	33	6	31
3-3 Marketing library and information services	9	14	5	24	17	12
7-4 Web 2.0 application in libraries	10	16	7	16	23	20
2-4 Digital resources management	11	30	20	8	19	1
3-1 Implication of user studies	12	12	11	11.5	34	17
3-2 Library as a creative space	13	5	8	25	12	38
7-1 Strategic development of new services	14	7	10	22	31	15
1-5 Economic significance of libraries	15	35	15	6.5	15	8
3-8 Guidelines for information literacy programmes	16	28	32	5	7	25
4-1 Developing search/retrieval systems	17	25	22	14	21	13
5-4 Library co-operation with other institutions	18	6	31	23	11	24
7-3 Design of library Websites	19	17	14	30	14	23
2-3 Digital media in research	20	40	29	2	20	4

In the second round, respondents were also asked to indicate the significance of research areas for five years ahead. The result is shown in Table 7 – again, highlighting indicates the top ten items in each library sector; for the full results, see Appendix III, Table 3.

Table 7: Ranks based on future significance.

Topic	Ranks based on future significance					
	All	**County**	**Public**	**Acad**	**School**	**Special**
3-7 Impact of the library programmes on learning	1	3.5	5	3	1.5	14.5
1-4 Changing roles of libraries	2	1	1	19	1.5	12.5
7-2 Libraries in education	3	9.5	10	11.5	4	11
5-12 Evaluation of library work	4	13.5	5	7	12	17
3-9 Children and libraries	5	2	2	34	5	25.5
3-3 Marketing library and information services	6	11.5	3	26	12	7
3-5 Impact of the promotion of reading	7	5.5	5	25	6	33
3-1 Implication of user studies	8	7.5	7.5	15	33	12.5
6-5 Librarian and education	9	20.5	21.5	4	3	35.5
7-6 Impact of digitisation projects	10	24.5	16.5	5	24	3.5
7-1 Strategic development of new services	11	3.5	7.5	21.5	31.5	19
2-4 Digital resources management	12	29	24.5	7	16.5	1
1-5 Economic significance of libraries	13	30.5	13	7	16.5	16
7-4 Web 2.0 application in libraries	14	13.5	11	15	22	31
5-4 Library co-operation with other institutions	15	9.5	26.5	23	14	19
3-4 Reference service in the digital age	16	17.5	14.5	17.5	20	21
4-1 Developing search/retrieval systems	17	23	24.5	15	19	9
3-2 Library as a creative space	18	5.5	9	29.5	16.5	38
7-9 Evaluation of services	19	20.5	21.5	16	25	19
5-2 Strategic planning of library services	20	26	16.5	20	38	7

Some of the most significant research issues for the present (3.8 – Information literacy, 7.3 – Websites of the libraries and 2.3 – Digital media) fall outside the 20 most significant issues for the future yielding their place to the ones that seem to grow in importance in five years (7.6 – Digitization projects, 7.9 – Performance evaluation and 5.2 – Strategic planning).

The ranking resulting from the second round shown in Table 6 was tested using Spearman's rank correlation, with the result shown in Table 8. The result shows that the rankings of the different sectors are all closely correlated with the overall ranking and that the County results are highly correlated with Public and School results, and Academic results are highly correlated with Special library results. Only the special library respondents continue to show a smaller correlation value with the overall result. Analysis of the future significance correlations revealed essentially the same pattern.

Table 8: Spearman rank correlation coefficients

	Public	Acad.	School	Special	Overall
County	.708	-.091	.519	-.215	.628
Public	1.000	.298	.439	.166	.835
Academic		1.000	.235	.664	.610
School			1.000	-.074	.669
Special				1.000	.377

The Workshop

The final stage of the study was to organize a workshop with participation from the different sectors. The Workshop took place in Gothenburg on 21st November, 2008, with sixteen participants (see Appendix II for the list of participants).

In preparation for the Workshop, the 42 items in the second round questionnaire were reduced to 14 by selecting those that occurred in the top ten within at least two sectors in both the current and future interest categories (the process of selection of the items for the workshop is shown in the Annex III Table 7).

This resulted in 13 items and the 14th was added by selecting 'Selling the library' from the overall ranking, since this was the only additional item to occur in both the current and future interest categories within top ten ranked issues. The 14 items were:

1.4	The changing roles of libraries in their communities
1.8	Developments in scholarly communication
2.3	The role of new digital media in scholarship and research
2.4	Digital resources and their management
3.2	Developing the library as a creative space
3.3	'Selling the library': marketing library and information services to different user groups.
3.5	The impact on library users of activities for the promotion of reading and literature
3.7	The impact of the library programmes on learning and transferable skills
3.8	Guidelines for the development of information literacy programmes in libraries of all types.
3.9	Children and libraries in the digital age.
5.12	Evaluation of library work effectiveness and impact
6.5	The librarian and education: the library's role in the educational process and its implications for collaboration between teachers and librarians.
7.1	Factors affecting strategic development
7.2	Libraries, learning and education: studying the impact of library and information

Following a brief introduction to the Workshop, dealing with how the process had worked to that point, the participants were divided into four groups so that people from different sectors worked together. Each group was presented with a set of cards bearing the expanded version of the topic areas listed above. They were asked to arrange the cards in order of priority using the 'Diamond nine' technique[2] (expanded to cope with 14 items). Figure 1 shows the layout, indicating that the groups had to decide upon an order of priority for each item from 'Very high priority' to 'Very low priority'.

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[2] The "Diamond nine" method is used for prioritizing of ideas or seeking common decisions mainly in educational and health care settings.

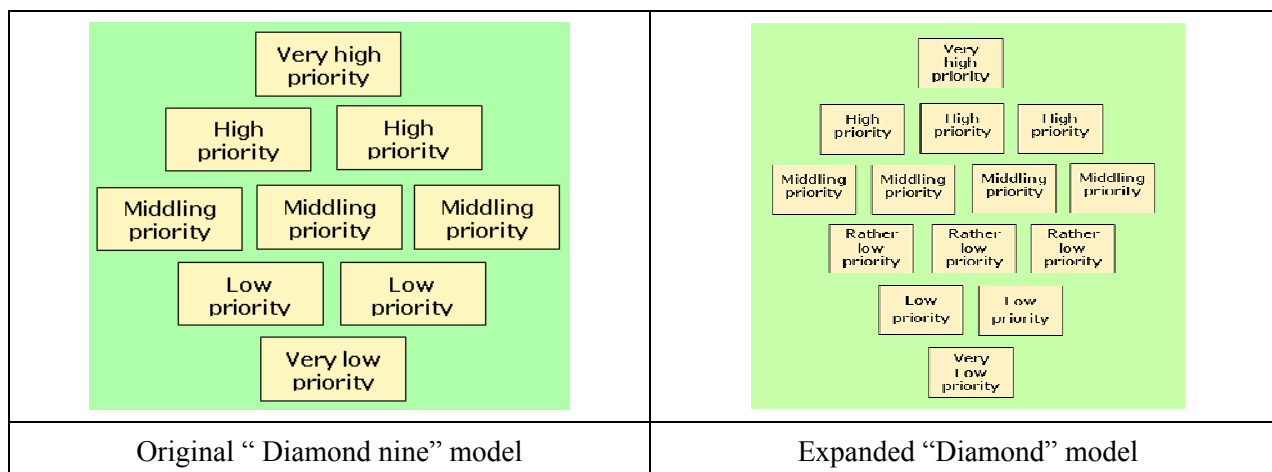| Original " Diamond nine" model | Expanded "Diamond" model |

Figure 3: The 'diamond nine' modified for fourteen items.

This first round of judging priorities was followed by a second round in which the four groups were merged into two. The initial judging process had resulted in ten items judged '*Very high priority*' or '*High priority*' and the groups were asked to use the same 'Diamond nine' technique to prioritise these ten items from '*Very high priority*' to '*Very low priority*'.

In the feedback session, the groups reported their priority judgements and stated their argument for the choice of the 'Very high priority' item. The priority judgements were given scores from 5 for Very high priority to 1 for Very low priority and the scores summed to provide a final priority order for the ten items. The result is shown in Table 8.

Table 8: Final scoring of research areas

Potential research area	Score
7.1 Factors affecting strategic development Scores: 5 4	9
1.4 The changing roles of libraries in their communities Scores: 2 5	7
3.7 The impact of the library programmes on learning and transferable skills. Scores: 4 3	7
3.9 Children and libraries in the digital age. Scores: 3 4	7
3.5 The impact on library users of activities for the promotion of reading and literature Scores: 3 3	6
5.12 Evaluation of library work effectiveness and impact Scores: 3 3	6
1.8 Developments in scholarly communication Scores: 3 2	5
3.2 Developing the library as a creative space Scores: 4 1	5
2.3 The role of new digital media in scholarship and research Scores: 1 3	4
7.2 Libraries, learning and education: studying the impact of library and information Scores: 2 2	4

As a result of the Workshop activity, a clear set of priorities emerges, as shown in Table 8. These ten topics have emerged from the original 64 through the two surveys and the Workshop and represent the refined opinions of the participants in the process. We can be reasonably confident that these topics would find wide support within the professional community if resources could be found to fund work in these areas.

However, the process of arriving at the top ten priorities for research was not easy and the observers of the process reported that the participants debated seriously before agreeing about placing one or another issue on the grid. Table 9 shows the relationship between the Workshop 'top ten' items and the top ten in each of the sectors in the second round. It will be noted that eight of the Public librarians' top ten are represented, while only four of the Special librarians' top ten are represented. Paradoxically, the one item that is represented in all of the sectoral top tens, is the tenth item in the list, while the first item is represented in only the County and Public top tens.

Table 9: Representation of sectoral 'top tens' in the Workshop top ten.

Topic	A	C	P	S	Sp
7.1 Factors affecting strategic development.		X	X		
1.4 Changing roles of libraries in their communities		X	X	X	X
3.7 Impact on learning	X	X	X	X	
3.9 Children and libraries in the digital age		X	X	X	
3.5 The impact… of reading promotion		X	X	X	
5.12 The evaluation of library work	X		X		
1.8 Developments in scholarly communication	X				X
3.2 Developing the library as a creative space		X	X		
2.3 The role of new digital media…	X				X
7.2 Libraries, learning and education…	X	X	X	X	X

Therefore, although consensus was reached in the Workshop, it should not be thought that it was total: in particular, the representatives of the academic sector were concerned that 'Developments in scholarly communication' and 'The role of new digital media in scholarship and research' appeared to be 'lowly' ranked. It was pointed out, however, that the low ranking was relative: the two topics should be seen as ranked 7th and 8th out of the original 64 topics. One participant noted that, in fact, both topics could be seen as part of 'Factors affecting strategic development', since, in the academic world, these *are* important factors.

In the final session of the Workshop, participants were given a short presentation dealing with two aspects of the study: the low ranking of topics relating to the profession generally and to professional associations, and the low ranking of technological issues. On the latter point, participants suggested that, in most cases, they looked to other professions and disciplines for research into technological issues that would affect libraries and did not perceive this kind of work as 'library and information science research'. On the former point, there was little discussion, the participants appearing to agree with written comments from the participants in Round 1 of the survey, that research into professional issues was somewhat 'incestuous' and

that other matters had priority in what was a time of major change in the role and function of library systems.

Participants in the Workshop expressed their satisfaction with the process and evinced considerable interest on the further outcomes of the research.

Discussion and conclusions

The environment in which libraries exist today is changing in all kinds of ways: social, economic, technological and political, and in ways in which all of these factors are inter-related in complex ways. Not only has the technology of information access changed fundamentally since 1995, but we are now in an economic recession which, inevitably, will limit the resources available for public service investment.

It is at times like this that the library profession needs input from appropriate research to guide long-term planning and policy-making. True, some actions will need to be decided urgently and waiting for the completion of research before making those decisions is unlikely to be appropriate. The forces that exist, however, are long-term in their implications, and it is sensible to try to identify trends and phenomena that affect the long term.

The involvement and commitment of professional librarians was a premise for the success of this Delphi study. With their help we could find the experts who would be trusted by the professional community and solicited the initial research issues that formed the basis for the questionnaire design.

The experts on the panel had a difficult job, which required significant effort and intellectual input. They have performed with great devotion in both rounds of the survey and during the Workshop. The result is a sound basis for a long-term agenda for library and information research taking into account not only the top ten items, but also the differences that became clearly visible in the process.

One of our conclusions relates to the substantive content of the investigation and to the method.

Regarding the method, we believe that the Delphi technique was appropriate and, with the addition of the Workshop, produced a result which reflects professional opinion among Swedish librarians on research priorities for the field. Our efforts to ensure that genuinely 'expert' opinion was sought overcame one of the main objections to the method – that the judgements of lay persons may be just as good. In the case of this investigation, it is highly unlikely that lay persons would have the appropriate professional understanding of the field and its current concerns.

The whole ranking and prioritising process was deliberately oriented towards seeking consensus, therefore, particular sectoral concerns moved down the rankings. However, this process did not seek to eliminate the differences. The research team made sure that concerns of different library types are carefully represented in each of the study stages. Even after a certain agreement has been reached, these differences should not be lost altogether, since, for those sectors, the issues that are not included in the final list of priorities may be of critical importance. Even the issues ranked lowest during the first round of the survey should not be lost, because the ranking is not absolute, but relative. It shows that at the moment these issues are not as important as others, but in other circumstances their significance may change. The Workshop results show a willingness on the part of individuals to put aside sectoral concerns is the cause of what they presumably regard as 'the greater good'.

Regarding the subject of the study, we now have an overall 'top ten' research issues, that is, the topics listed in Table 8 above. The ten priority ranked topics that have emerged from this process do not merely represent an interest in research to support service development; we can

also read them as an account of current concerns about the changing environment in which librarians of all kinds find themselves. There is an awareness that the role of libraries is changing in modern society and that 'the digital age' brings new challenges. It is understood that, if libraries are to survive in the future, change is necessary and that, for academic and public libraries in particular, the relationship between libraries, education and learning must be more clearly understood and service development must be linked to that relationship. The priority given to research on the relationship between children and libraries points to a concern with ensuring that children continue to use libraries and, perhaps, continue to use them through their teen years, in spite of competing leisure sources such as video games.

The concern with the future is also seen in the top priority given to strategic development, which must be linked to the future role of libraries and the impact of digital resources. That the performance of libraries must be evaluated is also recognized and we can imagine that the priority given to this area of research is related to uncertainty over the future role of libraries and the need, increasingly, to justify what libraries do.

However, it should be remembered that this is, in effect, a conclusion arrived at through negotiation among participants in the Workshop: to arrive at consensus individuals 'surrendered' their sectoral concerns in the interest of arriving at an agreement. If the result led to disregarding sectoral interests, there is a danger that significant research issues might not be pursued. Table 10 below shows the top ten topics of *future* significance by sector, from which it will be seen that some topics were not included in the fourteen research areas presented to the Workshop participants.

Table 10: Research areas of future significance, by sector

Research areas of future significance		
Academic	**Public**	**County**
1-8 Scholarly communication	1-4 Changing roles of libraries	1-4 Changing roles of libraries
2-3 Digital media in research	3-9 Children and libraries	3-9 Children and libraries
3-7 Impact of the library programmes on learning	3-3 Marketing library and information services	7-1 Strategic development of new services
6-5 Librarian and education	3-5 Impact of the reading promotion	3-7 Impact of the library programmes on learning
7-6 Impact of digitisation projects	5-12 Evaluation of library work	3-2 Library as a creative space
5-12 Evaluation of library work	3-7 Impact of the library programmes on learning	3-5 Impact of the reading promotion
1-5 Economic significance of libraries	3-1 Implication of user studies	3-1 Implication of user studies
2-4 Digital resources management	7-1 Strategic development of new services	6-8 Leadership in libraries
3-8 Guidelines for information literacy programmes	3-2 Library as a creative space	5-4 Library integration
7-2 Libraries in education	7-2 Libraries in education	7-2 Libraries in education

School	**Special**
1-4 Changing roles of libraries	2-4 Digital resources management
3-7 Impact of the library programmes on learning	2-6 Preservation of information resources
6-5 Librarian and education	7-6 Impact of digitisation projects
7-2 Libraries in education	7-7 Business & industry information needs
3-9 Children and libraries	2-3 Digital media in research
3-5 Impact of the reading promotion	3-3 Marketing library and information services
5-5 Cooperation in digital context	7-8 Impact of digital services

3-8 Guidelines for information literacy programmes	5-2 Strategic planning in libraries
1-3 National library legislation and policy	4-1 Developing search/retrieval systems
3-6 Reading research for libraries	1-8 Scholarly communication

Note: White cells show the issues that do not overlap with any other, yellow cells show the issues occurring in two sectors, blue ones – in three sector, red ones in four out of five sectors (no topic occurs in all five sectors).

It will be readily apparent that the sector most potentially 'disadvantaged' by the results of the exercise is the special libraries sector: five of its 'top ten' research areas are not shared with other sectors. Consequently, if the perceived needs of the sector are to be addressed, attention should be given to how the special research priorities of the sector might be accommodated in any future action to gain funding for research. The same caveat applies, to a lesser extent, to the other sectors; apart from the public library sector each has priority topics for future research not shared with other sectors.

No investigation of opinions, whether expert or not, can be taken as the last word on what priorities ought to be set for library and information research. On the other hand, this investigation has revealed the considered opinions of a sufficiently large group of professionals, who are thought of by their peers as 'expert' in their sectors and, at this point, the ranking of priorities can be considered authoritative. However, no set of judgements can prevail for very long in circumstances where social and technological changes play such an important part as they do in relation to libraries. While we would not suggest that this study be repeated at regular intervals, we do believe that the findings should be reviewed as circumstances demand.

The results of the investigation could be reviewed by an interlibrary body coordinating library research (possible a Research Committee of Svensk Biblioteksförening). This body should also become a forum bringing together multiple interests of different types of libraries and monitoring their changing needs. The body could also be responsible for lobbying activities directed towards major research funding agencies.

The whole project has revealed a high level of interest and understanding of researchable issues within the Swedish library community. The discussions at the workshop have revealed that librarians make clear distinctions among different kinds of issues: some require immediate action rather than long-term research (e.g. national library policy), others can gain from research in other areas (mainly, technology-related ones), a third group are assessed as *introvert* (mostly, internal professional issues).

It would be reasonable to assume that the Swedish library community has quite a high potential for being involved in research not only as active participants, but also as researchers. Many of the research issues formulated by the participants and occupying high priorities in sectoral agendas could be a matter of smaller in-house investigations in libraries, funded by local authorities, academic institutions or foundations. Their co-ordination could help to maintain a sectoral balance and serve as another monitoring device establishing the general direction of library research. The results of the project also can be used in the lobbying activities in governmental and other funding agencies.

Finally, the research agenda built on the results of this study can guide the aims of the Swedish School of Library and Information Science at the University of Borås. Library and information science researchers usually pursue the issues that are grounded in professional work and activity of libraries/information agencies in society. Nevertheless, the agendas of the

researchers and the practicing librarians rarely meet. Despite many factors that keep them apart, we think that this is a significant step to bring them together within a framework of 'Research for a library profession.'

Acknowledgements

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Appendix I – The final Round 1 questionnaire

SWEDISH LIBRARY ASSOCIATION AND

SWEDISH SCHOOL OF LIBRARY AND INFORMATION SCIENCE

A DELPHI STUDY ON RESEARCH NEEDS IN LIBRARIANSHIP

PANEL QUESTIONNAIRE

Please read the following instructions carefully before beginning to rank the topics.

In the process of searching for research themes we gathered over 200 specific topics and questions. Clearly, to compile all of these into a questionnaire would have put much too heavy a load on the panel members. Therefore, we have grouped individual topics into relatively broad issues and have provided an explanation of the kinds of topics each issue covers by listing smaller research topics and narrower research questions, most of which were suggested by Swedish librarians. These issues were identified as the main elements constituting library practice: policy and legislation, information resources, information users, information technologies and tools, information professionals (librarians), library and information services, and information management. Information management is divided into two parts: high level strategic issues and the management of library operations.

The categorization of items is relative, as sometimes it is quite problematic to assign a topic (or a narrower question) only to one broad issue. Thus, you will find the problems of human resource management assigned to the topic 6: The changing profession (not to 5: Library management), and virtual reference service in topic 3: Users (not 7: Service delivery). For this reason, we recommend that you take time to read through the questionnaire as a whole before beginning to score the items.

You may either return the questionnaire by e-mail to delphistudy@hb.se or print out the questionnaire and return it by mail to Maria Lindh, Delphi Investigation, Bibliotekshögskolan, Högskolan i Borås, 501 90, Borås.

Scoring the items:

To score an item, if your word processor allows, highlight the score you wish to assign, e.g.,

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

or, replace the number with a capital X, e.g.,

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | **X** | 8 | 9 | 10 | Very high priority

If you decide to print out the questionnaire and return by mail, simply circle the score you wish to assign, e.g.,

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.   Library policy and legislation issues

1.1   Lessons for the future from the historical development of libraries.

[*Adaptable to libraries of different types.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.2   Factors affecting the formation of national library and information policy in relation to developments in technology, economics, politics and society.

[Including: *The role of the library lobby (movement) in legislation process and on the accepted laws and regulations. The evidence base of library policy: from legal deposit to privacy and data protection. National library agenda: issues, solutions, actors. Library policies regarding sponsors, cooperation partners, exhibitors, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.3 Relationship between the national legislative process, the development of library policy and service delivery.

[For example: *Essential principles of national library legislation. The impact of national library law and legislation on different library types. Legal deposit in Sweden: problems and solutions. The impact of the national library law on school library roles and functions. National library policy: what should it be to support the development of municipalities and regions*? *How to translate policy document's values (e.g., Children's rights Convention) into library strategy and implement in library work?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.4   The changing roles of libraries in their communities. New functions, new goals, new meanings, new services.

[*Adaptable to libraries of different types and covering: Changing requirements from society. Competition with local business and other organizations. Provision of additional services such as coffee-shop, bookshop, etc. Libraries as "agents of change" in communities. Regional library role in development, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.5   The economic significance of libraries and library services in academia, organizations, local community, and society.

[Including: *Macroeconomics of the library sector. Library's economic value in society. Economic effectiveness of libraries. Library role in the information market. Library as a player in the book market. Revenue generation: ethics, politics, economics, strategies, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.6   Democracy, diversity, inequality, bias and discrimination in the provision of library services: guidelines for policy development.

[For example: *Impact of access to ideas through libraries and potential library barriers to intellectual freedom. Intellectual freedom of children and youth in relation to library work. General policies of access to the Internet. Digital inequality of library users. Library policies regarding groups of disadvantaged users, e.g. disabled, dyslexic persons, immigrants, minorities, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

1.7   What are the implications of the 'European Economic Space' for the future of libraries in Sweden?

[For example*: European co-operation of libraries. Competition from international information providers.*]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

1.8   Developments in scholarly communication and their impact on, and support from, libraries.

[For example*: New modes of publishing and their consequences for libraries. Changes in quality assessment, funding and promotion procedures in academia and demands for new library services and competence (bibliometric services).Library response to changing information culture*.]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

1.9 The mapping of library and information services in Sweden.

[*Adaptable to libraries of different types. Including: Information infrastructure in Swedish libraries (throughout the country). Mapping school library services throughout the country, etc.*]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 1.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

2.   Research issues relating to the acquisition, organization, digitization, etc., of library and information resources and collections.

2.1   What factors currently affect acquisition, access and collection development in libraries?

[For example, *What legal issues present new challenges for collection development? What is the impact of the changing forms and variety of information resources? What techniques are appropriate for guiding collection development? How may integrated systems and innovative supply chain aid the collection development process? What are implications of differentiated media use for library collections, especially increasing variety of resources for children? Collaborative collection building and resource sharing. Etc.*]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

2.2   Guidelines for the development of modern collections: resources and technologies.

[For example: *What strategies and techniques of digitization are appropriate for different libraries? What standards and principles for digitized content are appropriate for different libraries? How may content management systems be applied in the management of digital resources? What are appropriate ways for integration of digital and analogue content in hybrid libraries? Role of a library in a big digitization project, etc.*]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

2.3   The role of new digital media in scholarship and research.

[For example*: Institutional archive: library or university function (attitudes of librarians and faculty.) New forms of science communication effect on public library collections. Increased access to research publications and data through digital libraries. Value and reliability of internet resources and their inclusion in library collections (including school libraries), etc.*]

<div align="center">Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority</div>

2.4   Digital resources and their management.

[For example: *What copyright issues (incl. copyright on records) affect the management of digital resources? What new demands do new forms such as e-books and digital audio books give rise to? What issues does the licensing of databases introduce into library management? Digital talking books in library collections, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

2.5   Comparative study of digitization projects in Swedish libraries

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

2.6   Conservation and preservation of (digital) library, museum and archive resources.

[Including: *Multi-media resources and moving image archives. A study of the implications of new technologies and new storage media on issues of preservation in libraries. Cultural heritage issues in libraries, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

2.7   Measuring the effectiveness of library acquisitions and collections.

[For example: *How library resources are used today: detailed statistics for different libraries, types of resources, and media? What are the relations between selection, acquisition, collection and loans. How can acquisition and collection development influence circulation rates? How to measure the effectiveness of resource sharing? etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 1.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

3.   Users

3.1   The implication of user studies for library design and services.

[For example: *Library user surveys – what do they actually say? Real needs of adults for library. Capturing use and users of modern academic libraries. Library services for researchers, awareness of library services by researchers. Qualitative studies of users searching online for building better interfaces. Research on users forthe design of a library. Local user studies, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.2   Developing the library as a creative space.

[For example: *Library an education institution or leisure/pleasure experience place? Necessity of reading rooms and spaces in libraries with digital collections. Innovative library initiatives. Users attitudes to the display of different library items. Roles of small distant library branches for users. Library as a meeting place, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.3   'Selling the library': marketing library and information services to different user groups.

[For example, *A study of current marketing practice in libraries. Effectiveness of e-marketing of*

library services. Reaching new user groups: business services in public libraries, services for minorities (immigrants, handicapped, etc.), innovative forms of attracting low skilled users. The group of young adults. Information channels for the elderly, etc.]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.4   Reference service in the digital age: impact of technology, identifying new needs.

[For example: *Changing function of a reference service. Users' need for web portals. Reference interviews on the internet (how to evaluate user satisfaction and impact). Reference service assessment in relation to information literacy levels, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.5   The impact on library users of activities for the promotion of reading and literature.

[For example: *Readers advisory function and challenges in libraries. Evaluation of conversations about books and other reading promotion means. Usage and usefulness of academic subject guides (recommendatory bibliographies or equivalents). Mediating literature.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.6   Reading research and its value for library development.

[For example: *Children's reading development, reading interests and knowledge acquisition. Children's experience of reading and how it affects their future development. Reading habits of young adults. Reader development through library initiatives. Impact of school libraries on reading achievements. Impact of libraries on adults' reading activity, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.7   The impact of the library programmes on learning.

[For example: *Children's (multiple) language development and libraries. Development of music listening skills in library. Support for teaching and discovery of plagiarism. Development of transferable skills in library. Work at school libraries with young children. Teachers' information behaviour and library use.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.8   Guidelines for the development of information literacy programmes in libraries of all types.

[For example: *Information literacy standards: development and applications. Current information literacy projects in libraries and their effect. Evaluation of user education in libraries. Value of teaching students information searching for studies. Are information literate students better in finding jobs, writing thesis, etc. Contextualising library training at the university. Critical approach to sources and library role. Development of information literacy in school library. How to use new interactive technologies for teaching information competence?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.9   Children and libraries. Developing library service to children in the digital age.

[For example*: Promoting libraries for children. Children's needs, behaviour and attitudes towards libraries. Equal library service for children. How to deal with problem children in libraries? Libraries and family relationships. Children's use of interactive services (Library 2.0), etc. How to measure children's usage of libraries: does it grow or diminish? How to increase children's activity and influence?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

3.10   Services to specific user groups.

[For example: *Need for reviews of evidence as an information need. Military library role and function. Priority users in academic libraries: students or researchers. Young adults as a specific user group. Immigrant children services. Health libraries support for social work. Support for immigrants, disadvantaged persons, dyslexic students, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 1.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

4.   Technology and tools for library resource management

4.1   Developing new search and retrieval systems for new materials and modes of access.

[For example: *Cross-searching (meta-searching, federated searching): problems and solutions. Usability of a meta-search interface. Use of federated searching by different user groups. From catalogue description to search window. Search and retrieval for multilingual collections, images and images in books. Access to moving pictures in libraries, special collections and archives, donations in libraries, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.2   Factors affecting the future of the library catalogue.

[For example: *Book supply and national cataloguing systems vs. need for local cataloguing. Evaluation and perception of OPACs by librarians and library users. Integration of catalogues and digital collections. Cataloguing for digital libraries. Social cataloguing (Catalogue 2.0): experience and results. Quality of catalogues – the changes in perception and techniques. Customisation of catalogues for children's use. Consequences of the catalogue's integration with library Web-site. Usage of metadata for different document types and content. How users search in catalogues, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.3   A comparative study of the use of the search functions of library catalogues and Web search engines.

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.4   Changes in classification, shelving systems and other knowledge organization tools.

[For example: *Subject headings in full-text requirements. Taxonomies or folksonomies. Standards for image descriptors on children's books. Alternative shelving systems (not usual*

classification) for libraries. Management of non-fiction material: what is achieved by this division?]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.5   Evaluation of digital library software: use of DL software vs. use of repository software.

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.6   Implementation of wireless networks in libraries.

[For example: *Potential for service development. Acceptance by staff and users. Investigation of potential health hazards, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.7   Managing new technology for library work.

[For example: *Use of RFID, RSS feeds, technology for user education, public workstations, broadband for rural communities. Thin vs. thick client technology in libraries. Technology innovation generally.*

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.8   Virtual reality and the library

[For example: *library presence in Second Life, use of Second Life for user education, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

4.9   A study of the implications of new technologies and new storage media on issues of preservation in libraries.

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 1.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

5.   Library management I – Strategy and co-operation

5.1   A survey of the current development policies and strategies of libraries of different types.

[Examples?]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.2   Strategic planning of library and information services.

[Including: *Usage of environmental scanning information for strategic planning, sources and methods of scanning environment. Factors affecting strategic planning, actors involved in strategic planning for the library. Leading strategic information initiatives. Sustainable development in libraries. Criteria for planning new library buildings, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.3   What modes of cooperation and collaboration among libraries and other 'memory institutions' are appropriate in the digital age?

[Including: *What modes are currently employed, and with what success? Collaborative collection building at school libraries. Resource sharing through various means in libraries. Sharing*

resources among different types of institutions (libraries and museums). Developing common reference services.]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.4   Library co-operation with other institutions.

[For example: *The librar'ys role in school access to literature. Library co-operation with children's day-care centres, open pre-school institutions. Libraries and elderly care institutions. Hospital libraries, prison libraries, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.5   Library integration and collaboration.

[Including *library mergers, collaboration and cooperation – sectoral and cross-sectoral. School and public library integration: how to ensure equal service for both publics, how library placement affects functions in integrated activity, resource allocation and accountability impact on services, professional responsibility in an integrated library. What is the impact on collaboration of licensed access agreements?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.6   Organization and re-organization of library structures.

[For example: *What are the results of merging library functions with other service functions? Interaction of changing structures with library culture. Organizational learning in libraries.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 5.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

Library management II - Management of library work

5.7   How does the nature of the parent organization structure and culture affect the management of library services?

[*Adaptable for all types of libraries. For example: Interactions between a parent organizational structures and cultures and library structures and cultures. Re-organization challenges for libraries (new and future ones). Organizational structure for providing library services in HEIs converging with other information structures. Management of collaboration in multi-campus universities. New organizational structures for public libraries. Management processes in multi-branch systems.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.8 The economics of library and information services.

[Including microeconomic issues, such as: *Funding processes and methods. Local political issues and competition for resources. Budgeting policies and models of different library types. Outsourcing library jobs (e.g. cataloguing). Economic viability of "big deals". Cost saving*

through consolidating IT systems. Cost-benefit analysis of service provision and impact of the 'access mode' of provision. Current practice and future possibilities for revenue generation in support of services. Interlibrary loan: costs of exchange in relation to buying/licensing, etc.]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.9   Applying information technology in libraries: a study of process and problems.

[Including: *Relationships of system vendors and librarians. Library automated systems – innovative features and functionality. Relations between projects and routine activities in libraries. How does the introduction of ICT change library routines? Do technologies save time for service delivery? Do technologies change quality of services and how?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.10   Influence of research on practice.

[For example: *Where is the evidence for evidence-based practice? A study of the sources used by librarians to support organization development and practice. What are the effective methods and forms of implementation of research results for improvement of library work, raising quality?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.11   Security issues for libraries in the digital world.

[For example: *Risk management and disaster prevention. Management and recovery in libraries and archives services. Security of library resources and interactions. Data retention, preservation, protection and privacy in libraries (archives and museums)*].

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

5.12 Evaluation of library work effectiveness and impact.

[For example: *What should be evaluated in different types of libraries? Development of evaluation methods and metrics for library work. Best practice issues. Value of patient libraries. What are the best ways and methods of demonstrating library value for politicians, community, funders? Impact of different access modes on loans (compact shelves, combination of open and closed, open and digital etc.) etc.?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 5.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

6.   The changing profession

6.1   Librarians in society: a study of the public image and status of librarians.

[Examples]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.2   The nature of librarianship as a profession: ethics, standards, core values and competencies of librarians.

[*For example: Librarianship as a design profession – applying design principles in library work. Professional standards and qualifications and de-professionalisation in LIS. Core value and core competence of library profession. Codes of ethics of librarians.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.3   Job satisfaction and identity: what contributes to job satisfaction and what reduces it?

[For example: *Salary patterns in academic and other types of libraries. Professional identities in academic and other types of libraries. Why do librarians go to conferences?*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.4   The role and function of professional associations in the development of the profession.

[Including*: Solidarity in the library profession. The attractiveness of professional associations to professionals. The agenda of library associations.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.5   The librarian in the process of education.

[For example*, Research into the multiple roles of a school librarian. Does school librarian with LIS education make a difference on students' achievements? What is the role of the school librarian as a support for learning? Collaboration between school librarians and teachers. The professional role of a school librarian.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.6   Library and archives manpower for the 21st century: a study of required competencies, skills, qualities and values.

[For example: *Forms and methods of increasing professional competency of librarians and on-the-job training and mentorship. Entry requirements for the library profession. Competencies of a children's librarian. Need for specific library competencies, new demands (cataloguers, bibliographers, classification specialists, etc.). Skills of a virtual reference librarian. Professional development system for librarians, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.7   Human resource management in libraries.

[Including*: Managing the virtual librarian. Composition of the workforce in academic libraries. Communication among librarians with different cultural backgrounds. Motivation, forms and methods of professional development, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

6.8   What is leadership in library service?

[For example: *Main features of library leaders. A study of leader behaviour and contingent factors. Why is it so difficult to recruit library managers. How to lead a library in a small community and in "a consensus organization", etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 6.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

7. Service development and delivery

7.1   Factors affecting the strategic development of new library services, including the reconsideration of established services

[For example: *Customer led service design. Balanced resource and activity supply in libraries (non-fiction vs. popular fiction, reading vs. shows, videos/computer vs. fiction, etc.). Features of internet access in Swedish libraries. Design approach to service delivery. Developing new service and staffing models for mediated information services. Alignment of library services with university strategies*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.2   Libraries, learning and education: studying the impact of library and information services.

[For example: *Role of the primary school library in education. Impact of school libraries on study results of school children. Public library's role for schools without libraries. School library as a learning environment. Library function in blended learning and e-learning. Library's role in adult education. Library integration with virtual learning environments, etc.]*

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.3   Fit for purpose: the design of library Websites for content delivery to user groups.

[For example: *Web-site design for libraries: current practices and guidelines. Web-sites of school libraries. Community information on the libraries' web-sites. Optimal search for library web-site. Validity of web-sites. Usability of web library services for dyslexic and disabled students, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.4   Benefits, costs and problems of library applications of Web 2.0 applications. (Blogs, wikis, social networking, etc.)

[For example: *Practical applications of Library 2.0 and the effect on library services. Interactive digital services: co-ordination of systems. Blogs and wikis use in libraries. Swedish biblioblogs sphere. Podcasting in libraries. Videoconferencing for libraries, archives and museums (e.g. interaction with schools). Applications of gaming technology for learning, literacy development and community development, etc.*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.5   Public perception of the 'library' in the digital age and its relationship to service development.

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.6   The impact of major digitization projects (national and international – e.g., Google, Microsoft) on

library services.

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.7   The need for information services in business and industry.

[For example: *Types of users and their needs in industry and business. Regular information delivery service – demand and best practice (bevaknings profiler). Access to information services in small enterprises, etc.]*

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.8   The impact of digital services on the use, usability and viability of library services.

[Including: *the ways to increase effectiveness of virtual reference services*]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

7.9   Guidelines for performance and impact evaluation of library and information services (including digital services).

[Including: *Metrics for improvement in information services. Measurement of use of electronic resources. Evaluating library services for children. Quality of web-sites for children. Impact of library environment elements on delivery of services (e.g. "Book a librarian" service room). Auditing and quality evaluation of virtual library services in Sweden. Evaluation of virtual reference service*, etc.]

Very low priority | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Very high priority

Please specify the issue you consider to be of most importance in this area. Indicate the number (e.g. 1.1)

If something else is missing in this area that you consider to be of the utmost importance, please formulate here:

THANK YOU

Thank you for helping with our investigation. We hope you have found the exercise interesting and stimulating.

When all of the panel responses have been received we shall analyse the scores and rank the topics accordingly. We shall then send you the ranked list of topics and ask you to re-score them in the light of the rankings received. The aim of this is to enable each panel member to benefit from the opinions and judgements of the rest and to re-score the items in the light of those judgements.

We hope to send out the second questionnaire by the end of August.

Appendix II – The panel members and Workshop participants*

Albertsson, Anna-Karin	Jonsson, Kjell
Alexandersson, Saga	Kronkvist, Bitte
Alsbjer, Peter	Larsson, Ann-Louise
Atlestam, Ingrid	Lalloo, Inga*
Axelsson, Anna-Stina	Lindblom, Jonas
Barkanowitz, Detlef	Lindh, Maria*
Bergqvist, Christer	Lindqvist, Britt-Inger
Borg, Katinka	Ljungdahl, Anne
Boström, Erik	Lundgren, Lena*
Bytoft Nyaas, Eli	Lunneborg, Eva
Carlsson, Håkan	Lyngfelt, Anna
Claesson, Lo	Magnusson, Anna Maria
Deppert, Astrid*	Magnusson, Elinor
Edebro Sikström, Inger	Martner, Ewa
Ekberg Andersson, Annelie	Nelke, Margareta
Eliasson, Anette*	Nilsson, Adam
Enström, Madelein	Nilsson, Monica
Eriksson, Bibi	Nygren, Åke
Eriksson, Jörgen	Nystrőm, Viveca
Ernerot, Frederik*	Olsson, Kerstin
Fernvall, Ylva	Oxenmyr, Åsa
Fors, Gunilla	Persson, Christina
Fredriksson Adman, Anna	Ridderstad, Per S.
Fridsäll-Emilsson, Elisabeth	Rondahl, Sara
Garbergs-Gunn, Christina	Rutquist, Anna Christina
Gram, Magdalena	Rydquist, Lars*
Grőnlund, Lena*	Rydsjő, Kerstin*
Gullstrand, Anna	Sahlin, Gunnar
Hansson, Birgitta	Sandin, Amira Sofie
Hansson, Johanna	Sandstedt, Birgitta
Hansson, Krister	Sarge, Viktor
Harnesk, Jakob	Skoglund, Lena
Hed, Helen*	Stenbäck, Eva-Lotta
Hedberg, Gunnel*	Svensson, Ingrid
Hederén, Anne	Särnmark, Britta
Hell, Maud	Tank, Elsebeth
Herbertsson, Lars-Håkan	Torhell, Catta
Hjort, Madeleine	Törnfeldt, Maria*
Holmqvist, Anette*	Undorf, Wolfgang
Holmqvist, Christer	Wedborn, Helena
Hultén, Ole	Wiklund, Ann*
Huntington, Eva*	Zetterberg, Karin*
Höiseth, Terje	Åberg, Ingela
Ingemansson, Mary	Åkerberg, Anna
Isberg, Catharina*	Ögland, Malin*
Jones, Nick	

Appendix III – Tables

Table 1: Ranking of research topics, derived from mean scores of respondents (first round)

Research theme	All resp. ranks	County ranks	Public ranks	Acad. ranks	School ranks	Special ranks
7.2: Libraries in education	1	4	6	3	2	22
1.4: Changing roles of libraries	2	2	11	15	7	4
3.7: Impact of the library programmes	3	6	4	9	5	20
5.12: Evaluation of library work	4	7	5	12	12	6
3.8: Guidelines for information	5	20	35	4	2	8
3.9: Children and libraries	6	3	2	26	7	42
6.5: Librarian and education	7	11	27	5	1	39
3.2: Library as a creative space	8	1	7	31	11	40
7.9: Evaluation of services	9	18	11	7	17	8
3.6: Reading research	10	9	3	40	4	44
3.3: Marketing library and information	11	5	9	35	21	10
1.5: Economic significance of libraries	12	35	8	9	24	3
1.8: Scholarly communication	13	46	41	1	27	2
3.1: Implication of user studies	14	8	10	8	39	23
3.5: Impact of the reading promotion	15	13	1	33	9	53
5.5: Library integration	16	21	16	35	6	25
3.4: Reference service in the digital	17	18	11	19	14	29
7.6: Impact of digitisation projects	18	29	20	6	43	5
7.8: Impact of digital services	19	25	16	13	39	17
7.1: Strategic development of new	20	10	16	22	29	34
7.4: Web 2.0 application in libraries	21	27	15	19	26	27
5.10: Influence of research	22	31	25	14	16	34
1.3: National library legislation and	23	31	22	50	10	18
7.3: Design of library web-sites	24	15	22	28	15	48
2.3: Digital media in research	25	55	39	2	18	7
4.2: Future of catalogues	26	30	27	21	19	29
1.6: Democracy, diversity, inequality	27	14	16	50	23	36
3.10: Services to specific user groups	28	16	14	38	39	28
5.2: Strategic planning in libraries	29	28	22	28	46	16
2.4: Digital resources management	30	38	35	9	38	11
5.4: Library co-operation with other	31	21	20	54	21	20
6.6: Manpower for 21st century	32	33	27	17	46	18
5.9: Applying IT in libraries	33	41	27	30	32	12
1.2: National legislation process	34	38	34	45	20	13
2.7: Effectiveness of library	35	16	35	32	35	40
4.1: Developing search/retrieval	36	35	43	22	35	13
5.6: Organization and reorganization	37	21	31	35	30	47
6.8: Leadership in libraries	38	11	25	40	43	51
4.3: Use of search functions	39	41	33	22	24	50
7.7: Business & industry information	40	43	50	38	52	1
4.7: Managing new technology	41	34	38	45	30	32
7.5: Public perception of the library	42	26	32	44	51	46

2.2: Collection development	43	50	46	25	27	33
2.1: Factors affecting collection	44	47	54	17	43	29
5.8: Economics of library services	45	47	51	27	53	15
4.5: Evaluation of digital library	46	44	47	40	35	36
5.3: Cooperation of memory	47	40	49	50	32	36
2.6: Conservation/preservation of	48	50	56	16	56	26
5.1: Library policies and strategies	49	24	39	56	49	54
1.9: Mapping of library services	50	44	57	59	13	42
4.9: Implications of new technology	51	50	47	47	42	44
4.4: Change in classification systems	52	37	42	57	34	56
5.7: How parent organizations affect	53	54	43	33	53	49
5.11: Security issues in libraries	54	59	58	40	46	24
6.2: Librarianship as a profession	55	53	45	47	49	57
1.7: European Space	56	61	51	53	55	52
6.7: Human resources management	57	56	53	49	58	59
4.8: Virtual reality	58	49	55	55	64	58
6.3: Job satisfaction and identity	59	57	58	61	62	63
2.5: Digitization projects in Sweden	60	63	63	58	61	55
1.1: Historical development of	61	60	62	60	57	61
4.6: Implementing wireless networks	62	58	64	61	59	61
6.1: Public image of librarians	63	61	60	64	63	60

Table 2: Ranking of research topics, second round, present significance derived from mean scores of respondents

		Ranks based on present significance				
Topic	All rank	County rank	Public rank	Acad. rank	School rank	Special rank
3-7 Impact of the library programmes on learning	1	3	2	3	2	14
1-4 Changing roles of libraries	2	1	6	18	5	7
7-2 Libraries in education	3	10	9	6.5	4	5
3-9 Children and libraries	4	2	1	27	3	32
5-12 Evaluation of library work	5	11	4	9	13	21
6-5 Librarian and education	6	22	21	4	1	35
3-4 Reference service in the digital age	7	21	12	13	18	6
3-5 Impact of the reading promotion	8	4	3	33	6	31
3-3 Marketing library and information services	9	14	5	24	17	12
7-4 Web 2.0 application in libraries	10	16	7	16	23	20
2-4 Digital resources management	11	30	20	8	19	1
3-1 Implication of user studies	12	12	11	11.5	34	17
3-2 Library as a creative space	13	5	8	25	12	38
7-1 Strategic development of new services	14	7	10	22	31	15
1-5 Economic significance of libraries	15	35	15	6.5	15	8
3-8 Guidelines for information literacy programmes	16	28	32	5	7	25
4-1 Developing search/retrieval systems	17	25	22	14	21	13
5-4 Library cooperation with other institutions	18	6	31	23	11	24
7-3 Design of library web-sites	19	17	14	30	14	23
2-3 Digital media in research	20	40	29	2	20	4
7-6 Impact of digitisation projects	21	32	17	11.5	26	9
7-9 Evaluation of services	22	18	24	18	24	19
3-6 Reading research	23	8	16	37	9	39
5-2 Strategic planning in libraries	24	23	18	20.5	35	18
6-8 Leadership in libraries	25	9	13	30	38	29
7-8 Impact of digital services	26	29	23	20.5	32	11
1-8 Scholarly communication	27	41	40	1	33	2
5-5 Library integration	28	19	35	28	10	30
2-6 Conservation/preservation of resources	29	34	37	10	30	3
5-10 Influence of research	30	31	25	15	36	27
1-2 National legislation process	31	20	27	35	16	37
6-6 Manpower of 21st century	32	36	19	18	29	22
3-10 Services to specific user groups	33	13	28	37	39	33
1-3 National library legislation and policy	34	24	33	39	8	40
5-9 Applying IT in libraries	35	33	30	30	27	26
1-6 Democracy, diversity, inequality	36	15	34	41	25	28
5-8 Economics of library services	37	39	36	32	41	16
4-2 Future of catalogues	38	26	41	37	28	36
2-7 Effectiveness of library acquisitions	39	27	26	34	42	41
2-1 Factors affecting collection development	40	38	38	26	37	34
7-7 Business & industry information needs	41	42	39	40	40	10
1-9 Mapping of library services	42	37	42	42	22	42

Table 3: Ranking of research topics, second round, future significance derived from mean scores of respondents

Topic	All	County	Public	Acad	School	Special
			Ranks based on future significance			
3-7 Impact of the library programmes on learning	1	3.5	5	3	1.5	14.5
1-4 Changing roles of libraries	2	1	1	19	1.5	12.5
7-2 Libraries in education	3	9.5	10	11.5	4	11
5-12 Evaluation of library work	4	13.5	5	7	12	17
3-9 Children and libraries	5	2	2	34	5	25.5
3-3 Marketing library and information services	6	11.5	3	26	12	7
3-5 Impact of the reading promotion	7	5.5	5	25	6	33
3-1 Implication of user studies	8	7.5	7.5	15	33	12.5
6-5 Librarian and education	9	20.5	21.5	4	3	35.5
7-6 Impact of digitisation projects	10	24.5	16.5	5	24	3.5
7-1 Strategic development of new services	11	3.5	7.5	21.5	31.5	19
2-4 Digital resources management	12	29	24.5	7	16.5	1
1-5 Economic significance of libraries	13	30.5	13	7	16.5	16
7-4 Web 2.0 application in libraries	14	13.5	11	15	22	31
5-4 Library cooperation with other institutions	15	9.5	26.5	23	14	19
3-4 Reference service in the digital age	16	17.5	14.5	17.5	20	21
4-1 Developing search/retrieval systems	17	23	24.5	15	19	9
3-2 Library as a creative space	18	5.5	9	29.5	16.5	38
7-9 Evaluation of services	19	20.5	21.5	16	25	19
5-2 Strategic planning in libraries	20	26	16.5	20	38	7
2-3 Digital media in research	21.5	40	31.5	2	22	5
7-3 Design of library web-sites	21.5	15	18	27.5	16.5	22
3-6 Reading research	23	11.5	14.5	32	10	37
3-8 Guidelines for information literacy programmes	24.5	34	32	10	8	30
5-5 Library integration	24.5	17.5	31.5	24	7	24
7-8 Impact of digital services	26	28	20	21.5	30	7
6-8 Leadership in libraries	27	7.5	12	32	34	28.5
2-6 Conservation/preservation of resources	28	30.5	35	11.5	35	2
5-10 Influence of research	29	24.5	23	13	29	28.5
1-8 Scholarly communication	30	41	40	1	26.5	10
6-6 Manpower of 21st century	31	36.5	19	17.5	28	23
1-2 National legislation process	32	22	29	29.5	12	39
3-10 Services to specific user groups	33	16	28	36	41	25.5
5-9 Applying IT in libraries	34	36.5	33.5	27.5	26.5	27
1-6 Democracy, diversity, inequality	35	19	37	40	22	32
1-3 National library legislation and policy	36	27	36	39	9	42
5-8 Economics of library services	37	37	33.5	35	39	14.5
2-1 Factors affecting collection development	38	38	38	32	36.5	35.5
2-7 Effectiveness of library acquisitions	39	35	26.5	37	42	41
4-2 Future of catalogues	40	33	41	38	36.5	34
7-7 Business & industry information needs	41	42	39	41	40	3.5
1-9 Mapping of library services	42	39	42	42	31.5	40

Table 4: Descriptive statistics – all respondents, Round 1

Rank	Topic	N	Min	Max	Mean	SD
60	1.1: Historical development of libraries	77	1	10	4.7273	2.257
38	1.2: National legislation process	78	2	10	6.8205	2.155
26	1.3: National library legislation and policy	77	1	10	7.1299	2.381
2	1.4: Changing roles of libraries	78	2	10	8.2308	2.057
14	1.5: Economic significance of libraries	78	1	10	7.5769	2.036
=28	1.6: Democracy, diversity, inequality	78	1	10	7.0641	2.223
57	1.7: European Space	78	1	10	5.4615	2.289
10	1.8: Scholarly communication	76	2	10	7.6447	2.249
50	1.9: Mapping of library services	76	1	10	6.1184	2.668
44	2.1: Factors affecting collection development	78	1	10	6.4744	2.255
43	2.2: Collection development guidelines	77	1	10	6.5065	2.388
24	2.3: Digital media in research	78	1	10	7.2051	2.264
27	2.4: Digital resources management	77	1	10	7.0649	2.208
61	2.5: Digitization projects in Sweden	76	1	10	4.6842	2.216
49	2.6: Conservation/preservation of resources	77	2	10	6.2597	2.430
33	2.7: Effectiveness of library acquisitions	77	1	10	6.9221	2.310
13	3.1: Implication of user studies	78	2	10	7.5897	2.085
8	3.2: Library as a creative space	78	2	10	7.8205	2.362
=11	3.3: Marketing library and information services	78	2	10	7.6282	2.210
16	3.4: Reference service in the digital age	77	2	10	7.4805	1.958
15	3.5: Impact of the promotion of reading	78	2	10	7.5128	2.312
=11	3.6: Reading research	78	3	10	7.6282	2.314
3	3.7: Impact of the library programmes on learning	78	2	10	8.1923	1.751
5	3.8: Guidelines for information literacy programmes	78	2	10	8.0256	1.823
7	3.9: Children and libraries	78	2	10	7.9615	2.009
=28	3.10: Services to specific user groups	78	2	10	7.0641	1.943
34	4.1: Developing search/retrieval systems	78	2	10	6.8590	2.362
25	4.2: Future of catalogues	78	2	10	7.1410	2.112
39	4.3: Use of search functions	77	2	10	6.7143	2.051
52	4.4: Change in classification systems	78	1	10	6.0513	2.313
46	4.5: Evaluation of digital library software	78	2	10	6.3718	2.046
62	4.6: Implementing wireless networks	78	1	10	4.5769	2.556
=40	4.7: Managing new technology	75	1	10	6.5867	2.337
58	4.8: Virtual reality	77	1	10	5.3766	2.661
51	4.9: Implications of new technology	77	1	10	6.0779	2.399
48	5.1: Library policies and strategies	76	1	10	6.2763	2.324
=28	5.2: Strategic planning in libraries	78	1	10	7.0641	2.182
47	5.3: Cooperation of memory institutions	78	1	10	6.3333	2.202
=31	5.4: Library co-operation with other institutions	78	1	10	6.9744	2.245
17	5.5: Library integration	78	3	10	7.4615	1.965
=35	5.6: Organization and reorganization	77	1	10	6.8571	2.132
53	5.7: How parent organizations affect library management	77	2	10	6.0130	2.280
45	5.8: Economics of library services	77	1	10	6.3766	2.379
=35	5.9: Applying IT in libraries	77	2	10	6.8571	2.057
=21	5.10: Influence of research on practice	76	2	10	7.2632	1.900
55	5.11: Security issues in libraries	77	1	10	5.8701	2.489
4	5.12: Evaluation of library work	77	1	10	8.0649	2.154
63	6.1: Public image of librarians	76	1	10	4.3816	2.326
54	6.2: Librarianship as a profession	77	1	10	5.8831	2.248
59	6.3: Job satisfaction and identity	77	1	10	4.7532	2.434
64	6.4: Role of professional associations	76	1	10	4.1842	2.189

Rank	Topic	N	Min	Max	Mean	SD
6	6.5: Librarian and education	77	1	10	8.0130	1.936
=31	6.6: Manpower for 21st century	78	1	10	6.9744	2.330
56	6.7: Human resources management	76	1	10	5.4868	2.295
37	6.8: Leadership in libraries	77	1	10	6.8442	2.565
=19	7.1: Strategic development of new services	76	2	10	7.3158	2.162
1	7.2: Libraries in education	76	4	10	8.4868	1.579
=21	7.3: Design of library web-sites	76	1	10	7.2632	2.029
23	7.4: Library applications of web 2.0	75	1	10	7.2533	2.225
42	7.5: Design of library web-sites	75	1	10	6.5733	2.372
18	7.6: Impact of digitisation projects	75	2	10	7.4533	1.995
=40	7.7: Business & industry information needs	75	1	10	6.5867	2.302
=19	7.8: Impact of digital services	76	2	10	7.3158	1.707
9	7.9: Evaluation of services	76	2	10	7.8026	1.898

Table 5: Descriptive statistics: all respondents, round 2 – current priority

Rank	Topic	N	Min	Max	Mean	SD
31	1.2: National legislation process	62	2	10	6.50000	2.086
34	1.3: National library legislation and policy	63	1	10	6.20635	2.215
2	1.4: Changing roles of libraries	64	4	10	8.12500	1.608
15	1.5: Economic significance of libraries	64	1	10	7.13281	1.988
36	1.6: Democracy, diversity, inequality	64	2	10	6.15625	2.205
27	1.8; Scholarly communication	60	2	10	6.73333	2.570
42	1.9: Mapping of library services	62	1	9	4.93548	2.339
40	2.1: Factors affecting collection development	64	2	9	5.71875	2.011
20	2.3: Digital media in research	64	2	10	6.98438	2.127
11	2.4: Digital resources management	63	4	10	7.30159	1.756
29	2.6: Conservation/preservation of resources	64	1	10	6.54688	2.309
39	2.7: Effectiveness of library acquisitions	64	1	10	5.81250	2.232
12	3.1: implication of user studies	63	1	10	7.26984	2.010
13	3.2: Library as a creative space	64	2	10	7.23438	2.114
9	3.3: Marketing library and information services	63	1	10	7.39683	1.810
7	3.4: Reference service in the digital age	64	2	10	7.43750	1.876
8	3.5: Impact of the promotion of reading	64	1	10	7.42188	2.238
23	3.6: Reading research	64	1	10	6.90625	2.335
1	3.7: Impact of the library programmes on learning	64	4	10	8.40625	1.540
16	3.8: Guidelines for information literacy programmes	64	1	10	7.10938	2.094
4	3.9: Children and libraries	64	3	10	7.75000	2.175
33	3.10: Services to specific user groups	64	1	10	6.25000	1.869
18	4.1: Developing search/retrieval systems	63	3	10	7.00000	1.934
38	4.2: Future of catalogues	64	1	10	5.85938	2.115
24	5.2: Strategic planning in libraries	64	1	10	6.81250	2.159
18	5.4: Library co-operation with other institutions	63	2	10	7.00000	2.140
28	5.5: Library integration	64	2	10	6.68750	1.983
37	5.8: Economics of library services	64	1	10	5.90625	2.128
35	5.9: Applying IT in libraries	64	2	10	6.18750	1.901
30	5.10: Influence of research on practice	62	2	10	6.51613	1.879
5	5.12: Evaluation of library work	63	2	10	7.65079	1.761
6	6.5: Librarian and education	63	2	10	7.50794	1.958
32	6.6: Manpower for 21st century	63	1	10	6.49206	2.206
25	6-8 Leadership in libraries	64	1	10	6.78125	2.207
14	7.1: Strategic development of new services	64	1	10	7.18750	2.077
3	7.2: Libraries in education	64	1	10	8.06250	1.884
18	7.3: Design of library web-sites	64	4	10	7.00000	1.709
10	7.4: Library applications of web 2.0	64	2	10	7.32813	1.861

21.5	7.6: Impact of digitisation projects	64	2	10	6.95313	2.089
41	7.7: Business & industry information needs	64	1	10	5.28125	2.769
26	7.8: impact of digital services	64	2	10	6.73438	1.664
21.5	7.9: Evaluation of services	64	1	10	6.95313	2.050

Table 6: Descriptive statistics: all respondents, round 2 – future priority

Rank	Topic	N	Min	Max	Mean	SD
32	1.2: National legislation process	61	2	10	6.574	2.093
36	1.3: National library legislation and policy	61	1	10	6.131	2.291
2	1.4: Changing roles of libraries	64	4	10	8.297	1.570
13	1.5: Economic significance of libraries	64	1	10	7.344	2.049
35	1.6: Democracy, diversity, inequality	63	2	10	6.206	2.149
30	1.8: Scholarly communication	63	2	10	6.746	2.652
42	1.9: Mapping of library services	63	1	9	4.778	2.268
38	2.1: Factors affecting collection development	64	1	10	5.750	2.101
21.5	2.3: Digital media in research	64	1	10	7.047	2.367
12	2.4: Digital resources management	63	1	10	7.429	2.006
28	2.6: Conservation/preservation of resources	63	1	10	6.921	2.158
39	2.7: Effectiveness of library acquisitions	64	1	10	5.719	2.340
8	3.1: Implication of user studies	64	1	10	7.547	1.999
18	3.2: Library as a creative space	64	1	10	7.094	2.328
6	3.3: Marketing library and information services	63	1	10	7.683	1.839
16	3.4: Reference service in the digital age	64	2	10	7.219	2.004
7	3.5: Impact of the promotion of reading	63	1	10	7.619	2.196
23	3.6: Reading research	64	1	10	7.000	2.344
1	3.7: Impact of the library programmes on learning	64	4	10	8.438	1.582
24.5	3.8: Guidelines for information literacy programmes	64	1	10	6.984	2.178
5	3.9: Children and libraries	64	3	10	7.766	2.173
33	3.10: Services to specific user groups	63	1	10	6.381	1.887
17	4.1: Developing search/retrieval systems	63	2	10	7.190	2.062
40	4.2: Future of catalogues	64	1	10	5.625	2.407
20	5.2: Strategic planning in libraries	63	1	10	7.048	2.203
15	5.4: Library co-operation with other institutions	63	2	10	7.238	2.006
24.5	5.5: Library integration	62	2	10	6.984	1.996
37	5.8: Economics of library services	64	1	10	6.094	2.209
34	5.9: Applying IT in libraries	64	2	10	6.219	2.066
29	5.10: Influence of research on practice	63	2	10	6.889	1.815
4	5.12: Evaluation of library work	64	2	10	7.906	1.688
9	6.5: Librarian and education	63	2	10	7.508	1.950
31	6.6: Manpower for 21st century	63	1	10	6.683	2.213
27	6.8: Leadership in libraries	64	1	10	6.938	2.246
11	7.1: Strategic development of new services	64	1	10	7.453	2.054
3	7.2: Libraries in education	64	1	10	8.016	1.890
21.5	7.3: Design of library web-sites	64	2	10	7.047	1.812
14	7.4: Library applications of web 2.0	63	1	10	7.317	2.256
10	7.6: Impact of digitisation projects	64	2	10	7.484	1.782
41	7.7: Business & industry information needs	64	1	10	5.391	2.832
26	7.8: Impact of digital services	64	2	10	6.969	1.773
19	7.9: Evaluation of services	64	1	10	7.078	2.148

Table 7: Selection of research topics for workshop

Research areas of future significance		
Academic	**Public**	**County**
1-8 Scholarly communication	1-4 Changing roles of libraries	1-4 Changing roles of libraries
2-3 Digital media in research	3-9 Children and libraries	3-9 Children and libraries
3-7 Impact of the library programmes on learning	3-3 Marketing library and information services	7-1 Strategic development of new services
6-5 Librarian and education	3-5 Impact of the promotion of reading	3-7 Impact of the library programmes on learning
7-6 Impact of digitisation projects	5-12 Evaluation of library work	3-2 Library as a creative space
5-12 Evaluation of library work	3-7 Impact of the library programmes on learning	3-5 Impact of the promotion of reading
1-5 Economic significance of libraries		
2-4 Digital resources management	3-1 Implication of user studies	3-1 Implication of user studies
3-8 Guidelines for information literacy programmes	7-1 Strategic development of new services	6-8 Leadership in libraries
		5-4 Library co-operation with other institutions
	3-2 Library as a creative space	
7-2 Libraries in education	7-2 Libraries in education	7-2 Libraries in education

School	**Special**	
	2-4 Digital resources management	
1-4 Changing roles of libraries	2-6 Conservation/preservation of resources	
3-7 Impact of the library programmes on learning	7-6 Impact of digitisation projects	
6-5 Librarian and education	7-7 Business & industry information needs	
7-2 Libraries in education	2-3 Digital media in research	
3-9 Children and libraries	3-3 Marketing library and information services	
3-5 Impact of the promotion of reading		
5-5 Library integration	7-8 Digital services	
3-8 Guidelines for information literacy programmes	5-2 Strategic planning of library services	
1-3 National library legislation and policy	4-1 Search retrieval	
3-6 Reading research	1-8 Scholarly communication	

Research areas of current significance		
Academic	**Public**	**County**
1-8 Scholarly communication	3-9 Children and libraries	1-4 Changing roles of libraries
	3-7 Impact of the library programmes on learning	
2-3 Digital media in research		3-9 Children and libraries
3-7 Impact of the library programmes on learning	3-5 Reading promotion	3-7 Impact of the library programmes on learning
		3-5 Impact of the promotion of reading
6-5 Librarian and education	5-12 Evaluation of library work	
3-8 Guidelines for information literacy programmes	3-3 Marketing library and information services	3-2 Library as a creative space
1-5 Economic significance of libraries		5-4 Library co-operation with other institutions
	1-4 Changing roles of libraries	
	7-4 Web 2.0 application in libraries	7-1 Strategic development of new services
7-2 Libraries in education		
2-4 Digital resources management	3-2 Library as a creative space	3-6 Reading research
5-12 Evaluation of library work	7-2 Libraries in education	6-8 Leadership in libraries
2-6 Conservation/preservation	7-1 Strategic development of	7-2 Libraries in education

of resources   new services

School   ## Special

6-5 Librarian and education   2-4 Digital resources
3-7 Impact of the library   management
programmes on learning
                                   1-8 Scholarly communication
3-9 Children and libraries   2-6 Conservation/preservation
7-2 Libraries in education   of resources
1-4 Changing roles of libraries   2-3 Digital media in research
3-5 Impact of the promotion of   7-2 Library impact on learning
reading   3-4 Reference service in the
3-8 Guidelines for information   digital age
literacy programmes
1-3 National library legislation   1-4 Changing roles of libraries
and policy   1-5 Economic significance of
                                   libraries
3-6 Reading research   7-6 Impact of digitisation
                                   projects
5-5 Library integration   7-7 Business & industry
                                   information needs

Items in two or more sectors		
Current	**Future**	**Occurring in both**
1-4 Changing roles of libraries	1-4 Changing roles of libraries	1-4 Changing roles of libraries
1-5 Economic significance of libraries	1-8 Scholarly communication	1-8 Scholarly communication
1-8 Scholarly communication	2-3 Digital media in research	2-3 Digital media in research
2-3 Digital media in research	2-4 Digital resources management	2-4 Digital resources management
2-4 Digital resources management	3-1 Implication of user studies	3-2 2 Library as a creative space
2-6 Conservation	3-2 Library as a creative space	3-3 Marketing library and information services
3-2 Library as a creative space	3-3 Marketing library and information services	3-5 Impact of the promotion of reading
3-5 Impact of the promotion of reading	3-5 Impact of the promotion of reading	3-7 Impact of the library programmes on learning
3-6 Reading research	3-7 Impact of the library programmes on learning	3-8 Guidelines for information literacy programmes
3-7 Impact of the library programmes on learning	3-8 Guidelines for information literacy programmes	3-9 Children and libraries
3-8 Guidelines for information literacy programmes	3-9 Children and libraries	5-12 Evaluation of library work
3-9 Children and libraries	5-12 Evaluation of library work	6-5 Librarian and education
5-12 Evaluation of library work	6-5 Librarian and education	7-1 Strategic development of new services
6-5 Librarian and education	7-1 Strategic development of new services	7-2 Libraries in education
7-1 Strategic development of new services	7-2 Libraries in education	
7-2 Libraries in education	7-6 Impact of digitisation projects	