Evidence based service change: remodelling the academic libraries for the post-digital era

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Abstract: During the past couple of decades, university libraries have changed their paradigm away from collection based services towards promoting the access and use of digital scientific resources. At the same time, evidence based library management techniques have been discussed widely. The need for adapting to the rapidly changing operational environment has meant that library management has had to change, now taking a more professional approach to making strategic and at the same time economically and professionally efficient decisions. This paper examines the role of library statistics on which to base library service redesign in one Finnish academic library. A special emphasis was placed on the trend analyses and the best way of presenting statistical data to the decision makers and how to conduct (inter)national level co-operation in the analysis and gathering of the statistics.

1. Paradigmatic changes in library management and document dissemination

The operational environment surrounding academic libraries has changed extensively in the past twenty years. The 1990's saw the end of the era of printed and collection monopolies with the birth of the digital dissemination of scientific documents, especially research journals. The move from printed journals towards to their digital counterparts took only one decade: in fact,

researchers started to discard the printed journals from the beginning of this millennium. This trend was accelerated by the mass-digitization projects started by scientific publishers.

New millennium started also saw digital revolution of the book culture. At the present most new monographs are published in both printed and digital versions. However, the Google book digitization project is a good example emphasizing this change.

There is already evidence of the next phase of scientific document dissemination. This is now being depicted as the post-digital era. This means that the users no longer seek products reminiscent of the printed era with its modes and conventions. Furthermore the way of obtaining, discussing and disseminating scientific data and results are evolving rapidly: this is clearly evident in new policies, e.g. open access, open data and open science as the new types of conducting science with the digital tools available not just to academics but also to students.

This has also changed the way academic libraries are managed. More efficient and professional ways of managing academic libraries have been presented and are being implemented. The global financial downturn, especially in Europe, has also forced new economies and increased efficiencies on academic libraries. During the digital era the paradigm of the collection oriented library became obsolete and today they need to focus on the user and his/her needs. In the post-digital world, co-operation, resource sharing and collective work is increasingly important. This means that the libraries will have to change their services and service provision protocols. (See also Wimmer 2009.)

This paper describes the use of the national statistics: these can be used as evidence on which a library can base its service change management (Eldredge 2000, 289 – 290 and Poll 2012). In the rapidly changing global environment, it is most likely that those libraries that have the courage and vision to evolve will not only become more efficient but also can help their users in managing the information tsunami.

2. National tools in Finland to allow evidence based management in libraries

Library managers and decision makers need valid and consistent tools for the evaluation of the library's impact on research, on science and on the society and for planning the library's future. In Finnish academic libraries, the tools applicable at both the library and the national level are user satisfaction surveys and the national library statistics.

The national end-user survey is aimed at the customers of the libraries of all library sectors and it is implemented as an online questionnaire. The customers

of the university libraries were asked about the impact of libraries on the quality of their work, study and other activities. The results from successive surveys provide a strong signal that the use of libraries improves quality of work and studies and the trend showing the positive impact on the work and studying of the customers of university libraries seems to be slightly increasing. The users were asked the question: "How have library services benefited your work, studies or other activities?" The share of those claiming that the library services had substantially benefited their work or studies increased from less than 50 % in 2008 to nearly 60 % in 2013 (see Figure1).
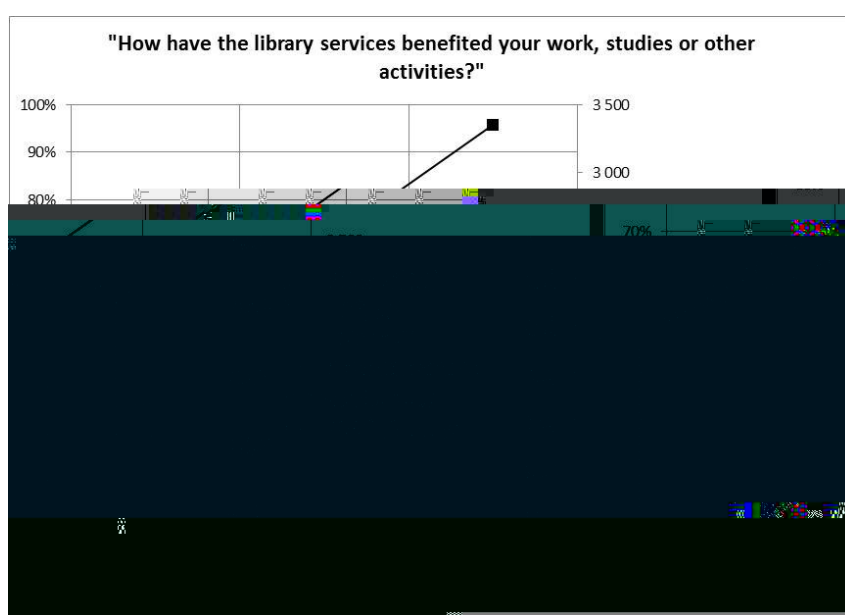

Figure1. User satisfaction seems to have increased among the end-users of Finnish university libraries in course of time. Source: The national end-user survey.

Another useful tool for the library manager is the Finnish Research Library Statistics Database that contains the annual statistics of all Finnish higher education institution libraries and several special libraries.

The statistics are collected according to the standard ISO 2789. It is important that statistics are collected according to guidelines with the focal information about the libraries and their operations since they are a reliable and important strategic tool. The database includes statistics as far back as the year 2002 and it has appeared to be a useful tool in developing the culture of benchmarking library services in the Finnish institutes of higher education.

The trends revealed by the statistics are especially interesting and can be used for in monitoring the effects of investments on library users: e.g., the electronic materials are becoming more popular in institutions of higher education in Finland (the universities and the universities of applied sciences) and the electronic materials seem to be cost-effective. Previously, this phenomenon was detected in the use of electronic journals (Laitinen 2010), but since 2009, the use of electronic books, also has increased rapidly.

In Figure2. one can see a comparison of use and cost of e-journals and e-books in Finnish institutes of higher education. It appears that the e-journals are still cost-effective, but this phenomenon is not yet so evident for e-books.
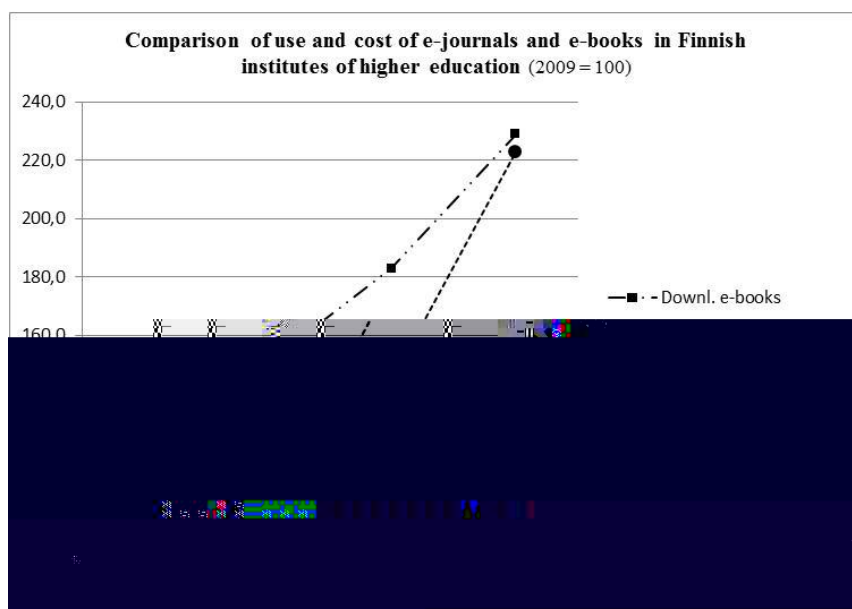

Figure2. Cost-efficiency of electronic materials in the Finnish institutes of higher education (the universities and the universities of applied sciences) can be concluded from more rapid growth of use compared with the cost. On the other hand, the time series shown here is too brief to allow one to make detailed conclusions. Source: Finnish Research Library Statistics Database.

3. Restructuring one academic library based on evidence – case UEF

The University of Eastern Finland (UEF) was established in 2010 as the result of the merger of the University of Joensuu and the University of Kuopio. With approximately 15,000 students and 2800 members of staff, the University of Eastern Finland is one of the largest universities in Finland. The university's campuses are located in Joensuu, Kuopio and Savonlinna, about 100 km apart

from each other. The library has three campus libraries and a joint library with the university hospital. It has 75 staff members.

The restructuring of the UEF library – as all of the Finnish university libraries - started during the 1990's. That period was actually first decade that combined both the digital revolution of the scientific document delivery along with an economic recession. During that time new management ideologies were also implemented in the Finnish higher education. A new era was born that emphasized global e-science, economic effectiveness and modern management.

With respect to individual academic libraries this meant that all the previous policies had to be revised almost overnight: budget cuts meant that the management had to undertake prioritization in resource allocation. At the UEF library, this meant that the two largest items of expenditure, i.e. space costs and labor costs, had to be examined carefully. (See also Juntunen & al. 2013 and Saarti & Juntunen & Taskinen 2010.)

In practice in the UEF this meant that no increase in the number of the staff could be expected. In fact the staff number declined due to the merger and the recent economical downturn in Finland. The most radical overhaul has been in the collection policy: the constant increase in the library premises during the printed era came to an abrupt end. The collection policy changed radically towards the e-resources and to the utilization of the National Repository Library in the long tail management and warehousing of the less extensively used printed resources.

These decisions were enforced by service process planning one aim of its was to automate all the possible library services and thus relocate manpower away from lending routines towards service and instruction tasks. At the management level, this was implemented with the aid of a quality management system where the emphasis was placed on evidence based change management.

The national statistics and surveys were utilized in data collection. All the library's services have set quantitative and qualitative goals for their actions and most of the indicators used are based on the national data collection. At the same time this provides tools for benchmarking the service level and comparing the efficiency of similar university libraries' in Finland. The fact that UEF library has been able to utilize this benchmarking to provide evidence of its efficiency in the service provision has also helped in budgetary negotiations with the University management: e.g. the application for funding automation investments were approved by the University although it had been the decided that there would be a zero growth budget.

The main aim in this change has been the move from a book warehouse towards an active and sought after partner in the academic community. The savings in

the costs of premises, as well as the reallocation of the staff resources away from routine work towards more academic work have both been utilized. This has meant that the teaching provided by the library has increased and also the library has been very active in implementing new tools for digital publishing and reporting for the benefit of the academic community. This definitely has helped the library in building its reputation as an academic partner.

The library management has been very careful in ensuring that the most radical changes especially in the collection policy have been based on the user feedback and the analysis of the usage. It has been noted that the increase in the collection use has been focused on digital library resources and at the same time other uses, i.e. loans of the printed books have actually been declining. This has also been cost-efficient (see Figure3). Although the costs of the digital library resources have increased the use, for example the number of downloads have increased much more (see Figure3).
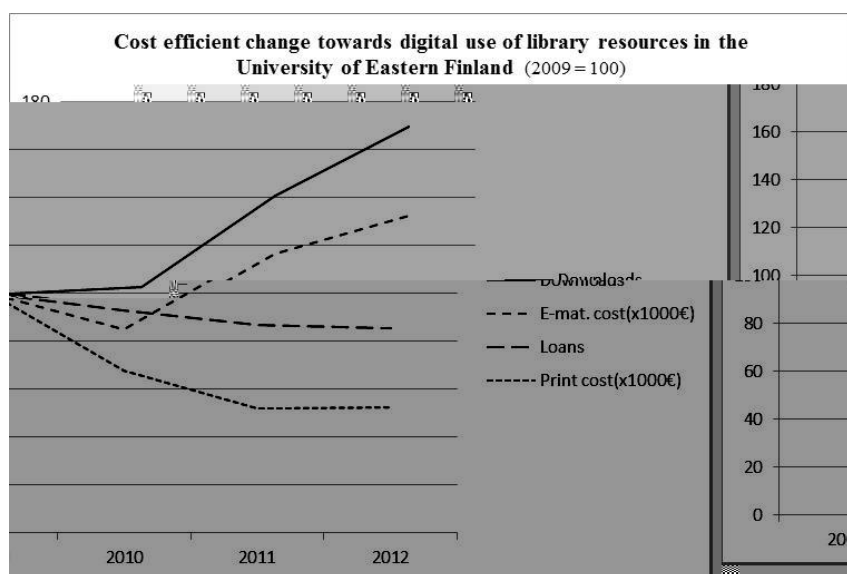

Figure 3. Cost efficient change towards digital use of library resources is seen in the University of Eastern Finland even more clearly than on the national level (cf. fig 2). Source: Finnish Research Library Statistics Database.

4. Proactive change and its benefits for the library

The radical restructuring of the library's services needs planning and strategic implementation. The most challenging issue is to introduce new services in due time. This is because the commitment to change needs personal motivation and learning new ways of undertaking one's work and at the same time forgetting some old modes of activity.

The library statistics and end-user surveys used together afford an opportunity to move beyond the traditional performance measurement and to place the focus on the difference and value that the libraries can contribute to their users. Since

It is clear that libraries need evidence if they are to change their management systems. This is especially the case during times when technology and global issues are changing rapidly in an almost haphazard way the regarding the operational environment of the academic world. In order to manage the trend and to conduct evidence-based benchmarking the library community needs to have access to national and global tools: especially library statistics and modern methods of statistical data analysis (see also Laitinen & Saarti 2012).

The economical and efficient use of resources drives this process. Proper trend analysis means that libraries must have reliable data from a sufficiently long enough of period of time. This analysis needs to be supported by qualitative methods in order to identify the so-called weak signals. In times of emergency, one cannot wait for statistical evidence to be collected.

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