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THE IMPORTANCE OF UNDERSTANDING STATISTICS: AN ANALYSIS OF DOCUMENT SUPPLY STATISTICS AT MACQUARIE UNIVERSITY LIBRARY

Kathryn Pearson

Macquarie University Library was concerned at the length of time that elapsed between placement of an interlibrary loan request to the satisfaction of that request. Taking advantage of improved statistical information available to them through membership of the CLIC Consortium, library staff investigated the reasons for delivery delay. This led to the review of procedures and workflows which brought about improvements to turnaround time.

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Macquarie University, established in 1964, is today a modern research-based university that aims to serve the needs of industry and the community. The university is located strategically within the technology corridor of Sydney's north-west. Currently a 144-bed private hospital, a new library building and a new research complex are under construction at the university. A new sports and aquatic centre has recently opened. A new railway line and station is under construction and due to open in 2009. It is anticipated that this will make it easier for students to get to the university and, consequently, will assist with the university's growth. The university has approximately 32 000 students, representing over 21 000 equivalent full-time student units (EFTSUs). It boasts a postgraduate studies community of approximately 7 500 students, 28% of whom are higher degree students.

The library began life at North Sydney and moved to its current site in 1967 when Stage I of the library building was opened. Stages II and III were opened

in 1970 and Stage IV was ready for use at the beginning of 1978. The library now has approximately one million volumes, plus access to an extensive range of journals through a large number of databases.

Macquarie University has been moving towards becoming a more research-intensive university in recent years. The university has identified what it calls Concentrations of Research Excellence (CORES), where there are staff working in areas of international significance. The university is recruiting heavily into the CORES and this trend towards a greater focus on research has meant that the library's document supply service is very important to the university. Benchmarking is, therefore, of great interest to academic staff. Furthermore, with the move to electronic journals in university libraries, researchers are able to find much more information than they could easily do in the past. This has had an impact on the document supply service in that staff are reporting a significant increase in the number of difficult requests they are being asked to source.

MANAGEMENT OF DOCUMENT SUPPLY

Many of the projects that Macquarie University has been involved with have pushed the boundaries of innovation. The library has been involved with many exciting projects, including the LIDDAS (Local Interlending and Document Delivery Administration System) Project. This ambitious project sought to automate the very paper-based and labour-intensive function of document supply. It was a joint initiative of the AVCC (Australian Vice-Chancellors Committee – now Universities Australia) and the National Library of Australia, who issued a request for tender in May 1997.¹ Macquarie was an initiating partner in the project and stayed with the project while the software was developed, tested and implemented. The software, VDX (Virtual Document Xchange), became fully operational at Macquarie in 2005. Prior to the introduction of the VDX software, statistics were calculated manually; with the implementation of an automated system, it became possible to capture statistical information in a much more sophisticated manner.

THE CLIC CONSORTIUM

Macquarie University Library is a member of the CLIC Consortium (CAVAL Interlibrary Consortium). CAVAL (Cooperative Action by Victorian Academic Libraries) has broadened its original purpose and now provides shared services to the information and library sectors throughout Australasia. CLIC comprises a group of six academic libraries (Macquarie, Newcastle, Latrobe, Victoria University, RMIT and the CAVAL CARM (CAVAL Archival and Research Materials) Centre) using the VDX software to manage busy interlibrary loan and document delivery operations. At Macquarie, this also includes supply to distance and offshore students. CLIC was established in 2001 to provide configuration and support to member libraries, to share expertise and to assist libraries in managing a complex automation product. The CLIC VDX system

is delivered via a shared hosted system managed and maintained by OCLC (Online Computer Library Center; formerly by Fretwell-Downing Informatics, then by OCLC Pica). The system consists of a single database with individual institutional views and a separate, institutionally-branded web interface for each institution. CAVAL provides system management, software configuration, operational support and training to the members of the consortium for their implementation and operation of VDX.

OUR FIRST STATISTICAL ANALYSIS

System-supplied document supply statistics were very unreliable in 2005, owing to the fact that the operations were moving from a totally manual system to a complex automated system. Workflow and process reviews were required, as was extensive staff and client training. However, it is generally considered that statistics across the CLIC Consortium were reliable for 2006. Early in 2007, the VDX Support Team at CAVAL produced a brief report on 2006 statistical data, including fill rate and turnaround time, for all CLIC sites. The fill rate indicates how many requests sent to other libraries on behalf of Macquarie researchers were supplied successfully. It excludes requests which have been cancelled for whatever reason. All libraries had excellent fill rates, Macquarie's being 98%.

Of great concern to us, however, was Macquarie's figure for turnaround time – the calculation of how many days it takes from when a researcher creates a request to when the item is received from another library. Macquarie's turnaround time for 2006 was 12.5 days, whereas turnaround time for Newcastle University Library was four days. Of the total number of requests, 27% were from academics, 57.8% were from postgraduate students, and 4.7% were from undergraduate honours students. There does not, however, appear to be a correlation between turnaround time and category. Turnaround time is similar amongst all categories.

OUR RESPONSE

At Macquarie, we were very concerned when we discovered that our turnaround time was much longer than that of other CLIC members. We were determined to understand why and to ascertain whether we needed to put measures in place to improve the situation. Staff met and discussed the situation. We then started to investigate the possible influences on different outcomes. These included:

- Differing policies at different libraries, such as rostering staff to service points, may have an impact on staff time available to process requests.
- Some university libraries charge back to faculties for document supply services, which may mean that less material is requested. At Macquarie, we do not charge for the document supply service and assume, therefore, that people aren't as discerning when placing requests.
- Macquarie does not limit the number of requests that can be submitted, so researchers can place as many requests as they like. Interestingly, an article published about a highly successful service introduced at

Texas A & M University Medical Sciences Library in 2002, called *deliverEdocs*, explained that one of the factors for their success was that they 'established and published limits' in order to prevent being overwhelmed by requests.²

- When a researcher submits a large number of requests at one time, we recognise that the person cannot read everything at once, and processing their requests all at once will mean requests from other researchers will be held up. So we contact the person to negotiate a staggering of requests. For example, a student in 2006 placed over 100 requests on one day. We proposed that we would process an initial ten, and then ten each week after that. He was happy with this, but the statistics would have been dramatically distorted by the length of time taken to process some of his requests.
- Some libraries will search a number of catalogues to find holdings and, if they are unable to satisfy a request within a short period of time, the request is sent back to the researcher advising that the item is not available. Macquarie has historically gone to great lengths to locate material for our researchers. The researcher is always contacted after a period of time to ensure that they still require the item. If the answer is yes, then Library staff will continue trying to obtain the item until they have exhausted all avenues. This means that some difficult requests may take a very long time to satisfy.
- Despite our best efforts, we cannot influence the slow response of particular libraries. Staff try to build up a picture of which Australian libraries are efficient at supplying, but some libraries respond very slowly.
- For difficult requests, we sometimes have to resort to approaching the publisher or the author, which may or may not be successful.
- We frequently request from the US, and not infrequently books are sent to us by surface mail.

RESULTS OF FURTHER INVESTIGATION

Having carried out this initial thinking about what was behind poor turnaround times at Macquarie, we asked CAVAL to provide more detailed raw data. They provided data on all 2006 requests, including title, date requested, date supplied, category of requester and supplying library. The request that took the longest time to satisfy took 471 days. The book was requested in January 2005 and supplied in May 2006. Closer investigation revealed that the book does not appear on Libraries Australia. It was published in 2004 and is held by the State Library of Western Australia. From this, one can surmise that the book was not available anywhere in Australia when it was first requested, so there were no holdings reported to Libraries Australia at the time. However, as the book was requested by an Honours student, it is likely that staff continued to search individual catalogues because the student really needed the book. It eventually became available and was sent to us. A request such as this one, which was difficult to satisfy, will severely distort the average turnaround time.

We found that the median turnaround time was 5.5 days, a considerable improvement on 12.5 days. This demonstrated to us that half of our requests are satisfied in a similar turnaround time to University of Newcastle. We also found that, of 10 346 requests satisfied in 2006, 1 286 were deemed to be difficult requests which required extensive searching and many were requested from overseas libraries, further adding to the turnaround time.

A 2001 report from of a benchmarking study conducted by the National Resource Sharing Working Group in Australia in 2000 indicated a national average turnaround time of 11.5 days.³ A look at some of the overseas data is encouraging as well. Interlibrary loan managers from CIC (Committee on Institutional Cooperation), a consortial group of large academic libraries in the US, reported an average turnaround time amongst their consortium members for filling loans at 6.5 to 13.7 days.⁴ Clearly, although turnaround time varies amongst members of our consortia, this is not uncommon, and our turnaround times are similar to those of overseas libraries.

ANALYSIS OF 2007 STATISTICAL DATA

Having analysed 2006 statistical data, Macquarie University Library was keen to examine 2007 data to see if any of our tweaking of workflows had resulted in improvements. We were not disappointed. The improvements were minor, but nevertheless worthwhile. In 2007, average turnaround time was 11.3 days and median turnaround time was 4.5. However, of particular note was the fact that 82.68% of requests were satisfied within 14 days, and only 1.76 % of requests took more than 100 days to satisfy. Clearly, some requests do take a long time to satisfy because they are difficult to both identify and/or source. However, for the majority of requests, turnaround time is very good.

CONCLUSION

The exercise of reviewing document supply statistics has been a useful one. It has encouraged staff to review their work practices. Staff have introduced new procedures to ensure that requests are dealt with as quickly as possible. However, it has also illustrated how important it is to look underneath the statistics to find out what factors are likely to distort them. Researchers may occasionally display impatience about turnaround times, but it is easy to see that the enormous range of resources now available in this electronic world of ours has led to very high expectations and a culture of wanting things immediately. All in all, when Macquarie University Library reviews results from previous client satisfaction surveys, the document supply service always receives praise. Although some requests may take a while, clearly researchers are willing to wait and do not find the wait unacceptable.

NOTES

1. K Pearson 'Changing the Face of Interlibrary Loans: LIDDAS at Macquarie University Library' *Books and Bytes: Technologies for the Hybrid Library* VALA 10th Biennial Conference 2000 p3.
2. B McKay, C Foster & M Bedard 'Electronic Document Delivery: What Users Want and How to Give it to Them' *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve* 2007 vol 17 no 3 p53.
3. National Resource Sharing Working Group *Interlibrary Loan and Document Delivery Benchmarking Study* Canberra National Library of Australia 2001 p11.
4. AK Beaubien et al 'Challenges Facing High-Volume Interlibrary Loan Operations: Baseline Data and Trends in the CIC Consortium' *College and Research Libraries* 2006 vol 67 no 1 p69.