Putting Ulrich’s Serials Analysis System to work: experiences at Oxford University Library Services

Oxford University Library Services (OULS) is using Ulrich’s Serials Analysis System (USAS) to manage and rationalize periodical holdings across 36 libraries. With the exact level of duplication having been identified through USAS, OULS has access to a range of reports and analyses which have been utilized in a variety of ways. This article explores some of the main practical purposes which USAS has served at Oxford. It shows how the system can be used in conjunction with an electronic database of library holdings in order to create increasingly versatile reports. Although USAS has flaws, its main strength is its ability to process large amounts of data and present output in a very usable format. The fact that this automatic output still needs manual manipulation does not alter the system’s essential efficiency.

Background

The Serial Co-ordination Project in Oxford (SCORPIO) was launched in August 2004 as part of an acquisitions rationalization project at Oxford University Library Services (OULS)1. The co-ordination of current serial holdings was seen as a major step towards rationalizing acquisitions and improving budgetary and management control over collections across the library system. Establishing the exact level of periodical duplication was one of the key targets in the first phase of the project. To enable this, comprehensive and consistent holdings information on current serials was gathered from all OULS libraries. To our knowledge, this exercise had never been undertaken before; libraries had lists in different electronic formats, and several had only manual lists or indexes.

OULS Collection Management now has a central database that includes – except for legal deposit – all current serial holdings. Based on this information, reports have been generated using Ulrich’s Serials Analysis System (USAS). In the first Serials article about SCORPIO, the focus was on the mechanics of this analysis system2. This sequel will look in more detail at the various practical uses to which USAS can be put in the context of an academic library system.

Duplication Report and SCORPIO database

The raw data of the SCORPIO project is the lists of current holdings produced in spreadsheet format by libraries. In order to create meaningful analyses out of this material, two electronic tools have been utilized. The first is the analysis system USAS and the online version of the bibliographic database Ulrich’s Periodicals Directory. USAS is an add-on which links uploaded lists of library holdings to data included in the Directory3. Significantly, the system can produce Duplication Reports which identify duplicates across lists of library holdings (see Table 1).

By way of the Duplication Report4 feature in USAS, duplicates across all libraries are counted. The report is used within Collection Management as the authoritative guide to current periodical holdings. In addition, it is made available to the heads of the four library subject areas: Humanities, Social Sciences, Science & Medicine, and Area Studies. The reports are designed to assist them in planning cancellations and acquisitions in their subject areas.

Duplicates are defined as any holdings in addition to the first paid subscription, regardless of electronic access and legal deposit intake. Since the Duplication Report is downloadable in spreadsheet format, the counting is easy – simply a matter
of using the total count and subtracting the ‘permitted’ first subscription. List prices are downloaded in the same report, but must be converted into the appropriate currency using a lookup function. This makes it straightforward to establish the approximate list value of the surplus subscriptions.

With the aid of USAS, OULS identified a high number of duplicate subscriptions. The Duplication Report was distributed to heads of subject areas, who were asked to come up with strategies for de-duplication. The neat spreadsheet layout of the report, with its high manipulability, also enabled Collection Management to establish how the duplication figures were distributed between individual libraries and between subject areas. Having the option of downloading the name of the publisher in the report obviously created added scope for its usability in terms of facts and figures. In the year following these initial findings, utilizing the report, libraries managed to cancel 33% of their overall surplus.

So far, so good – overall duplication was now identifiable. The next step was to make this information usable to site librarians, i.e. to include this new data in the individual libraries’ lists of holdings. However, the format and size of the Duplication Report meant that it would have been very time-consuming to break it down into smaller, ‘library-based’ parts. It was therefore decided to use a second electronic tool in SCORPIO. An Access database would be utilized in order to merge the original lists from individual libraries with the USAS Duplication Report.

The result, the SCORPIO database, is an Access database in which the main building blocks are the lists of periodical holdings from all 36 OULS libraries. Lists range in size from the Cairns Library at the Churchill Hospital with its 24 titles, to the Central Bodleian’s Foreign Accessions (western languages) with 2,856 titles. The total number of print subscriptions, donations and exchanges in the database currently stands at 13,629 (April 2006). At each database update, the very same lists that are uploaded to USAS in text format are imported into the Access database in spreadsheet format.

Crucially, it is a modified version of the complete Duplication Report for OULS that is imported into the SCORPIO database. In this version, the full report has been manually simplified so that one of the columns lists the names (in abbreviated form) of all the libraries in which each title is held. In Access this list is linked, using ISSN as a primary key, in a one-to-many relationship to the ISSNs in every one of the 36 library lists. In this way, reports can be produced combining the data on individual library lists with the additional USAS data included in the Duplication Report (see Figure 1).

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<th>Title</th>
<th>Found in</th>
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<th>Library A</th>
<th>Library B</th>
<th>Library C</th>
<th>Library D</th>
<th>Library E</th>
<th>Library F</th>
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<td>Yes</td>
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<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>New Scientist: the global science and technology weekly</td>
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<td>Yes</td>
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Table 1. Excerpt from the Duplication Report that is generated in USAS, analysing all uploaded library holdings lists. Based on the ISSN, the analysis system will count all occurrences of a title (the ‘Found in’ column). Additional columns (one for each uploaded holdings list) identify all libraries in which titles are held.
Holdings Reports

The creation of the SCORPIO database along with the Duplication Report featuring all titles enabled the production of a Holdings Report for each library. These reports come in the shape of spreadsheets exported from queries created in Access. Linking records via ISSN, these queries combine the information gathered from libraries with the information downloaded from USAS (see Figure 2). The linking has the advantage that variant forms of one journal title in different library lists can be converted to the ‘official’ title as it appears in Ulrich’s. It is literally a matter of keeping the spreadsheet column containing the desired form of the titles while discarding the column with the local form.

Ulrich’s list prices and prices paid by library appear side by side, which in many cases makes for interesting comparison exercises. Additional columns one may choose to include indicate Ulrich’s subject category and electronic availability within the university on TDNet, which is the e-journal management system currently used at Oxford. Crucially, the Holdings Report contains a column (from the Duplication Report) listing all libraries in which each title is held. In other words, it is now easy for librarians to spot where there are duplicates. Since donations are labelled as such in the ‘Price paid by library’ column, one can also at a glance check whether cancelling a title would represent a saving (see Table 2).

Previously unavailable, this information can assist librarians in making decisions on expansion.

Figure 1. Library holdings lists and USAS form the basis of SCORPIO. Holdings lists and the USAS Duplication Report are uploaded into the Access database and interlinked. A query is run combining the data, and the results can be exported in a spreadsheet format which is turned into a Holdings Report for each library.

Figure 2. Using an Access database, holdings lists from libraries became linked to the Duplication Report. The lists and the report each contain unique data which are merged to form a Holdings Report. This report enriches the basic library holdings lists that already existed and makes them more versatile with regard to collection management.
or rationalization of their collections. The reports are sent to libraries annually, following receipt of their updates on cancellations and new titles. This should ensure that central Collection Management and librarians are working from the same lists. Libraries should be able to use the reports to present accurate holdings information to readers, and to produce further analyses within their library or library subject area. Admittedly, there is yet no indication that individual libraries are utilizing the full potential of the reports. This may change as results of the data analyses are more widely publicized, and work is done to improve the accuracy of the annual updates.

Apart from the abovementioned identification of duplication, SCORPIO proved to be of great help in the co-ordination of electronic resources at Oxford. The management of e-resources was recently restructured, and there was an urgent need to renew or negotiate deals with major publishers. As with periodical holdings in general, figures on print expenditure with these publishers had not been readily available in the past. Since publishers’ names and list prices are downloadable from USAS, it was possible to produce lists with an estimate of total expenditure.

At the same time, OULS moved from a library-based budget structure to one based on subjects. Electronic resources were previously paid from one central cost centre, but now had to be allocated to one or more subject cost centres. With ‘big deals’ that involved up to 2,000 periodicals, it was decided to break down the cost based on the distribution of subject areas within the periodical collections. For this purpose, title lists that included the Ulrich’s subject category were downloaded. The records were then mapped onto the major OULS subject areas, resulting in a workable percentage split.

Reaching the negotiation stage with publishers, it also proved useful to have internal Holdings Reports that could be compared to the lists supplied by the people at the other end of the table. In many cases there were discrepancies, and at both ends: the publisher listed periodicals that had been cancelled years ago; SCORPIO failed to mention periodicals that proved to be live subscriptions. Consequently, shortcomings of SCORPIO were revealed: it is important that libraries submit accurate data to the project. On the other hand, information was available for OULS to be able to contest data provided by the publishers. This is perhaps of particular importance to a large library.
system with many small units and a variety of periodical vendors.

**Persistent problems**

The high number of non-matches in holdings continues to be the main headache for OULS, and the problem became exacerbated when USAS statistics were utilized for increasingly practical purposes. Lists of non-matches were sent to the supplier, who promised to increase research on missing ISSNs. One year later, however, spot checks suggest that there has been no improvement. The supplier has not been in touch concerning the progress of the research. To be fair, OULS holdings contain a large number of ‘grey’ or obscure periodicals which are unlikely to have ISSNs.

In fact, there seems to have been an increase in the number of non-matches since the start of SCORPIO: some titles go e-only without obtaining an e-ISSN; others merge or are incorporated into other titles. Therefore, when libraries’ lists are uploaded anew into USAS, the lists always need some manual cleaning up due to the identification of added non-matches. If the new ISSN exists somewhere in *Ulrich’s Periodicals Directory*, it replaces the non-match. If no ISSN can be found, it was decided to give the title a ‘fake’ ISSN (X000-0001 and so on).

Titles that have been given fake ISSNs constitute approximately 30% of total OULS print holdings, and the number is likely to grow. At least 95% of non-matches are titles that do not exist in the Directory at all, while the remaining titles exist in the Directory but have not been supplied with ISSNs. Obviously, with such a long list of non-matches, it is too time-consuming to plough through the list at regular intervals to check if the ISSN has become available in the Directory. That is why the titles that are given fake ISSNs are likely to retain that status.

The main issue with non-matches is that USAS cannot generate statistics on them: data such as list price and subject category become unavailable. Where the list price is available, there is the added problem that this is normally the domestic list price in the country of publication. Even where the original record in *Ulrich’s Periodicals Directory* includes European prices, only one price is (understandably) downloaded in reports – and this tends to be the original domestic list price. This can be significantly lower than the actual price paid. In addition, there are many instances where the Ulrich’s record omits the list price altogether.

Non-matches also persist in distorting reports based on subject category. Holdings Reports for OULS libraries now include a column showing Ulrich’s subject category. However, since many libraries have a significant number of non-matches, the numerous blank spaces in reports may be more frustrating than helpful. In addition, there is still the problem that Ulrich’s does not cater well for the humanities. For example, SCORPIO received a request from one of its principal libraries to provide a report showing holdings in Egyptology. Disappointingly, there is no Ulrich’s category for this and many other academic subjects within humanities.

Apart from problems related to shortcomings inherent in USAS, it could be said that the database and Holdings Reports that have been created using this analysis system are only as accurate as the data fed into them. In other words, if the lists of titles compiled by OULS libraries contain mistakes, this will naturally affect the reliability of reports, regardless of the qualities of the reporting system. Even if asked to do so, few libraries will regularly check their lists in order to weed out titles that should not have been included in the first place.

**Conclusion**

Obviously, the main benefits of SCORPIO relate to the gathering of holdings data that was previously only available to individual libraries. From a collection management point of view, it does of course make sense to have an overview of all collections that one is supposed to be able to manage. It is perhaps pertinent to ask if this information could have become available, had it not been for the assistance of USAS. Given that the project has involved a fair share of manual spreadsheet work in spite of the automated reporting functions, the answer is probably yes. However, the project would have taken substantially longer to complete. In that sense, the analysis system has been an invaluable timesaver. The holdings lists could have been compiled without it, but on their own they would have been of a much more limited value.

As to the problems that are inherent to the way USAS works, and the contents of *Ulrich’s Periodicals*
Directory, they do persist, and there does not seem to be any easy solution to be found for the most serious of them. On the other hand, it should be apparent that the system has some very significant advantages that limit the damage done by the varying levels of accuracy in the generated reports. The main advantage of USAS is its ability to handle large amounts of data, especially when it comes to the production of reports. Even when some data is missing, librarians can use reports as raw material, make adjustments to them and appropriate them to their own needs.

References and notes

1. OULS was formed in 2000 and consists of 36 centrally funded Oxford libraries including the Bodleian, Taylor Institution, Sackler, and Health Care libraries, as well as the Radcliffe Science Library. OULS does not include College libraries or several departmental libraries within Science and Medicine.


3. *Ulrich’s Periodicals Directory* and Ulrich’s Serials analysis System are both provided by CSA. Information on USAS from CSA is available at http://www.ulrichsweb.com/ulrichsweb/analysis/default.asp?navPage=4&.

4. This feature is actually referred to in USAS as a Comparison Report. In SCORPIO the term Duplication Report is applied to the same feature.

5. An uploaded ISSN becomes a non-match when no match is found in *Ulrich’s Periodicals Directory*. In most cases this is because the periodical is not listed in the Directory. In some cases the periodical is listed, but the field where the ISSN should have been is blank.

6. USAS cannot generate statistics on ‘fake’ ISSNs either, but they still serve an important purpose because they are counted by the Duplication Report function. In the same way as real ISSNs, fake ISSNs match up with other fake ISSNs in the automated duplication identification process.

7. The closest Ulrich’s match to Egyptology would be ‘Archaeology’ or ‘History of Africa’, but the majority of search hits in these subjects will be titles dealing with something else than Egyptology. Perhaps more puzzling is the lack of a separate category for English Literature.

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