Literature Review

There was some evidence of collaborative working within the public and academic sectors with specifications being produced for joint tenders, and six academic libraries had indicated that they had drawn on other libraries’ specifications when producing their own. Over-reliance on other specifications can lead to problems for both purchasers, in articulating their true requirements, and for suppliers in understanding the real needs of the libraries. More significantly, the practice of passing on specifications to other libraries serves to perpetuate an adherence to outdated ideas. The content of all specifications analysed in this Study included the same broad categories of information and requirements, with the majority specifying requirements for all or most of the core modules. Some ‘additional’ (i.e. non-core) features were required within the sectors.

In the public libraries, for example, requirements were expressed for specific system capabilities for mobile libraries, housebound readers and school library service, whilst in the academic libraries; requirements were specified for copyright management and materials booking. The functional requirements specified for each of the core modules (Cataloguing, Acquisitions, Circulation, and Serials) had striking similarities both within and across the sectors. In all cases, the basic requirements comprised the functions listed in a checklist by Leeves and Russell in their 1995 directory but there were variations in terminology used. System suppliers, across a decade, have been critical of the lengthy procurement process which has the specification at its heart. Suppliers in the survey expressed frustration with the tendency for specifications produced by librarians to be dominated by lists of requirements which are present in all library management systems on the market today. Such focus on the basic detail hinders the potential for librarians to articulate more strategic, or even visionary, requirements, and constrains suppliers in proposing solutions which take advantage of new technologies. This evidence suggest that there is an urgent need for a model specification of basic functional requirements which can be agreed by both librarians and systems suppliers so that basic functions which have been embedded within all systems no longer require detailed specification, nor confirmation, but are standard. A mechanism for streamlining what is evidently a time-consuming and cumbersome
process for both librarians and suppliers is clearly desirable. There has been some activity towards harmonizing and rationalizing the process of systems acquisition in museums as a result of the LASSI project, and the Public Record Office, recognizing the need for a model specification for the procurement of Electronic Records systems, has developed a set of generic requirements for use by government departments and agencies who were developing their own detailed specifications. Such initiatives may serve as pointers to the way

**Trybula (1997)**

In line with the objectives of the harmonies Project, Grant (1999) suggested the development of a matrix of common features to serve as a basis of all RfPs by specifying that compliance with the matrix document is assumed and thus obviate the repeated asking of the same questions by each library. It would be the vendor’s responsibility to file updates with the organization charged with maintaining the matrix. Such a matrix, or toolkit’ would have significant benefits - in keeping librarians up-to-date about new developments, in providing access to a standardized central source of information, in focusing concentration on the real task of discriminating between the various potential systems and suppliers, in allowing greater scope for suppliers in developing a standard response, changing the emphasis of the selection process - ultimately reducing both the real and hidden costs of procurement. In May 2000, a workshop was held at the Library and Information Show in Birmingham UK on the procurement process, and the desirability of a core specification (Evans, 2000). The Panel members comprising Juliet Leeves and representatives from commercial system suppliers agreed that the time was right for the development of a core specification, with the suggestion that initiatives should come from the suppliers. The general lack of awareness of new technologies in the library community, as perceived by suppliers, is also a real problem. The 'hybrid' (traditional/digital) environment further complicates the situation. Not only do libraries have to acquire or configure technologies to manage their internal collections, but also to manage the resources made electronically available/accessible beyond their own organizations. There has been some significant progress in, and a number of projects on, the development of functional specifications for managing the external digital environment and on access to electronic resources on a large scale. These initiatives, however, have largely ignored the functional and technical requirements for the internal management of resources. It remains the responsibility of individual managers to acquire
appropriate systems technologies and software to manage local collections and to integrate these with the external digital environment. Murray (1999) has noted that the ‘digital library must integrate with traditional library automation system both in-house for the presentation of a holistic library environment, and remote libraries and information services to maximize resource sharing benefits’. There is clearly also a need for the idea of the model specification or toolkit, proposed here for library system procurement, to be extended to the range of technical solutions which may be implemented across libraries to manage both print and electronic resources.

**Shelagh (2001)**

Another article from 1996 by the creators of the Infofilter project looked at criteria based on content, authority, currency, organization, the existence of a search engine on the site, and accessibility. However, their judging mechanisms for these criteria were based upon subjective human judgments for the most part. Exceptions were learning the institutional affiliation of the author, pointers to new content, and response time for the site. One new criterion is introduced in a 1998 article about selecting Web-based resources for a science and technology library.

**Scott (2003)**

Emphasis was placed on data warehousing and patron privacy issues because they are required before anything else can begin. It is essential to capture our data-based institutional records but still protect the privacy of users. By using a data warehouse, both goals can be met. Once the data warehouse is in place, the library can use a plethora of reporting and exploration tools to gain a more thorough knowledge of their user communities and resource utilization.

**Nicholson (2003)**

Selection of Quality Materials Should the librarian be a filter for quality? S.D. Neill argues for it in his 1989 piece. He suggests librarians, along with other information professionals, become information analysts. He suggests that these information analysts sift through scientific articles and remove those that are not internally valid. By looking for those pieces that are “poorly executed, deliberately (or accidentally) cooked, fudged, or falsified” (Neill, 1989), information
analysts can help in filtering for quality of print information. Piontek and Garlock also discuss the role of librarians in selecting Web resources. They argue that collection development librarians are ideal in this role because of “their experience in the areas of collection, organization, evaluation, and presentation” (1996). Academic librarians have been accepted as quality filters for decades.

**Nicholson (2004)**

Libraries have gathered data about their collections and users for years, but have not often used those data for better decision-making. By taking a more active approach based on applications of data mining, data visualization, and statistics, these information organizations can get a clearer picture of their information delivery and management needs. At the same time, libraries must continue to protect their users and employees from misuse of personally identifiable data records. In “Sacred trust or competitive opportunity: Using user records,” Estabrook (1996) discussed this moral dilemma. She pointed that librarians must balance information protection with the need to create new library services (e.g., personalization functions). Now that libraries must compete against online booksellers, downloadable audio books, and the vast supply of “free” information of varying quality from the Internet, librarians must begin to take the initiative in using their systems and data for competitive advantage and to justify continued support and funding of libraries. The process of using library data more effectively begins by discovering ways to connect the disparate sources of data most libraries create. Connecting these disparate sources in data warehouses can facilitate systematic exploration with different tools to discover behavioral patterns of the libraries primary constituencies. These patterns can help enhance the library experience for the user, can assist library management in making decisions and setting policies, and can assist the library’s parent organization or community in understanding the information needs of its members. Information discovered through the application of bibliomining techniques gives the library the potential to save money, provide more appropriate programs, meet more of the user’s information needs, become aware of gaps and strengths of their collection, and serve as a more effective information source for its users. Bibliomining can provide the data-based justifications for the difficult decisions and funding requests library managers must make.
Finally, bibliomining can inform the processes and products of knowledge management that have grown in importance within contemporary organizations.

Data mining is a mature data analysis technology that has considerable intersection with statistics. Characteristic of data mining is a necessary stress on algorithmic aspects and a preference for prediction. Data mining encourages novel exploration of data much more than statistics. Tools to automate the whole data-mining analysis process are useful, but, like any tool, should always be used with caution. Opportunities provided by the World Wide Web offer good prospects for the application of data mining in market research.

Stanton (2005)
Selection of Print Materials The basic tenet in selection of materials for a library is to follow the library’s policy, which in an academic library is based upon supporting the school’s curriculum (Evans, 2000). Because of this, there are not many published sets of generalized selection criteria for academic libraries. One of the most well-known researchers in this area is S. R. Ranganathan. His five laws of librarianship (as cited in Evans, 2000) are a classical base for many library studies. There are two points he makes in this work that may be applicable here. First, if something is already known about an author and the author is writing the same area, then the same selection decision can be made with some confidence. Second, selection can be made based upon the past selection of works from the same publishing house. The name behind the book may imply quality or a lack thereof, and this can make it easier to make a selection decision. Library Acquisition Policies and Procedures (Futas, 1995) is a collection of selection policies from across the country. By examining these policies from academic institutions, one can find the following criteria for quality works that might be applicable in the Web environment:

- Authenticity
- Scope and depth of coverage
- Currency of date
- Indexed in standard sources
- Favorable reviews
Reference materials like encyclopedias, handbooks, dictionaries, statistical compendia, standards, style manuals, and bibliographies. Before the Internet was a popular medium for information, libraries were faced with electronic database selection. In 1989, a wish list was created for database quality by the Southern California Online Users Group (Basch, 1990). Other criteria mentioned are the comprehensiveness of the resource, authoritativeness of the creator of the resource, and the systematic updating of the source. However, Cassel feels that unlike in the print world where shelf space is limited, duplication of Internet resources in a collection is not problematic. A year later, a more formal list of guidelines for electing Internet resources was published. Created by Pratt, Flannery, and Perkins (1996), this remains one of the most thorough lists of criteria to be published.

Nicholson (2005)
There is clearly a divide between library practitioners and commercial suppliers of library management systems on the role, content and value of the specification in the procurement process. Experienced library managers recognize a number of benefits of the library specification in both the process of its production and as a mechanism for choosing and acquiring a library system solution. Some practitioners (e.g. Stowe, 1999) have through their own experience, however, identified potential flaws in the content and process of developing a specification and there is evidence that librarians charged with compiling specification documents need to seek guidance on the format and detail to be included. The majority of specifications analyzed for this Study were produced with the intention of issuing these to a range of suppliers in an invitation to Tender, with the specification becoming a key component of the contract between the system supplier and the purchasing library. In some instances, however, specifications were intended for a named supplier, usually that which had supplied the existing system, and the library was seeking an upgrade.

Jeffrey (2009)
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Gwynn (2009)
Selecting a new integrated library system (ILS) requires attention to both the “back end” (technical services) and “front end” (public/user services). Each is important and must be considered carefully, but our primary goal with this selection process is to find the product or products that will provide the best user experience for our patrons. As a small academic library with a relatively small physical collection including a large number of archival and special collections materials, and a high proportion of digitized and “born digital” materials, such user features as the web-based OPAC interface, the ability to integrate digital content (databases, etc.) as well as our own digitized materials into the OPAC, and ability to search and display material from other library catalogs (especially for ILL purposes) will be key to our selection of a New ILS.

Santhalingam (2011)
The progressive increase in the utilization of library books is an indication that the library is meeting its primary role of supporting the objective of its parent institution. The library has been seen as a storehouse of knowledge. In future if it is possible to predict the level of outcomes affected by the identified types of library books use, this process can be examined further to develop into a method of outcomes assessment.