Collection Development and Management at HKUST

香港科技大学图书资源发展和管理

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Abstract

本文就香港科技大学图书馆在图书资源发展和管理方面所作的努力和经验予以检视及深思，讨论的重点在于迅速变化的数字环境里所面临的挑战和应对策略。

This paper reflects upon the efforts and experiences in collection development and collection management, particularly of electronic resources, at the HKUST Library and focuses on some challenges and strategies in today’s rapidly changing digital environment.

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1. HKUST and the HKUST Library

Founded in 1991, the Hong Kong University of Science and Technology (HKUST) is a research intensive university. There are about 9,100 students including over 3,250 post-graduate students. The University currently offers over 100 UG and PG degree programs, including 25 doctoral programs. Being a research university, it shares much in common with the world’s best universities in academic programs and research activities. Despite its relatively short history, HKUST is now ranked as one of the top universities in the world by London Times, Newsweek, and other university ranking agencies. For instance, Times Higher Education Supplement of London ranked HKUST 53rd among the world’s top universities in 2007. And, our Executive MBA program has been ranked no.1 in the world by London Financial Times in 2007.
The HKUST Library is highly valued by our students and faculty in their learning, teaching and research activities. Physically located in the center of the campus, the library building is a 10,500 square-meter five-floor facility. The Library provides about 1,980 user seats, a good number of group study rooms and faculty studies, among other facilities. The current full-time library staff numbers 94, of whom 22 are professional librarians. The Library operates state-of-the-art information systems, and is engaged in various digital projects to support our service programs and activities. The Library recently completed extensive renovations, most significant of which is a new information commons where we provide a technology-rich environment, individual and collaborative spaces, reference information assistance, and technical support for computer hardware and software.

2. Responsive Development of Library Collections

Although relatively young, the Library now has a collection of about 650,000 volumes, 25,000 print and electronic journals, and a large number of databases, microform materials, and media resources. We provide our students and faculty with access to both the most current information sources and formats, as well as to retrospective print collections and electronic back issues of scholar journals. These information resources form a solid foundation for in-depth study in the humanities, sciences, technology, business and management, and social sciences.

The library collections are indisputably one of our most important resources. They support not only current information needs of the university community but also future students and faculty at HKUST. Some unique collections of ours, such as antique maps of China, are valuable information resources for scholars elsewhere as well.

The continuing development of library collections requires coordinated and systematic approaches to the selection and acquisition of different types of materials. Our current collection development and budget allocation approaches are taken to maximize our ability to enhance our collections continuously, and at the same time to minimize the interruption in providing subscription-based resources needed by our library users.

The very majority of the collections budgets are set by the University Administration at the beginning of every three-year fiscal cycle. Some limited
interest income from the library endowment funds is used to supplement the regular collections budgets. Due to the disciplinary differences for information resources, the Library does not arbitrarily divide the materials budget equally among the different schools or academic departments at the University.

There are significant differences in prices of materials for different disciplines, but not all disciplinary differences are economic. In some fields, especially sciences, journal literature is the primary literature, while in some other fields the primary literature lies in books. Being mindful of these disciplinary differences and of the University’s priorities, the Library Collection Development Committee (CDC) uses previous year’s collection expenditures as guides to determine and allocate the amount of money to each category of materials including books, standing orders, print journals, electronic journal subscriptions, other electronic resources, media and microforms.

During the FY2006/07, we spent 11.17% of our materials budget on books, 4.36% on standing orders, 18.03% on databases, 64.26% on print and electronic journals, and 2.18 on microform and media resources. Breaking down the FY2006/07 expenditures by subject, it shows that we spent about 13.75% of total budget on Business, Engineering 26.38%, Humanities 3.48%, Social sciences 5.64%, Sciences 46.56%, and materials of a general or multi-disciplinary nature 4.19%.

Various subject librarians are responsible for selecting library materials in their specific subject areas. Actually, in addition to selecting library materials, subject librarians are responsible for communicating with appropriate academic departments and individuals about library collections, and for assessing the collection strength in their subject areas of responsibility. They also teach library classes on special databases and other information resources.

We have a few approval plans of different nature for monographs, including one specially arranged with Peking University Library for Chinese books. We take advantage of the best aspects of approval plans for the acquisition of new monographic materials. At the same time, we place a great responsibility for the identification of essential titles for our collections in the busy hands of subject librarians and of the Collection Development and Services Department. In other words, our approval programs are supported and supplemented by the review of dealers’ catalogs, trade bibliographies, critical review literature, publishers’ announcements, and other bibliographical tools.
As a standing policy, the Library welcomes requests or recommendations made by students and faculty on new books and media to support their learning, teaching or research. However, only faculty members can make new journal subscription requests or database recommendations, due to their long-term financial implications. Students or faculty who want to make such recommendations may contact the Library by email or by submitting an online request form. There are actually two separate forms. One form is for book and media request, the other form is for database and journal recommendation.

The Collection Development Committee is responsible for making decisions on new subscriptions and electronic resources. Before decisions are made on major databases, we either ask vendors to provide demonstrations or we do trials of these electronic resources ourselves. At our library website, we usually provide links for library users to trials of databases which the Library is investigating for possible purchase, license, or implementation. And we often ask one or two subject librarians to make an assessment and recommendation on the database being considered.

High price items, subscription and cancellation of journals are always reviewed and approved by the Collection Development Committee. Decisions such as preferred format of journals, commitment to multi-year subscriptions, and assignment of departmental fund codes to multi-disciplinary acquisitions are also made by the Committee.

CDC is a standing committee chaired by the Head of Collection Development and Services and meets generally once a month. Its membership consists of the University Librarian, the Associate University Librarian, one or two subject librarians, the Acquisitions Librarian and the Chair. The Committee is charged with the responsibilities to provide the general directions, and set polices for the collection development and management. It also evaluates and makes necessary changes to the Library approval plans to reflect the learning, teaching and research needs of the University.

To monitor acquisition expenditures, specific fund codes by department and material type are always added to our order records as different materials are being purchased by our acquisitions staff. This process also facilitates our preparation of collection growth reports by school and subject area.
3. Collection Development Policies and Practices

The Library has a written collection development policy document which provides guidelines for our own staff, as well as for those faculty members who act as Library Coordinators in different academic departments. Of course, our collection development policy is a living document that can be modified to allow for the acquisition of information resources of most interest and use to faculty and students.

The Library has also developed other policy documents for specific types of materials, for instance, the collection development policy document for media resources, the policy and procedures for electronic resources. We also have written guidelines for receiving gift items, as well as written retention guidelines for items in our reference collection.

Because of rapidly escalating prices of journals and databases, our ability to purchase or subscribe to published information has been eroding. In 2003/04, we were compelled to cancel a large number of journal subscriptions. That cancellation project was accomplished after proper consultation with academic departments. We have cancelled additional journal titles over the last few years. As you can image, we have written criteria for canceling journals.

4. CD Strategies that have worked

Faced with escalating scholarly journal costs and with a tight budget, we have implemented a number of strategies at HKUST so that students and faculty in various disciplines will be able to have access to the materials they need to do their work. We have implemented these strategies because we see that the digital environment offers us an opportunity to better develop and manage our library collections and to save money by canceling duplicates, low use titles, or print copies of journals if whenever we can. We will certainly adjust these strategies when and if it becomes necessary.

* Aggressive Migration from Print to E-journals

Since I became the University Librarian at HKUST in 2003, the Library has been following a new policy to aggressively migrate our print journal subscriptions to electronic-only, whenever possible.
Today’s academic libraries are increasingly hybrid libraries which are dependent on print media as well as digital media. As Reg Carr, Director of Oxford University Library, once said, “The dominant user view of a library is of a physical place... The hybrid Library of the future will be a managed combination of physical and virtual collections and information resources.”¹ More and more, we are not only defined by our physical collections. While our user’s information needs are changing and increasing, our purchasing power is decreasing. We have to focus more on electronic resources which offer added values to better support new models of scholarly communication.

* Taking advantages and precautions of “Big deal” e-journal packages

A so-called “big deal package” is one that provides access to a large number of electronic journal titles published by a given publisher in a bundle or a package at a lower cost. A good number of academic libraries have expressed their concerns about the inflexibility of “big deal” e-journal packages which often require a multi-year contract. With "big deal" packages, libraries are contractually locked in to subscriptions for extended periods, regardless of usage and changing budget situations, in exchange for larger discounts and caps on inflation or price increases.

Big deal packages apparently do not work or no longer work for all libraries, but it works so far for HKUST. In my opinion, such aggregated deals still are worthwhile. It is a reasonable tradeoff to receive price reductions if we take a multi-year contract. So far, we have not found it too constraining. We have signed on to several such deals in order to continue to receive the scholarly journals we most need. These big deals include ScienceDirect which provides access to over 1,800 full-text journals published by Elsevier and its affiliates, including Academic Press, North-Holland and Pergamon.

* Active participation in the JULAC Consortial deals

Over the past few years, we have worked closely with other academic libraries in Hong Kong through the JULAC Consortium to get best possible prices for electronic resources. The JULAC Consortium on collection development includes eight academic libraries, including our Library. The initial objective the Consortium was


to concentrate on negotiating the largest discount for high-priced electronic resources.
JULAC libraries may opt in or out on consortial deals with major publishers or vendors on these high-priced databases or e-journal packages. Each of the libraries is of course spurred by both anticipated user needs and budget-related issues to participate in a deal or not. To increase its bargaining power, the JULAC Consortium on collection development also started in 2005 to accept affiliate members including the libraries of the Open University of Hong Kong and of the University of Macau.

The libraries have much to gain if the publishers permit participating libraries reciprocal access to each others' journal subscriptions. Let's take the Wiley consortium as an example. Currently, HKUST Library subscribes to about 50 Wiley journals. By joining the consortium, with the same payment, users at HKUST can now access over 250 Wiley titles that are subscribed to by HKU, CUHK, PolyU, CityU and others. Our Library currently has similar arrangements for e-journals from SpringerLink, Blackwell, Oxford University Press, and Cambridge University Press.

As a result of these approaches, we have been able to renew and keep important electronic resources and acquire print materials needed to support our teaching and research programs. At the same time we have added a good number of new quality databases, for instance SCOPUS which provides bibliographic information and abstracts to articles in 12,600 academic journals, 750 conference proceedings, and 600 trade publications from over 4,000 international publishers.

5. Collection Management Takes a New Importance

The process of collection management has become more linked than ever with the tasks of collection development and has added new dimensions. Digital information and collections have presented distinct challenges related to preservation and archiving. Like our libraries, the HKUST Library has also created digital repositories as a vital part of our collection management.

*Electronic Resource Management (ERM) system

Like other libraries, we have made numerous efforts to manage the growing collections of electronic resources and to provide convenient access to e-journals and databases via the online catalog and the Library Web site.
Our library online catalog’s new electronic resource management system (ERM) provides three new features for managing electronic resources: resource, license and contact. The resource record describes the resource providing public information fields such as coverage, resource URL, and description. It also provides fields for library staff to better manage the resource. The license record holds combined licensing details such as authorized users, authentication method and terms of use. The contact record makes reference to organizations or companies involved in providing access to an electronic resource. All these features are geared to providing better services for our users.

The ERM system is a natural extension of our existing integrated library system from the same vendor. It builds upon our existing investment in library technology but also offers smoother transition in terms of a better end-user interface and efficient sharing of data with the present integrated library system.

* Digital Archiving and repositories at HKUST

To facilitate archiving, discovery, and retrieval of important information resources, we have created a HKUST thesis database which includes both masters and doctoral theses. We have also established at HKUST two repositories of digital information content, both of them are powered by DSpace. One of them is the first digital institutional repository established in Hong Kong to collect, make available, and preserve the scholarly output of the University community in digital format. The second one is the HKUST Digital University Archives which is the official online repository for university records that have permanent value.

* Physical Inventory Projects to identify Missing Items

To better manage our collections, collection inventory is done from time to time. When inventory is being done, we use hand-held laser barcode scanner to collect inventory information for all parts of the collection. The collected barcode information is then uploaded to a computer to match again our online catalog and circulation records. All missing books are given careful consideration as to their value to our collection before replacement decisions are made. Catalog records are deleted for those lost books not to be replaced or if the books are out of print. Such inventory is done in addition to our regular procedures in place to search for books reported missing by our users or staff.

* JURO: Journal Usage Report Online
With exploding e-journal publishing and the skyrocketing price increase in journal subscriptions, it has become critical for us to have a better understanding of how our subscribed resources are being used. We need to have the ability to continuously review and measure the content and usage of the journal collection. How to provide concrete data to explain that certain journals should be cancelled due to high subscription cost and low usage? How to justify shifting our collection focus from typical research topics to emerging research areas? How to decide what printed journals we still need to keep as they are still being consulted very heavily by our users?

In 2006, our Systems staff developed an assessment tool JURO, Journal Usage Report Online, to address these specific requirements. It is capable of importing usage statistics supplied by content providers in a uniform format known as COUNTER (Counting Online Usage of Networked Electronic Resources), importing actual print usage data collected by the Library in separate journal usage studies, importing web access log statistics, as well as seamlessly extracting relevant data from the Library Catalog's bibliographic, check-in, holding and order records to assist users, to perform collection analysis and to help make renewal and cancellation decisions.

* Next-generation Library Catalog

To improve users and our ability to locate items in our collections, the HKUST Library is currently testing Scriblio, one of the open source software packages which provide effective ways to search and view a library catalog. Scriblio is an open source library catalog interface designed as a plugin package for the WordPress blog software.2

As an experimental project for creating a "next generation" library catalog interface, we have set up a testing server to see how useful Scriblio could be for our users. Customization of the Scriblio code was made to support the display and searching of CJK MARC records, which contain parallel CJK data in tag 880. CJK full-text searching is enabled by using Scriblio's supported Sphinx search engine, together with the TSVCC linking mechanism³ as developed by the HKIUG.

2 To learn more about Scriblio see the information at http://about.scriblio.net/.
3 For more information on TSVCC (Traditional, Simplified, Variant Chinese Characters) links for Chinese characters see http://hkiug.ln.edu.hk/unicode/#tsvctable.
It is amazing that with little effort and at almost zero cost, we are able to build an alternate catalog prototype that features Web/Library 2.0 technology such as tagging, faceted searching, user comments, RSS feeds, together with real-time local holdings display, full-text linking to e-journals and e-books, and incorporation of book jacket images, description and review from Amazon.

* Evaluation of Borrowing and Lending Data

We occasionally analyze borrowing requests made by our users to identify acquisition priorities and also analyze the items our library is lending to other libraries to see how our collection is used. For instance, we recently analyzed what books our library users borrowed from other academic libraries in Hong Kong through the HKALL system to decide if we need to supplement our collection with some of those items.

* Analyzation of Collection Strengths by Format and Subject

To make the most of our Library’s collections budget, we need good information that reveals our subject-matter strengths, gaps, and overlaps. Therefore we analyze our collections by subject and by format on a regular basis to shape our collection development activities and to help us plan for the future. We evaluate some parts of our collections more closely whenever there is a need. These collection analyses make it easier for us to manage processes for acquiring, canceling and weeding, as well as to plan for shifting of collections. As we only have a limited space, we need to plan for the best use of our shelf spaces. For instance, our Access Services staff is currently studying the shelf space with recommendations this spring for maximization of space for our collections.

6. Extending Information Access Beyond Local Resources

In addition to enhancing and managing our collections, we have also made considerable efforts to provide wider access beyond local information resources.

* Select and Catalog Open Access Journals

We have fully cataloged over two thousand "open access" (free, full-text, online) journals that are directly relevant or potentially useful to academic and research programs at HKUST. These scientific and scholarly journals include titles in
BioMed Central, PubMed Central, and DOAJ.

BioMed Central is an independent publishing house committed to providing immediate free access to peer-reviewed biomedical research. PubMed Central is a digital archive of life sciences journal literature, developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM). DOAJ (Directory of Open Access Journals) aims to be comprehensive and cover all open access scientific and scholarly journals with an appropriate quality control system, and it will not be limited to particular languages or subject areas.

As you may know, the "Open access" movement is concerned with better and broader access to scholarly information; and especially reducing economic barriers to such access. The Institutional Repository established and maintained by our Library (http://repository.ust.hk/), employing the Open Archives Initiative's Metadata Harvesting Protocol for easy global access to scholarly content created by the HKUST community, is very much related to this open access concept.

* Evaluate and Choose Internet Resources

As you know, Internet offers numerous links to online resources, but many contain poor quality content or outdated information. Our Library has been evaluating and selecting Internet resources for our users since 1997. There are now about 1,400 sites on the Internet Resources pages. We carefully evaluate the sites, and also maintain the links to make sure they are stable and updated.

Many Chinese websites or websites about China have been selected in recent years. In the past two years we have also added categories for additional important subjects, such as Patents and Standards, Transportation and Logistics and Scholarly Communication, which includes the amazing OAIster and Google Scholar.

* ILL with local and overseas academic libraries

All HKUST faculty, staff and students are eligible for interlibrary loan service. And we have reciprocal ILL agreements with other academic libraries in Hong Kong, i.e. ILL request without a fee. We use ILLiad as our interlibrary loan management system which offers a patron Web interface to check request history and the status of a request, to view checked-out items and request for renewals, and to access
electronically delivered articles. For faculty and staff, ILL photocopies will be
delivered to their ILLiad account electronically or their office via campus mail. For
students, photocopies will be posted to their ILLiad account or held for pick-up at the
Circulation Counter according to their preference.

We have also recently joined RAPID, a fast, cost-effective, innovative resource
sharing system. Over 90 academic libraries, including MIT, Cornell, Princeton, are
current members of the RAPID system.

* HKALL Program

HKALL(港書網), Hong Kong Academic Library Link(香港高校圖書聯網), is a
project in accelerated resource sharing jointly undertaken by the academic libraries of
eight local tertiary institutions.

Implemented in INN-reach software from Innovative Interfaces and running on a
Sun server housed at the University of Hong Kong Libraries, HKALL is a union
catalogue allowing the students and staff of the eight partner institutions to search a
mega collection of over 4 million titles of monographs held in the eight participating
libraries. They can make direct requests on these materials, and have the materials
delivered to the libraries of their respective institutions for further checkout. In cases
where printed materials cannot be sent via HKALL, students and academic staff may
be able to go to that library personally to use the item in question. Although similar
projects exist in other parts of the world, HKALL is the first to include a large number
of Chinese vernacular items.

7. Conclusions

A balanced and effective program of collection development and management
requires considerable team efforts, especially in a changing environment. Collection
development decisions often involve the consideration of different factors or variables.
Even free or gift materials should be carefully evaluated in terms of the collection
development goals of the Library before their acceptance.

At HKUST, we have continued to explore ways that will result in distinct

4 RAPID (Rapid Access Processing & Information Delivery) system was designed and
implemented by Colorado State University Libraries' Interlibrary Loan department.
advantages to learning and research activities as a whole. Given the limitation of our fiscal resources, we have implemented strategies that have allowed for the widest possible coverage of scholarly information resources on a coordinated basis. At the same time, we have remained sensitive to the changing instructional purposes of our academic departments and the complex and varying research information needs of our students, faculty and staff.

Electronic information has brought significant changes to scholarly communication as well as to collection development and management. Although print and other traditional materials will not disappear from our library collections, delivery and preservation of electronic information will become increasingly important to all of us. The concept of what constitutes a library collection in a networked environment is undergoing a transformation from the old one defined largely by ownership. This conceptual and practical transformation is still taking place, far from over. Therefore, I appreciate very much this opportunity to share with you some of our experiences in collection development and management in such a changing environment.