



**It takes more than changing the letter
from P to E: A Hong Kong Library's perspective
in adopting E-books**

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Meeting:

212. Acquisition and Collection Development

WORLD LIBRARY AND INFORMATION CONGRESS: 75TH IFLA GENERAL CONFERENCE AND COUNCIL

23-27 August 2009, Milan, Italy

<http://www.ifla.org/annual-conference/ifla75/index.htm>

Abstract:

During 2006 to 2008, libraries of the eight government funded tertiary institutions in Hong Kong capitalized on a special grant (Electronic Resources Academic Library Link, ERALL) from their parent intuitions and the Hong Kong Government to jointly acquire over 15,000 titles of electronic English monographs. This paper discusses how Lingnan University Library as a member of ERALL addressed issues such as what e-books to acquire, how to deliver them effectively to users, ownership and on-going maintenance of these networked resources etc., and how we took the opportunity of ERALL to integrate overlap analysis, access checking and monitoring, and computer generated OPAC records for electronic books into our collection development and resources management workflows.

1. Introduction

Shrinking budgets, skyrocketed journal subscription prices, and limited space have forced academic libraries in Hong Kong to rethink their collection development strategies for monographs. During 2006 to 2008, libraries of the eight government funded tertiary institutions in Hong Kong capitalized on a special grant (Electronic Resources Academic Library Link, ERALL) from their parent intuitions and the Hong Kong Government to jointly acquire over 15,000 titles of electronic English

monographs. While this sudden surge of electronic books allowed the libraries to enrich their collections rapidly, it also required them to act quickly in changing their collection development policies and resources management workflows which were designed mainly for the print environment. What to acquire, how to deliver e-books effectively to users, ownership and on-going maintenance of these networked resources were just some of the major factors that the libraries had to address within a very short period of time. This paper discusses how Lingnan University Library as a member of ERALL addressed these issues, and how we took the opportunity of ERALL to integrate overlap analysis, access checking and monitoring, and computer generated OPAC records for electronic books into our collection development and management workflows. Several in-house developed applications are highlighted to demonstrate how the workflows function. These include the OMA (Overlap analysis, MARC records generation, Access checking and monitoring) and SUMAS (Subscription Management Solution) systems.

2. The ERALL Initiative

ERALL (Electronic Resources Academic Library Link) is an initiative to form the eight Hong Kong Government funded university libraries into a consortium to move from a group-purchasing model to collaborative collection development model with emphasis on English-language e-books. With financial support from the University Grants Committee (UGC, the government funding body for tertiary education in Hong Kong) and the parent institutions of the eight libraries, the 2-year project was implemented between August 2006 and July 2008.

The following table summarizes the sizes of student population and library collection of the eight libraries at the beginning of the ERALL Project. At that time, the majority of academic libraries in Hong Kong had e-books making up less than 10% of their collections. Although the Lingnan University Library owned more than 50,000 e-books at that time, over 80% of them were digitized dissertations from the China Doctor/Master Dissertations Full-text Database and the ProQuest Dissertations & Theses Database. There were also several thousand Chinese e-books from Apabi. The remaining e-books were English-language monographs from ACLS Humanities eBooks, ACM Digital Library, Naxos Spoken Word Library, and NetLibrary. They only represented 5.5% of Lingnan's entire e-book collection.

Table 1: Year 2006 student enrolment & library collection size of the 8 government-funded universities in Hong Kong [Source: Websites of UGC and JULAC (Joint University Librarians Advisory Committee)]

University	Student Enrolment (FTE)	Print Volumes in Library	E-Books (Titles)
City University of Hong Kong	8,524	1,033,796	189,025
The Chinese University of Hong Kong	12,044	1,998,770	66,652
Hong Kong Baptist University	5,089	938,548	61,501
The Hong Kong Institute of Education	3,226	633,328	2,917
The University of Hong Kong	11,979	2,471,827	1,015,755
The Hong Kong University of Science and Technology	6,675	633,801	46,092
Lingnan University	2,293	413,734	50,542
The Hong Kong Polytechnic University	8,814	1,142,637	115,748
Total	58,644	9,266,441	1,548,232

Shrinking budgets and increasing journal subscription prices in recent years have forced the university libraries in Hong Kong to channel most of their budgets to acquire journals at the expense of monographs. Electronic journals now share an increasingly higher percentage of the libraries' budgets. The direct impact of this is libraries are acquiring far fewer books than before. This is especially to English books which are usually more expensive than the Chinese ones. Since 2000, Lingnan's book acquisition has been decreasing steadily. Statistics indicate that as of mid-2008, we were acquiring over 50% fewer books per annum than year 2000.

Universities in Hong Kong use English as the main teaching language. English-language monographs are therefore important resources for our students. In order to prevent the shrinking growth of the English monograph collection from causing adverse effect to teaching and learning of our academics and students, the eight university libraries had come together to look for an efficient and effective way to boost the quantity and quality of our English monograph collections. ERALL was hence formed to provide a solution.

2.1 Objectives of ERALL

1. To strengthen the English-language monograph collections of member libraries.
2. To extend the range and depth of our collections.
3. To acquire e-books at the lowest unit cost for shared access on perpetual basis.
4. To keep duplication to a minimum (except for titles in high demand). This

ensures that the maximum number of unique titles is available to cover a wide range of teaching and research subject areas of the eight universities.

5. To offer another resource sharing alternative to inter-library loan that requires no physical transportation of materials thus resulting in substantial savings in time and manpower.
6. To free stack and storage space,
7. To support e-learning.

2.2 Funding of ERALL

1. The overall budget for the project was around US\$ 2 million.
2. UGC funded 50% of the project to cover acquisition of the e-books, employment of project staff, and expenses for educational work and materials on use of e-books.
3. The eight universities provided a matching fund to support the remaining 50% of funding.
4. Member libraries shared the cost of the matching fund based on the size of their parent institutions' annual block grants from the Government.

2.3 Organization of ERALL

1. ERALL is overseen by the ERALL Steering Committee (ESC) which comprises all directors of the eight member libraries.
2. ERALL Implementation Committee (EIC), which directly reports to the ESC, is charged to execute responsibilities such as evaluation, negotiation, and selection of e-book packages, and collection development and usage evaluation. Each member library is represented at the EIC.
3. A project manager was employed to perform central coordination work.
4. A project executive officer was also employed to undertake administrative and liaison duties pertaining to finance matters of the project.

3. Impact on Collection Policies & Workflows

While ERALL provided member libraries an excellent opportunity to enrich their English-language monograph collections, it also required them to act quickly in adjusting their collection development policies and workflows to cater for the sudden surge of electronic books. What to acquire, avoiding purchase print duplicates of the same e-book, how to deliver the e-books effectively to users,

on-going maintenance of these networked resources were just some of the major factors that the libraries had to address within a very short period of time.

3.1 What to Acquire

First, the libraries had to decide what e-books to acquire with the ERALL fund. This included deciding selection criteria and selecting vendors for further negotiation within the first 3 months of the Project. Issues such as different purchasing models, perpetual ownership, access fees, hosting fees, content update costs, and archival rights were matters that all needed to be considered when making acquisition decisions. After much deliberation, the selection criteria in Table 2 were agreed by member libraries.

Table 2: Selection criteria for e-book packages

Purpose	E-books would be acquired for supporting teaching and research of member universities.
Copyright	E-books acquired must be copyrighted.
Language	Only English-language titles would be considered, as this was defined by the original scope of the EARLL project.
Subject relevance	All subject areas would be considered, as the subject profiles of the 8 universities are quite diverse.
Currency	Priority was given to materials with content outdated / updated rapidly.
Usage	Priority was given to heavily in-demand items.
Format	Priority was given to core reference materials and core textbooks.
Access	Multiple / Unlimited access preferred.
Ownership	Perpetual ownership is essential.
Cost	Should be cheaper than print.
Interface	Should be user-friendly and with value-added services.
Publisher / vendor	Should be of good reputation.

After scanning the market, 15 e-book packages were identified as worthy for consideration. Each member library was assigned one to two packages to investigate using the agreed selection criteria. Subsequently, 5 packages were shortlisted for further negotiation. All packages were eventually acquired by the consortium. When selecting the final packages for acquisition, careful consideration was given to the subject strengths of different universities. As Lingnan is a Liberal Arts University, we strongly advocated that non-STM titles should take a significant share of the e-books to be acquired, and the consortium had addressed our need in its decision.

Table 3: E-book packages acquired by ERALL

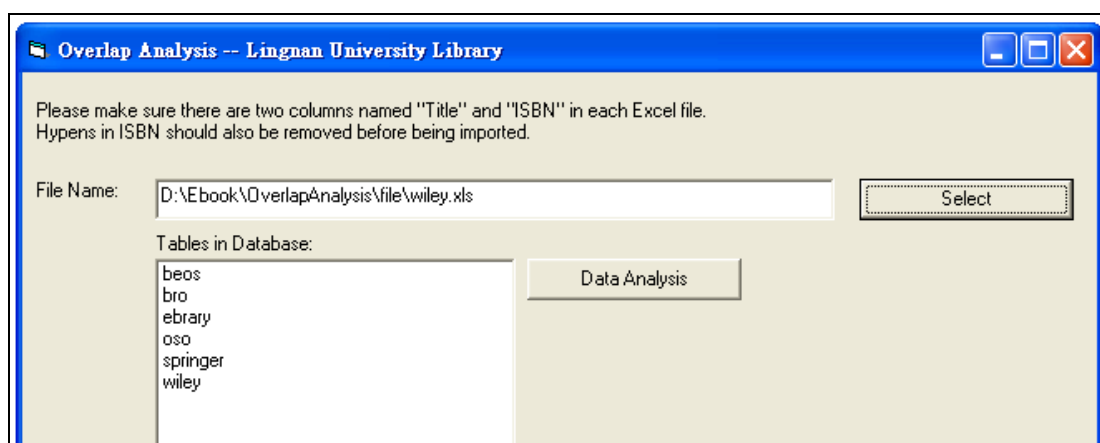
Package	Titles (Total 15,472)	Volumes (Total 18,253)	Pub. Year	Concurrent Access
Blackwell Reference Online & Blackwell Encyclopedia of Sociology	278	288	1993-2007	Unlimited
ebrary	4,395	6,956	2006-2008	1 to 3
Oxford Reference Online & Digital Reference Shelf	1,838	1,838	1963-2008	Unlimited
SpringerLink E-books	8,952	8,952	2005-2007	Unlimited
Wiley Electronic Major Reference Works	9	9	1999-2006	Unlimited

3.2 Avoiding Duplicates

Members also agreed that we should acquire the maximum number of e-books with the minimum duplication. To achieve this, two levels of checking were required. Level 1: Duplicate checking among the selected packages. Level 2: Duplicate checking against a library's existing print collection. At Lingnan, we used an in-house developed programme, OMA, to assist the overlap analysis. The programme is named OMA because in addition to Overlap checking, it also performs MARC records generation and Access checking and monitoring.

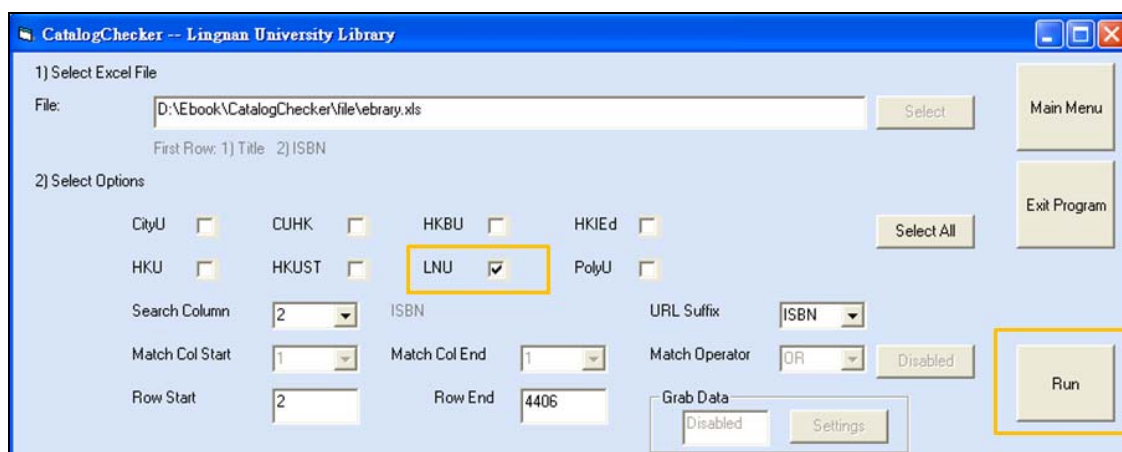
Using ISBN as the match key, OMA found that overlap among the 5 shortlisted packages is minimal (below 0.5%).

Figure 1: OMA – Level 1 overlap analysis



The second level analysis found that overlap between the packages and Lingnan's print collection was not high. Take the ebrary package as an example, the overlap rate was 15%.

Figure 2: OMA – Level 2 overlap analysis



To avoid acquiring print duplicates, our acquisitions department also acted promptly to cancel orders for duplicate print titles (e.g. some Springer titles that were already covered by the ERALL package).

3.3 MARC Record Generation & Upload to OPAC

Compared with print book acquisition, turnaround time of acquiring e-books from ordering to receiving is much faster. However, if a more effective plan in cataloguing these e-books is not in place, it could become a bottleneck for delivering the resources to users. Dealing with the cataloguing and processing of an e-book

collection with several thousand titles, one has to seriously consider arrangements such as conducting a batch loading of MARC records generated from title lists to provide access instantly to users from the OPAC, and then make enhancements afterwards. Also, one needs to consider whether adopting a single record approach or separate records approach to handle bibliographic record of an e-book title and its print counterpart.

Using the SpringerLink e-books as an example, although the publisher was willing to provide MARC records to ERALL libraries, the waiting period was at least several months. Instead of letting thousands of readily available e-book titles be missing from the Lingnan OPAC for several months, we decided to use OMA to generate MARC records from the publisher's title list, and loaded them to our OPAC for our students and academics to search and access. For easy management and future updates, we also decided to opt for the separate records approach for a title's electronic and print versions.

Figure 3: OMA – MARC records generation

The screenshot displays the OMA software interface for generating MARC records. It consists of several windows:

- Main Window:** Shows a table of e-book titles with columns for title, author, publisher, year, and URL. Three rows are highlighted:

Year	Title	Author	Publisher	Year	URL
2006	10 Years Sout Busek, Erh:Busek, Erhard		2006 Springer	9783211372456	http://www.eb_s...
2005	100% Evil		2005 Princeton	9781568986296	http://www.eb_s...
2007	104 Number Th Andreescu, Andreesc Andrica, C Feng, Zur		2007 Birkh[228]	9780817645618	http://www.eb_s...
- GenMARC (Lingnan University Library):** A window with a 'File' field containing 'D:\eBook\GenMARC\springerlink.xls' and a 'Run' button. A status bar indicates 'Total Number of Rows: 51'.
- fixedfield.txt - 記事本:** A text editor window showing the generated MARC record for the first title:


```
=LDR 00000nam 2200289 a 4500
=006 m|||||d|||||
=007 cr|cn|||||
=040 \\\$aRNL|dRNL
=506 \\\$aAccess restricted to Lingnan University users.
```

Annotations in the image include:

- 1.** A red arrow pointing to the table with the text: "OMA converts e-book title list into MARC records based on established cataloguing policies".
- 2.** A red box around the 'GenMARC' window.
- 3.** A red box around the 'fixedfield.txt' window.

At Lingnan, we have developed our OPAC as the Library Resources Portal. Staff and students are accustomed to use the OPAC to discover and access print and online (via URLs) resources with this portal. Making MARC records available in the OPAC as soon as the publishers had activated our access to the e-books was therefore the

most efficient and effective way to deliver the e-books to our users.

3.4 Access Checking & Monitoring

Unlike managing print books, library staff have to consider and handle the new workflows regarding accessing e-books in the library collection. These include access activation, informing vendors on latest IP ranges for on and off campus accesses, configuration of firewall settings, network bandwidth, URL verification, special software and hardware requirements (e.g. compatibility of e-book reader plug-ins with web browsers), etc.

In order to ensure our users' smooth access to the e-books, OMA performs access checking both prior and after the launch of an e-book package to users. OMA also reports access problems caused by broken URL or an incorrect URL link which belongs to another title. With OMA's instant report, we can report the problems to the service provider immediately.

Figure 4: OMA – Access checking and monitoring

1. Link checking against URLs in title lists

2. Instant report on successful/failed access

BN	Title	EISBN	URL	Access Check	Matched (OR)
8-3-211-37244-9	10 Years Southwest European Cooper...	978-3-211-37244-9	http://www.springerlink.com/...	Timed Out	
1-56898-526-8	100% Evil	978-1-56898-526-8	http://www.springerlink.com/...	Timed Out	
0-8176-4527-4	104 Number Theory Problems	978-0-8176-4527-4	http://www.springerlink.com/...	Timed Out	
3-540-73043-9	11th Mediterranean Conference on M...	978-3-540-73043-9	http://www.springerlink.com/...	Timed Out	
3-540-73840-4	13th International Conference on Elec...	978-3-540-73840-4	http://www.springerlink.com/...	Timed Out	
3-540-36714-7	16th Hemispha Symposium Hamburg 1978	978-3-540-36714-7	http://www.springerlink.com/...	Server not found	
1-4020-6181-3	3D Imaging for Safety and Security	978-1-4020-6181-3	http://www.springerlink.com/...	Server not found	
0-8176-4527-4	3-D Shape Estimation and Image Resto...	978-1-84628-176-1	http://www.springerlink.com/...	Server not found	
3-540-74054-4	3rd Kuala Lumpur International Confer...	978-3-540-74054-4	http://www.springerlink.com/...	Server not found	
1-4020-6181-3	50 Years of EU Economic Dynamics	978-1-4020-6181-3	http://www.springerlink.com/...	Server not found	
1-84628-176-1	A Basic Course on Probability Theory	978-1-84628-176-1	http://www.springerlink.com/...	Server not found	
3-540-68016-1	A Bonasia Future for the North Ameri...	978-3-540-68016-1	http://www.springerlink.com/...	Server not found	
3-540-74054-4	A Buyer's and User's Guide to Astrone...	978-3-540-74054-4	http://www.springerlink.com/...	Server not found	
0-387-27938-2	A Changing World	978-0-387-27938-2	http://www.springerlink.com/...	File not found	
1-4020-5600-0	A Classical Introduction to Cryptograp...	978-1-4020-5600-0	http://www.springerlink.com/...	File not found	
0-387-71938-2	A Computer Scientist's Guide to Call B...	978-0-387-71938-2	http://www.springerlink.com/...	File not found	
1-4020-5600-0	A Concise Course on Stochastic Partia...	978-1-4020-5600-0	http://www.springerlink.com/...	File not found	
0-387-48275-0	A Course in Enumeration	978-0-387-48275-0	http://www.springerlink.com/...	File not found	
1-84628-439-7	A Dressing Method in Mathematical Ph...	978-1-84628-439-7	http://www.springerlink.com/...	File not found	
1-4020-4434-2	A First Course in Statistics for Signa...	978-1-4020-4434-2	http://www.springerlink.com/...	File not found	
0-387-27938-2	A Geometric Approach to Differential F...	978-0-387-27938-2	http://www.springerlink.com/...	File not found	
0-387-48275-0	A Graph-Theoretic Approach to Entere...	978-0-387-48275-0	http://www.springerlink.com/...	File not found	
3-540-71999-1	A High-Performance Logical Framework...	978-3-540-71999-1	http://www.springerlink.com/...	OK	Title
1-84628-439-7	A History of Chinese Mathematics	978-1-84628-439-7	http://www.springerlink.com/...	OK	Title
1-84628-509-7	A History of Limb Amputation	978-1-84628-509-7	http://www.springerlink.com/...	OK	Title
3-540-33032-9	A History of Thermodynamics	978-3-540-33032-9	http://www.springerlink.com/...	OK	Title
1-4020-5217-0	A Life (Un)Worthy of Living	978-1-4020-5217-0	http://www.springerlink.com/...	OK	Title
1-4020-5218-7	A Life (Un)Worthy of Living	978-1-4020-5218-7	http://www.springerlink.com/...	OK	Title
1-4020-5218-7	A Linear System Primer	978-1-4020-5218-7	http://www.springerlink.com/...	OK	Title
0-8176-4516-1	A Geometric Approach to Diff	978-0-8176-4516-1	http://www.springerlink.com/...	OK	Title
0-8176-4519-1	A Graph-Theoretic Approach	978-0-8176-4519-1	http://www.springerlink.com/...	OK	Title
3-540-71999-1	A High-Performance Logical	978-3-540-71999-1	http://www.springerlink.com/...	OK	Title
0-8176-4684-4	A History of Abstract Algebra	978-0-8176-4684-4	http://www.springerlink.com/...	OK	Title
3-540-33783-9	A History of Chinese Mathem	978-3-540-33783-9	http://www.springerlink.com/...	OK	Title
1-84628-509-7	A History of Limb Amputation	978-1-84628-509-7	http://www.springerlink.com/...	OK	Title
3-540-46227-8	A History of Thermodynamics	978-3-540-46227-8	http://www.springerlink.com/...	OK	Title
1-4020-5218-7	A Life (Un)Worthy of Living	978-1-4020-5218-7	http://www.springerlink.com/...	OK	Title
1-4020-6102-1	A Linear System Primer	978-1-4020-6102-1	http://www.springerlink.com/...	OK	Title

3.5 Record Keeping & Ongoing Maintenance

Although the libraries have perpetual ownership of the e-books they acquired with ERALL, record keeping and ongoing maintenance are essential to make sure that safe and smooth access to the collections can be maintained in the long run. These are requirements applied to almost all electronic resources, including e-books. For example, most e-book vendors or publishers would waive the platform fee for the first few years after an e-book or a set of e-books have been acquired perpetually. After the agreed term is expired, libraries are required to either pay a fee or subscribe to other electronic resources from the same vendor or publisher in order to maintain the access to the e-books perpetually owned by them.

As such, a system which can support record keeping, e-resources management, subscriptions management, budget monitoring, automatic e-mail alert for renewals, and generating instant online reports is necessary for managing a library's e-book collection. At Lingnan, we have developed a system, named SUMAS (Subscription Management Solution) to fill our needs.

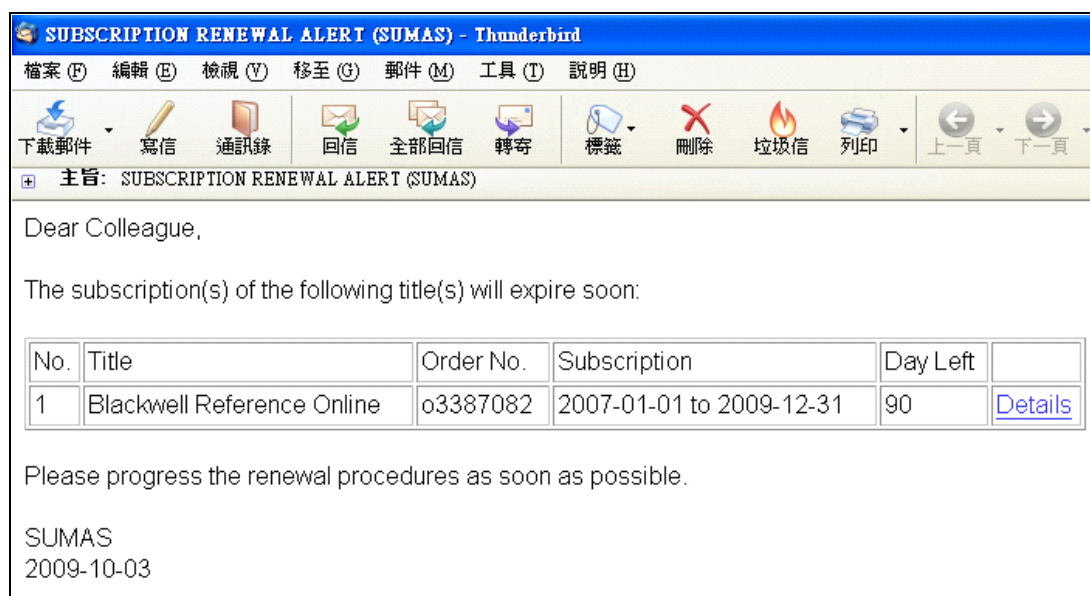
The objective of the development of SUMAS is to build up a small but powerful system to automate and streamline workflows for e-resource subscription management, including those for e-books and e-journals. Main functions of SUMAS are:

Table 4: Main functions of SUMAS

Subscription Management	<ul style="list-style-type: none"> - Provides up-to-date information of an e-resource, including its title, subscription period, status of the subscription, order type such as "by Lingnan" or "by consortium", payment type such as "one-off" or "subscription-based", who is the service provider, fund code and who is the recommender, etc. - Keeps track of quotation, invoice, and payment information such as unit price and total amount, period charged, ongoing platform fees, date and number of the relevant documents. - If the Library has paid up front for a multi-year e-resource subscription, SUMAS provides the actual amount of each of the fiscal year our Library actually spends.
E-Resources Management	<ul style="list-style-type: none"> - Provides administrative information to support e-resource management, such as the official URL of the e-resource, information regarding authentication methods (e.g. IP or user login), number of concurrent access, etc.

	<ul style="list-style-type: none"> - Provides information for downloading title list, MARC records, usage statistics, setting for link resolvers, IP range and firewall setting requirements, etc. - Keeps track of administration website and its login information, technical contact, etc. - SUMAS also keeps track of information to support Inter-library loan activities. Such as, can the e-resource be shared with other libraries via ILL services, which region is allowed, any additional charges to be applied, etc.
Document Management	<ul style="list-style-type: none"> - PDF copies of documents such as license agreements, supplements or addendums, quotations or invoices can be accessed online from SUMAS with just a click.
E-Mail Alerts	<ul style="list-style-type: none"> - Provides two types of e-mail alert. First, it sends e-mail to remind library staff to process a subscription renewal. After receiving the invoice, the staff would receive e-mail reminders from SUMAS at set intervals until the payment is settled.
Management Reports	<ul style="list-style-type: none"> - Report on all e-resources that Lingnan currently subscribes to. - Report on items that are on-order, invoices being processed, payment status and amount, etc. - Analyzes usage statistics and cost of an e-resource to provide its cost per access evaluation.

Figure 5: SUMAS – Email reminder for paying platform fees



4. Conclusion

Libraries in Hong Kong are adopting more and more e-books in recent years to minimize the impact of shrinking book budgets and limited shelving space to their monograph collections. This trend is reflected by statistics (see Table 5) which indicate that the growth of the libraries' e-book collections is far greater than that of the print collections.

Table 5. Year 2008 library collection size of the 8 government-funded universities in Hong Kong [Source: Websites of JULAC (Joint University Librarians Advisory Committee)]

University	Print Volumes in Library	E-Books (Titles)	Print Vol. Increase vs. 2006	E-Books Increase vs. 2006
City University of Hong Kong	1,083,883	240,876	+4.84%	+27.43%
The Chinese University of Hong Kong	2,166,569	267,172	+8.40%	+300.85%
Hong Kong Baptist University	1,016,817	145,283	+8.34%	+136.23%
The Hong Kong Institute of Education	700,706	39,794	+10.64%	+1264.21%
The University of Hong Kong	2,645,696	1,573,054	+7.03%	+54.87%
The Hong Kong University of Science and Technology	654,171	114,380	+3.21%	+148.16%
Lingnan University	444,570	107,001	+7.45%	+111.71%
The Hong Kong Polytechnic University	1,229,173	225,033	+7.57%	+94.42%
Total	9,941,585	2,712,593	+7.29%	+75.21%

In the mean time, adopting e-books for library collections has fundamentally changed the business processes in collection development and management. A set of new procedures and workflows that are specific for the online environment have emerged. Our experience with OMA and SUMAS has demonstrated that information technology is the best facilitator for timely implementation of the new businesses processes and their integration with established workflows.

The change has also called for libraries to revise their collection policies that were primarily designed for the print environment. At Lingnan, new acquisition policies have been introduced to cater for e-books:

1. Uniqueness – A book title is available in electronic format only.
2. Access – The acquisition of an electronic book should facilitate access and

alleviate the need for multiple physical copies. Examples are reference materials and textbooks.

3. Convenience of use – A book title is accessible either via a dedicated system with value-added features or directly through the Library catalogue. Users should be able to print pages or chapters as they would with a print text.
4. Currency of content – The content of a title is updated frequently.
5. Authoritative text – The text is authoritative, i.e. provided by a trustworthy and critical source and ideally includes an image of the original for verification. (e.g. Project Gutenberg texts would not be considered as authoritative.)

It is anticipated that over the next few years more publishers will move towards making their reference materials available in electronic format in addition to or in place of print and in providing online access to their backfiles. For many reference sources it will mean that what would have been one-time purchases will now be subscription-based with annual fees for hosting and for updates. For libraries, what was once a single expense on a monograph has now become an annual expense on a constantly updated resource: the service improves but the Library now has to carry a new, on-going cost and one that will be subject to inflationary pressures.

Meanwhile, for libraries which put emphasis on Humanities collections, print books will still play a major role in collection development. This is because to date, most digital titles are aimed at the consumer or the science and medical market. Humanities publishers make far fewer titles available and often release the digital title one to three years after the print, often only as part of a package that requires the purchase of duplicate or unwanted texts. To many Humanities publishers, the print market is too important for them to give up and there is not yet a digital market structure that can replace it.

For the future, we envisage that e-books will continue to grow substantially among university libraries in Hong Kong. However, we do not see them become replacements for print books any time soon. Instead, the two type of resources will continue to co-exist and complementing each other.

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