Piloting an information commons at HKUST Library

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Abstract

Purpose – The purpose of this paper is to present the experience of piloting an information commons at a major academic library in Hong Kong.

Design/methodology/approach – At the pilot phase, assessment is crucial. The article reports how the HKUST Library monitors usage and conducted satisfaction surveys to identify users’ needs, expose strengths and weaknesses of the service, and set direction for future development.

Findings – The assessment data reveal users’ needs and behaviors. Such information helps the Library to refine the existing service, and compose a sound proposal for expansion. The experience cumulated through the pilot also forms the basis of future planning.

Originality/value – The experience that HKUST tested the concept of commons using a pilot phase, guided by its assessment program, may have reference value to other commons projects.

Keywords Information management, Academic libraries, Project evaluation, Hong Kong, China

Paper type Case study

Introduction

The Hong Kong University of Science and Technology (HKUST) is a major research university in Hong Kong. In the academic year 2008/2009, it has over 9,000 students; about one-third of the population is postgraduates. Currently, the university offers a three-year undergraduate program. Under the higher education curriculum reform, all government-funded universities in Hong Kong, HKUST being one, will be implementing four-year undergraduate education in 2012. This landmark in the University’s development will not only bring a considerable growth in student body and faculty, it will also mean that the University Library needs to explore and adopt new services to support the learning and teaching of the new curriculum and institutional goals.

The University Library is centrally located on the campus with a floor space of over 10,000 square meters. The Information Commons (IC) was launched in September 2006 as a pilot phase. The main IC area is located on the entrance floor of the Library building. The whole IC consists of over 50 workstations, networked printers, scanners, presentation rooms, collaboration spaces and a designated help desk. The project was supported by a special funding from the University’s Vice President for Academic Affairs, in response to a budget proposal submitted by the Library Director, Dr Samson Soong. The funding covers the physical facility and the opening of two technical positions carrying the title of “Information Commons Officer”.

This paper shares the information commons experience at HKUST, with detailed description of the assessment program during this pilot phase.
Information commons as a new service model
The service model of information commons has been discussed and explored for a number of years in the library literature. Many successful cases have already been implemented in libraries worldwide.

Since the information commons was conceptualized as a model for service delivery in this highly complex and fluid digital environment (Beagle, 1999), the development of commons picked up momentum. The new model is not only about providing new services, but also encompasses new perspectives on services, such as redefining collaboration and promoting social learning (Tucker, 2007). As the information and education landscape continues to evolve, the commons should adapt to become Commons 2.0 that foster learning in creative ways (Sinclair, 2007). While the service model is being explored, increasing attention is drawn to measuring impact, and the emphasis of linking the facility to students’ learning (Lippincott, 2006).

Libraries in different parts of the world have been implementing the service model in a wide range of scale with encouraging outcomes. The name of the service may vary but the core service ideals remain essentially the same. Case studies outline many success stories and lessons learned in libraries in the USA and Canada (MacWhinnie, 2003; Bailey and Tierney, 2008). In December 2007, the International Conference on Information and Learning Commons hosted by HKUST showcased a number of commons in the UK, Australia and New Zealand. Among them are the Saltire Centre in Glasgow, the Learning Commons at the Victoria University, and the Information Commons Group at The University of Auckland.

Commons at Hong Kong academic libraries
Despite the substantial literature on the concept, management and operation of information commons, such innovative library services with a focus on integrating workspace, services and technology remained rather novel to university communities in Hong Kong until recent years. Among the universities and higher institutions funded by the Hong Kong government, the University of Hong Kong Libraries created the Knowledge Navigation Centre as early as 1998: “its one-stop shop concept allows users to find information and produce their knowledge products at the same place” (Wan and Yiu, 2007). Although it does not carry the name “information commons” or “learning commons”, it is indeed a pioneer in that line of library service development. The first project that officially followed the commons concept did not come about until 2005, when Lingnan University Library offered its information commons providing integrated service in a computerized environment. In Fall 2006, the HKUST IC was launched as a pilot phase. Not long after, the City University of Hong Kong Learning Commons emerged as an ambitious initiative, with its first phase completed in November 2007 (To, 2007).

The planning and provision of technology-rich and supportive library space is the likely main theme of library development in Hong Kong in the coming years. The transformation to a four-year program in 2012 carries tremendous implications for libraries. Besides the sheer rise in user population in both students and faculty groups, these users are going to have different needs under the new curriculum and pedagogy. The need for study space is loaded with extra significance in Hong Kong, where the population density is among the highest in the world. According to Hong Kong Government statistics, 30 per cent of the city’s households reside in public rental
housing, where the average living space per person is only 12.4 square meters (Housing Department, Government of Hong Kong SAR, 2008). Families who live in privately owned flats may have comparable or slightly more space. In Hong Kong, most young people live with their families; it is typical for students not to have private study space at home. While university residences can only accommodate a portion of the students, libraries bear an essential role in providing study space — quality space that is supportive and conducive to learning.

As universities are in the process of increasing the capacity of campus services and facilities for the additional student intake, many libraries are incorporating various models of commons into their expansion planning. There are many questions to be answered:

- What kind of commons is optimal within the institutional context?
- Should it be an IC that supports the institutional goals, or a LC that enacts the institutional goals (Bennett, 2008)?
- Does the commons go beyond the purview of the library?
- How does the library’s organization structure provide for the management or participation of the management of the commons?
- How is it related to other student supporting units in a campus?

Different libraries will have different answers to these questions. They will also have issues that are unique to their own institutions. Nevertheless, the discussion of commons is certainly going to stay in the limelight among academic libraries in Hong Kong.

**The Information Commons at HKUST**

At the HKUST Library, the pilot phase of the IC was an important project from a strategic point of view. It was initiated before, and independent from, the building expansion project under the four-year program planning. No new space was made for the IC pilot. The Library repurposed the space of about one-third of the Reference Collection shelves on the entrance floor for the main IC area; two seminar rooms were upgraded to provide presentation capability by adding IC workstations and overhead projectors.

On the staff side, the funding allowed the Library to hire two IC officers to set up and maintain the facilities. They also carry the responsibility of serving users at the IC Help Desk. A reference librarian was assigned as the IC coordinator on top on her regular reference duty. In the organization structure, the two new IC officers belong to both the Systems Department and the Reference Department, although they spend most of their working time either in the Systems Office or at the IC Help Desk. One can say that the IC pilot was created out of a small adjustment in the Library, both in space and in management structure.

Back in 2006 when the pilot phase was launched, the concept of a commons in the Library was still rather fresh on the HKUST campus. Funding support from the university administration was a one-off; library staff knew little about how users would respond to it and what complexities and challenges lay ahead; users simply thought the Library had created a computer center. Despite certain misconceptions, the library administration could see that commons would be the way to go as the campus
grew in the coming years, and librarians were confident that the pilot phase could demonstrate the great potential of an information commons for facilitating teaching and enhancing the learning experience for students. The experience gathered from running the pilot would no doubt become the basis for library development along with the upcoming curriculum change. In this connection, the Library felt it necessary to devise a sound assessment program that recorded, produced and presented data to demonstrate the service value of an IC and to support future service planning.

**Assessment program for the HKUST IC**
The assessment program was designed to help the Library:

- understand users' needs on teaching and learning, so that Library services could remain relevant to them;
- evaluate service quality to help the service to stay on track;
- demonstrate accountability to the university's funding office;
- demonstrate service value to the university administration to garner continuous support; and
- demonstrate service value to users and potential service partners as a marketing gesture.

The program consists of two components:

1. usage monitor – usage data (quantitative) and observation (qualitative); and
2. user satisfaction survey – a survey was conducted in 2007, while it is planned to hold the second survey in Spring 2009.

Usage data is crucial in providing indisputable evidence of use levels and use patterns. Four sets of usage data are collected monthly:

- login/logout records;
- printer server log;
- software usage tracking; and
- the help desk transaction log.

These data are analyzed carefully, and the results are documented in monthly reports. Although the data did not reveal any surprises, they nonetheless provided a picture of who the IC is serving, and how they use the service and facility.

**Login/logout data**
Each login and logout is captured, i.e. the time stamp, computer node, user name and action (login or logout) (see Figure 1). From these data, staff can find out the times of each session, the status and affiliation of the users and the times they came in. Data across the months revealed some consistent use patterns.

**User groups**
The login figures support the librarians' assumption that the biggest group of users is undergraduates. During the semesters, over 80 per cent of the logins are contributed by undergraduates.
Traffic
Tracking the login time reveals the traffic at the IC. The hourly login counts rise and fall over the hours and over the months (see Figure 2). On a daily basis, the first peak usually appears at around 10 a.m., and the area stays hectic until the evening. As soon as the traffic pattern was observed, the opening hours were adjusted accordingly to cover the peak hours. This was the first example of how assessment data shapes the service.

Session length
The login count alone cannot indicate how much the facility is being occupied. A user may logout after one minute of use while another user may stay for four hours after login. The session time was thus used as a complementary indicator to show the occupancy of the facility. The session length is easily estimated by the difference between the login time stamp and the logout time stamp. As expected, usage rises when classes are in session, reaching above 70 percent during semesters.

One minor problem with using the occupancy rate to reflect the usage is that the calculated rate is an overall figure. Although the IC seems to be full most of the day, the occupancy rate rarely reaches 80 percent because the relatively low usage at quiet times.
hours diluted the figure. To complement the usage picture, sample snapshots were taken regularly. On the fourth and the twentieth of each month, the system captures the usage at every hour. This helps librarians look at the usage level from the users’ point of view. For example, on October 4 or November 20, 2007, it would have been quite hard for users to find a vacant station from 11 a.m. to 7 p.m. (see Table I). The snapshot data helps justify the need to increase the number of workstations.

Software tracking
The program Track4Win was acquired to record the active time of software applications at the IC. The figures help librarians evaluate the usefulness and popularity of individual applications, and tell them how well the IC is supporting students learning. As expected, besides web browsers, word processing and presentation software remain the most heavily used applications. With these figures, the Library may infer with confidence that students are primarily engaged in academic work at the IC.

Help Desk transaction log
The IC Help Desk is served by the Library IC Officers as well as a team of student helpers. They record every transaction encountered while on duty. A few years ago, the Library modified an open-source software, LibStats, to register reference counter transactions. Naturally, the Help Desk employed the same platform to record questions and answers. This proved to be very useful in providing both qualitative and quantitative information about the Help Desk service.

As the users become familiar with the service, more students seek technical help on increasingly complex questions (see Table II). In November 2006, the third month of operation, most transactions were about general enquiry and printing; software questions only accounted for 9 percent. In November 2007, while general enquiry dropped, software questions rose; a new category was also added to account for

<table>
<thead>
<tr>
<th>Time</th>
<th>April 20 (Friday)</th>
<th>May 20 (Sunday)</th>
<th>September 4 (Tuesday)</th>
<th>October 4 (Thursday)</th>
<th>October 20 (Saturday)</th>
<th>November 20 (Tuesday)</th>
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<tr>
<td>8 a.m.</td>
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<td>4</td>
<td>6</td>
<td>6</td>
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<td>6</td>
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<tr>
<td>9 a.m.</td>
<td>27</td>
<td>31</td>
<td>57</td>
<td>6</td>
<td>39</td>
<td>84</td>
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<td>10 a.m.</td>
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<td>96</td>
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<td>84</td>
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<td>11 a.m.</td>
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<td>47</td>
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<tr>
<td>12 p.m.</td>
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<td>98</td>
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<td>88</td>
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<tr>
<td>1 p.m.</td>
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<td>2 p.m.</td>
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<td>3 p.m.</td>
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<td>4 p.m.</td>
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<td>7 p.m.</td>
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<td>88</td>
<td>53</td>
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</table>

Table I.
Sample days showing occupancy

Note: Figures shown are percentages
assistance to setting up wireless access for users’ laptop computers. The trend continues into 2008. The transaction detail reveals how the questions are getting more and more diversified and sophisticated.

Usage observation

Users’ behavior and needs can be assessed qualitatively by observations. Besides collecting comments and suggestions from library colleagues who serve at other service counters and thus have frontline contact with users, two additional channels were established:

(1) Scanning the help desk transaction for recurring questions and requests. Many ideas for service fine-tuning can be gathered by combing through users questions at the help desk. For instance, the IC officers refined the printer property setting to make it easier to choose multiple-page-in-one printing, after noting that many students did not know how to perform the setting.

(2) Regular meeting with the IC officers to discuss user patterns and needs. The IC officers report problems that may not be revealed in the help desk transaction log. One example is the use of the presentation rooms. In the original setting, users had to run the presentation from the IC workstation to the overhead projector. IC officers found that, quite often, users physically reconnected their laptop computers to the projector. In light of this situation, a switchbox was added so that users could easily choose the projector signal from either the IC workstation or their own laptop computers.

As a result of such qualitative usage monitoring, numerous improvements in services, facilities and software provision were planned and implemented.

User satisfaction survey

In April 2007, the first IC user satisfaction survey was conducted. A brief and anonymous questionnaire was mounted on the web. The survey was timed at about nine months after service launch so as to give users some time to get familiar with the service so that fair and meaningful comments could be collected.

The survey aimed to answer the following questions:

- What are the usage patterns like?
- What do users do at the IC and what for?
- Are current facilities adequate?

<table>
<thead>
<tr>
<th>Question types at the help desk</th>
<th>November 2006</th>
<th>February 2007</th>
<th>November 2007</th>
<th>February 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>General enquiry</td>
<td>40</td>
<td>17</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Printing</td>
<td>35</td>
<td>55</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>Software</td>
<td>9</td>
<td>11</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Hardware</td>
<td>5</td>
<td>2</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Scanning</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Wireless connection</td>
<td>–</td>
<td>–</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Other categories</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

Table II.
Are the users satisfied?
What do they like about the IC and what improvements are desired?

Survey findings
Over 300 valid responses were received, capturing roughly 9-10 percent of the IC users. Although some of the findings were fairly predictable, the survey was useful to confirm librarians' observations, and provided figures for reporting and proposals. The findings indicate that:

- The satisfaction level to the IC is generally good. The overall satisfaction score was 3.62 on a scale of 1 (lowest) to 5 (highest).
- The IC successfully attracts a group of frequent and loyal users. Most users in this group are undergraduates. They are generally more satisfied with the service and use the IC for a wider range of purposes. They also gave more comments in the survey. Evidently the IC has become an important component in their learning.
- Undergraduates have a stronger need for group space; they come mostly for information search and assignments.
- Most postgraduates come less frequently; they use the Reference Counter and the Help Desk and their main purpose of use is research work.
- Staff members use a wider variety of facilities and services, for a wider range of purposes.
- A pleasant environment, good selection of software, proximity to reference collection, and the ready availability of assistance are seen as strengths.
- Problems noted include the fact that the IC is sometimes too crowded, it can be difficult to find vacant stations, there is insufficient group space, users are unaware of the resources available, and use regulations do not sufficiently maximize the use of existing resources.

After reviewing the feedback collected, the Library promptly identified those suggestions that were reasonable and easy to implement. A few improvements were made immediately or in the few months that followed. These include better signage, clearer instructions for users, software upgrades and an additional printer.

Indications for future development
From the survey results, a number of priorities and considerations for the next phase of service development were identified, including:

- increasing the number of computers and the amount of study space;
- creating more collaborative space while balancing the interest of those single users who need quiet space;
- implementing an effective use policy or reservation system that helps to regulate use of different facilities;
- introducing a user instruction program at the IC; and
- enriching integrated services through partnerships with other university units.
Next steps

The universe of commons has three dimensions:

1. the scale of size, including physical space and quantity of equipment;
2. the variety of facility, including space design, hardware and software; and
3. the scope of the service, described by Beagle et al. (2006) as the “information commons-learning commons continuum” – an IC model remains library-centric as it is “owned and overseen by library staff”, while an LC model is not library-centric as it brings into the library “many formerly external functions and activities” (Beagle et al., 2006).

One impressive example is the state-of-the-art Learning Commons at North Carolina State University Libraries. It placed itself high on both scales of size and facility with its assortment of workstations, study space, high-end facilities and software (Spencer, 2007). On the other hand, the University of Guelph Learning Commons demonstrates a model of non-library-centric services. Through its partnership effort, it “brings student affairs professionals and librarians together to offer students a coherent and integrated approach to learning, writing, research and technology support” (Schmidt and Kaufman, 2007).

The HKUST IC started as a humble pilot project, arising from an adjustment in the Library space and organization structure. The next phase will see the IC moving forward in all three dimensions of size, facility and service range. In November 2007, the Library formed a task force for planning to enhance the IC pilot to the IC2, which will serve as an interim phase on the transition to the new learning spaces in the 2012 Library expansion.

What features should future learning spaces have? While involving students in library space redesign, Somerville and Collins (2008) identified learners’ priorities as “open, unconfined environment; comfortable, reconfigurable furniture; functional, inspiring space; and ubiquitous mobile technology”. In his discussion on how information commons must evolve to become Commons 2.0, Sinclair (2007) lists the five guiding principles as “open, free, comfortable, inspiring and practical”. At this juncture of the IC development, the emphasis has been directed to ambience and space design. Although the IC2 will unquestionably provide more workstations, a major focus would be flexibility and the provision of space that supports wireless technology, encourages collaboration and fosters creativity.

Among many new facilities at the IC2, users will find:

- comfortable soft seats that are friendly for laptop computer users;
- an integrated help counter for information and technical assistance;
- presentation rooms that support mobile technology;
- a teaching venue with a flexible configuration;
- more stations for group work, with different configurations for various group sizes;
- more computer stations for individuals; and
- strong multimedia support.
The Library submitted to the university administration a budgetary proposal for the IC2. The funding was subsequently approved in the summer of 2008. At the time of writing, implementation details are being finalized and the new facility is targeted to be available to users in Fall 2009.

The funding support is only the first step to the IC2. The plan carries a number of implications and challenges for the Library and its staff. A major feature in the plan is an integrated service desk that is supposed to be staffed by cross-trained personnel who can handle both computer and information enquiries. The Library would have to handle the issue of staff training and redeployment effectively and sensibly. Another significant step forward is that the IC2 will provide a venue for the Library to explore new service programs. Software instruction, media manipulation and partnership program with other academic support units are some of the candidates.

In Spring 2009, the user satisfaction survey will be conducted for the second time. The survey will be based on the first survey conducted two years ago, with a slight modification to the questionnaire. Results will be benchmarked against the previous one, positioning the Library to conclude the experience acquired during the pilot phase.

The pilot lesson
In the course of managing and developing the IC through its pilot phase, librarians at HKUST have encountered successes, encouragement, discouragement, difficulties and challenges. From these ups and downs, certain lessons are noted:

• Stay flexible. Architectural planning, furniture planning and service policy should allow a high level of flexibility. Students’ behaviors, users’ information needs and preferences change as fast as modern technology. Flexibility is the key to keep the vitality of the space and the service.

• Listen to the users. Open minds and listening to our users not only in words or writing, but also in what they do – what they use, not use or misuse, and how, are key. Assessment programs serve as one tool to gather evidence, both quantitative and qualitative, but whether the evidence translates into service improvements or not depends on staff’s willingness to keep an open mind and listen.

• Keep statistics for reporting. Usage figures seldom give surprises to well-prepared librarians; users’ satisfaction rating is generally quite predictable. However, sometimes simple but realistic figures are the most powerful and practical way to depict a picture of service to high-level administration personnel.

• Promotion is crucial. For users to appreciate and make the best use of the service, they need to know what is available. Effective marketing remains challenging for libraries. While signs, posters and e-mail announcements are the traditional channels, libraries should explore other ways to disseminate the message. Web 2.0 ways like Facebook and YouTube should be complemented by the high touch/low tech ways – e.g. using word-of-mouth by liaising in person with student groups and course instructors.

• Create synergies among service units. At HKUST Library, service counters are in relatively close proximity and have a strong tradition of mutual support. The IC, being a new “brother”, took a short time to merge into the culture. It is important
that all library staff understand the roles and the functions of the commons, and
that service counter colleagues include the IC within their purview. Open and
constant communication between library units is essential to create and maintain
such internal support.

- Coach rather than instruct student helpers. At HKUST Library, a team of six
  student helpers was hired to cover some of the help desk open hours. Through
the pilot phase, the training program was shifted gradually from an instructional
approach to a coaching approach. Students gain most from the experience of
working as a team, interacting and helping fellow students at the IC, learning
and practicing communication skills. This is a learning experience as much as a
working experience. The coaching approach ensures that both the student
helpers and the IC users benefit from this experience.

Conclusion
The HKUST launched the Information Commons pilot phase as a strategic project, to
test the service concept so as to prepare for the curriculum change in 2012 and the
preceding campus expansion. Through a carefully planned assessment program,
which comprised usage monitoring and user surveys, the Library has gained a good
understanding of its users’ needs and use patterns, as well as a good understanding
of its service strengths and weaknesses. Assessment data helps the Library IC
demonstrate its added value to the university and underscores the need for continuous
support for the IC development.

At this point, the HKUST Library is elevating the Information Commons from its
pilot phase to the next level. Lessons learned from the pilot are a solid foundation for
future development of library space and service design in this evolving academic
environment.

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