

## **INFORMATION RESOURCE ASSESSMENT: A STUDY OF DIGITAL AND TRADITIONAL LIBRARY ENVIRONMENTS\***

**Ahmad Bakeri Abu Bakar** and **Kaba Abdoulaye**  
Faculty of Information & Communication Technology  
International Islamic University Malaysia  
Jalan Gombak, 53100, Kuala Lumpur, Malaysia  
e-mail: bakeri@iiu.edu.my ; kaba\_abdoulaye@yahoo.com

### **ABSTRACT**

*Assessing and evaluating information resources is necessary for the improvement of library services. Recently, Malaysian libraries have witnessed a growing utilization of digital technology in the provision of library services, coupled with the emergence of the Internet-based digital libraries. Although the trend is timely, the cost-effectiveness of its adoption is unknown. As libraries with sizable collection development budgets are having difficulties in coping with escalating price of electronic collection, the need to assess these information resources is necessary and critical. This study aims to assess the information resources in the digital and traditional library environments. Four Malaysian libraries; Majlis Perbandaran Subang Jaya (MPSJ) Hypermedia Library, Majlis Perbandaran Petaling Jaya (MPPJ) Library, International Islamic University Malaysia (IIUM) Library and Multimedia University (MMU) Library, at Cyber Jaya Compus are selected for the study. Issues such as collection building, electronic collection, cost and circulation are examined*

**Keywords:** Resource assessment; Collection development; Electronic resources; Library standards; Performance measures

### **INTRODUCTION**

Information resource assessment in libraries is an essential element in collection development. It is through this assessment that libraries are able to learn the extent of their selection in meeting the needs of the end users. To conduct such studies, researchers rely on the user-centered and materials-centered methods. Discussion on these traditional methods for information resource assessment is easily available in seminal works on measurement and evaluation of information resources. In essence, user-centered methods

---

\* This is a revised version of a paper presented at "Conference on New Information Technologies, theme: Information Resources Integration: An agenda for Change, Organized by the University Brunei Darussalm Library, Brunei Darussalam 24-26 September 2002.

*Ahmad Bakeri A.B. & Kaba A.*

concentrate on the use of the collection and how well a collection meets end user's needs. Good examples in this category include studies on patterns of interlibrary loan (ILL), user surveys and library circulation. Materials-centered methods focus the analysis on the data available from the library collection. Examples in this category include overlap studies based on expert opinions or bibliographies as well as comparisons with standard work in the field or types of library materials (Katz's Magazines for Libraries) and citation analysis. However, the most frequently used method is based on materials-centered measures and the preferred technique employed is by check listing. Check listing involves the identification of the strengths and weaknesses of a particularly library holding by assessing it against an authoritative list or a checklist. The checklist may be prepared on the basis of a list of titles recommended by experts or from highly regarded specialized library holdings.

Libraries in Malaysia do not concentrate their collection building just on traditionally published print subscriptions and monographs. Along with these printed materials, they also procure electronic journals, books and databases. This shift towards increasing the amount of electronic resources in libraries is fast becoming the common practice. As such, it is pertinent to assess whether the pattern of acquisition budgets has also changed. Petrick (2002) pointed out that, "increases in expenditures for electronic resources may create a perception that academic libraries purchase them in place of information in other formats, thus reducing how much is spent on other acquisitions". It is useful to note that the user-centered and materials-centered methods can also be applied to assess the electronic resources. However, for better results it is suggested that this technique be combined with other means of assessing the resources. As suggested by Dennison (2002) "the application of statistics to a checklist study greatly increase the value and usability of the study".

## **RATIONALE OF THE STUDY**

One of the major problems faced by researchers in evaluation studies when comparing the situation of several libraries is the question of validity. It is therefore important to carefully choose the most appropriate performance measures. For example, a well-established University library will always have a much bigger acquisition budget as compared to a newly established University library or a public library. Therefore, normalization is necessary when comparing these libraries and it takes into account the situation of the user's population. As such, this study uses the performance measures of budget per capital, collection size per capita and circulation per capita when analysing data to meet the validity requirements.

Information resource assessment is important because of the increasing demand on the part of the funding agencies to make the libraries accountable for their expenditure. They want to know whether their investment in the varying types of library materials represents value for money. Naturally different materials will produce different return in terms of value on the monetary scale. Value in this case refers to the number of times each purchased item has been loaned out. The more times an item is lent, the greater its value is. So, the value of an item in monetary sense is computed as the cost and the numbers of loan for an item, that is, value = cost of an item x number of times an item is on loan.

Evidently the number of times an item can be on loan is dependent on the loan period practiced by the library. This means that if it is assumed that the borrower returns the item on the very last day of the loan period, which has been fixed, say duration of one month, then the item may be on loan for a maximum of 12 times annually. Therefore, the highest value attainable is when the maximum loan is realized in a particular year. Data for this type of study is usually obtained from institutional experiences and henceforth, such studies are mostly case-based research.

Accountability can also be measured by wanting a particular library resource to match the benchmark set by an authoritative body, usually a national professional association or a renowned international organization. The benchmark represents an ideal situation, which can be achieved against which the relative value of the information resources can be positioned. For the purpose of this study, the benchmark is based on the standards formulated by PERPUN (*Persidangan Perpustakaan-Perpustakaan Universiti dan Negara*) and the Librarians Association of Malaysia or *Persatuan Pustakawan Malaysia* (PPM) Sub-Committee on standards for private university and college libraries. These standards, meant for the period 1997 – 2001, were published in 1999 and are due for review in 2002. According to the Standard for Private University Libraries, which should also be applicable to public university libraries, the size of collection is factored on the following basis.

For a student population of up to 500, a foundation collection of 18,000 is recommended. For a student population above 500, the collection should increase according to the following formula (Standard for Private University Libraries):

N x V x T where	N	=	Student population
	V	=	Number of volumes per student = 12
	T	=	Minimum number of years for the duration of study.

This standard enables the researcher to ascertain whether the university libraries in this study meet the recommended library resources provision. As there is no current equivalent standard that can be applied to a public library, no assessment is made in respect of the public libraries in this study.

## METHODOLOGY

The researchers decided to use the questionnaire as the data collection instrument. The questions were both open and close-ended. It elicited information on annual budget for materials, budget allocation, and size of collection. All the questionnaires were filled-in by the chief librarians of the participating libraries. Alongside the questionnaire, telephone, fax and electronic mail (email) were used to collect further essential information missed in the questionnaire. The Malaysian libraries surveyed were the Majlis Perbandaran Subang Jaya Library (MPSJ), Hypermedia library of Majlis Perbandaran Petaling Jaya (MPPJ), International Islamic University Malaysia (IIUM) Library and Multimedia University Library (MMU) at Cyberjaya.

## FINDINGS AND DISCUSSIONS

### Participating libraries

The participating libraries were established between 1983 and 1999. The most recently established is four years old while the oldest is 19. There are 298 staff working at the participating libraries (Table 1). More than 79 per cent of total staff in the participating libraries are non-professionals and 21.4 percent are professionals. Meanwhile, the staff population in each library varies. The IIUM reported the highest number of staff with 56.7 per cent, followed by MMU, 15.4 per cent, MPSJ, 14.3 percent and MPPJ, 13.4 percent. The IIUM library reported the highest number of professional staff, with more than 55 per cent, MPSJ 21.3 per cent, MMU 14.7 per cent, and MPPJ 8.1 per cent. The IIUM also reported the highest number of non-professional staff and MPSJ presented the least number.

Table 1: Staff of Participating Libraries

Library	Professionals	Non-professionals	Total
IIUM	34 (55.7%)	135 (56.9%)	169 (56.7%)
MMU	9 (14.7%)	37(15.6%)	46 (15.4%)
MPPJ	5(8.1%)	35(14.7%)	40 (13.4%)
MPSJ	13 (21.3%)	30(12.7%)	43 (14.3%)
Total	61 (100%)	237 (100%)	298 (100%)

### Collection Budget

As illustrated in Table 2, the annual budget for library materials within five years (1997-2001) varies among the participating libraries. From 1999-2001, the IIUM library witnessed a significant collection budget increase. In 1999, the library collection budget was increased by 10.6 per cent compared to the previous year. Another significant upsurge occurred in 2001, when the budget was increased by 59 per cent. Further analysis shows that, from 1997-1999, MMU allocated twelve million for library collection, while MPPJ allocated only 200,000. However, MMU's collection budget dropped sharply by 25 per cent in the year 2000/2001.

Table 2: Collection Budget

Year	Libraries			
	IIUM	MMU	MPPJ	MPSJ
1997	N/A	12m	200,000	N/A
1998	2,130,000	12m	200,000	N/A
1999	2,355,903	12m	200,000	N/A
2000	5,000,000	9m	300,000	1m
2001	7,950,000	9m	500,000	550,000

### Budget Allocation According to the Type of Materials

The participating libraries were asked to indicate their annual budget allocation for library materials. The materials were categorized as electronic databases (AV, CD, VCD, DVD, and VHS) and print materials (Table 3).

Table 3: Budget Allocation According to the Type of Materials

Type of Materials	Libraries			
	IIUM	MMU	MPPJ	MPSJ
<i>Print</i>				
1997	N/A	12m	200,000	N/A
1998	N/A	10.5m	200,000	N/A
1999	N/A	10m	200,000	N/A
2000	N/A	6.5m	300,000	1m
2001	N/A	6.5m	500,000	550,000
<i>Electronic</i>				
1997	N/A	N/A	10,000	N/A
1998	N/A	1.5m	10,000	N/A
1999	N/A	2m	10,000	N/A
2000	N/A	2.5m	10,000	N/A
2001	N/A	2.6m	50,000	26,000

Findings show that the libraries allocated more than half of the annual budget on print materials. In 1997, MMU allocated the entire budget on print materials, most probably because the library was newly established and the need for the electronic materials could be satisfied in other libraries. In the subsequent year, the university allocated more than one million for electronic materials, while the printed materials received more than ten million. It should be noted that, other participating libraries also paid more attention to the printed materials than the electronics. For instance, from 1997-2001 the MPPJ library allocated between ten thousands to fifty thousands for electronic materials, while an amount of twenty thousands to five hundred thousands were allocated for printed materials in the same period. Similarly, for the year 2001, MPSJ allocated twenty-six thousands for electronics, while the printed items were given five hundreds and fifty thousands.

### Potential Users

The participating libraries were asked to indicate yearwise potential user registered within five years. Within five years, 1997-2001, the participating libraries registered more than sixty-two thousands users (Table 4). In 1998, the number of users at MPPJ library increased by more than 20 per cent. In the following year, however, the number declined harshly by 88 per cent. On the other hand, from the year 2000-2001, MMU and MPSJ witnessed an increase of registered users, while the number declined at IIUM by 38.8 per cent in the year 2000 and 10.8 per cent for the subsequent year.

Table 4 Potential Users

Library	1997	1998	1999	2000	2001	Total
IIUM	N/A	N/A	10,192	6,232	5,553	21,977
MMU	N/A	N/A	3,130	4,118	4,511	11,759
MPPJ	2,589	3,117	344	11,891	4,764	22,705
MPSJ	N/A	N/A	1,227	2,169	2,253	5,649
Total	2,589	3,117	20,542	24,410	16,081	62,090

### Funding, Budget and Collection

Table 5 compares funding, collection budget and collection for the participating libraries. The two public libraries, MPPJ and MPSJ receive their annual budget from the state, local, or municipal government, while the academic libraries, IIUM and MMU, rely on the federal government or corporations. There is a significant difference between the participating libraries in terms of budget and collection. In the year 2001, the two academic libraries allocated more fund for collection development than the two public libraries. The MMU, which comes after IIUM in term of budget,

falls in the third place for the collection. This may be because the MMU is a newly established institution and still needs more time for collection development.

Table 5: Funding, Budget and Collection in 2001

<b>Library</b>	<b>Funding</b>	<b>Budget</b>	<b>Collection</b>
IIUM	Federal government	7,950,000	374,647
MMU	Corporations	9m	60,430
MPPJ	Local and municipal government	500,000	123,000
MPSJ	State/local and municipal government	550,000	35,750

### **Size of Collection**

Table 6 illustrates the type and size of collection for the participating libraries. The libraries possess printed, electronics and audiovisual collections. However, the size varies from one library to another. The IIUM and MPPJ reported a bigger size of printed materials compared to MMU and MPSJ libraries. Regarding the audiovisual items, again the IIUM appeared in the first place, followed by the MMU, MPPJ, and MPSJ.

Table 6: Type of Collection at the End of 2001

<b>Type of Collection</b>	<b>IIUM</b>	<b>MMU</b>	<b>MPPJ</b>	<b>MPSJ</b>
Print	344,164	57,400	120,000	35,000
Electronic (databases)	3,876	30	N/A	N/A
AV (CD,VCD, DVD, film, video, cassette, slides)	26,607	3,000	3,000	750

### **Budget per Capita**

Generally, budget allocation per capita is somewhat strong in the participating libraries. According to UTM library, a per capita of RM138 demonstrates an adequate budget for a library collection. As reflected in Table 7, the 1999 per capita ratios for three libraries (IIUM: 231; MMU: 3833; and MPPJ: 581) is certainly better and enough for the development of library collection. In the year 2000/2001, however, the per capita ratios decreased for MMU and MPPJ each scoring less than the previous ratios, while the ratios were increased for IIUM and MPSJ libraries. Interestingly, the MPSJ library, which was established a few years ago, has been able to meet the standard by achieving 1:461 and 1:244 in the year 2000 and 2001 respectively.

Table 7: Budget Per Capita

Year	Libraries			
	IIUM	MMU	MPPJ	MPSJ
<i>1997</i>				
Allocation	N/A	12m	200,000	N/A
User	N/A	N/A	2,589	N/A
Ratio	N/A	N/A	1:77	N/A
<i>1998</i>				
Allocation	2,130,000	12m	200,000	N/A
User	N/A	N/A	3,117	N/A
Ratio	N/A	N/A	1:64	N/A
<i>1999</i>				
Allocation	2,355,903	12m	200,000	N/A
User	10,192	3130	344	1227
Ratio	1:231	1:3,833	1:581	N/A
<i>2000</i>				
Allocation	5,000,000	9m	300,000	1m
User	6,232	4118	11,891	2169
Ratio	1:802	1:2,185	1:25	1:461
<i>2001</i>				
Allocation	7,950,000	9m	500,000	550,000
User	5,553	4,511	4,764	2253
Ratio	1:1,431	1:1,995	1:104	1:244

According to the *Standard for private university libraries* proposed by PERPUN and the Librarians Association of Malaysia (PPM), “The library shall ensure that the collection is of adequate size subject to the range of courses offered and the size of the student population”.

Despite substantial budgetary allocation over the last few years, the current provisions of IIUM (35 library items per student) and MMU (10 library items per student) are still short of meeting the PPM standard. In order to meet the Standard, both IIUM (with 10,654 students and 3 years minimum duration of a course) and MMU (with 6,000 students and 3 years minimum duration of a course) should provide 36 items per student. Nevertheless, the IIUM ratio of 1:35 (for all library materials) indicates that the university almost meet the standard requirements, while MMU has to increase allocations in order to meet the standard.

## CONCLUSION

One of the important task libraries face is to ensure that what is being collected appropriately meets the goals and needs of the library, irrespective of whether the materials collected are electronic or printed information resources.



Several methods have been developed over the years to provide libraries with measuring technique to determine if acquisition budgets are spent correctly. The assessment shows that there are strong tendencies now for libraries to spend more on electronic resources, usually at the expense of printed information resources. This is clearly demonstrated in the case of budget allocation for electronic and printed information resources for the Multimedia University library in which the printed resources budget were cut from RM10 million in 1999 to RM6.5 million in 2001 while the allocation for electronic resources was increased from RM2 million in 1999 to RM2.6 million in 2001.

Information resource assessment is also important in understanding the impact libraries are making. Studies have indicated that an increase availability of resources affects their use as there exists a relationship between size of the collection and circulation. Usually the bigger the size of a collection, the higher will the circulation be. So, in order to know exactly the appropriate size of a library collection, we need to turn to a standard on collection size. This study uses the standard prepared by PERPUN and PPM to find the minimum size for a university library collection. The results showed that only the IIUM Library has almost reached the minimum size required for a university library collection. For libraries that have not met the standard requirement, they may use the standard as a basis for justification to seek adequate funding from the governing authorities. Those whose collection have reached or are beyond the standard requirements have to conduct more intensive quality assurance studies as information resource assessment is a regulated, controlled process done on a continuous scale. The object is to derive as much benefit as possible from the changes and improved condition affecting the individuals and populations.

## **REFERENCES**

- Dennison, Russel F. 2002. Quality Assessment of Collection Development Through Tiered Checklist: Can You Prove You Are a Good Collection Developer? *Collection Building*, Vol.19, No.1: 24 – 27.
- Petrick, Joseph. 2002. Electronic Resources and Acquisition Budgets: SUWY Statistics, 1994-2000, *Collection Building*, Vol.21, No.3: 123 – 133.
- Standard for Private University Libraries: Recommended for Five Years 1997 – 2001, To Be Reviewed in 2002*. Prepared by Librarians Association of Malaysia, Sub-Committee in Standards for Private University and College Libraries, 1999, pp. 30.