

COLLABORATIVE OPEN BIBLIOGRAPHIC NETWORK FOR MALAYSIAN SCHOOL LIBRARIES

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ABSTRACT

Collaborative bibliographic network among libraries has long gained its popularity not only due to the sheer cost of integrated library systems (ILS) but also the many benefits gained from being a member of library network or consortium. The emerging trend of the use of open source ILS in consortia has already marked successful results including among school libraries. Among the prominent ones is the development of virtual union catalog which not only promotes resource sharing, but also has great potentials in making school resource centres (SRC) online catalogues as a tool for information resource discovery. The paper will specifically explore the feasibility of building such network within school resource centers in Malaysia. The awareness, benefits and issues like interoperability will also be discussed. This paper will discover the potential of setting up a collaborative bibliographic network among SRC in Malaysia by deploying open source ILS. A general framework in setting up SRC bibliographic network in Malaysia will be proposed with focus on the creation of compatible library catalog that could support the distributed environment and Z39.50 protocol. Popular ILS such as Koha, OPALS, and Evergreen will be presented and their applications in library network will be appraised in light of Malaysian SRC environment. Finally, the paper will propose potential research areas that would position and enhance the role of school resource centres in producing life-long learners and bridging the digital divide through the deployment of open source ILS in Malaysian SRC.

KEYWORDS: Bibliographic Network, Open Source Integrated Library System (OSS ILS), School Libraries, School Resource Center

BIBLIOGRAPHIC NETWORK

In realizing the proposed project, it is essential to understand the emergence of library catalogue. Library catalogue is now emerging into bibliographic universe that promises flexible and powerful searching. Traditionally, library catalog is held in local collection within individual library which has no links to other forms of bibliographic data (Burrows, 1993). When the Internet came into existence, a promising approach is to integrate resources where information is becoming more web-based, disparate and distributed. In integrating those resources, bibliographic data of each resource need to be linked or networked. Thus, bibliographic network is an efficient solution which optimizes the use of the resources.

Bibliographic network is excellent when it comes to bringing together the different applications into a single catalogue and allowing direct and comprehensive access to it (Berard, 2007). It is also a cooperative effort within organizations that work towards the same end. However, since the early introduction of library catalog, the main problem that remains related until now is organizing and managing the vast flow of bibliographic information. In making this bibliographic network project a success, library automation within schools need to be contemplated. Within Malaysian context, automating individual libraries is a solution to many other problems.

It is believed that each school had developed their own way of holding bibliographic records for its resources. The schools are most probably holding the same resources as the scope for children's reading is somehow limited to certain genre. Hence, the same records can be shared among the school libraries so that duplication of activities can be reduced. This exercise will lead to standardization and uniformity which is essential in building SRC network. Developing bibliographic network for the SRC would contribute to resource sharing practice.

Bibliographic network is a recognized success within other higher institutions as compared to SRC within Malaysia. Its benefits were recognized since 1993 where Colantes claimed that access to materials will be improved and use of resources can be facilitated using bibliographic network. He also mentioned that by having bibliographic network, it will serve as an impetus for shared cataloging practice. Apart from that, participating libraries within the network will enjoy lower ongoing cost.

Throughout the decades, another solution comes to the rescue which is widely known as Open Source. This solution exists due to the fact that every institution suffered

from the same dilemma which is cost. It is undeniable that most of the time, cost is always an issue.

OPEN SOURCE ILS

The term 'open' is referred as granting copyright permission beyond those offered by standard law (Penalvo, Figuerola, Merlo, 2010). Open source is very much associated with open software. It is a 'free' software whereby the source code is freely distributed among open group. According to Penalvo, Figuerola, Merlo (2010), the idea of free software developed way back in 1980s (Benussi, 2005). But to what extent does this software is free? Dimant (2010) explained that free software is as much about the freedom to use, change and learn from the software. Nevertheless, the organizations that are keen to implement an open source solution would still need to allocate some costs such as staff time, infrastructure as well as support costs. Thus, why are people now talking about open source or sometimes referred as free open source (FOSS)? This somehow would reflect to the free product licensing as well as significantly lower implementation costs and ongoing maintenance costs. Some organizations are now in the process of switching to open source especially when the consortia is giving enough support in implementing open source within the organizations. The reason behind this is mainly because of severe financial constraints.

Integrated Library Systems (ILS) is defined by Saffady (2000) as an interrelated group of computer programs that automates multiple library operations (Ebenezer, 2002). It is also defined by Cibarelli (1999) as the provision of integrated online access to the library catalogue and to cataloguing, circulation, acquisition and serials management functions (Ebenezer, 2002). Another interpretation of what ILS is all about is given by Muller (2010) where he looked ILS as multifunction and adaptable software applications that allow libraries to manage, catalogue and circulate their materials to patrons.

ILS comes in two different types which are proprietary ILS and open source ILS. With the penetration of FOSS ILS in the market, organizations are looking forward into this new venture. Hastings (2009) said "It is the perfect time to try cheap technologies". A few prominent FOSS ILS available in the market are Koha, Evergreen and OPALS. Breeding (2008) reported that, in the United States, 32 schools were using Koha and 51 schools were using OPALS. There are some schools in the United States were already opting out for Evergreen like *Maine School Administrative District* where they have

altogether 41 schools within their network. *Evergreen Indiana* is also a popular consortium where they have almost 98 libraries within their network and *Shoals School Corporation* is one of them. *The Bay School*, in San Francisco (2011) for instance, takes full advantage of using Koha as their library system. Another noticeable project of Koha is marked by Rocky View School District of Calgary in Alberta, Canada (2011), whereby it connects 40 locations within the district.

Dimant (2010) classified the users of open source products are divided into two categories which are

- (a) organizations with sufficient time and staff but no finances; and
- (b) organizations with neither expertise nor time (shall employ open source support companies).

In latter case, the organization usually will employ OS support companies. Based on the same scenario, Malaysian schools in general could employ OSS support companies to assist the technical aspects of the ILS which would give a better solution. This is due to the fact that implementation process can be very long, complex and messy and only doable through the employment of the support companies. These support companies specialized in implementing the systems and providing ongoing technical supports without having to worry much on other library routines. If the contracting support companies are not well performing, the management is free to find the support companies that will perform to their satisfaction. This is possible due to the fact that the consortia would have few support companies to provide the service. In order to implement any systems within the organizations, the management will have to deal with some challenges such as project management, data conversion, software installation and configuration, staff training and sometimes custom works. Employing OSS support schools will solve the problem of lack of skilled person within the organization especially when it comes to schools.

Even with the challenges mentioned, FOSS ILS would have a better chance to shine due to its expansion together with the support that they received from the consortium. Ebenezer (2002) claimed that open source would have greater advantages of relatively low cost with adequate technical resources and reliability concerns through peer reviews. Within the context of library, open source has the advantage of giving libraries direct control of the technology and the systems librarian can customized the systems according to the needs of the organizations.

MALAYSIAN SCHOOL LIBRARIES

Malaysian school libraries or normally called as school resource centres are under the governance of MOE, specifically under the responsibility of the Educational Technology Division (ETD). SRC is managed by coordinators who are also full time subject teachers with other workload to be fulfilled. Sometimes they will have one clerical staff to assist them with SRC's everyday routines. Given this situation, it is understood that, the teacher-librarian could only perform library tasks during designated period of time.

The use of open source emerges drastically in Malaysia as Tieman (2010) had made a notable proclamation by saying that Malaysia stood out with a success rate of well over 90% of open source usage in 2010. Not only that, he claimed Malaysia is being talked about by Brazil, India and the US governments as remarkable success story. Having to know this, the great opportunity of fully utilizing the open source solutions in Malaysia should not be neglected due to its availability and the support from the local open source community.

Thus, it is essential to investigate the feasibility of establishing a collaborative open bibliographic network for Malaysian school libraries by deploying open source ILS. However, this collaboration requires full cooperation and collaboration between MOE as the parent and school resource centres as the children. This parent-children relationship obliged to have joint initiatives with other parties (open source community, universities' libraries, and etc.) to develop a tool for information resource discovery. It is very important to understand the framework in setting up the school library bibliographic network in Malaysia. It is also deems as crucial to identify the compatible library catalog that could support the distributed environment and compliance to Z39.50 protocol. Therefore, a systematic and scholarly approach is needed in order to understand the mentioned aspects. Hence, it is very important to gauge the level of readiness towards FOSS ILS in terms of technology as well as management.

SRC housed a very large amount of collections depending on the number of students' enrollment per year. Every year each school will allocate some amount of money to spend on the SRC. It can be books, educational CDs, educational television program, charts, flashcards and many more. SRC is held responsible to distribute the resources according to their school's policy. In most cases, the decision to have an automated system in handling the process of acquisitions, circulations and other library's routines depends largely on the school's management. SRC is also held responsible to

train their school community to fully utilize the resources that they have in school.

The deployment of FOSS ILS gives economic benefits to the government. This is the reason why the government especially MOE started the 'Smart School' project where 88 schools were selected to deploy open source solutions i.e. Koha (Amzari, 2010). It indicates the seriousness of the government to utilize open source solutions in any way they can especially in education. Although the number of schools involved does not reflect the total number of schools in Malaysia, but it is only the first phase of its implementation. It is always better to start with something rather than nothing.

Open source solutions are increasingly gained its popularity among institutions in Malaysia. Advanced Medical and Dental Institute (USM), Al-Madinah International University, Asia e University, Kelantan State Public Library and a few more other public and academic libraries are using Koha to assist them with the daily routines (Amzari, 2010). Dimant (2010) claimed that the augmented trend of using open source software within institutions is principally because of few reasons. One of them is their promising interoperability with other systems due to its common and open standards. Open source would also allow modification of source code to tailor the need of organizations accordingly. The freedom to choose the support groups and services all over the world as well as vendors lock-in are also claimed to be the reason open source gains its popularity. Above all, open source offers better value for money as the ongoing cost is definitely lower than proprietary systems.

Information institutions especially libraries are facing the same problem which is unpredictability of budget shortfalls and always looking for ways to cut back expenses (Helling, 2010). Cost is always an issue to any organizations. Having this impediment just about most of the time, libraries tend to choose open source software. Since its introduction in 2004, Malaysia is progressively venturing into open source software project. By 2009, it is reported that the number of government agencies adopting and implementing open source software has increased to 546 from 50 in 2004 (Kong, 2009). This statistic indicates a positive trend towards the adoption and implementation of open source software for integrated library systems. The open source community should be able to facilitate school resource centres in making sure the success of the collaborative bibliographic network among school resource centres in Malaysia. When dealing with collaborative effort, not only support from various sectors is needed but also the issue of interoperability does matter. Network flexibility and ease of use are among the critical elements for a successful networked environment (Killebrew, 2011). Therefore, it is essential to ensure the network is well-managed and interoperability matter will be well

taken care of.

PROPOSED MALAYSIAN OPEN SRC NETWORK

To begin conceptualizing the above idea, two important factors must be addressed:

a. **State of the art, perceptions, and readiness,**

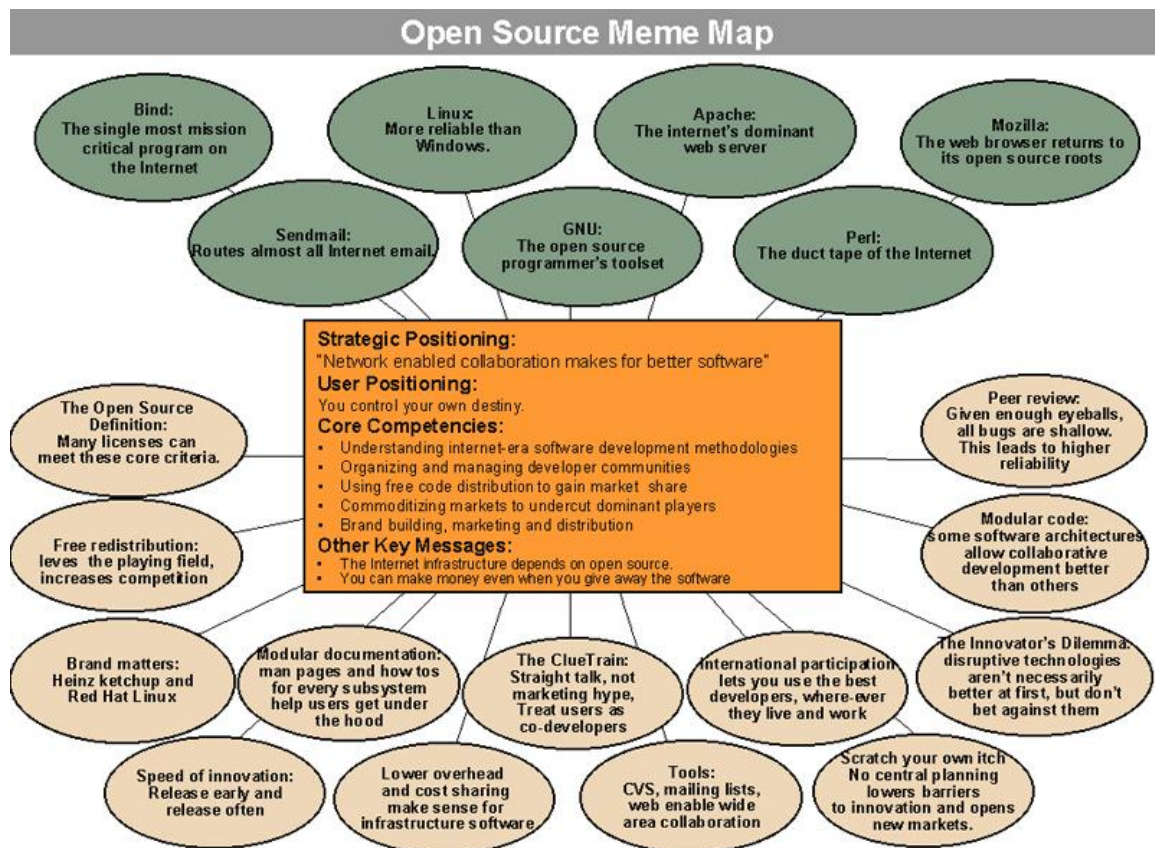
With the current state of library networking in Malaysia today, there is a need to explore and investigate the current state of data repository in Malaysian school resource centres. This involves exploring and analyzing the existing systems used in each school that will be selected as the sample for this study. Thus, a study is needed to determine the types of systems used in SRC and further identify issues that could affect on how the systems could be integrated. The general population to be considered for such study is composed of SRC's stakeholders. Primarily, they are schools' administration (headmasters, headmistress, principals), SRC's coordinators who are basically teachers, MOE especially ETD and a few more other minor groups that will also impinged on the establishment of this project. The proposed research design can be summarized in the following table:

Table 1. Feasibility of Bibliographic Network

Research Objectives	Data	Methodology
To explore and understand current state of library systems used by SRCs	<ul style="list-style-type: none">• The existing system used in SRC• Interoperability issues among SRC	<ul style="list-style-type: none">• Questionnaires• Interviews• Documents Analysis
To discover the awareness and perceptions of teacher-librarian towards the implementation of library network among SRC in Malaysia.	<ul style="list-style-type: none">• Awareness of library network• Perceptions on resource sharing• Perceptions on readiness towards library network	<ul style="list-style-type: none">• Questionnaires
To discover the awareness and perceptions of teacher-librarian towards the open source.	<ul style="list-style-type: none">• Awareness on Open Source• Perceptions on readiness towards Open Source adoption	<ul style="list-style-type: none">• Questionnaires

b. Promoting Open Source in Schools

The trend of open source use in schools is good indication of how the school community in general, and SRCs in particular can deploy technology in more effective and efficient manner. The meme map of open source by O'Reilly Media (Figure 1) gives a good snapshot on several key areas relating to open source. The set of related technologies are visually displayed, driven by a single unifying vision. The box in the center lists strategic positioning, the key perceived user benefit, and the core competencies. The map clearly identifies that open source is not just about creating a free software but also emphasizing about making better software through collaboration in a networked environment.



http://openp2p.com/pub/a/p2p/2000/12/05/book_ch01_meme.html?page=2

CONCLUSION

A collaborative open bibliographic network for school resource centres is foreseen as a promising platform to promote resource sharing. It is undeniable that schools are among the preliminary platform for knowledge discovery. Therefore, the institutions under the umbrella of schools need to be upgraded due to its great potentials as a tool for information resource discovery institution. In order to do that, school resource centres in Malaysia need to muddle through the rapid technological changes. The Malaysian government is now turning to use open source. Hence, this opportunity ought to be grabbed by school community to gain benefits from this venture. A feasibility study needs to be conducted in order to assist SRC in Malaysia in meeting its role as a knowledge hub that supports teaching and learning.

Malaysian school resource centres are yet to achieve its primary goal. The resources are not well distributed among themselves and therefore research is needed to determine the feasibility of setting up collaborative bibliographic network. Beyond doubt, schools housed a lot of resources to be used by their community. By promoting resource sharing, Malaysian school communities are closer in bridging the digital divide and the role of SRC in supporting discovery of information resources is enhanced.

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