

Issues of Data Management in the Library: A Case Study

Hewa Majeed Zangana

Dept. of Computer Science/College of Computer Science and IT/Nawroz University/Kurdistan Region of Iraq

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Abstract – This study reviews the problems of data management in the Library of International Islamic University Malaysia (IIUM), in order to identify, to what extent such problems have affected the smooth running and operations of the library, and to successfully address and solve these problems. Inside IIUM library, we observed that, they engage in standard library operations such as lending, borrowing and also operating as a repository to the university community, where documents, books, journals and other reading materials of the IIUM university are being kept as a valid reference to the public & members of IIUM, such as IIUM students, staff, as well as students of other universities in Malaysia and abroad, researchers, academicians and other interested parties. All the related data being used by the library for such activities must be consistent, relevant and reusable by all stakeholders of the IIUM community, which would have to play a significant role in ensuring adequate data management. However, there were several efforts on tools of measurement or techniques of keeping and maintaining a data with the right features, but unfortunately, such efforts still need to be evaluated due to the continuous changes and occurrence of these problems of data management nature.

Keywords: Management, Data, Library, Issues.

I. INTRODUCTION

This report discusses the details of conducting an excessive classification regarding the problems of data management in the IT department of IIUM Library, Gombak, Malaysia. The purpose of this paper is to formulate a clearer understanding of all possible threats to the library data process. We expect that these findings will illustrate the strengths and weaknesses of each problem, which will in turn aid and assist the lead to comprehensive solution and improvement of IIUM Library data management process.

We have conducted an in-depth interview with head of IT department of IIUM Library, five main problems that affects the smooth running and operations of the library's data process were identified. The five problems includes, problems of; data back-up and quality, security measurements to secure the data, dividing tasks and data support from employees, Adapting The New System Implemented and finally a major Problem With The Servers Location Inside The Library & Outside In The ITD. All these problems were identified from the information obtained from the interviewee, made us aware of the main issues that really affected the overall-operation of the data process system of the IIUM Library.

Preliminary result of the analysis shows that most problems faced by the IT department of IIUM library are either generated by the involvement of the human factor, or the technical factors. It was recommended that these problems should be solved by providing adequate measures in order to

get to the bottom of the problems associated with the data process.

II. BRIEF DESCRIPTION OF THE STUDY TARGET

The IIUM Library was established along with the University at Petaling Jaya campus in 1983, with a very few staff and facilities. Today the Library has grown into a big organisation, which has a staff that comprises of 41 librarians and 152 other staff in various departments of the library such as, technical staff, library assistants and administrative assistants. The University library system consists of five libraries at each of the University's five campuses. The Main Library is located in Gombak, two Medical libraries are located at Kuantan in Indera Mahkota and Jalan Hospital branches. While ISTAC Library is at Damansara, IIBF Library is at Jalan Duta and finally the Centre for Foundation Studies (CENFOS) Library is located at Petaling Jaya and Nilai.

IIUM library consist of a total collection of approximately 557,076 volumes of monographs, 1,674 serial titles on subscription, 24,066 volumes of bound serials, 60,091 units of audio-visuals and 29,148 microforms. In addition to these materials, it also involved in providing access to the internet, in which the library subscribes to quite a number of online databases, electronic journals and e-books. The Library uses special format in organizing its collections such as using; the library of congress, list of subject headings and the library of congress classification scheme to organize its collections.

IIUM library carry out its operations in a computerized format, which involves an integrated library automation system. This system allows users to enjoy a fast and convenient access to the library's catalogue both from within the library and remotely through the Internet. The library provides search service to access other libraries' online catalogues, through its website. The library is committed to manage and offer quality information recourses and library services that meet customers and stakeholders requirements, as well as to implement continual improvement to enhance the effectiveness of the quality data management system. IIUM library render services to this institution including staffs, students and other members of the IIUM community. Since IIUM library has several branches, this study will focus and concentrate on the main library, which is the Library located in Gombak campus. The library has a building that provides a spacious and conducive study environment with over 40 carrel rooms, 15 research rooms, 8 discussion rooms, 4 audio-visual viewing rooms, an auditorium, and a multi-purpose room, which has a seating capacity for 2,077 users.

In addition to these facilities, the Library also has 3 computer lab as well as computer corners for the Library users. IIUM library Information, services and facilities are accessible through the Internet at <http://www.lib.iium.edu.my>. IIUM Library emphasis on customer oriented services. It provides the faculty and Kulliyah association teams to cater and supply information needed for clients at various Kulliyahs in the University. It also acts as a guide for staff to execute their duties efficiently, creatively and innovatively to ensure that the services of the library are proficient, well maintained and meets clients requirements and satisfaction. IIUM Library is gradually evolving into a dynamic influence on the scholastic life of IIUM scholars, so as to meet with the information requests of its clients by taking an advantage of the finest ICT applications for effective outcomes.

The library carryout several services such as loaning books and materials by all registered members, they are allowed to borrow library materials according to their eligibility. And loan eligibility and borrowing period differ according to the borrowers types. Borrowing can be done either at the Circulation Counter or at the Self-Check machines. These materials can be returned after a period of usage that can be extended by renewing such materials.

The library also involves in inter-library loan. This is when the library obtains materials which are not in its collection from other libraries, inside and outside the country. They also offer document delivery services to facilitate library users as well as member of other libraries. Some materials most especially articles which are not available locally can be obtained from overseas. The library subscribes to a number of CD-ROM and online databases which carry

indexes, abstracts or full text articles on various subjects to facilitate literature searching activities.

In addition, it has a multimedia reference sources, as an alternatives to the printed versions. These databases are accessible at most of the public workstations. Interested users may consult the librarian at the Reference Desk to acquire literature search assistance. IIUM Library has alert services that provide alert the library users on titles of newly added materials to the library collection. The list of titles and its details which are usually categorized by subjects are regularly disseminated to users via normal mail, e-mail and through the library homepage.

The main clients of IIUM library are the staff, students and other member of the IIUM community. The IIUM Library supports those clients by making sure that these facilities available to clients. Staff of the university, most especially the lecturers makes use of the library facilities to carry out their research as well as obtaining information to stay up-to-date in all branches of knowledge. Students of IIUM also makes use of the library to increase their knowledge by visiting for the purpose of reading and borrowing books needed for assignments and projects and thesis of the postgraduate students. Other people that have access to the library are the qualified members of the public. They can request the various services of the IIUM library to carry out their individual task or assignment.

III. DATA COLLECTION METHODS

The data collection phase of this project will assist our team to evaluate the strength of our entailer process. Therefore, we must identify the key quality characteristics we will need to measure, how to measure them, and what to do with the data collected. We have to identify the right key quality characteristics, whether it was the characteristic of the product or the services produced.

We clearly understand that every product or service has multiple key quality characteristics. When selecting the processes to improve your services, you need to find out the processes, or process steps, that produce the characteristics your customers perceive as important to product quality.

So basically, data collection is nothing more than planning for obtaining useful information on key quality characteristics produced by our process. However, purely collecting data does not ensure the obtaining or achieving relevant & specific enough data to inform & alert us of what is occurring in our process. The key issue right at this point is not: How do we collect data? Rather than: How do we obtain useful data? & why do we need to collect data?

Our team needs a well defined data collection process, to collect data equivalently; we need to develop a data

collection plan. The elements of the desired plan must be clearly and unambiguously operationally defined. The team seeks to review the operational definitions module of our project before we can carry-on with the paper.

Usually, for most of the project conducted & involve IT back ground, Data are frequently collected using surveys structured forms that enable you to collect and organize data systematically. Because each survey is used for collecting and recording data unique to a specific process, it can be reconstructed in whatever shape, size, and format needed.

However, for our project, we conducted an “In-Depth Interviews”, because interviews provide a historical record of the process over time, & it can introduce a new data collection method to staff and supervisors of the IIUM Library, whom may not be familiar or comfortable with collecting data in a survey format as a regular part of their jobs & busy schedule.

IV. CONDUCTING IN-DEPTH INTERVIEWS FOR DATA COLLECTION

In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation.

To be honest, we only managed to conduct one interview with the head of IT Department of IIUM Library, but the duration of the interview was nearly one hour. We also managed to ask some of the staff, and others associated with our project about their experiences and expectations related to the paper focus, the thoughts they have concerning program operations, processes, and outcomes related to the IT Department and any changes they perceive in themselves, was a direct result of their involvement in the IIUM Library IT program.

The main focus of our In-Depth Interviews can be summarized in the following points:

1. Set up interviews with head of IT Department, making sure to explain the purpose of the interview, why the candidate has been chosen, and the expected duration of the interview.
2. Seeking informed consent of the interviewee written, documented or oral. Re-explain the purpose of the interview, why the interviewee has been chosen, expected duration of the interview, whether and how the information will be kept confidential, and the use of a note taker and/or tape recorder.
3. When the interviewee has consented, we conduct the interview.
4. Summarize key data took place immediately following the interview.

Verify information given in interviews as necessary have been conducted. For example, if an interviewee says that the IIUM Library has a policy of not providing “Barrowing” services to anyone outside the IIUM Staff or student community, we should verify that information with IIUM policy makers.

V. ANALYSIS OF THE LIBRARY’S IT DEPARTMENT SYSTEM

The IIUM library’s IT department has used the Horizon System for quite time already. Horizon is a fully integrated client/server library management system, providing a graphical user interface for the library. “It offers the functionality and standards required for an open system, including Web access, Z39.50 standard for information exchange, the TCP/IP communication standard, UNIX and Windows NT for portability. During that time Horizon was most recent automated library system, it has given friendly interface, and the best information service for users.

The staff of the IT department, have been continually faced with change driven by new technology. The internet and web technology have had a huge impact in shaping the library systems. While libraries with old systems started to migrate to the new systems, Horizon has become obsolete. Thus the IT department has shifted from Horizon to Symphony system on July 2010. The vendor was same, which is SirsiDynix. Symphony is a multitier, versatile, and scalable system with flexible architecture and an open design. It can accommodate both existing and future technologies to meet the expanding needs of libraries and their users. It provides multiplatform support for servers such as Windows, UNIX, and Linux and for operating systems such as Windows and Mac. Workflows is the Java-based staff interface for all Symphony public and technical services software functions and embedded with a full Oracle database support.

VI. SELECTED PROBLEMS & ISSUES IN IIUM IT DEPARTMENT

1. Issue of Servers Location

The IIUM Library has two main servers, the first one is located in the library & the second server is in the ITD division. This has raised some issues and difficulties in retrieving & saving of the daily & rapid Data stream of the library, since the IT division in the library are using one of these servers for storing daily data & saving the CCTV records, this is the main task of the one located in the library. The ITD server is used to back up the Library’s users search processes & internet activities. Therefore sometime the IT staff has to Waite up to 08:00 P.M to store this information in the ITD server.

2. Issue of The Staff Usability & Adaption Of New Systems

The IT staff of the IJUM Library, from time to time has to update some of the existing systems & programs they are using, but the problem is: who will train them into using these new softwares? Even that the software company's is the one responsible for the training, sometimes this support will not be available). Actually the IT staff has only two technicians who are capable and have the experience to train the rest of the staff on how to use these new programs, so the IT department will always hold a training seminar for both the IT staff & the Librarians whenever there is a new adopted software & train them effectively to use these new programs.

3. Issue of The Data Backup System & Security

The Head of the IT department of the Library has always & for almost every day to back up the entire library Data on both servers manually, that is because currently they are updating the library server from Sun Microsystems Soft-base, to multiplatform base such as Windows, UNIX, and Linux. As a result, all back up has to be stored on tapes, & this process may take couple of hours, this why some times the head of the IT department has to remotely access the main computer frame in her office from home, afterward she has to upload those backups in to the ITD server at least once a week.

4. Issue of The IT Equipment (Hardware & Software) Maintenance

The IT department of IJUM library and as it has being mentioned before has only two staff or technicians who are capable of maintain the multimedia labs, and provide training for the rest of the staff. In other words the IT department is short in staff. They need to hire if not train some of the IT staff to efficiently handle the library labs & network maintenance, so better services can be provided.

5. Issue of The Library's Online Services.

The IJUM Library provide most of its services in digital manner, these services include: searching for books & articles, & borrowing services, but some other services are not handled electronically, such as requesting for a specific book title, hereby the Library staff has to fill a card with the required book title & send it to other libraries & universities. This particular process is giving the IT staff a nightmare, since they have to transfer these records each time, to the Library database for information process & record treatment.

VII. RECOMMENDATIONS

According to the discussion and the analysis that have been stated at the previous parts of this paper, regarding the current situation of the data management issues in the IT department of IJUM library, we have reached and draw

some points of recommendation mainly from two perspectives.

1. A Managerial Approach

Since the IT department of IJUM library is a division that have been created and formed to consolidate all available efforts in providing IT services to the IJUM library community. The vision of this division will evolve into an entity to undertake IT projects on a turn-key basis. So the responsibility to handle all the issues related the data management, should be with IT department, as well as the collaboration and support of the IJUM library top management, since the responsibility and objectives of the library is shared, seeing that both of them aims to create a better service for the IJUM library clients.

2. Technical approach

Adapting an effective data management strategy is a crucial and vital factor for the success in locating and obtaining the technical solution to the data management problems that have being discussed. Based on the analysis, it can be said that there is a need for providing many technical equipments, such as modern servers, in order to maintain the quality of the data management of the IJUM library.

VIII. CONCLUSION

Primarily, this paper is concerned with how IT Department of the IJUM library is coping with all daily volumes and variety of data that they have to manage, and how well they operate under such data management issues, such as keeping the data secure and getting the maximum academic efficiency out of from it.

Therefore, we managed to draw a quite number of data management frameworks and standards to aid the IT department of IJUM library identify some of the Key solutions for their problem, included in the following:

1. Institutional Context: The size and scale of the Library data environment, data related staffing, and barriers to data management should be clearly defined.
2. Data integrity and quality: planning and controlling the IJUM Library's activities that measure and ensure the fitness of data for use should be ensured, as well as a rapid assessment of the Library data quality, including the management of the master data.
3. Analytics: a fundamental processes to provide decision support, which is essential for the library top management and staff; to achieve the full utilization of the library tools and infrastructure, which will lead to an accurate data process.
4. Data Security: responsibilities should be assigned to for the security and quality of data; exercise of authority and decision making over the management of data assets and creation of data policy; and related data issues.

5. Content and Records management: the process of providing storage, access, and archive data ought to be within the library primacies.

Data management outcomes: assigning related data responsibilities among the IT department of the Library must take place immediately, as well as assessment of the Library performance under the measures of data management effectiveness.

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Authors Profile

Mr. Hewa Majeed Zangana pursued Bachelor of Computer Science from University of Nawroz, Iraq in 2009 and Master of Information Technology from International Islamic University Malaysia in year 2013. He is currently working as Lecturer in Department of Computer Science, College of Computer and IT, University of Nawroz, Iraq since 2013. He is a member of IEEE & IEEE computer society since 2013, a life member of the CSTA since 2015, ACM since 2014. He has published more than 16 research papers in reputed international journals including IEEE and it's also available online. His main research work focuses on Image Processing, Network Security, Cloud Security and Privacy, Big Data Analytics, Data Warehousing. He has 6 years of teaching experience and 5 years of Research Experience.

