

Impact of ICT on Privacy and Personal Data Protection in Two Malaysian Academic Libraries

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ABSTRACT

The rapid advance of information and communication technologies (ICT) has permitted the creation of digital libraries. However, the development of the digital library has created certain threats in some aspects especially in terms of privacy and personal data protection which is generally regarded as confidential between the library and the individual. This study aims to investigate the policies, preparedness and awareness of two Malaysian public academic libraries i.e. International Islamic University Malaysia (IIUM) and Universiti Putra Malaysia (UPM) on the issues of privacy and data protection. This study also attempts to discover the library users' perceptions with regard to the collection and use of their personal data and to examine the policies and practices adopted by libraries in relation to users' privacy. The methods of the study were interview and questionnaires. The library staffs in charged personal data collection from the two public academic libraries were interviewed. Questionnaires were distributed randomly to the library users from the two public academic libraries. The findings showed that the majority of library personnel were aware and observe the privacy and data protection policies in their libraries even though there were no official written statements concerning this subject. They also realized that these issues were still pending in term of implementation at their parent organizations (university) as well as in their libraries. The finding also shows that library users were aware about their privacy and personal data protection and they realize that their privacy and personal data protection were threatened.

Keywords: ICT; Privacy; Digital library; Security; Data Protection

Aim of the Study

The paper aims to investigate the policies, preparedness and awareness of two Malaysian public academic libraries i.e. International Islamic University Malaysia (IIUM) and Universiti Putra Malaysia (UPM) on the issues of privacy and data protection. This study also attempts to discover the library users' perceptions with regard to the collection and use of their personal data and to examine the policies and practices adopted by libraries in relation to users' privacy.

Research Questions

This study aims to answer the following questions:

1. How library users utilize the internet in accessing the information provided by digital library?
2. Are library users' personal data protected in our digital library environment?
3. What are the users' perception concerning the collection and usage of their personal data by the library?
4. What type of user personal data that librarians collected in digital form?
5. Do digital libraries in Malaysia practice or implement data protection policy?

Methods

The methods of the study were interview and questionnaires. The library staffs in charged personal data collection from the two public academic libraries were interviewed. Questionnaires were distributed personally to the library users from the two public academic libraries.

Findings

The findings showed that the majority of library personnel were aware and observe the privacy and data protection policies in their libraries even though there were no official written statements concerning this subject. They also realized that these issues were still pending in term of implementation at their parent organizations (university) as well as in their libraries. The finding also shows that library users were aware about their privacy and personal data protection and they realize that their privacy and personal data protection were threatened.

INTRODUCTION

The digital form of information resources and services in the library keep growing year by year and permitted the creation of digital libraries. This innovation depends on two important communities; they are information professionals and computer science researchers (Arms, 2000). Applications of interactive multimedia in libraries will allow users to explore the information needed effortlessly. However, according to Sturges, Illife and Dearnley (2001), the advent of digital technology has posed some threats in some aspects especially in terms of personal privacy. In relation to privacy, the library should have a privacy policy to show the concern of library management. Thus, it is important to have a professional code of ethics and conducts as a guideline. One of the sources of the professional code of ethics and conducts states clearly about confidentiality between users and the libraries is:

"We protect each library user's right to privacy and confidentiality with respect to information sought or received and resources consulted, borrowed, acquired, or transmitted".

(Code of Ethics, The American Library Association (ALA), 1995)

In fact, data protection is really needed in any library especially in the digital library. It helps library management to be aware of and concern about the protection of users' personal data. Access control helps maintaining data security and the authenticity of the information in the library system. In the United Kingdom and US, several research studies on privacy and data protection in the digital libraries environment have been undertaken (Davies, 1997; Sturges et al., 2003; Warren, 2002; The Association of Research Libraries (ARL), 2003). However, in Malaysia, there are no reported studies in this particular area.

The Malaysian Scenario on Privacy and Data Protection Issues

According to Abu Bakar (2010) data protection journey in Malaysia started in year 2000 with the first draft, later on made available for public comment. Next, new draft was presented in 2007, followed by first reading (2009), second and third reading (April 2010). Lastly, it was gazette on Jun, 2010. However, the act doesn't apply upon federal and state government, non-commercial transaction, personal and family affairs and data processed outside Malaysia. According to the act, personal data is a data relates directly or indirectly to data subject, while data user is a person who either alone or jointly or in common with other person processes or authorizes the processing of any personal data or has control over personal data, but doesn't include data processor. Besides, several data protection principles apply such as (1) personal data cannot be processed without consent of data subject, (2) data user shall inform the data subject that his data is being processed and provide description of personal data, while data subject has the right to request access, (3) personal data cannot be disclosed to others without consent of data subject, (4) personal data cannot be kept longer that is necessary for the fulfillment of the purpose, (5) data user shall take reasonable steps to ensure that the personal data is accurate, complete, not misleading and kept up-to-date, (5) data subject shall be given access and be able to correct the personal data, (6) data user shall take practical steps to protect the data from any loss, misuse, modification, unauthorized or accidental access or disclosure, alteration or destruction.

Criminal offences relating to this act might be in term of selling data, failure to register, contravene data protection principles, processing after registration revoked, fail to comply with enforcement notice, disclosure without consent, transfer data without adequate protection and unlawful collection.

Implementation of Privacy and Data Protection in Digital Library Environment

The online and computer network application in the digital library also require privacy and data protection. This privacy and data protection should be included in the library policy. It will generate the information management practices more efficiently and protect privacy as a part of users' rights. Sharma and Vishwanathan (2001) mentioned that the points that should be considered in changing from the traditional to the computer based system are anticipated traffic to flow over the network, origin and destination of that traffic, types of applications that will be made available on the network and set procedures if part of or the whole network fails.

The restriction of access will help the library to safeguard the privacy of library users. The different methods of authentication have different implications for user privacy. Each method has trade-offs between ease-of-use, privacy, manageability, and security. One of the authentication mechanisms is client authentication. Guenther (2001) mentioned that client authentication means making users prove that they are who they say they are before allowing them access to a particular area. It is the second step from two steps. The first step is a login or user name and the second is asking user to prove who he is with a password, a signature, or biometric identifications (using a physical attribute to prove identity, e.g. retinal scan or thumb print). She also mentioned some of the basic methods in authentication that can be chosen are user name and password authentication, cookie file authentication, encryption and authentication, digital certificates and smart cards. Thus, it depends on the library management to choose the best way to protect privacy and keep data safely in order to win users' confidence.

OBJECTIVES OF THE STUDY

The objectives of the study were; (i) to investigate the level of library staff and users' awareness of data protection in public academic libraries in Malaysia, (ii) to determine the preparedness and readiness of the academic digital libraries in implementing their data protection policy, (iii) to find out library users' perceptions with regard to the collection and use of their personal data, (iv) to find out the policies and practices adopted by libraries in relation to user privacy, (v) to discover the utilization of the Internet as a medium for accessing information in the digital library environment.

LITERATURE REVIEWS

There were several studies conducted on privacy and data protection in the digital libraries environment. Firstly, the study carried out by Sturges et al. in 2003 had used several research methods, including sending postal questionnaires to libraries, administering questionnaires for users and telephone interviews with software system suppliers. The findings suggested that users had low levels of anxiety about privacy when using libraries because they expected that libraries would not pass on personal data to other bodies. Meanwhile, the librarians respected privacy as a professional value in principle and did not give it a high rating against other values.

Sturges, Teng & Illife (2001) believed that privacy is strongly considered to be a human right, and it is stated in the United Nations' Universal Declaration of Human Rights, adopted in 1948. The confidentiality of the transaction between the user and the library is explicitly protected in all the most prominent statements of the ethics of the librarian. There are various types of resources which discuss ethical guidance in professional codes of ethics and conduct. One of them, the American Library Association (ALA)'s Code of Ethics states;

“We protect each library user's right to privacy and confidentiality with respect to information sought or received and resources consulted, borrowed, acquired or transmitted”. (ALA, 1995)

This code covers various types of codes which have similar professional ethics and conducts from other information-related organizations. In a research conducted by Davies (1997) on data protection issues in managerial and philosophical for academic library managers, he described the situation in a segment of academic information and library services in the UK. He examined in detail current data protection policy practices and levels of awareness. He found that the management of data protection in university libraries is satisfactory, and also there is a real need for raising awareness and enhancing knowledge

through information dissemination, publicity, training, discussion and exchange of experience throughout the profession.

Warren (2002) investigated and analyzed the extent to which individual privacy is being protected by recent legislation in the UK and the legal challenges facing public organizations. The questionnaire was divided into four parts; compliance and staffing issues, employee records, monitoring of employees, and considered awareness and opinion of the DPA 1998 and the HRA 1998 in particular. In the interview, three issues were brought up; the law, government, and politics. In the meeting with two local authority librarians, both of them emphasized staff training and the issues surrounding data protection due to the digital environment. Libraries made clear to their members that their personal data would only be used for membership purposes. The researcher mentioned the professional guidance that led the American Library Association (ALA) to publish a policy on the confidentiality of library users' personal data (ALA, 1991) and of library records (ALA, 1986). He stressed that the role of employer and employee bodies is fundamental to building a bridge to the law. Policy making is part of the roles of professional bodies in ensuring the data protection system is effective.

Library services also play an important part in maintaining user privacy such as digital reference services. Neuhaus (2003) viewed that there are six types of digital reference records derived from digital reference services. They are chat reference, e-mail, web forms, librarians and computer researchers with automated reference tools, Frequently Asked Questions (FAQs) and transaction logs. He suggested the digital reference policy must be a part of the library policy because it is a good mechanism for safeguarding user privacy. He stated that the good privacy policies can address ethical issues regarding user confidentiality which are not covered by statutes.

He also emphasized the criteria of good policy which must consist of; an explanation of what information is collected, who has access to library records, addressing the use of encryption, addressing the use of cookies, library users have the right to view, correct, or remove their own records, records may be used to conduct ordinary library business and to compile statistical reports, records may be evaluated to assess internal library processes, authorized individuals may utilize records for research and publication, no personally identifiable information will be publicly released, the library will not give, share, sell, or transfer any personal information to a third party and lastly, library records will be released to law enforcement agencies bearing a court order or subpoena according to state law. He suggested two actions that can be taken by librarians. Firstly, they can work with state officials to make sure that digital reference and other computerized library records are protected by state confidentiality laws. Another action is to lobby federal government representatives on bills that will affect libraries and library privacy issues.

On the other hand, in the year 2003, a survey was conducted in the US by the Association of Research Libraries (ARL) pertaining to library patron privacy. Fifty-eight of the 124 ARL member libraries (47%) responded to this survey. The survey method employed in this study was the questionnaire. The survey covered the treatment of specific types of patron data records; circulation: record of checked out items, billing records, database search logs, archives/special collections, Document Delivery/Interlibrary Loan, remote access proxy server logs, web server log files and caching/statistical/filtering proxy server log files, chat logs for electronic reference, media reservation form, database personalization features, "My Library" portal systems, catches on microcomputers, hardware repair/disposal, and disposal of paper, magnetic tape, or other media containing patron records. The survey allowed the respondents to list other types of patron-specific data stored by their institution. Respondents listed policies and practices for sign-up sheets, guest logins, renewal logs, e-mail reference and e-journal use. The findings of the survey showed that the absence of policies or public statements for records, or reliance on general statements. It is important to have guidelines for various types of records. The policies, procedures, and public statements may be so general and have little use to understanding the disposition of specific types of records. Besides that, the lack of awareness of what happens to records held on back-up media when the main location of records is eliminated.

Bernstein (2007) explained her experience when she need to encounter a hard time when policeman came to her library knocking the door in search of information that's contained in library's customer records. Undoubtedly the situation created havoc in the library since all staff didn't know how to handle it. Do we as a professional has a right to disclose customer's

information in this case? Thus a clear-cut policy and training to the staff should be developed upon this matter. She suggested that library directors need to educate themselves on the laws protecting the confidentiality of library customers. Next, every staff should aware about the policy and procedures to follow in case outsider request for confidential information from library records. Library members or public need to be educated about their right to privacy related to library records. The police in the other hand must understand the library law regarding privacy, and lastly the municipal or institutional officials need to be explained as well in order to give them a clear picture on how library handle any related issue that might arise.

Thompson (2006) explaining the privacy issue from different view. Normally, a hacker will hack the computer system to gain access to unauthorized information. However other hacker is able to gain access to unauthorized information even without getting into the system technically. This can be done through social engineering. He identified that information in library records also could be stolen via social engineering; the use of non-technical means to gain unauthorized access to information or computer systems. This method is widely identified as major security threat to computer industry, but little has been address in library field. The social engineer (also known as social hacker) commonly uses a simple method to gain information such as via telephone or email. Then the social engineer uses trickery, persuasion, impersonation, emotional manipulation and abuse of trust to gain information through human interface.

Another study explored the importance of Information Security to be included into LIS curricula. Based on the survey done, out of 56 ALA-accredited LIS programs, only 4 schools had specialized courses in privacy or security. It shows that information security is not being widely addressed in LIS education. However, it was a minor study where the word "security" and "privacy" were investigated through course listing only, without going deeper into the course syllabus.

Samuelson (1995) bring the issue of copyright and digital library in the sense that it is difficult to deal with copyright issue when it comes to online environment as compare to the conventional library due to the inherent nature of digital data. Most of the time, a single digital copy of library material can be accessible to multiple individuals in an almost simultaneous manner owing to the advances of technology. In the early days after the invention of printing machine, like in England the copyright license only been given to a very small number of printing firm. While the author only entitle for honoraria or compensation for the printing of the book. Over time, opposition arose to this arrangement. In 1710, the English Parliament passed the first copyright statute, known as Statute of Anne. It provides new system to the copyright issue in many ways; such as it granted rights to authors-not printers- to control the printing of their works and sue for infringement. Nowadays the copyright has been extended to a broader range of creative works, while the author have right to control reproduction of their work in copies, not just the printing of books. However to ensure that enforcement of copyright will not unduly impede public access to knowledge, there have emerged some countervailing limitations on the scope of copyright, such as the fair use doctrine. A core principle of today's copyright laws around the world is that they still focus on controlling the manufacture and sale of physical artifacts- not on the controlling all uses of the intangible contents embodied in them. The nature of library services in digital world are different in the sense digital library collection can be borrowed without infringing copyright, and the library is willing to make its digital copy available to others through inter library loan. Moreover, library may provide downloading facilities to the digital collection. All these will obviate the need for individual purchases of the text from the author or publisher of the work.

In short, the literature review has revealed that only a small number of research studies have been done in this area of study. Almost all of them were conducted in the Western countries especially, United Kingdom and USA. Meanwhile, research in this area has not yet been carried out in Malaysia. Therefore, this study attempts to fill the gap.

METHODOLOGY

Research design

The study was conducted in two public academic libraries i.e. the International Islamic University Malaysia (IIUM) Library and Universiti Putra Malaysia (UPM) Library. The population comprised library personnel and library users in those libraries. The respondents covered library personnel and users such as students, academic and non-academic staff.

The total number of the sample was 170 respondents which comprised 85 respondents from each academic library. Out of this, 160 respondents were surveyed through questionnaires, and 10 respondents (library personnel) were interviewed. The library personnel comprised of 8 librarians and 2 supporting staff, they were from the Department of Technical Application Services and Collection Development Division in the IIUM library, and the System and Information Technology Division and Circulation and Promotion Division in the UPM library.

In this study, questionnaires were distributed personally to the library users and interviews were conducted on library personnel. The questionnaires distributed for each library (IIUM/UPM) were 80 sets, which were then divided equally for each level and the sample was selected randomly. This is due to the availability and convenience of the respondents in answering the questions as well as the cost of conducting the survey. This study is limited to 170 respondents (10 library personnel, 160 library users) due only to the costs and time frame in completing the research. The interviewed respondents included 8 top library officer and 2 supporting staff.

Data analysis strategy

The data collected were analyzed using statistical analysis software –the Statistical Package for Social Sciences (SPSS). The descriptive analysis was employed to explain the results of the questionnaires. The results were presented using percentages and numbers and also presented in table form. As for the qualitative study, the interview results were analyzed by working with the gathered data, organizing it, breaking it into measurable units, discovering what is important and coming up with the similar and specific terms to be used and presented.

FINDINGS

Library Personnel and Users' Awareness Concerning Privacy and Data Protection

The results of the study show that library personnel were alert pertaining to the issues of privacy and data protection surrounding them because they realized that these issues were still under development at their parent organizations (university) as well as in their libraries. According to them, their libraries were practicing data privacy such as providing passwords to access the Internet. This has been discussed mostly during consultation with technical advisors and in management and staff meetings. Meanwhile, library users responded that they were concerned about the threats to their personal privacy whether from official bodies or commercial organizations.

The study shows that library users have greater awareness concerning privacy and data protection and about the threats to their personal privacy (80.6%). Simultaneously, the libraries were practicing the safeguarding of users' data privacy. It shows that library personnel and users need each other to maintain the value of the organization (library) and moreover, to keep the trust of library users.

However, the results of the study contrast with Sturges et al. (2003) who found that users had low levels of anxiety about privacy when using libraries because they expected that libraries would not pass on personal data to other bodies. The low level of concern can be seen as a basic statement of trust in the library as a respecter of privacy.

As Chmara (2001) stated the disclosing of the information used by the users will inhibit them from using the library. Users will be reluctant to borrow materials on controversial subjects or research sensitive topics on the Internet if they believe that their research and reading choices can be divulged by library personnel to third parties. Table 1 showed the library users' perceptions of library passing on user information to official or commercial organizations.

Table 1: Library Users' Perceptions of Library Passing On User Information to Official Organizations and Commercial Organizations

Perceptions	Official Organizations		Commercial Organizations	
	N	%	N	%
Agree strongly	12	11.1	13	12
Agree somewhat	21	19.4	18	16.7
Neither agree/disagree	16	14.8	10	9.3
Disagree somewhat	32	29.6	23	21.3
Disagree strongly	25	25	44	40.7

On the other hand, library users refused to disclose some of their personal information in online activities such as newspaper sites, newsletters, alert services, downloads and software updates. However, there was some information that they were willing to disclose especially their hobbies and interests, e-mail address and the shops regularly visited. The respondents did not mind sharing this with others in order to get faster and latest information.

Table 2: The Level of Comfortability of Providing Personal Information through the Internet

Personal Information	Most Frequent Answer	No. Of Respondents	Percentage %
Full Name	Rarely	32	29.6
Postal Address	Rarely	32	29.6
E-mail Address	Usually	37	34.3
Phone No.	Never	48	44.4
Comp. H/ware & S/ware	Rarely	37	34.3
Age	Rarely	39	36.1
Medical History	Never	32	29.6
Shop Visited Regularly	Usually	30	27.8
Interests & Hobbies	Usually	42	38.9
Annual Income	Never /Not applicable	31	28.7
Credit Card Details	Not applicable	47	43.5

Meanwhile, according to Hurriyyah (2003), some of the Malaysian netizens attitudes when they were asked to supply personal information when participating in any e-commerce activities were that they refused to disclose their personal information or gave falsified information about themselves because of non-disclosure about the purpose of data collection and how the data was going to be used. Furthermore, the information asked is particularly sensitive and they are concerned that the information will be intercepted / stolen.

This study and a previous study by Hurriyyah (2003) have slight differences. This study shows the willingness of Internet users to share their personal information with others; in contrast Hurriyyah's finding indicated users were not willing to share their personal information with others.

Library personnel and users' perceptions of library policies and practices concerning privacy and data protection

In terms of the library policies and practices, most of the library personnel interviewed mentioned that the library observed privacy and data protection even though there was no official written statement or policy concerning it. Finding shows that 10 (100%) library personnel's experiences in answering enquiries about third parties' personal data which they were not entertained at all.

It is noted that Malaysia does not yet implement any personal data protection bills regarding these matters to support the existing data protection laws in the Communication and Multimedia Act (CMA) 1998.

Both libraries surveyed (IIUM and UPM) emphasized the facilities and services provided to the users. The most frequently used were borrowing books (86.1%), reference (83.3%) and photocopying (73.1%). The other services are newspaper (71.3%), internet (71.3%), e-journal (40.7%), printed journal (22.2%), e-mail (21.3%) and inter library loan (10.2%). Libraries generate electronic files to help them to input and access the library users' records. All particulars about users are keyed into the system in the library. The library personnel knew that they should not sell or pass on the personal information to a third party which is strongly opposed by library users. Therefore, as record keepers, they must maintain the records in the right order and ensure that they are not be accessed by a third party. The results showed that those libraries were not ready yet to implement the privacy and data protection policies in the library. Although users were concerned about threats to their personal privacy, they did allow the library personnel to monitor the use of electronic facilities in the library to prevent their misuse and to help the library to improve their services and facilities where 62% of respondents agree, followed by 18.5% neutral, and 19.4% disagree.

This is in accordance with Estabrook (1996), who mentioned that librarians should retain and use patron data collected, including circulation records, in order to develop and improve library services. The development of automated systems in the library world increasingly allows the librarians to do so.

On the other hand, the answers to questions 15 & 16 in the interview session have slight differences. Table 3 shows the result of question 15 asked about the library personnel's perceptions of the degree of importance of library services/facilities which almost of the library personnel (80%) stressed on safe guarding users details as the most important library services.

Table 3: Perceptions of Library Personnel the Degree of Importance on Library Services/Facilities

Items	Very Important		Important		Less Important		Unimportant	
	N	%	N	%	N	%	N	%
Accurate catalog	7	70	3	30	-	-	-	-
Digital resources	6	60	4	40	-	-	-	-
Secure environment	6	60	3	30	1	10	-	-
Safeguarding users' details	8	80	2	20	-	-	-	-
Current awareness	6	60	4	40	-	-	-	-

While, Table 4 indicates the results of question 16 on the degree of important factors that matter to library personnel which more than half of the library personnel agreed that the most important factors that matter to them was service to clientele (70%).

Table 4: The Degree of Important Factors That Matter To Library Personnel

Factors	Very Important		Important		Less Important	
	N	%	N	%	N	%
Copyright	2	20	2	20	2	20
Intellectual freedom	-	-	1	10	1	10
Information literacy	1	10	4	40	2	20
Confidentiality/privacy	-	-	3	30	4	40
Service to clientele	7	70	2	20	-	-
Others	-	-	-	-	1	10

The respondents believed that their library would place safeguarding users' details as the most important, but instead of that, service to clientele is very important for themselves. This shows that, for the first question, they tried to please the researcher. Whilst, the response for the second question indicated that library personnel were confused and unsure about performing their duties and responsibilities.

CONCLUSIONS

In short, digital online information can be accessed from any places at anytime as long as the users have the means to do it. The new technologies also have some drawbacks which the users should be aware of and be able to overcome them. The drawback in this case is the infringement of users' privacy and data protection arising from the use and disclose of personal digital information to the third parties. This study also found that one Malaysian public academic library (UPM) was developing a policy on privacy and data protection.

The end-users were very careful about disclosing their personal information to the third parties. This fact acts as a reminder to library personnel that any information or data concerning their library patrons should be treated as confidential and not disclosed to any unauthorized personnel. It is therefore very important that libraries have written policies regarding privacy and data protection in order to protect the library users' privacy and rights. The findings of this study can be used as a guideline in the planning and development of privacy and data protection policies in the academic libraries in Malaysia.

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