

## **Myths and Realities of Digital Reference Services: Perspectives of Libraries from Developing Countries**

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### **ABSTRACT**

With the increasing availability of electronic information services and the emergence of the Web the notion of traditional reference services has been altered. Libraries in the US have begun to offer Web-based reference services which are termed "digital" or "virtual" reference services and those in other countries such as UK are following suit. This paper aims to determine whether developing countries in Asia and Pacific region have caught up yet with the realities of offering digital reference services in real time with a 24/7 operating mode. To what extent has this phenomenal change affecting reference services gripped the libraries of developing countries? Do developing countries in the Asia and Pacific region are implementing the digital reference services in their libraries like what is happening in the developed countries? In order to address this issue a survey of the current practices related to reference services in libraries of developing countries in the Asia and Pacific region was studied. Data for this study were gathered from selected academic libraries websites located in the region. The levels of reference services are judged using a scale that measures their maturity. A library that operates traditional services where a user is provided with answers through personal contact, normal mail, or telephone is treated as having zero maturity. A score of 1 is assigned to a country when libraries have begun providing email reference. An email link on the library website is an indicator of this level of virtual reference service. A score of 2 is assigned to a country in which libraries are providing email reference together with a web form, while a score of 3 is assigned to a country when libraries are using a web form together with online chat. When libraries have a web form, online chat and other mode of online communication designed solely for reference service, a score of 4 is assigned. A score of 5 is assigned to a country where their libraries offer digital reference services in real time with 24/7 operating mode. The findings showed that not a single country in the Asia and Pacific region was able to offer virtual reference services in real time on a 24/7 basis. Some of the academic libraries offering virtual reference services have online chat but for a limited time only as shown in the case of academic libraries of the Philippines.

**Keywords:** digital reference services; developing countries; traditional reference services; digital libraries; evaluation.

### **INTRODUCTION**

The introduction and development of the Internet and its associated Web technologies in the past decade have significantly affected both the way libraries provide information services to the users and the way users choose to access information. One area of change is in the deployment of the technologies for reference services. Reference services according to Bunge (1999) refer to the personal assistance provided to users in the pursuit of information. This personal assistance have been categorized by Bunge (1999) into three broad groups : (1) information services that involve either finding the required information on behalf of the users , or assisting users in finding information; (2) instruction in the use of library resources and services (broadly defined as information literacy skills) and( 3) user guidance , in which users are guided in selecting the most appropriate information sources and services. In the traditional reference services the first group will involve a face to face encounter between a reference librarian and the user. In this encounter the reference librarian is supposed to answer the reference questions posed by the user. When a patron asks a question, the librarian finds the answer and may even deliver it to the patron. The librarian does not attempt to educate the patron in the process, but puts all of the effort into finding accurate and authoritative information. The second group emphasizes education over information with the ultimate goal being to train patrons to use the library independently. The process of finding information is valued above the information itself. This has long been the predominant approach in school and academic libraries, where the mission of the broader institution is clearly educational. Its many variations culminated in the concept of the "teaching library" (Guskin, Stoffle, and Boisse, 1979), in which bibliographic instruction becomes the central role of the entire academic library. The third group involves the libraries playing a key role in providing information services in anticipation of user

needs. Such services include various forms of current awareness and selective dissemination of information services.

With the increasing availability of electronic information services and the emergence of the Web the notion of traditional reference services has been altered. Is there a need for the personalized services after all? The landscape for provision of reference services has changed. Remote access by library users is a serious challenge to reference services. Libraries must develop strategies to cope with the demands of the user for remote access. Libraries have devised several strategies to meet the challenge of remote access. One of these is virtual reference. Virtual reference is a type of electronic reference service that may or may not have real time operations. It utilizes the advantages of the Internet to provide convenient, rapid and efficient information service. Tenopir (2001), in a survey of 70 academic libraries in the US, found that 99 percent were operating asynchronously. This means that the users may interact with the reference librarians by appointment or through email. Order (2001) found that only 29 percent of users could interact with reference librarians in real time by instant messaging and video conferencing.

Email reference service may be adequate, since users can send queries to reference librarians 24 hours a day and seven days a week. Response to the queries may not be immediate, since librarians answer the queries only during working hours. One way to overcome this problem is a system that is interactive and can be accessed at any time of the day. Another approach is the creation of call centers that are designated to handle voice, fax, email, video interactions, or web chat. In the case of web chat, for example the librarian is able to accompany the users as they browse through electronic resources, offering them advice, answering queries, and training the user online in how to use the electronic resources.

Remote access by library users is a serious challenge to reference services. Libraries must develop strategies to cope with the demands of the user for remote access. As a consequence of these developments, some researchers have argued that the reference services as they currently exist will undergo major changes in the near future, whether the libraries participate or not. According to Campbell (2000), three major forces will be responsible for effecting the changes: the migration of learning into the asynchronous environment, the emergence of the web-based generation, and the arrival of commercial forces into the education marketplace. Some authors have argued against this approach as face-to-face interviews are still important (Chowdhury 2002; Gamsey and Power 2000). Others have suggested a middle course, suggesting that libraries to provide both synchronous and asynchronous services (Stemper and Butler 2001). Librarians must select services based on their needs and resources (Janes, 2003).

The landscape for provision of reference services has changed. Libraries in the US have begun to offer Web-based reference services which are termed "digital" or "virtual" reference services and those in other countries are following suit. In the U.K. there is a Web-based reference service called Ask A Librarian, primarily designed for UK residents. A user has to put the query through an inquiry page, which is automatically routed to one of the participating libraries, which receives it as an email message (Chowdhury, 2002).

To what extent has this phenomenal change affecting reference services gripped the libraries of developing countries. Are the movement and changes from traditional reference services to the virtual reference services being practiced on a large scale in libraries of developing countries.? This question is pertinent as the study on virtual reference services conducted in China found that " there are some problems existing for China to develop Virtual Reference Services, namely shortage of funds, the information poor, the digital divide, restrictions of information infrastructure, library management, shortage of technical knowledge and user training" (Zheng, 2006). In order to address this issue a survey of the current practices related to reference services in selected academic libraries of developing countries in Asia and Pacific region was studied.

### ***Purpose of The Study***

This study aims to determine whether those libraries in developing countries located in the Asia and Pacific region have caught up with the developed countries as far as offering virtual reference services in real time with a 24/7 operating mode is concerned. To what extent have they been able to blossoming into full-blown maturity or partial maturity when conducting virtual

reference services? This question needed to be addressed as countries in the Asia and Pacific region have different levels of socio-economic, technological and cultural development. This might have an impact on the effective implementation of the virtual reference services in those countries with shortage of funds, poor information infrastructure, shortage of technical knowledge and user training.

## METHOD

In this study selected academic libraries of the developing countries located in the Asia and Pacific region were assessed on the basis of the level of virtual reference services they provide. Data were collected based on the information available on their websites. The levels of reference services are judged using a scale that measures their maturity. A library that operates traditional services where a user is provided with answers through personal contact, normal mail, or telephone is treated as having zero maturity. A score of 1 is assigned to a country when libraries have begun providing email reference. An email link on the library website is an indicator of this level of virtual reference service. A score of 2 is assigned to a country in which libraries are providing email reference together with a web form, while a score of 3 is assigned to a country when libraries are using a web form together with online chat. When libraries have a web form, online chat and other mode of online communication designed solely for reference service, a score of 4 is assigned. A score of 5 is assigned to a country where their libraries offer virtual reference services in real time with 24/7 operating mode. Countries in the Asia and Pacific region that are considered as developed countries, such as Japan, Australia and New Zealand, were excluded in this study. It is pertinent to point out that there are a good number of websites that use a language other than English and for these websites Google translator was used to translate the non Romanized script into English. As not all translation efforts were deemed successful there are a good number of websites that have been excluded from this study simply because of the problems of incoherency and unintelligibility.

## Results

None of the countries surveyed had an academic library that offered virtual reference services in real time and 24/7. This is not surprising, since these services are costly. Even academic libraries of developed countries are often not able to maintain this type of virtual reference services. As a result, consortia have been formed to share the responsibility for virtual reference at the global level. QuestionPoint is an example. QuestionPoint "stems from an arrangement between the Library of Congress' Public Service Collections Directorate and OCLC to provide libraries with access to a growing collaborative network of reference librarians in the U.S. and around the world. Library patrons can submit questions at any time of the day or night through their local library's Web site" (Quint 2002). One of the salient points of QuestionPoint technology is the presence of web-based question-submission forms, e-mail interaction, and live chat service. The selected academic libraries websites were assessed based on the maturity scales which were mentioned in the foregoing paragraphs. Initially the assessment was based on the scoring of the academic libraries of the respective countries and this is followed by the compilation of maturity scores of the respective countries. Table 1 shows the scores received by the academic libraries of Bangladesh. All the libraries use e-mail for the purpose of virtual reference services. According to the criteria of the maturity score this country is assigned 1.

**Table 1: Maturity scoring for Bangladesh**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
North South University	√				1	
University of Dhaka	√				1	1
Bangladesh University of Engineering and Technology	√				1	

In the case of the academic libraries in China as depicted in Table 2 all types of virtual reference services are being offered by the libraries. However when everything was taken into account it was found that the use of email form designated for virtual reference services received a higher rating as compared to others. As such the composite score for China is assigned 2.

**Table 2: Maturity scoring for China**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Nankai University	√	√			2	
Peking University	√	√			2	
Shanghai Jiao Tong University		√			2	
Shanghai University		√			2	
Sun Yat Sen University		√		√	3	<b>2</b>
Tsinghua University	√			√	3	
Wuyi University		√			1	
Wuhan University		√			3	
Nanjing University	√				1	
South China Normal University	√				1	

Table 3 shows the situation of the virtual reference services offered by the academic libraries in India. The findings showed that most of the virtual reference services are typically e-mail based. There is no evidence to show that online chat is being practiced in Indian academic libraries. As such the composite score for India is 1.

**Table 3: Maturity scoring for India**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Shivaji University	√				1	
Mangalore University	√				1	
Osmania University	√				1	
Nagarjuna University	√				1	
Delhi University	√	√			2	<b>1</b>
University of Hyderabad	√	√		√	3	
University of Mysore	√				1	
Manipur University	√				1	
Aligarh University	√				1	

Table 4 shows the situation of the virtual reference services being practiced by the academic libraries in Indonesia. It is a replication of the situation found in India where most of the academic libraries offered only e-mail services to their users. Thus the composite score for Indonesia is assigned 1.

**Table 4: Maturity scoring for Indonesia**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Atma Jaya Catholic University	√				1	
University of Indonesia	√				1	<b>1</b>
Institute of Technology Bandung	√				1	
University of North Sumatra	√				1	

Table 5 shows the situation of the virtual reference services being practiced in Malaysia. The academic libraries in Malaysia have taken steps to forge ahead in their commitment to serve the users. They not only use email but also they used the specially designed e-mail forms for the virtual reference services. In addition they have also use the online chat to go along with the e-mail form. The composite score given to Malaysia is 2.

**Table 5: Maturity scoring for Malaysia**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
International Islamic University Malaysia	√				1	
Universiti Teknologi MARA	√				1	
University of Malaya	√	√			2	<b>2</b>
Universiti Kebangsaan Malaysia	√	√			2	
Universiti Putra Malaysia	√	√			2	

Table 6 shows the situation of the virtual reference services being practiced by academic libraries in Pakistan. A composite score of 2 is assigned to Pakistan.

**Table 6: Maturity scoring for Pakistan**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Punjab University		√	√		2	
Lahore University of Management Sciences		√	√	√	3	<b>2</b>
University of Karachi	√				1	
University of Peshwar	√				1	

Table 7 shows the situation of the virtual reference services being practiced by academic libraries in the Philippines. It was found that the academic libraries in the Philippines have made a big leap as far as offering virtual reference services to the users are concerned. A composite score of 3 is assigned to Philippines.

**Table 7: Maturity scoring for the Philippines**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
De La Salle University		√	√	√	3	
University of the Philippines-Diliman		√	√	√	3	<b>3</b>
Xavier University	√			√	2	
Anteneo De Manila University	√		√	√	3	

Table 8 shows the situation of the virtual reference services being practiced by academic libraries in Singapore. A composite score of 2 is assigned to Singapore.

**Table 8: Maturity scoring for Singapore**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Nanyang Technological University	√	√			2	
Singapore Management University	√				1	<b>2</b>
National University of Singapore		√		√	2	

Table 9 shows the situation of the virtual reference services being practiced by academic libraries in South Korea. A composite score of 3 is assigned to South Korea.

**Table 9: Maturity scoring for South Korea**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Yonsei University	√		√	√	3	
Seoul National University	√	√		√	3	<b>3</b>
Korea University	√				1	

Table 10 shows the situation of the virtual reference services being practiced by academic libraries in Sri Lanka. A composite score of 2 is assigned to Sri Lanka.

**Table 10: Maturity scoring for Sri Lanka**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
University of Colombo		√			2	
Ruhana University		√	√		3	<b>2</b>
University of Kelaniya	√				2	

Table 11 shows the situation of the virtual reference services being practiced by academic libraries in Taiwan. A composite score of 2 is assigned to Taiwan.

**Table 11: Maturity scoring for Taiwan**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
National Taiwan University	√				1	
National Taiwan Normal University		√			2	<b>2</b>
Tamkang University		√			2	

Table 12 shows the situation of the virtual reference services being practiced by academic libraries in Thailand. A composite score of 2 is assigned to Thailand.

**Table 12: Maturity scoring for Thailand**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Thammasat University		√			2	
Chulalongkorn University		√		√	3	<b>2</b>
Khon Kaen University	√				1	
Chiang mai University	√			√	2	

Table 13 shows the situation of the virtual reference services being practiced by academic libraries in Vietnam. The academic libraries in Vietnam have not made any major progress as far as virtual reference services are concerned. A composite score of 1 is assigned to Vietnam.

**Table 13: Maturity scoring for Vietnam**

Name of the Academic Library	Type of Virtual Reference Services (VRS)				Preliminary Scores	Composite Scores
	e-mail	e-mail form	Online chat	Others		
Hanoi University of Culture	√				1	
Cau Tho University	√				1	<b>1</b>

Table 14 shows the accumulation of the composite scores for selected countries in the Asia and Pacific region. It is found that in reality the performance of the virtual reference services offered by the academic libraries in the Asia and Pacific region is still lagging behind their counterparts from the developed countries. Not a single country fully implements virtual reference services synchronously on a 24/7 mode basis. As a matter of fact not a single country has managed to achieve a composite score of 4.

**Table 14: Composite scoring for selected countries in Asia and Pacific region**

Country	BG D	CH N	IN D	IND O	MS A	PK S	PHI P	S. KOR	SRI LAN	SG P	TA W	TH LD	VN M
Composite score	1	2	1	1	2	2	3	3	2	2	2	2	1

## CONCLUSION

A survey of the academic libraries websites of selected countries of the Asia and Pacific region shows that fully implementation of virtual reference services in real time on 24/7 basis is a myth rather than a reality. From the results we can deduce that the state of development of virtual reference services is progressing well in countries like Philippines and South Korea and with strong support received from governing bodies of the academic libraries many more libraries would achieve greater heights in the future. It also seems to suggest that the lack of information and communication technology (ICT) infrastructure may have taken a toll as well. Countries like South Korea, Taiwan, Singapore and China that have good ICT infrastructure and good government support show more potential for academic libraries offering better virtual reference services in the future.

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