Perception on the Use of Mobile Phones in Retrieving Information from Academic Libraries: A developing country perspective

Hasinul Elahi*, Md. Shiful Islam**, Dilara Begum***

ARTICLE INFO

Article history:
Received 21 September 2017
Revised 8 March 2018
Accepted 9 March 2018

Keywords:
Mobile phones,
Information retrieval,
Mobile-based information retrieval system,
mobile applications,
Library services

ABSTRACT

The purpose of the study is to identify the perception of the Library and Information Science (LIS) specialists about the use of mobile phones in retrieving information. It investigates the present status of the LIS specialists regarding mobile phone usage, perceptions regarding the use of mobile phones in retrieving information from libraries and points out the possible drawbacks and their solutions for embracing mobile phones in retrieving information from libraries and providing some suggestions. The methodology includes a quantitative approach. The authors used a survey method using a structured questionnaire to measure the perception of LIS specialists regarding the use of mobile phones in retrieving information from libraries. The findings confirmed that the majority (72%) of LIS specialists have the experience of using mobile phones for more than 10 years. Findings also indicate that the LIS specialists have agreed with the statements of advantages of using mobile phones. This paper concludes that the respondents also agreed regarding the possible advantages of introducing mobile phones in retrieving information from libraries. The paper explores the original perceptions of LIS specialistsregarding the use of mobile phones in retrieving information from libraries.

1. Introduction

Mobile internet applications and service innovations are changing people's way of life. At the same time, they are also changing the way that people communicate and access information. People who visited libraries to find specific information in the past are now able to find the same information online (Li, 2003). Various applications can be observed among the users, which ranged from a telephone conversation and simple text messages (SMS) to multimedia messaging services (MMS) and internet access, depending on the capability of each mobile phone technology and services rendered

* Lecturer, Department of Information Studies and Library Management, East West University, Bangladesh (elahi.islm@gmail.com)
** Professor, Department of Information Science and Library Management, University of Dhaka, Bangladesh (shifuldu@gmail.com)
*** Associate Professor and Chairperson, Department of Information Studies and Library Management, East West University, Bangladesh (dilara.lab@gmail.com)
International Journal of Knowledge Content Development & Technology, 8(1): 37-50, 2018.
http://dx.doi.org/10.5865/IJKCT.2018.8.1.037

(Karim, Darus, & Hussin, 2006). Accepting and subscribing to modern technology in contemporary life is a common factor; people are willing to use more advanced technology in their daily lives (Islam, Low, & Hasan, 2013). In recent years there has been tremendous growth in the computational capabilities of devices, content and the retrieval methods. There is great interest now in the mobile web. Mobile web refers to web access via a browser or application from a mobile computing system. The mobile computing system can be a mobile computer, smartphone, or even a mobile phone. The access to the web from a mobile device, especially the search for information, is growing in popularity every day due to the availability, cheap cost, and convenience of access (Banu, Khader, & Mavaluru, 2011). The increasing capabilities of mobile or smartphones are positioning them as the technology of choice, replacing PCs, for many users, especially college students. As such, the use of these devices must be considered an inevitable learning tool available to higher education (Yu, 2012). Mobile-based library services have been in process, making unintentional progress since the late twentieth century. The unintended consequence of smaller and faster computing is the enabling of an anywhere and anytime learning (Hahn, 2008). Therefore, this paper has made an attempt to explore the perception and insights of the Library and Information Science specialists (LIS) in retrieving information from libraries. However, the rest of the paper is organized in the following manner: literature review, objectives, research questions, methodology and sample of the study, results and discussion, recommendations and finally conclusion with a brief summary of the study.

2. LITERATURE REVIEW

2.1 Mobile Technology

The world is fast becoming a global village. A necessary tool for this process is a communication system where telecommunication is central. Over the past decade, the expansion of mobile cellular networks and the popularization of mobile phones have been driving growth in information and communications technology (ICT) in Asia and the Pacific, and the world (Islam, 2012). The rapid growth of cell phone use in the impoverished South Asian nations has a significant impact on the economy, as well as on people's lifestyles. Bangladesh became the latest nation with at least 100 million active cell phone users − a milestone reached so far by only 12 countries in the world (Chowdhury, 2013). A total number of Mobile Phone subscribers now has reached 129.584 million at the end of February 2014 (BTRC, 2017). The use of mobile phones becomes an essential for success for every single person, group or organization for retrieval of information. The fabric of our lives has become interwoven with mobile technology as our day-to-day means of operating have, by necessity, become more mobile (Fox, 2010). In the year of 2009 for the first time ever, mobile phones were used more for accessing data than to make calls (Høivik, 2011).

2.2 Usage of Mobile technologies in Libraries

The use of modern tools and technologies in providing library services is one of the hot

issues of present time. The use of mobile phones in such cases can be proved effective in developing countries. Diversified issues related to the use of mobile phones in library services is a topic of interest for many researchers (Chaputula & Mutula, 2018a; 2018b; Vassilakaki, Moniarou-Papaconstantinou, & Garoufallou, 2016; Palumbo, 2014; Bomhold, 2013; Chang, 2013; Murray, 2010; Lippincott, 2010 etc.). With the increase of mobile technology availability and the demand for accessible mobile content, it is imperative that libraries examine how they can provide services to their patrons within this medium in order to continue to provide valuable services and make information retrieval easier for their clientele or users (Nowlan, 2012).

For example, SMS has become a popular way of communicating. However, it is important that individual libraries evaluate the appropriateness of this technology for their clientele. By adding this new technology to the reference services, users are now able to send questions and receive answers from librarians by using the text messaging facility on their mobile phones (Herman, 2007). The unintended consequence of smaller and faster computing is the enabling of an anywhere and anytime learning. In the course of scientific discovery products are produced which have novel application that is wholly unintentional (Hahn, 2008). Because of the portability, popularity and pervasiveness of cell phones among our users, this service is a way for us to stay current (Maxymuk, 2009). Libraries are just starting to make their first steps into the world of mobile learning, in particular, learning through mobile phones (Walsh, 2009). The steps involved collection of mobile phone numbers, setting up a centralized SMS service centre, and sending group SMS via a network (Karim, Darus, & Hussin, 2006).

In the educational context, factors such as the increasing role of distance education enhance the need for mobile technology. This phrase “mobile technology” not only refers to the hand-held devices themselves but to the infrastructure required to support such technology (Fox, 2010). A majority of respondents who own a web-enabled handheld device indicate that they would use small screen devices, such as DAs or web-enabled cell phones to search a library OPAC. The increasing prevalence of handheld mobile computing devices such as PDAs and web-enabled cell phones warrants investigation as to its impact on libraries (Cummings, Merrill, & Borrelli, 2010). Libraries have the opportunity to extend new types of services to users of mobile devices and to develop, license, or otherwise make available scholarly content that is configured for mobile devices. Ideally, libraries will become part of an institutional planning process for the development of services for mobile devices (Lippincott, 2010). By developing expertise in emerging technologies, libraries can foster partnerships with other groups on campus and play a leading role in providing relevant student-centered services (Wilson & McCarthy, 2010). The development and implementation of mobile services can range from work-intensive and expensive to scalable, inexpensive solutions (Murray, 2010). In this regard, the information professionals also need to understand the role of mobile phones in retrieving information from libraries faster. Findings of Chaputula and Mutula (2018b) revealed that attitudes of library staff and students to the offering and access to services through mobile phones were positive. Palumbo (2014) opines that the librarians should adopt mobile phone technologies as an integral part of their service and employ them particularly in the areas of text reference, information literacy, and outreach.

The above review of the literature shows that there are several literatures, studies and works have been done on the use of mobile phones in libraries all around the world. But there are still very few works on the use of mobile phones in retrieving information in Bangladesh as an independent issue. Thus, this study is an initiative and original one in terms of concept, data, aspect and presentation.

3. Objectives of the Study

For the past few decades libraries have harnessed the power of computers to enhance the quality of information retrieval and dissemination. The advent of Internet-related applications for the libraries, especially the Web 2.0 tools and technologies, has triggered another level of change in libraries and in turn have transformed the information horizon into a participatory environment (Paul Anbu K & Mavuso, 2012). Thus, the specific objectives of this study are-

i. To identify the present status of LIS specialists regarding mobile phone usage in information retrieval.
ii. To gather perceptions of LIS specialists regarding the use of mobile phones in retrieving information.
iii. To determine the perception of LIS specialists on the possible advantages of using mobile phones in retrieving information.
iv. To point out the possible drawbacks and their solutions to embrace mobile phones in retrieving information from libraries.

4. Research Questions

To achieve the above objectives, this study has formulated one Major Research Question (MRQ) and three Subsidiary Research Questions (SRQs):

Major Research Question (MRQ)

- MRQ: What are the perceptions of LIS specialists regarding the use of mobile phones in retrieving information?

Subsidiary Research Questions (SRQs)

- SRQ1: What do LIS specialists perceive as the advantages of mobile phone usage?
- SRQ2: What are the perceived service needs of LIS specialists through the use of mobile phones from libraries?
- SRQ3: What are the possible drawbacks and their solutions to embracing mobile based retrieval of information?

5. Methodology and Sample of the Study

The methodology includes a quantitative approach. The study was carried out through survey method. A structured questionnaire was used as the tool for conducting the survey. The questionnaire includes closed-ended questions and consisted of three major sections: Section-A contained questions regarding respondent's demographic information. Section-B included questions about the experience of using mobile phones, what type of mobile phone do they use, the frequency of using mobile phones for retrieving information, level of agreement regarding the advantages of using mobile phones based on 7-point Likert scales. Section-C includes questions regarding what services the respondents want to get from libraries through the use of mobile phones, level of agreement regarding the possible advantages of introducing mobile phones for retrieving information from libraries and level of agreement regarding the possible hindrances of embracing mobile phones in retrieving information from libraries.

The respondents were selected from different areas including faculty members, subject specialists, information professionals etc. who have sound knowledge and experience in using and applying mobile technologies also have basic ideas about the use of mobile phones in library services and mobile-based retrieving of information. Purposive sampling method has been employed for conducting the survey. Thirty-five (35) structured questionnaires were distributed among them. Out of them, twenty-five (25) questionnaires have been received which indicate that the response rate is 72%. Among the received questionnaire all the twenty-five (25) questionnaires have been selected for the study. Responses to closed-ended questions in particular on 7-point Likert scales were analyzed using the descriptive analysis techniques of SPSS 20.0 and responses to other closed-ended questions were analyzed using general statistics. The 7-point Likert scale was defined in the following manner: 1= strongly disagree, 2= disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5= somewhat agree, 6=agree, 7=strongly agree. For this study, mean score ≥ 5 is considered statistically significant. Table 1 shows that among 25 respondents, 72% (18) are male and 28% (7) are female. It also indicates that among 25 respondents, a large number (15, or 60%) of respondents are from the age group 29-39, comparatively less number (7, or 28%) of respondents are from age group 40-above and only (3, or 12%) are in the age group of 18-28.

Table 1. The demographic profile of the respondents

Demographic Profile	Respondents (n=25)
Gender	
Male	18 (72%)
Female	7 (28%)
Age Group	
18-28	15 (60%)
29-39	7 (28%)
40- above	3 (12%)

6. Results and Discussions

6.1 Experience of using mobile phones of LIS specialists

Figure 1 indicates that majority number of respondents (18, or 72%) is using mobile phones for more than 10 years. The number of respondents who are using mobile phones from 7-9 years are 4 (16%). The number of respondents who are using mobile phones from1-3 years and 4-6 years are respectively 2(8%) and 1 (4%).

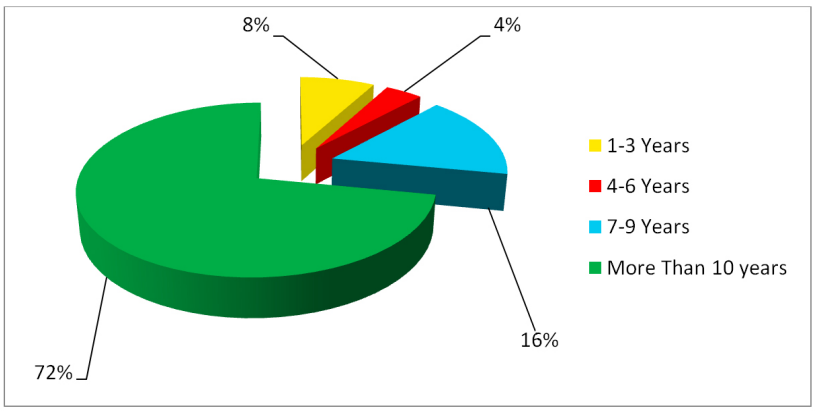

Fig. 1. Experience of using mobile phones of LIS specialists

6.2 Types of mobile phones of the LIS specialists

Figure 2 reveals that most of the respondents 20 (80%) have smartphones and only 5 (20%) have traditional phones.

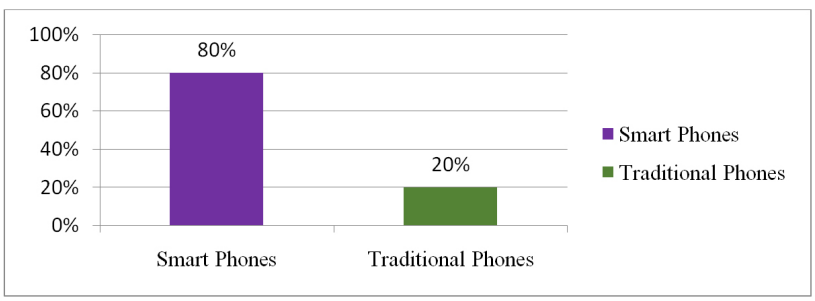

Fig. 2. Types of mobile phones of the respondents

6.3 Frequency of mobile phone use for retrieving information

Table 2 reveals that majority of the respondents 14 (56%) sometimes use mobile phones for retrieving information and other frequencies of mobile phone usage for retrieval of information

by the respondents are: once in a week 8%, several times in a week 20% and rarely 16%.

Table 2. Frequency of mobile phone use for retrieving information by the LIS specialists

Use mobile phones in retrieving information	Frequency	Percent	Valid Percent	Cumulative Percent
sometimes	14	56.0	56.0	56.0
once in a week	2	8.0	8.0	64.0
several times in a week	5	20.0	20.0	84.0
rarely	4	16.0	16.0	100.0
Total	25	100.0	100.0	

6.4 Level of agreement regarding the advantages of using mobile phones by LIS specialists

The respondents were asked to indicate their level of agreement regarding the advantages of using mobile phones. These agreements were measured on 7-point Likert scales in table 3 and mean, standard deviation was calculated according to the following scores: 1= strongly disagree, 2= disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5= somewhat agree, 6=agree, 7=strongly agree using the descriptive analysis technique of SPSS 20.0.

6.4.1 Security on accessing information

Table 3 reveals that the LIS specialists somewhat agree, with a mean score of 4.92 on 1-7 Likert scales. It shows that the LIS specialists think that using a mobile phone will provide security on accessing information.

6.4.2 Information at any time

From table 3 it is clear that the LIS specialists agree with this statement, with a mean score of 5.64 on 1-7 Likert scales. It indicates that the LIS specialists believe that by using mobile phone the theme of 'information at any time' will be more convenient.

Table 3. Level of agreement regarding the advantages of using mobile phones

Statements	N	Min.	Max.	Mean	Std. Deviation
Security on accessing information	25	1.00	7.00	4.9200	1.57903
Information at any time	25	3.00	7.00	5.6400	1.11355
Satisfy information need	25	3.00	7.00	5.3600	1.28712
Getting the opportunity of distance learning	25	1.00	7.00	4.5600	1.44568
Up to date with information & being global	25	3.00	7.00	5.4400	1.22746
Easier Communication	25	1.00	7.00	6.1200	1.30128
Redefined academic environment	25	1.00	7.00	5.0800	1.49778
Valid N (listwise)	25				

6.4.3 Satisfy information need

The LIS specialists somewhat agree with this statement, with a mean score of 5.36 (Table 3), that reveals their positive attitude about mobile phones in satisfying an information need.

6.4.4 Getting the opportunity of distance learning

With a mean score of 4.56, the LIS specialists somewhat agree with this statement that using mobile phones will enhance the opportunity for distance learning.

6.4.5 Up to date with information & being global

Table 3 reveals that the LIS specialists somewhat agree, with a mean score of 5.44 on 1-7 Likert scales. It shows that the LIS specialists think that using mobile phones will keep them up to date with information and help being globalized.

6.4.6 Easier communication

The respondents agree with this statement, with the highest mean score of 6.12 (Table 3). It indicates their strong support to this statement that mobile phones are using as a medium of faster and easier communication.

6.4.7 Redefined academic environment

Table 3 reveals that the respondents somewhat agree, with a mean score of 5.08 on 1-7 Likert scales. It shows that the LIS specialists agree with this statement that is using a mobile phone will bring a new dimension in an academic environment.

6.5 Perceived service need from libraries through the use of mobile phones by LIS specialists

Figure 3 shows that 25% of the LIS specialists want SMS on overdue and fines service. Another 23% of the LIS specialists stressed on the need for text alert services for new resources from libraries. Other 20% of the respondents want to receive reminders through SMS. LIS specialists also want services like SDI through SMS/MMS and requirements collection from users through SMS (16%). From the percentage shown in figure 4, it has been clear that all these services are preferred by the LIS specialists being served by the libraries using mobile devices.

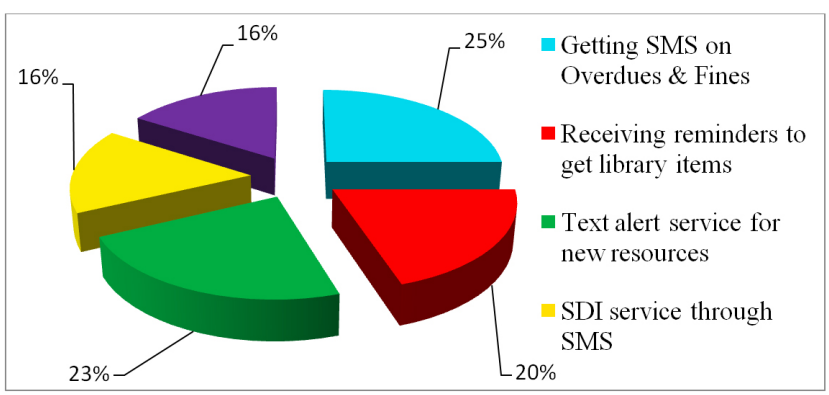

Fig. 3. Perceived service needs through the use of mobile phones from libraries by LIS specialists

6.6 Possible advantages of introducing mobile phones for retrieving information from libraries by the LIS specialists

Libraries are facing new challenges for the availability of information on the web. But at the same time libraries are an inevitable source for reliable information. Therefore, libraries need to adopt new technologies, more specifically mobile technologies for providing better services to its users (Elahi & Islam, 2014). The LIS specialists were asked to indicate their level of agreement regarding the possible advantages of introducing mobile phones for retrieving information from libraries. These agreements were measured on 7-point Likert scales in table-4 and mean, the standard deviation was calculated according to the following scores: 1= strongly disagree, 2= disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5= somewhat agree, 6=agree, 7=strongly agree using the descriptive analysis technique of SPSS 20.0.

Table 4. Level of agreement regarding the possible advantages of introducing mobile phones for retrieving information from libraries by LIS specialists

Statements	N	Min.	Max.	Mean	Std. Deviation
Enhance ability to retrieve information from anywhere	25	1.00	7.00	5.64	1.84572
24/7 hrs./days retrieval facility	25	1.00	7.00	5.68	1.51987
Enhance information retrieval skills	25	1.00	7.00	5.24	1.26754
Support distance learning	25	1.00	7.00	5.12	1.48099
Promote information literacy	25	1.00	7.00	5.12	1.61555
Fast information retrieval	25	1.00	7.00	5.44	1.32539
Valid N (listwise)	25				

Table 4 reveals that the LIS specialists agree, with a mean score of 5.64 on 1-7 Likert scales, which indicates that respondents think using a mobile phone will enhance the ability to retrieve information from a library from anywhere. From the table, it is clear that the LIS specialists agree that by using mobile phone they can retrieve information 24/7 hrs./days from libraries, with a mean score of 5.68 on 1-7 Likert scales. The LIS specialists somewhat agree, with the mean score of 5.24, regarding the statement that implication of mobile phone-based information retrieval from libraries will enhance information retrieval skills of the respective user. Table 4 also reveals that the LIS specialists somewhat agree with the statement that using a mobile phone will support distance learning, with a mean score of 5.12 on 1-7 Likert scales. It also indicates that the LIS specialists believe that by introducing mobile phones for retrieving information from libraries will promote information literacy (mean score 5.12). It also shows that the respondents think that introducing the mobile phone in libraries will make retrieval of information faster than any other media (mean score 5.44).

6.7 Possible hindrances of embracing mobile phones in retrieving information from libraries by the LIS specialists

The LIS specialists were asked to indicate their level of agreement regarding the possible hindrances of embracing mobile phones in retrieving information from libraries. These agreements were also measured on 7-point Likert scales. Table 5 reveals that the LIS specialists somewhat agree, with a mean score of 5.08 on 1-7 Likert scales, that low bandwidth problem may hamper in embracing mobile phones in retrieving information from libraries. The LIS specialists neither agree nor disagree, with a mean score of 4.36 on 1-7 Likert scales, regarding the cost related to design mobile-based information retrieval system for libraries. From table-5 it is clear that the LIS specialists somewhat agree (with a mean score of 4.60 on 1-7 Likert scales) with the statement and they believe that it will be difficult for libraries to afford it. It also shows that the respondents give their consent that administrative complexity may hamper the process of embracing mobile phones in retrieving information from libraries. Table 5 indicates that the LIS specialists somewhat agree with the mean score of 5.04 on 1-7 Likert scales which indicates lack of awareness is another hindrance. Lastly and most importantly the LIS specialists somewhat agree with a mean score of 5.12 on 1-7 Likert scales regarding the fear of innovation among the staffs of the library and as well as the authority can hinder the use of mobile phones in retrieving information from libraries.

Table 5. Level of agreement regarding the possible hindrances of embracing MIRS in DUL by the LIS specialists

Statements	N	Min.	Max.	Mean	Std. Deviation
Low bandwidth	25	1.00	7.00	5.0800	2.03961
Costlier to design MIRS	25	1.00	7.00	4.3600	1.77670
Budget scarcity	25	1.00	7.00	4.6000	1.89297
Administrative complexity	25	1.00	7.00	5.4800	1.47535
Lack of awareness	25	1.00	7.00	5.0400	1.69509
Fear of innovation	25	1.00	7.00	5.1200	1.64114
Valid N (listwise)	25				

7. Recommendations

Mobile devices and applications provide access to information in the comfort of people's homes and offices. These new devices enable access to information without the limitations of space and time (Aharony, 2013). Various applications can be observed among the users, which ranged from a telephone conversation and simple text messages (SMS) to multimedia messaging services (MMS) and internet access, depending on the capability of each mobile phone technology and services rendered (Karim, Darus, & Hussin, 2006). Through the use of different application of mobile phones diversified services can be provided to the library users and these will also help the users to retrieve

their respective information from the library. Thus, for embracing mobile phones in retrieving information from libraries the following recommendations can be proposed:

7.1 Awareness building

Anything that is new is more difficult to embrace than the existing systems and services. For this, the first step will be creating awareness among the library staffs and its users about the positive sides and advantages of mobile phones in retrieving information. To achieve this purpose workshops, seminars, library talks, meetings can be arranged by the authority.

7.2 Skilled professionals

In this digital age, the library can not only provide those services that the users want, instead, they need to know the users, their needs, and their desires. For this, there is an urgency of skilled professionals in libraries whose motto will be "to provide the right information in the fastest possible time".

7.3 Adequate funding

In the developing nations, the first and foremost problem in any project is budget scarcity. So, both the public and private sector should come forward for providing funding to implement mobile based retrieval of information in libraries.

7.4 Positive attitude

The positive attitude of the administration and authorities, as well as the library and information professionals, regarding the use of mobile phones in retrieving information from libraries are also important.

7.5 Understand the effectiveness

The university and library administration and library staffs should understand the long-term effects of using mobile phones in retrieving information from libraries.

7.6 Professional attitude

The use of mobile phones in retrieving information requires a professional mindset among the staff. The professional attitude in this respect refers to the mentality to provide the best service to its users.

8. Conclusion

The main goal of this paper is to explore the perception of the LIS specialists regarding the use of mobile phones in retrieving information with special reference to libraries. Findings reveal that majority numbers of respondents 18 (72%) are using mobile phones more than 10 years. It indicates that most of the LIS specialists are quite knowledgeable about different features of mobile phones. It also shows that majority LIS specialists (80%) are using smartphones. But majority number of LIS specialists14 (56%) sometimes use mobile phones for retrieving information. Findings also indicate that the LIS specialists overall somewhat agree with the statements of advantages of using mobile phones i.e. Security on accessing information, Information at any time, satisfy information need when needed, Getting the opportunity of distance learning, up to date with information & being global, Easier Communication, Redefined entertainment with an average mean score of 5.30 which is statistically significant. It also shows that majority of LIS specialists (25%) want SMS for overdue and fines through mobile phones from DUL. The findings also indicate that the LIS specialists somewhat agree with the statements regarding the advantages (i.e. Enhance ability to retrieve information from anywhere, 24/7 hrs./days retrieval facility, Enhance information retrieval skills, Support distance learning, Promote information literacy, Fast information retrieval) of introducing mobile phones for retrieving information from libraries with an average mean score of 5.37 and also with the possible hindrances (i.e. Low bandwidth, More costly to design Mobile-based Information Retrieval System, Budget scarcity, Administrative complexity, Lack of awareness, Fear of innovation) of embracing mobile phones in retrieving information from libraries with a mean score of 4.95. The findings indicate a strong positive attitude and perception of the LIS specialists regarding the use of mobile phones in retrieving information from libraries for better service delivery. The future aspects of this research can be a model plan to design mobile-based information retrieval system for libraries. It will also help other academic institutions of the developing nations towards implementing mobile-based information retrieval from their respective libraries.

References

Aharony, N. (2013, April). Librarians' attitudes towards mobile services. In Aslib Proceedings (Vol. 65, No. 4, pp. 358-375). Emerald Group Publishing Limited.

Banu, W. A., Khader, P. S. A., & Mavaluru, D. (2011, April). Information retrieval in mobile phones using snippet clustering methods. In *Electronics Computer Technology (ICECT), 2011 3rd International Conference on* (Vol. 5, pp. 264-268). IEEE.

Btrc.gov.bd, (2017). BTRC | Bangladesh Telecommunication Regulatory Commission. Retrieved from http://www.btrc.gov.bd/old/index.php?option=com_content&view=article&id=91:mobile- ind ustry-inbangladesh&catid=38:info&Itemid=723

Canuel, R., & Crichton, C. (2011). Canadian academic libraries and the mobile web. *New Library World, 112*(3/4), 107-120.

Catharine, R. B. (2013). Educational use of smart phone technology: A survey of mobile phone application use by undergraduate university students. *Program, 47*(4), 424-436.

Chang, C. C. (2013). Library mobile applications in university libraries. *Library Hi Tech, 31*(3), 478-492.

Chaputula, A. H., & Mutula, S. (2018a). eReadiness of public university libraries in Malawi to use mobile phones in the provision of library and information services. *Library Hi Tech*.

Chaputula, A. H., & Mutula, S. (2018b). Provision of library and information services through mobile phones in public university libraries in Malawi. *Global Knowledge, Memory and Communication*.

Cummings, J., Merrill, A., & Borrelli, S. (2010). The use of handheld mobile devices: their impact and implications for library services. *Library Hi Tech, 28*(1), 22-40.

Elahi, M. & Islam, M. (2014). Go Fast, Go with Mobile: Students perception on implementing mobile based library services at Dhaka University Library. *Library Philosophy and Practice (e-journal)*. Paper 1197. Retrieved from http://digitalcommons.unl.edu/libphilprac/1197

Fox, R. (2010). Library to go. *OCLC Systems & Services: International digital library perspectives, 26*(1), 8-13.

Hahn, J. (2008). Mobile learning for the twenty-first century librarian. *Reference Services Review, 36*(3), 272-288.

Herman, S. (2007). SMS reference: keeping up with your clients. *The electronic library, 25*(4), 401-408.

Høivik, J. (2011). Mobile Digital Library in the National Library of Norway. *Library Hi Tech News, 28*(2), 1-8.

Islam, A. (2013). Mobile phone technology in academic library services: A public university student's perceptions and paradigm. AllyM. NeedhamG.(Eds.), *M-libraries, 4*, 165-176.

Islam, Z., Kim Cheng Low, P., & Hasan, I. (2013). Intention to use advanced mobile phone services (AMPS). *Management Decision, 51*(4), 824-838.

Li, A. (2013). Mobile library service in key Chinese academic libraries. *The Journal of Academic Librarianship, 39*(3), 223-226.

Lippincott, J. K. (2010). A mobile future for academic libraries. *Reference services review, 38*(2), 205-213.

Maxymuk, J. (2009). Library texts. *The Bottom Line: Managing Library Finances, 22*(1), 24-26.

Mbambo-Thata, B. (2010). Assessing the impact of new technology on internal operations: With special reference to the introduction of mobile phone services at UNISA library. *Library management, 31*(6), 466-475.

Murray, L. (2010). Libraries "like to move it, move it". *Reference Services Review, 38*(2), 233-249.

Murray, L. (2011). The Best Things in Life Are Free (Or Pretty Cheap): Three Mobile Initiatives That Can Be Done Now. *Librarianship in Times of Crisis*, 139-157.

Nowlan, G. (2013). Going mobile: creating a mobile presence for your library. *New Library World, 114*(3/4), 142-150.

Palumbo, L. (2014). Mobile phones in Africa: opportunities and challenges for academic librarians. *New Library World, 115*(3/4), 179-192.

Paul Anbu K, J., & Mavuso, M. R. (2012). Old wine in new wine skin: marketing library services through SMS-based alert service. *Library hi tech, 30*(2), 310-320.

Shahriza Abdul Karim, N., Hawa Darus, S., & Hussin, R. (2006). Mobile phone applications in academic library services: a students' feedback survey. *Campus-Wide Information Systems, 23*(1), 35-51.

Vassilakaki, E., Moniarou-Papaconstantinou, V., & Garoufallou, E. (2016). Identifying the uses of mobile technology among Library and Information Science undergraduate students. *Program, 50*(4), 417-430.

Walsh, A. (2009). Text messaging (SMS) and libraries. *Library Hi Tech News, 26*(8), 9-11.

Wang, C. Y., Ke, H. R., & Lu, W. C. (2012). Design and performance evaluation of mobile web services in libraries: A case study of the Oriental Institute of Technology Library. *The Electronic Library, 30*(1), 33-50.

Wilson, S., & McCarthy, G. (2010). The mobile university: from the library to the campus. *Reference Services Review, 38*(2), 214-232.

[About the authors]

Hasinul Elahi is the Lecturer in the Department of Information Studies and Library Management, East West University, Bangladesh. He has obtained his B.A. (Hons.) and M.A. degree from the University of Dhaka with record CGPA. He also obtained "Dean's Merit List of Honor" award for his excellent academic result in both examinations. Elahi also achieved "Abdul Aziz Chowdhury Scholarship" for his brilliant academic success. At present, he is doing his M. Phil. Research on Service Quality. His research interest includes open access, open data, e-governance, Soft System Methodology (SSM), knowledge management, open data, information literacy etc.

Md. Shiful Islam is the Professor in the Department of Information Science and Library Management, University of Dhaka, Bangladesh. He has obtained his B.A. (Hons.) and M.A. degree from the University of Dhaka. He did his Ph. D. in Knowledge Science from Japan Advanced Institute of Science and Technology (JAIST). He also did Masters in Computer Applications from University of Comilla. His research interests include LIS education, knowledge management, knowledge sharing, theadoption of KM in E-learning system, knowledge economy and knowledge based development etc. He has more than twenty published referred research papers in national and international journals and as well as two books.

Dilara Begum is the Associate Professor and Chairperson of Information Studies and Library Management at East West University. She has completed her B.A. (Hons.) and M.A. from University of Dhaka and Ph.D. from Punjabi University, India. Her research interest includes information management, digital library, information literacy, open access and others. She is currently acting as elected Secretary of Information Literacy Section of International Federation of Library Associations and Institutions (IFLA). She is also acting as General Secretary, DLNetSA. Beside these, she also played significant and diversified role such as: Country Coordinator of Information Literacy Consortium sponsored by UNESCO, Standing Committee Member of ECIL in 2013 to till now, elected Senior Vice President and Women Affairs Secretary of Library Association of Bangladesh (LAB) from 2009-2014. She has more than thirty (30) national and international publications. She is considered one of the pioneer of Digital Library building in Bangladesh and as well as an international expert on the mentioned field.