Go Fast, Go with Mobile: Students perception on implementing mobile based library services at Dhaka University Library

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Go Fast, Go with Mobile:
Students perception on implementing mobile based library services at Dhaka University Library

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Abstract— This research paper aims to present an overview of the perception of the students regarding possible use and implementation of mobile phones in library services for Dhaka University Library (DUL). It also aims to locate the possible advantages and relative drawbacks regarding the use of mobile based library services for DUL. The survey method with a structured questionnaire has been employed to conduct the research. The data was collected from different faculty for the balance of the study and findings. The data was collected from both undergraduate and graduate students from Dhaka University (DU). 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 result of the study shows that the status of mobile phone usage by the students of Dhaka University (DU) is satisfactory. The findings of the study indicate that the students provide their consensus regarding the use of mobile phones in service delivery at DUL. This study provides evidence on the actual use of mobile phones by the students of DUL for retrieving information and their attitude towards implementing a mobile based library system for DUL.

Keywords—Mobile phones, Library services, Dhaka University Library (DUL)
I. INTRODUCTION

The mobile revolution has swept across the landscape. During the last decade, due to enormous changes in the mobile industry, mobile usage has become a necessity for the common man (Wankel and Blessinger, 2012). 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). Mobile devices and applications provide access to information in the comfort of people’s homes and offices, using their cellular phones or personal digital assistants. These new devices enable access to information without the limitations of space and time (Aharony, 2013). The special characteristics of mobile devices make them in many ways more advanced, and other ways more primitive, than their traditional counterparts (Tsai et al., 2010). However with a growing number of people accessing the internet from their pocket PCs and mobile phones, libraries are investigating ways to deliver their services to mobile phones and other small-screen devices so their customers can access them any time anywhere (Mills, 2009). The increase in mobile devices among university students is making it impossible for libraries to ignore this medium (Nowlan, 2013). In light of trends toward more widespread use of mobile computing devices and smart phones, it makes sense for libraries to provide access to their collections and services in ways that work well with mobile devices (Dresselhaus and Shrode, 2012). Libraries are just starting to make their first steps into the world of mobile learning, in particular, learning through mobile phones (Walsh, 2009). Therefore, this paper has made an attempt to explore the perception of the students of DUL in adopting mobile based library services in their library. However, the rest of the paper is organized as 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.

II. LITERATURE REVIEW

Evolution of mobile phones and its usage

A mobile phone, often called mobile phone, which uses a network of short range transmitters located in overlapping cells throughout a region, with a central station making connections to regular telephone lines (Ament, 2006). Mobile phone, the most common gadget in the present era, is considered as the greatest gift to the mankind. The first pillar of the mobile telephony propped up when Charles Stevenson invented radio communication in the early 1890s for communication with the offshore lighthouses. Following that, Marconi was able to transmit signals over a distance of 2 km in the year 1894 (John, 2013). Technological advances have been incorporated in mobile phones during its different stages of development (Cheng, 2013). The rapid growth of cell phone use in the impoverished South Asian nation has a significant impact on the economy, as well as on people's lifestyles (Chowdhury, 2013). The world is fast becoming a global village and a necessary tool for this process is communication where telecommunication is a key player. In Bangladesh the total number of Mobile Phone subscribers now has reached 118.493 million at the end of September 2014 (Btrc.gov.bd, 2014). At present, there are six mobile phone operators are providing mobile phone services in Bangladesh (Islam, 2012).
### TABLE I. PRESENT STATUS OF SUBSCRIBERS IN BANGLADESH (BTRC.GOV.BD, 2014)

<table>
<thead>
<tr>
<th>OPERATOR</th>
<th>SUBSCRIBER (IN MILLIONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grameen Phone Ltd. (GP)</td>
<td>50.291</td>
</tr>
<tr>
<td>Banglalink Digital Communications Ltd.</td>
<td>30.218</td>
</tr>
<tr>
<td>Robi Axiata Limited (Robi)</td>
<td>24.966</td>
</tr>
<tr>
<td>Airtel Bangladesh Limited (Airtel)</td>
<td>7.901</td>
</tr>
<tr>
<td>Pacific Bangladesh Telecom Limited (Citycell)</td>
<td>1.349</td>
</tr>
<tr>
<td>Teletalk Bangladesh Ltd. (Teletalk)</td>
<td>3.768</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118.493</strong></td>
</tr>
</tbody>
</table>

**Use of Mobile phones for library services**

The utilization of mobile phone services in the educational environment, explores the nature of mobile phone use among university students, and investigates the perception of university students on mobile phone uses in library and information services (Karim, Darus and Hussin, 2006). M-learning as a phenomenon has been in process, 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). Libraries are just starting to make their first steps into the world of mobile learning, in particular, learning through mobile phones (Walsh, 2009). SMS has become a popular way of communicating particularly among the younger generation (Herman, 2007). Text messaging offers a variety of ways to stay vital and visible to younger patrons with whom libraries most need to establish a relationship to ensure their future (Maxymuk, 2009). 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 and in the educational context, factors such as the increasing role of distance education enhance the need for mobile technology (Fox, 2010). 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 and 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 (Lippincott, 2010). All libraries will be interested in exploring the library services that were developed and adapted for mobile devices and of particular interest to academic libraries will be the building of collaborative relationships with other academic departments to provide services to students (Wilson and McCarthy, 2010). Information may be used by libraries seeking to add mobile technologies in order to enhance their traditional services, making them not only more available, but also more relevant to their users (Murray, 2010). Paterson and Low (2011) provided quantitative and qualitative data on students’ use of mobile devices and to consider the benefit of academic mobile library services to students. Murray (2011) presents a general review of free or inexpensive methods of implementing the following mobile services in libraries for retrieving required information: Library Websites, Short Message Service (SMS) reference, and Mobile
Online Public Access Catalogs (MOPACs). 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). Ballard and Blaine (2012) described a full-service mobile phone application so that users could search the catalog, access the reserves module, renew books and retrieve information such as library hours, library administration, library workshops and programs etc. Chandhok and Babbar (2011) provide a brief overview about different mobile technologies that are helpful in providing library services and information retrieval. They mentioned some mobile library services through which information access and retrieval will be improved for the potential users of the library.

_Dhaka University Library (DUL)_

Dhaka University is acquainted by its name and it is the oldest and most famous university in this Sub-continent established in 1921 (Munshi, 2003). DUL library collection has grown steadily. At present the library has 6 lacs 80 thousand books and magazines. Besides that the library includes rare manuscript, old and rare books and large number of tracts, booklets, leaflets, pamphlets, and puthis, journal. Some rare books and documents have also been collected in microform. For online facilities of foreign journals, an amount of US$ 20,000 has been paid as subscription to the Bangladesh Academy of Sciences (BAS). As a result, the teachers, researchers and students will be able to read and download more than 20 thousand foreign journals of 46 publishers. The library is enriched with available with valuable reference materials such as atlases, dictionaries, encyclopedias, annual reports and publications, survey reports, census reports, country reports, statistical yearbooks and other publications. In addition DUL subscribes to leading online journals (Dhaka University Annual Report, 2011). To provide better and faster user services in a convenient way, the Dhaka University Library has decided to automate its operations and services. In 1998, the library started its automation program named as Dhaka University Library Automation Project (DULAP), funded by UNDP and University Grants Commission (Munshi, 2003).

The above review of literature indicates that many studies have been conducted throughout the world in different point of aspects regarding the use of mobile phones in providing library services. But there is a gap of literature about the attitude or behavior and perception of the students towards implementing mobile based library services in DUL.

**III. Objectives**

Academic libraries are day by losing their acceptance to its users for slow service providing and for the availability of information on the web. But at the same time libraries are inevitable source for reliable information. Therefore academic libraries, especially DUL needs to adopt new technologies, more specifically mobile technologies for providing better services to its users.
Thus, the specific objectives of this study are to:

- Measure the present status of using DUL through mobile phones?
- Assess the students’ perception regarding the possible advantages and possible drawbacks of implementing mobile based library services in DUL.
- Identify the services that the students want to get through mobile phones from DUL.
- Locate suitable information retrieval tools for providing better library services through mobile phones in DUL.

IV. RESEARCH QUESTIONS

In pursuing the above research objectives, the following research questions (RQ’s) have been posed that will guide the study-

RQ1: What is the present status of using DUL through mobile phones by the students?

RQ2: What are the relative advantages and possible drawbacks of implementing mobile based library services in DUL?

RQ3: Which services the students want to get from DUL?

RQ4: Which information retrieval tools will be suitable for providing better library services in DUL?

V. METHODOLOGY AND SAMPLE OF THE STUDY

The methodology includes a quantitative approach. The study was carried out through survey method using a pre-structured questionnaire. Since the study is on the use of mobile phones for providing better library services in DUL, the samples of users are limited within Dhaka University (DU). The respondents were selected from different faculties and different departments. One hundred and twenty (120) structured questionnaires were distributed among the students. Out of them, hundred and five (105) questionnaires have been received which indicate that the response rate was 87.5%. Among the received questionnaire eighty five (85) questionnaires had been selected for the study and rest of the twenty (20) questionnaires had been eliminated based on some rejection criteria. Therefore, the total number of respondents were 85 (n=85). The data was collected from both undergraduate and graduate students from DU. 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. Among 85 respondents maximum students 31 (36.47%) are from arts faculty. From both the science and social science has equal number of respondents 19 (22.35%). The lowest number of respondents 16 (18.82%) are from business faculty (Fig.1).
VI. RESULTS AND DISCUSSIONS

Frequency of visiting DUL through mobile phones by the students

Table II indicates that maximum number (28%) of students visit DUL through mobile phones sometimes. The percentage of never used (21%) and rarely visit (20%) to DUL through mobile phones is also not less. Around 9% students visit DUL through mobile phones at least once a day and other 13% at least once a week, which is a positive indication for introducing mobile phone based library services for DUL.

<table>
<thead>
<tr>
<th>Frequency of Visiting</th>
<th>Freq.</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least once a day</td>
<td>8</td>
<td>9.4</td>
<td>9.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Sometimes</td>
<td>24</td>
<td>28.2</td>
<td>28.2</td>
<td>37.6</td>
</tr>
<tr>
<td>At least once a week</td>
<td>11</td>
<td>12.9</td>
<td>12.9</td>
<td>50.6</td>
</tr>
<tr>
<td>Rarely</td>
<td>17</td>
<td>20.0</td>
<td>20.0</td>
<td>70.6</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>7</td>
<td>8.2</td>
<td>8.2</td>
<td>78.8</td>
</tr>
<tr>
<td>Never used</td>
<td>18</td>
<td>21.2</td>
<td>21.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
*Perceived services from DUL through the use of mobile phones by the students*

Fig. 2 shows 28% of the students want text alert for new resources from DUL. An average proportion of the students (21%) stressed on receiving reminders to get library items from DUL. Students also want services like SDI through SMS (19%) and getting SMS on over dues and fines (19%). Requirements collection from users through SMS (13%) is also preferred by the students. This indicates the adoption of all the mentioned services in DUL through the use of mobile phones.

![Diagram showing perceived services from DUL through the use of mobile phones by the students]

Fig. 2: Perceived services from DUL through the use of mobile phones by the students

*Suitable Information Retrieval (IR) tools for mobile based library services for DUL*

Fig. 3 indicates that the students recommended almost all the IR tools for DUL to provide better library services through mobile phones. Although the maximum students (23%) give their opinion in favor of Mobile Index (MINDEX), whereas the equal proportion of students (22%) think that Mobile Online Public Access Catalogue (MOPAC) and other IR tools can be developed for DUL to retrieve information through mobile phones.

![Diagram showing perception of respondents regarding suitable IR tools for DUL]

Fig. 3: Perception of respondents regarding suitable IR tools for DUL
Level of agreement regarding the possible advantages of using mobile based library services

The respondents were asked to indicate their level of agreement regarding the possible advantages of introducing mobile phones in library services at DUL. These agreements were measured on 7-point Likert scales in table II and mean, standard deviation were 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.

Enhance ability to retrieve information from anywhere

Table-III reveals that the students somewhat agree with a mean score of 4.91 on 1-7 Likert scales. It shows that the respondents think that using mobile phone will enhance ability to retrieve information from anywhere.

24/7 hrs./days retrieval facility

From the table- III it is clear that the students somewhat agree with this statement with a mean score of 5.00 on 1-7 Likert scales. It indicates that the students believe that by using mobile phone they can retrieve information 24/7 hrs./days from DUL.

Enhance information retrieval skills

The students somewhat agree with this statement with the mean score of 5.02 (Table- III). It indicates their support to this statement that implication of mobile phone based information retrieval will enhance information retrieval skill.

<table>
<thead>
<tr>
<th>Statements</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance ability to retrieve info.</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.91</td>
<td>2.01</td>
</tr>
<tr>
<td>24/7 hrs./days retrieval facility</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>5.00</td>
<td>1.86</td>
</tr>
<tr>
<td>Enhance info. retrieval skills</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>5.02</td>
<td>1.49</td>
</tr>
<tr>
<td>Support distance learning</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.77</td>
<td>1.74</td>
</tr>
<tr>
<td>Promote information literacy</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>5.16</td>
<td>1.34</td>
</tr>
<tr>
<td>Fast information retrieval</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>5.12</td>
<td>1.71</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Support distance learning

Table-III reveals that the students somewhat agree with a mean score of 4.77 on 1-7 Likert scales. It shows that the respondent think that using mobile phone will support distance learning.

Promote Information Literacy (IL)

From the table- III it is clear that the students somewhat agree with this statement with a mean score of 5.16 on 1-7 Likert scales. It indicates that the students believe that by introducing mobile based library services in DUL will promote IL.

Fast Information Retrieval (IR)

Table- III reveals that the students somewhat agree with a mean score of 5.12 on 1-7 Likert scales. It shows that the respondent think that introducing mobile phone in DUL will make IR faster.

Level of agreement regarding possible drawbacks of implementing mobile based library services in DUL

The followings are some points on which the respondents provide their opinion regarding the possible drawbacks of implementing mobile based library services in DUL–

More costly to design mobile based library services

Table- IV shows that the students somewhat agree with a mean score of 4.82 on 1-7 Likert scales that it will be costly to design mobile based library services in DUL.

Budget scarcity

From the table- IV it is clear that the students somewhat agree with this statement with a mean score of 4.96 on 1-7 Likert scales. It indicates that the students believe that the budget to implement mobile based library service will be large and it will be difficult for DUL to afford it.

Administrative complexity

Table- IV reveals that the students somewhat agree with a mean score of 5.13 on 1-7 Likert scales. It shows that the respondents give their consent that administrative complexity may hamper in introducing mobile based library services.

Lack of awareness

Table- IV shows that the students somewhat agree with the highest mean score of 4.87 on 1-7 Likert scales which indicates lack of awareness is another hindrance of embracing mobile phones in better service delivery at DUL.
Fear of innovation

Table-IV shows that the students somewhat agree with a mean score of 4.92 on 1-7 Likert scales. It reveals that students think that fear of innovation also leads to hinder the implementation of mobile phones in library services at DUL.

TABLE IV. LEVEL OF AGREEMENT REGARDING THE POSSIBLE HINDRANCES OF INTRODUCING MOBILE BASED LIBRARY SERVICES FOR DUL

<table>
<thead>
<tr>
<th>Statements</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>More costly to design mobile based</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.82</td>
<td>2.22</td>
</tr>
<tr>
<td>library services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget scarcity</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.96</td>
<td>1.83</td>
</tr>
<tr>
<td>Administrative complexity</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>5.13</td>
<td>1.68</td>
</tr>
<tr>
<td>Lack of awareness</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.87</td>
<td>1.86</td>
</tr>
<tr>
<td>Fear of innovation</td>
<td>85</td>
<td>1.00</td>
<td>7.00</td>
<td>4.92</td>
<td>1.87</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VII. RECOMMENDATIONS

The following recommendations should be adopted to eliminate the hindrances regarding implementing mobile based library service delivery in DUL:

- Highly qualified, competent and innovative professionals should be appointed to the DUL.
- The lowest possible cost should be adopted by the DUL for implementing the system.
- Adequate budget should be sanctioned for implementing mobile based library services in DUL.
- Library administration should be more dynamic to embrace mobile technology at DUL.
- Awareness among the library professionals and users is needed to implement such type of project.
- Innovative ideas and plans should be rewarded and encouraged in DUL.
- Changing mentality with changing needs and recent trends should be adopted in DUL for being up to date with the global environment.
VIII. CONCLUSION

In Bangladesh no single academic or special library provides services through mobile phones. But in other parts of the world mobile based library services are available. In this modern age of information explosion every people wants information in their hand, no matter where they are or what they are doing. Thus the need of implementing mobile based library services in DUL is obvious. The aim of this particular study is to assess the students' perception regarding the implementation of mobile based services delivery in DUL. The findings of the study shows that the present status of using DUL through mobile phones by the students is somewhat satisfactory with 28% (Table-II) of users who use mobile phones sometimes for retrieving information from DUL. The findings also reveal that the users are quite positive for mobile based library services in DUL. They also somewhat agreed with the possible advantages of introducing mobile based library services with the average mean score 5.00 which is calculated from Table-III. But at the same time users reveal their concern regarding the possible hindrances of implementing mobile based library services in DUL with average mean score of 4.94 which has been calculated from Table-IV. Findings of the study also indicates that services like text alert for new resources (28%), receiving reminders to get library items (21%), SDI through SMS(19%), getting SMS on over dues and fines (19%) and requirements collection from users through SMS (13%) are preferred by the students of DUL. This indicates the positive attitude for the adoption of all the mentioned services in DUL through the use of mobile phones. The result also shows that the students have recommended almost all the IR tools (i.e. MOPAC, MINDEX, MobBib, MobAbs etc) for DUL to provide better library services through mobile phones. Thus it can be said from the findings that the DUL should adopt mobile phones for providing better library services to its users with fastest possible time.

ACKNOWLEDGEMENTS

The authors would like to give special thanks to the respondents for their deliberate participation in answering the questionnaire. The authors are also grateful to all of the researchers whose works have been used and analyzed in preparing this paper.

REFERENCES


