Use of Mobile Technologies in the Academic Environment: A Comparative Study of Three Indian Universities

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Abstract

The main purpose of this paper is to make a comparative study of the use of handheld device by the students / scholars of 3 universities i.e. Manipur University, Tripura University, and Delhi University in terms of their academic activities. On the other hand, it examines the degree of handheld device usage in the student population. This paper will help to find the purpose of handheld device usage, the degree of internet usage through handheld devices, the use of handheld devices concerning academic dealings.

A survey was conducted through a well-structured and precise questionnaire circulated personally among 180 students in 3 universities in the study.

A large majority of the students of three universities uses smart phone, and (68%) of Manipur University (MU) , 56% in Tripura University (TU) and 58% in Delhi University (DU) use internet for reading news. 82% students of DU use internet for reading study related documents, while 60% students of TU and 72% in MU students use internet for reading documents. Most of the populations from each University i.e. MU 82%, TU 80%, and DU 92% are interested in accessing e-Books, e-articles, and e-reviews services through mobile technology.

The paper highlights the use of handheld device for academic purpose and students' opinion regarding the use habit of handheld device.

Keywords: Handheld Device, Handheld Technologies, ICT, Mobile Services, E-Books, Mobile Technology, Smart Phones

1. Introduction

Technology has touched every sphere of life in every possible way. It has brought immense change in our lifestyle. The way one gathers information, reads, or one does online transactions have totally changed because of availability of numerous technologies. With the use of mobile phones and the popularity of smart phones, access to the technologies has become even easier.

The whole world has monitored the wave of technological changes and so have libraries. Libraries have always accepted the challenges of adopting new technologies, implementing use of modern equipments, and automating it in services, so that it can provide better and ubiquitous services to its user community. Emergence of ICT has compelled the libraries to revise and rework its services (Malathy & Kantha, 2013). To provide the best service, to compete with the search engines, to satisfy the user needs and to change the passive library users into active library users, libraries must

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adopt all available and advanced technologies such as Wi-Fi, mobile communications, and Library 2.0 and 3.0 etc. Since, it is seen that mobile devices are extensively used by today's younger generation; libraries can take advantage of it and start providing their services with the help of mobile communications. But at the same time, it is important to realize whether they would like to be offered such services. With this aim, the current study is being conducted to determine the mobile phone usage by the student / scholar community of three different universities and their attitude towards receiving library services through their mobile devices, and also to study the impact of mobile phone usage on academic activities.

1.1 Different Types of Handheld Devices

There are various categories of mobile devices or handheld devices such as cellular phones, multimedia phones, laptops, notebooks, e-book readers cameras, etc. But this study is only confined to smart phones as it is the most widely used amongst all devices. Smart phone, today, is used for performing a range of activities including voice and video calling, e-mail transfer, text messaging, photography, playing and making videos, setting an alarm clock , searching the internet, searching databases of scholarly information, accessing a course management system, reading or listening to books and articles, newspapers, online shopping, internet banking, using a GPS navigation system, playing games, uploading and downloading content from internet (Joan K. Lippincott, 2010).

Today, another shift has been experienced i.e. from the web to app. It has been observed that many commercial entities have stopped their services on the World Wide Web and have started their services only through the installed mobile apps, and lucrative offers are also provided for installing the apps. This phenomenon has also, in some or the other way, popularized the use of internet enabled smart phones.

Nowadays, Smart phones are being used by different age groups and more particularly by the younger generation. So, the study is intended to determine the perception, attitude, and awareness of students and scholars of three Indian universities. The study has also tried to compare the perceptions and attitudes of the students/scholars from the selected three universities.

1.2 Objectives of the Study

1. To determine the degree of handheld device usage among the students / scholars of three universities in the study.
2. To determine the purpose of handheld device usage.
3. To determine the degree of internet usage through handheld devices.
4. To determine the use of handheld devices in academic activities.
5. To find out the e-book usage habit of the sample population.
6. To compare the handheld device usage habits of students /scholars from the selected three universities.

1.3 Scope of the study

The study was made to understand the information seeking among the students /scholars in the mobile era using mobile technologies and understand their interest in receiving such services from their libraries.

1.4 Limitation of the study

Due to different constraints the study is confined only to the students/ scholars population. The study does not stress on the librarian's /library professionals' point of view. The study is limited to only three Indian universities.

2. Literature Review

Nor Shahriza Abdul Karim, Siti Hawa Darus, and Ramlah Hussin (2006) studied the perceptions on the application of wireless hand services in the context of library and information services and received highly positive response. A high majority of the respondents indicated their willingness to become the users of such services if offered.

Reese Bomhold Catharine (2013) investigated educational use of smart phone technology. This research provided evidence on the actual use of mobile devices by students for library administrators and educators interested in developing integrated mobile academic library applications. Lorraine Paterson and Boon Low (2011) provided facts for libraries to determine the value of developing their personal mobile services. It also demonstrated the proliferation of mobile device usage within the university and library context, and indicated the services students would find most useful on a mobile device. It also provided insight into a rapidly moving area of technology. The research found that it is very important for libraries to cuddle the varying student mentality by providing services through the handheld devices.

Peter Richardson, Steven Dellaportas, Luckmika Perera, Ben Richardson (2013) did a research on students' insight on using ipods in accounting education and found that students like to use ipods because of its portability. It supports well-organized use of time and study planning. Students with an inclination for visual education rated the iPod as being vital to their learning. Amit Kumar (2014) studied opinion of students of JNU about the success of mobile technology in libraries. It was found that the a large number of students were willing to use mobile technology for better services, and it was anticipated by the students that services should be provided to them by libraries through mobile technology. Patrick Lo, Allan Cho, Man-hon Leung, Dickson K.W. Chiu, Eddie H.T. Ko, and Kevin K.W. Ho (2016) undertook a study to find the use of smart phones by art and design students for accessing library services and learning. The survey explored art and design students' use of smart phones for accessing library services and learning at the Hong Kong Design Institute (HKDI). Survey results showed that while the HKDI students were all smart phone owners and active users of such mobile communication devices, only a minority of them "frequently" use these mobile devices for formal learning purposes. They demonstrated a keen preference to use search engines, social communications, and other diverse use of smart phones. Except for research and image /audio-visual needs, the rest of their needs and usage behaviour is similar to mainstream university students.

3. Methodology

To meet the objectives of the study a survey was conducted in all three universities simultaneously. Total 180 questionnaires were distributed among the students / scholars, out of which 150 students responded (50 from each university). The study was conducted during July 3rd to July 22nd, 2016. Each student was approached individually.

4. Data Analysis

4.1 Types of Mobile Devices used by Students

Findings of this study indicated that 82% students in MU use smart phones and rest use tablet, out of which 90% use Android operating system and 10% use Windows; and on an average 10-15 apps (44%) are installed. In TU 94% use smart phones, out of which 68% use Android OS, and 32% use Windows. On an average, 5-10 apps (42%) are installed in the smart phones. In DU 98% use smart phones with Android OS in a majority of smart phones (78%). On an average 5-10 apps (42.7%) are installed in smart phones. Whatsapp is the most used app by the majority of students (58%) in the universities under study.

Table 1 shows that majority of the students (68%) of MU use internet for reading news while 56% in TU and 58% in DU. 82% students of DU use internet for reading study related documents while in TU 60% and 74% in MU. 62 % use social networking in MU followed by 50% in TU and 72% in DU. 54% use internet for online shopping in MU, 48% in TU and only 40% in DU.

Maximum use internet for the reading of study related documents (82% by DU) followed by social networking (72% by DU students) and to read news (68% by MU students). The study found that Google (78%) is predominantly used search engine by students of all three universities under the study.

The study also stated that highest number of students 36% from MU makes use mobile devices to complete study related assignments, followed by 42% from TU and 68% from DU. It was found that 48% students of MU use office in their smart phones while only 36% in DU and 32% in TU.

On an average, majority of the students (90.7%) read articles in their smart phones from all three universities under the study.

Table 1: Purpose of Using Internet in Phone

Purpose of Using Internet in Phone	Manipur University	Tripura University	DelhiUniversity
To read news	34 (68%)	28 (56%)	29 (58%)
To play online games	4 (8%)	7 (14%)	9 (18%)
To read related documents to studies	37 (74%)	30 (60%)	41 (82%)
To download music and movies	6 (12%)	25 (50%)	15 (30%)
To recharge mobile	10 (20%)	15 (30%)	10 (20%)
To read blogs	0 (0%)	7 (14%)	8 (16%)
To use social networking	31 (62%)	25 (50%)	36 (72%)
Online shopping	27 (54%)	24 (48%)	20 (40%)
Online ticket booking	7 (14%)	9 (18%)	18 (36%)
Online banking	16 (32%)	11 (22%)	5 (10%)

The study revealed that 64% in DU, 62% in TU, and 52% students in MU feel that it is important to be connected through the phones. 76% students from MU subscribe to alerting services while 64% in DU and 54% in TU through their mobile devices.

4.2 Library Usage

The study found that highest number of students from MU i.e. 26% use the library catalogue a couple of times in a week, 16% in TU and 8% in DU. 34% of the population has never used the catalogue in MU & TU while 44% in DU. 20% in TU, 2% in MU and 8% in DU never visited the library.

Table 2: Services

Services	Manipur University	Tripura University	DelhiUniversity
e-Books, e-article and e-reviews	41 (82%)	40 (80%)	46 (92%)
Links to library catalogue	7 (14%)	12 (24%)	16 (32%)
Pay fines	13 (26%)	3 (6%)	15 (30%)
Reminders	2 (4%)	9 (18%)	3 (6%)
Book reservations	5 (10%)	12 (24%)	7 (14%)
Programs, events, new additions, library news	21 (42%)	10 (20%)	20 (40%)
Feedback	3 (6%)	3 (6%)	5 (10%)
Services of positioning of holdings	1 (2%)	0 (0%)	2 (4%)
Booking library training sessions	1 (1%)	1 (2%)	0 (0%)
Any other (please specify)	0 (0%)	0 (0%)	0 (0%)

Table 2 portrays that most of the populations from each University i.e. MU 82% TU 80% and DU 92% are interested in accessing the e-Books, e-article and e-reviews services through mobile technology.

Table 3: Impact of mobile technologies

Impact of Mobile Technologies	Manipur University	Tripura University	Delhi University
Access to the library	12 (24%)	19 (38%)	22 (44%)
Usability of information sources	7 (14%)	15 (30%)	10 (20%)
Ease of use the library	5 (10%)	8 (16%)	20 (40%)
Quality and efficiency of library	26 (54%)	8 (16%)	6 (12%)

Highest number of population i.e. 54 % in MU feels that the impact of mobile technology will increase the quality and efficiency of the library while 38% in TU and 44 % in DU feel that it will increase the access to the library.

Table 4: Use the Catalogue

Use the catalogue	Manipur University	Tripura University	DelhiUniversity
While traveling	4 (8%)	5 (20%)	22 (44%)
At my place of residence	6 (12%)	8 (16%)	2 (4%)
Within the Library	15 (30%)	8 (16%)	10 (20%)
As a part of a study group	12 (24%)	14 (28%)	6 (12%)
On campus, outside the libraries	13 (26%)	12 (24%)	12 (24%)

Table 4 depicts the interest of the sample population in terms of using the library catalogue in different circumstances. It was found that highest number of population i.e. 30 % in MU is interested to use the library catalogue within the library premise, 28% from TU is interested in using it as a part of a group study while 44% from DU would like to use it while travelling.

4.3 E-book Usage

The study depicted that 40% of the population from TU reads E-book very often, 40% from MU reads sometime and 32% DU reads E-book very often, out of which 74% from MU and 68% from DU read it on smart phones while 50% from TU reads it on Laptop. Majority of the population from each university (92% in MU, 66% in TU and 96% in DU) have not purchased an e-book. Majority of the sample population (40% in MU, 40% in TU and 48% in DU) have never listened to audio books and only 28% in MU, 26% in TU and 20% in DU listens to audio books sometimes. Majority of populations from each university (70% in MU and TU & 88% in DU) do not own kindle for reading E- books. None of the three university libraries provide Kindle facility. Majority of the sample under the study (98% in MU, 80% in TU and 90% in DU) wants their library to have kindle facilities to be provided by their libraries. In MU and in TU 100% population use PDF format to read e-book in their smart phone while in DU 85% read it in PDF format and the rest 15% in dedicated apps.

5. Conclusion

The study found that majority of students in each university use smart phones among different handheld devices available, and Whatsapp is the most used app by them. A good number of students in DU use internet for the reading of study related documents and social networking, while in MU maximum students use internet for reading news. In TU most students use internet to download music and movies. The result shows that maximum students from each university are interested in accessing the e-books, e-article and e-reviews services through mobile technology. Out of all, majority of students of MU feels that mobile technology will increase the quality and efficiency if the library. Students from MU are interested to use the library catalogue within the library premises, from TU as a part of group study whereas from DU during travelling. In case of e-book usage, it was found out that students of TU and DU read e-books very often either on their smart phones or laptop mostly in PDF format. None of the libraries are providing Kindle facilities and hence majority of students wants their library to provide the same.

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