STUDENTS PERCEPTION TOWARDS INFORMATION RETRIEVAL VIA SMARTPHONE : A STUDY OF UNIVERSITY OF JAMMU

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Abstract

The main aim of this research paper is to examine and analyze the perception of user towards the use of smartphone's in retrieving information with special reference to the University of Jammu. Smartphones are bringing the web to our door steps thus enabling the retrieval of required information from anywhere at any time. The study included total 145 participants. Google forms were distributed online to gather the viewpoint of the participants. The data was analyzed via MS-Excel. The study revealed that majority of the participants were females i.e. 73.1% and rest were male i.e. 26.9%. Further, the study revealed that majority of the participants i.e. 136 owned android phones in comparison to the others. Also, according to the results majority of the students use the smartphones with the purpose of retrieving information/ knowledge. In comparison to the use of smartphone with traditional documents majority of the participants claimed that although being more expensive, yet it is more informative and time-saving. Despite of these advantages majority of the participants i.e. 73.1% students claimed that smartphones cannot replace libraries.

Keywords: Data, Information, information retrieval, University of Jammu, Smart phones, Libraries

1. Introduction

The modern era indicates the need and importance of information. Therefore, "right to information" is universal. We, the human beings are in the information age. From early days to modern time information was, is and will continue to be the need of an hour. As information plays a central role in every information society, so does the knowledge and wisdom revolves around it. Information is required in every speck of life whether it is in concern of terrorism, or developing a vaccine for corona virus or it is about the economic growth of a country.

The first use of the word "information" is dated back to 14th century. This (information) English word is derived from the Latin word "informatio" which is again derived from the word "informare". The word informare means "to shape an idea of".The basic fundamental unit of information is data. Data are simple facts, or figures or raw material for information. When this data is processed, arranged in logical sequence and becomes meaningful in order to be presented or communicated to or by someone, it becomes information. The word "data" is supposed to be first used in English in 1640s. Moreover, data is Latin word and plural of

"Datum". The data can be either collected from the primary sources, secondary or tertiary sources. Thus, we can say that data are the building blocks of information. This can be better understood by the following example, total number of male students in M.LIS course or number of persons infected by covid-19 in Jammu region. Thus, when this raw material (data) is collected processed, interpreted and finally presented in a logical sequence to form a meaningful structure becomes information. Large amount of information is generated every second in every field but particularly in science and technology which needs to be updated regularly as well as timely. This sudden or rapid increase in the amount of information is termed as "information explosion". The information is generated at "source" and utilized at "sink". This information is shareable, transmissible and communicable from one person to another or from one form to another or from one place to another as well as from one country to another or from one continent to another. The information can either be tacit or explicit. The information can be needed by anyone, at anytime, anywhere for decision- making. The examples of information are the information required by someone to reach a particular destination or the strategy, planning of the chemicals that can be used to make vaccine in order to combat the corona virus.

2. Information Retrieval via Smartphone: Present Situation

Now-a- days libraries are offering their services via smartphones in order to satisfy the growing demands of their users. Smartphones serves as a tool and thus makes it possible to connect the users to the e- libraries. In situation when schools, colleges and universities are closed information can be shared through smartphones , meetings can be conducted on various apps such as zoom, Google team and so, also there are number of apps which can be downloaded on the smartphones that enables the user to share the information. Students are opting for the online classes, e-dictionaries, e- encyclopedias, and so on. Even information can now be acquired through the audio- books now available on the different platforms via smartphones.

These tools also assist the user in communicating to the libraries. When one himself cannot visit to the libraries the user can access the library through their smartphones which not only saves his/her precious time but also his / her efforts. It provides the access to the mobile databases, mobile OPACs offered by various libraries and so on.

3. Review of Related Literature

Lohia&Madhusudan (2021) investigated the use of smartphones for enhancing Digital Information Literacy Skills among the LIS students of University of Delhi. In comparison to the females(42), majority of the respondents were males (48). The paper reveals that maximum percentage of respondents (87.8%)used websites whereas only 52.2%) uses e-database to obtain required information. Maximum percentage of respondents favored Google Scholar i.e. 82.2% in comparison to the other databases.

Tellaet al. (2021) carried a study on the way of using smartphones for accessing library materials and services in selected academic libraries among undergraduates. The study was conducted in five different Universities in South West Nigeria. The results showed that maximum percentage of undergraduates uses Android phones i.e. 61.3%. The results further revealed that among all the services offered, reference service is mostly used by the students. Majority of the undergraduates i.e. 52.5% agreed to the statement that access to library materials and services via. Smartphones is quicker and also time saving.

Kwasitu& Chiu (2019) studied the mobile information behavior among the students of Warner Pacific University. The primary data was collected by using the questionnaire methods and a structured

questionnaire was prepared and distributed among the respondents. After the collection of primary data, three things were investigated in the study i.e. technology diffusion, the way use of the online library resources and lastly the influence on mobile behavior of both traditional and non-traditional students. Out of the total 268 respondents, in view of population demographics, the maximum was white respondent with 40.7% followed by Hispanics with 24.6%, African American with 13% and only 0.3% were included in another category. The pedagogical usage model reveals that 19.2% respondent reads e-mail followed by accessing Moodle application (16.6%), reading articles (15.3), music listening (14.4%) and note-taking at last place (10.1%). Internet topped with 24.4% in context of most preferred information source whereas librarian was at least level with only 3.1%.

Elahi et al. (2018) conducted a study on the perception of the users regarding the use of mobile phones in retrieving information. Thirty – five structured questionnaires were distributed, out of which twenty- five were received. The questionnaire was divided into three sections. Section A included questions related to demography. The study revealed that out of the total 25 respondents 18 were males and only 7 were females. Section B included questions regarding the experience of using mobile phones. The 7-point Likert scale was used. The study revealed 80 % of the respondent have smartphone and only 5% have traditional phone. The maximum number of 18 respondents are using mobile phones for more than 10 years while only 4 respondents are using mobile phones between 7-9 years. Section C included questions regarding the type of services respondents want to have from libraries via the use of mobile phones, level of agreement regarding the advantages of introducing mobile phones for retrieving information from libraries based upon 7-point Likert scale.

Bergman &Yanai (2017) conducted a comparative study between smartphone retrieval and computer retrieval. The retrieval of 57 participants were considered under 4 different conditions. Condition 1st and 2nd involves files using PC's and emails using PC's respectively and further condition 3rd and 4th involves files using smartphones and emails using smartphones respectively. The 57 participants conducted 3 retrievals in each of 4 conditions mentioned above which contributed to total of 684 retrievals. The study further reveals the most favored retrieval method used in the abovementioned 4 experimental conditions was the navigation for files and inbox scrolling for emails.

Lee& Song (2015) conducted a comparative study to determine the mobile information seeking behavior among the students of Illinois University and Kyungsung University. The primary data was collected by distributing questionnaire among the undergraduate students enrolled in the business program. The questionnaire was divided into three parts i.e. firstly the mobile device ownership, secondly activities using mobile devices and lastly the library mobile services. The study further reveals that out of total number of 115 respondents 45 were male and 70 were female in Kyungsung University. Majority of respondents owns smartphones in both UIUC (i.e. 108) and KU (i.e. 125) whereas only 69 respondents owns tablet PCs in UIUC and 15 respondents in KU and the total percentage of the students who owns both i.e. smartphone and tablet PCs was 66% at UIUC and 12% at KU. Out of total number of 108 students at UIUC 56.5 % currently owns iPhone followed by android owners with 38.9% whereas majority of students at KU was android owners with 91.2%, followed by iPhone owners with only 8.8 %.

Aharony (2014) conducted a study on the mobile libraries taking into view the librarians and the LIS students perspectives. The study was conducted in Israel and involved librarians along with the LIS students. The primary data was collected by

distributing 2 questionnaire among the participants. The first questionnaire fetch the personal information of the respondents whereas the 2nd questionnaire gather data on the mobile technology. In context of demographic information, the study reveals that 17 % were male librarians and 18.41% were males LIS students whereas 83% were females librarians and 81.56% were female LIS students. Two core variables i.e. TAM and personal innovativeness were considered in the study. Lesser number of the Israeli participants in the study as well as only the Israeli participants were some of the limitations of the study.

Chen et al. (2013) conducted a study under the title "**Use of mobile apps in information seeking: An international viewpoint"**. In order to find out how smartphone help in transformation of mobile information seeking and establish the human-computer relationship, a pilot study was conducted on 7 participants. Two diary apps namely My Diet Diary and Evernote was employed in the study. The result revealed that both the apps were equally favored by the user. Next, social media usage behavior among the participants was studied to find out the reason for the selection, use and rejection of the social app. A total of 202 undergraduates took part in the online discussion and agreed that "EdveNTUre" was helpful to them in completing their assignments. The paper also reveals the perception of graduates on online discussion for learning.

Lippincott (2010) conducted a study to indicate the mobile future for academic libraries. The study gives a detail sketch of the e-books available and served to the users on their smartphones. Some academic libraries are already providing e-books to their e-book readers. The study also focuses on an application for smartphone users developed by Eucalyptus. It has several features like it provides its users with the facility of page turning function in order to give them the feeling of self-belongingness of physical book. Then it also provides the books to the users from the Project Gutenberg. These books are totally free from the copyright.

4. Methodology

The primary data for the proposed study was collected by distributing Google forms online to the respondents which highlighted the various aspects involved while retrieving the information via mobile phone. The online questionnaire consisted of both close-ended and open-ended questions. Also the data of this study was collected from secondary sources of information. The primary and secondary data was collected from books, reports, journals, theses, online e-resources etc.

5. Scope of the Study

The scope of the present study is confined to the students of University of Jammu, UT of Jammu & Kashmir.

6. Objectives of the Study

The following objectives have been set forth for the present study-

1. To determine the way users are retrieving information via their mobile phones.
2. To find out the frequency of usage of Smartphones for retrieving information.
3. To identify the purpose of using smartphones.
4. To find out various problems faced by the users while accessing information.
5. To explore the perception of users on advantages of using mobile phones in retrieving information.

7. Sample Population

The proposed study is conducted on the use of smart phones by the user belonging to the University of Jammu, UT of Jammu & Kashmir. The required data was collected from the respondents and used for further analysis.

8. Data Analysis

The collected data were organized and tabulated using the tables and percentages. The purpose of analysis is to reduce data to interpret-able form so that the relation of research problems can be studied and tested. The collected data is thoroughly analyzed and presented into following tables:

8.1 Respondents distribution

Table 1. Distribution of respondent's gender wise

S.No	Gender	No. of Respondents (n=145)	Percentage (%)
1.	Male	39	26.9%
2.	Female	106	73.1%
Total		145	100.0

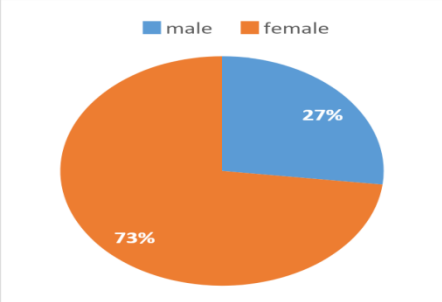

Figure 1. Distribution of respondent's gender wise

Table1 and Figure1 shows the distribution of respondent's gender wise. The above table reveals that the total number of respondents are 145, out of which 39 (26.9%) are males and 106 (73.1%) are females. Thus, the maximum percentage of females reveals that majority of females actively participated as comparison to the males.

8.2 Type of Smartphone respondent currently owns and use

Table 2. Type of Smartphone respondent currently owns and use

S.No	Type of smartphone	No. of respondents (n=145)	Percentage (%)
1.	Android	136	93.79%
2.	iPhone	8	5.5%
3.	Windows	1	0.68%
4.	Any other	0	0%
Total		145	

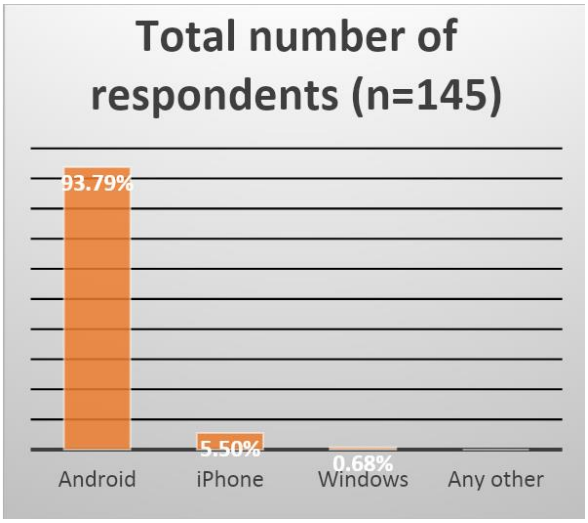

Figure 2. Type of Smartphone respondent currently owns and use

Table 2 and Figure 2 indicates the type of smartphone respondents currently owns and use. Out of the total number of respondents (145), android users are 136 (93.7%), iPhone users are 8 (5.5%) and window user are 1 (0.6%). Thus, it is observed that majority of the respondents are android users followed by iPhone and window.

8.3 Number of hours spent while using smartphone

Table 3 Time spent using a smartphone in a day

S.No	Number of hours	Number of respondents (n=145)	Percentage (%)
1.	Less than 1 hr.	05	3.4%
2.	2-4 hr.	76	52.4%
3.	5-7 hr.	55	37%
4.	8-10 hr.	06	4.1%
5.	More than 10 hr.	3	2.1%
Total		145	

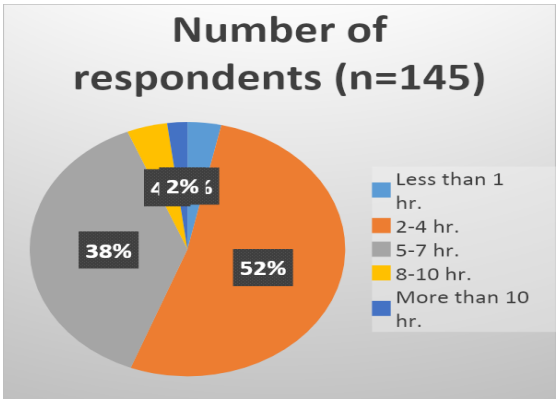

Figure 3.Time spent using a smartphone in a day

Table 3 and Figure 3 indicates the time spent by respondents on their smartphone in a single day. The number of respondents who are using their smartphone less than one hour are 05 (3.4%) whereas number of respondents using their smartphone for 5-7 hr. and 8-10 hr. are 55 (37%) and 06 (4.1%). The majority of number of respondents are using their smartphone for 2-4 hr. are 76 (52.4%) and number of respondents using it more than 10 hr. are 03 (2.1%).

8.4 Number of smartphones with internet access

Table 4 Number of smartphones with internet access

S.No	With or without Internet accessibility	Number of respondents (n=145)	Percentage (%)
1.	With internet access	140	96.5%
2.	Without internet access	05	3.5%
Total		145	

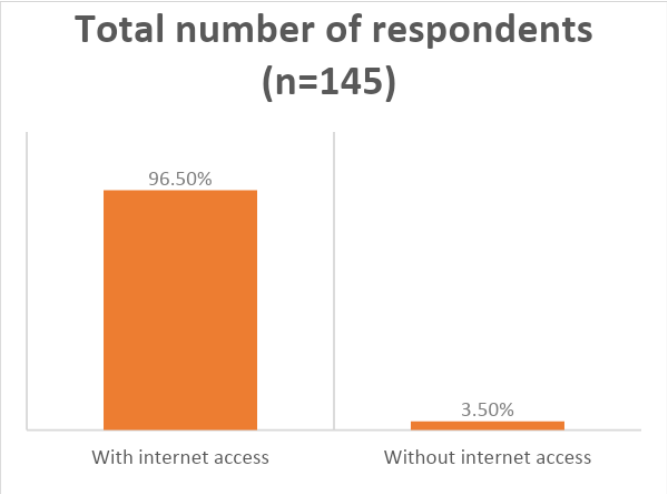

Figure 4. Number of smartphones with internet access

Table 4and Figure 4 indicates that majority of number of respondents (140 or 96.5%) are having internet access to their smartphones whereas only 05 (3.5%) of the respondents are without internet access.

8.5 Source of internet

Table 5 Source of internet access

S.No	Source of internet access	Number of respondents (n=145)	Percentage (%)
1.	University Wi-Fi	08	5.5%
2.	University LAN	00	0%
3.	Mobile Data	137	94.4%
Total		145	

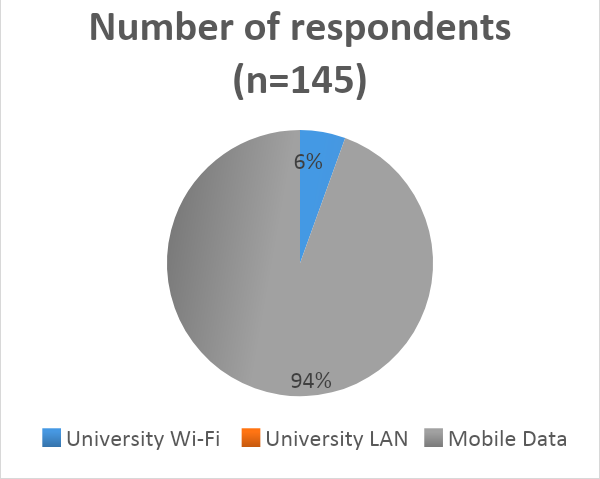

Figure5.Source of internet access

Table5 and Figure5shows the source of internet access to the respondent's device. None of the respondent used university LAN as a source of internet access whereas majority of number of respondents use their own mobile data as a source of internet access to their smartphone. Only 08 (5.5%) of the respondents use university Wi-Fi.

8.6 Purpose of using smartphone

Table6 Purpose of using smartphone

S.No	Purpose of using smartphone	Number of respondents (n=145)	Percentage (%)
1.	Retrieving information/knowledge	43	29.6 %
2.	Online classes	35	24.1%
3.	Reading e-books	14	9.6%
4.	Reading e-journals	12	8.2%
5.	Reading e- newspapers	20	13.7%
7.	Reading e-mails	12	8.2%
8.	e- library	06	4.1%
9.	Database searches	03	2.0%
Total		145	100

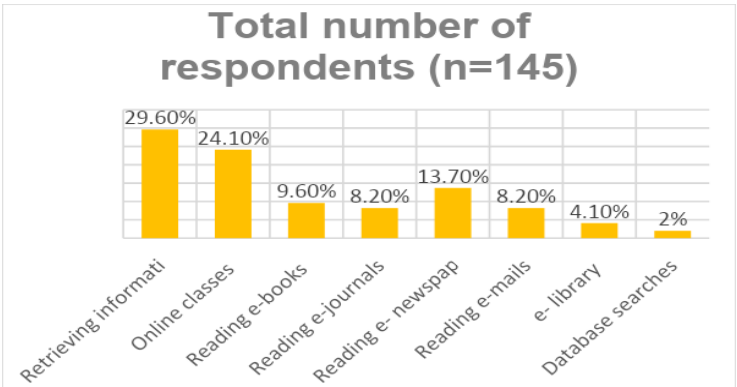

Figure6. Purpose of using smartphone

Table 6 and Figure 6 indicates the purpose of using internet on their smartphones. Retrieving information/ knowledge was ranked at the first place by the respondents (29.6%), followed by online classes (24.1%) in the second place, reading e-newspapers (13.7%) in the third place, reading e-books (9.6%) in the fourth place.

8.7 Problems faced while using internet

Table 7 Problems faced while using internet

S.No	Problems faced while using internet	Number of respondents(n=145)	Percentage (%)
1.	Smartphone illiteracy	03	2.1%
2.	Unavailability of internet facility	39	26.8%
3.	Slow internet access speed	53	36.5%
4.	Unavailability of Wi-fi facility	22	15.1%
5.	Frequent loss of signal	18	12.4%
6.	High cost of browsing	10	6.8%
Total		145	

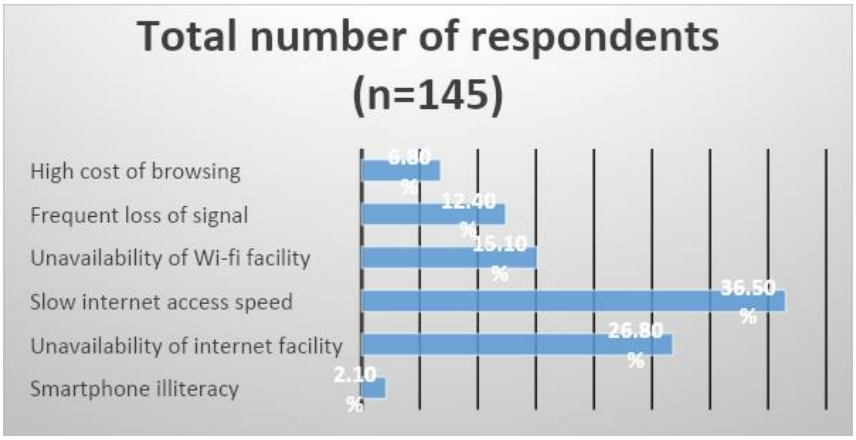

Figure 7. Problems faced while using internet

Table 7 and Figure 7 indicates the major problems faced by users while using internet on their smartphones. It was observed that slow internet speed was a major problem faced by the users with a count of 53 responses contributing to total of 36.5%. Another major problem was unavailability of internet facility with a count of 39 of responses contributing to the 26.8%.

8.8 Sources of information

Table 8 Sources of information used on smartphone

S.No	Source of information	Number of respondents (n=145)	Percentage
1.	E- books	38	26.2 %
2.	E- magazines	08	5.5%
3.	E-newspapers	22	15.1%
4.	E-journals	10	6.8%

5.	E-encyclopedias	16	11.0%
6.	E- dictionaries	51	35.1%
Total		145	

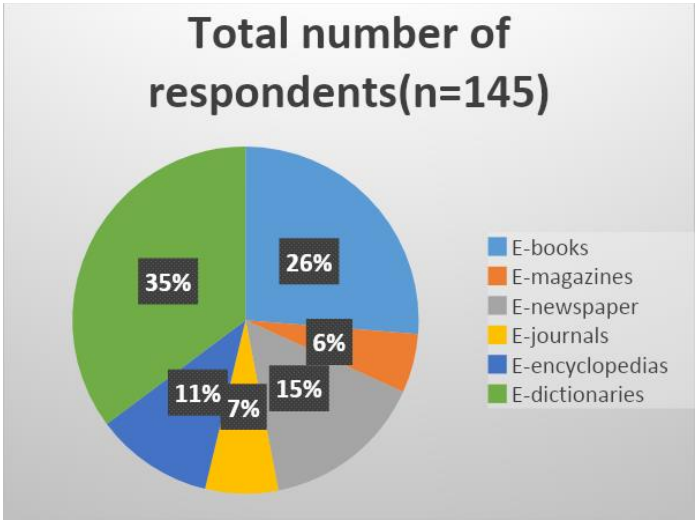

Figure8. Sources of information used on smartphone

Table 8 and figure 8indicates the sources of information used on smartphones. E- Dictionaries (35.1%) are most preferred information source used on smartphone followed by e-books (26.2%), e- newspapers (15.1%), e-encyclopedias (11.0%)and e-journals (6.8%).

8.9 Smartphone vs. traditional documents

Table 9. Comparison of use of smartphone with traditional documents

S.No	Statements	yes	No	Total
1.	More expensive	82	63	145
2.	More informative	121	24	145
3.	Easy to use	131	14	145
4.	Time saving	123	22	145

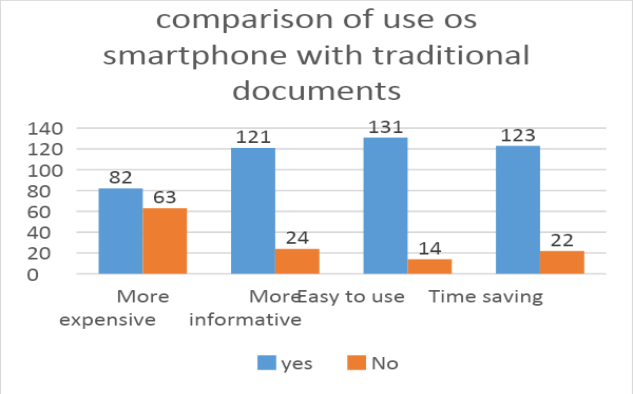

Figure9. Comparison of use of smartphone with traditional documents

Table 9 and figure 9 indicates comparison of use of smartphone with traditional documents. Majority of responses are in favor of that smartphone is easy to use, time saving and also more informative than traditional documents.

8.10 ***Does Smartphone has enhanced knowledge***

Table 10 Enhancement of knowledge via Smartphone

S.No	Enhanced knowledge	Percentage	Not enhanced knowledge	Percentage
1.	144	99.3 %	01	0.7 %
Total	Number of respondents = 145			100.0

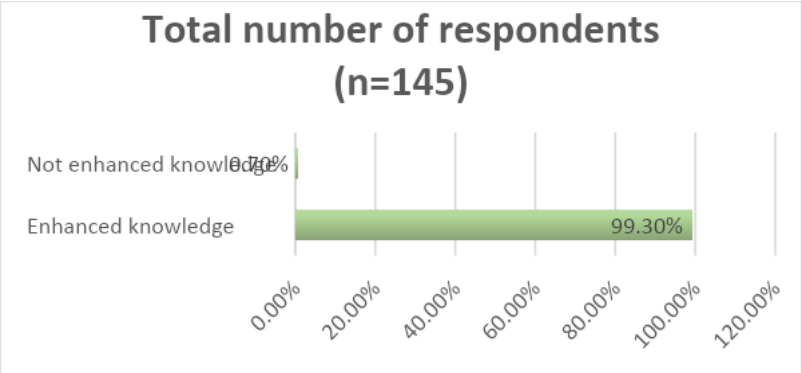

Figure10.Enhancement of knowledge via Smartphone

Table 10 and Figure 10 indicates that majority of respondents i.e 99.3% of respondents are in favour of their knowledge enhancement via smartphone whereas rest 0.7% denied.

*8.11****Whether smartphone can replace library services or not***

Table11Smartphone can replace library services or not

S.No	Can be replaced	Percentage	Can not be replaced	Percentage
1.	39	26.9%	106	73.1 %
Total number of respondents				n=145

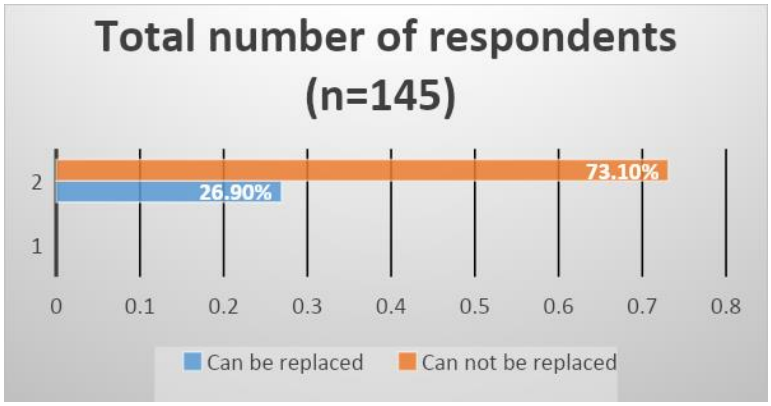

Figure 11.Smartphone can replace library services or not

Table 11 and Figure 11 indicates that majority of respondent (73.1%) are in favor that smartphones cannot replace library services whereas only 26.9% of the respondents says that smartphones can replace library services.

9. Findings

- Findings reveal that maximum numbers of respondents are females 106 (73.10%) whereas remaining were males 39 (26.89%).
- Majority of number of respondents have android smartphones 136 (93.79%) whereas only 1 (0.68%) of respondents have windows smartphones.
- Maximum number of 76 (52.4%) respondents spent about 2-4 hrs. on their smartphones in a day while retrieving information whereas about 03 (2.1%) respondents spent more than 10 hrs.
- Majority of respondents 140 (96.5%) have internet access to their smartphones whereas only 05 (3.4%) respondents are without internet access.
- The major source of internet access on their smartphone is mobile data 137 (94.4%) whereas none of the respondent uses university LAN.
- The major purpose of using smartphone is for retrieving information/knowledge 43 (29.6%) whereas about 03 (2.0%) seek database search as a purpose of using smartphone
- In regard to the problems faced while using internet majority of respondent claim that slow internet speed is the major disadvantage 53 (36.5%) whereas only 03 (2.1%) respondent claim smartphone illiteracy to be a problem.
- The major source of information on smartphone is e-dictionaries i.e. 51 (35.1%) and least source of information chosen by respondent is e-journals i.e. 10 (6.89%).
- The findings also reveals the comparison of use of smartphone with traditional documents in terms of more informative 121 (yes) and 24 (No); easy to use 131(Yes) and 14 (No); time saving 123(Yes) and 22 (No) and more expensive 82(Yes) and 63(No)
- Maximum of respondent 144 (99.3%) agreed upon the statement that smartphone have enhanced their knowledge whereas only o1 (0.7%) disagreed with the statement.
- Majority of respondents 106 (73.1%) agreed upon the statement that smartphone cannot replace library services and 39 (26.9) disagreed with the statement.

10. Conclusion

The proposed study is sought to examine the user's perception towards Use of Smartphone's in Retrieving Information with Special Reference to University of Jammu. The objectives of the study are met satisfactorily. Although the use of smartphone have enhanced our knowledge but yet they cannot replace the library services. Also the purpose of using smartphones vary from student to student. Besides of the problems faced by an individual while using the smartphones, the use of smartphones also added up in acquiring the information. Today, the use of smartphones is one of the way by which libraries are coming within our hands and flow of information is taking place. Majority of the students agreed with the statement that use of smartphones have enhanced their knowledge but yet they cannot replace the library and the librarians.

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