

## Smart Technology for Libraries: An Emerging and Innovative Technological Habitat of this Century

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***Abstract** - Smart Technologies Libraries are the new generation libraries, which work with the amalgamation of smart technologies, smart users and smart services. Smart Library was carried to ascertain the emerging technologies in the smart library domain. The clarivate Analytics web of science and Sciverse scopus were explored initially to ascertain the extent of literature published on smart libraries and their varied aspects. The smart libraries has a double character, it allows the consistent description of some particular developments and realizations of public and academic libraries in urban settings and on scientific campuses. It can also contribute to a new and dynamic vision of the libraries of tomorrow helpful to define Objectives and Strategies how to get there and helpful, too for library marketing and advocacy for the description and development of smart libraries, it can be useful to distinguish four dimensions smart services, smart people, smart place and smart governance. Smart Libraries are using innovative technology to improve service for customers today, innovative libraries are using digital tools to make service easier to use and access, inspire and inform, help customers learn new skills. The smart library concept does not constitute a unique model or project but a process, a way of how to get things done that is less linear, less structured and more creative and innovative.*

**Keyword:** - Smart Library, Modern Libraries, Digital age, 21st century, Innovative Technology

### INTRODUCTION

The emerging of technology in the 21st century might be advantage for business, industries, government, academic institutions and library as well. Library has improved its facilities and services for not being just the keeper for books. Changing landscape on how activities or operations been done give some impact to the organization outcomes and targets. This will be the challenge for some organization in order to stay relevant. Libraries as the custodian of information and resources really need to be parallel with the development of technology today. The implementation of digital format to library resources is the current trend that libraries must take into consideration as users might want to access easily and remotely. With current widely used gadgets such as smart phones and tablets, more information could be accessed anywhere at any time. The development of information technology is another one challenge is most libraries. Nowadays, most of organizational operations and processes are depending on the use of IT devices such as computers, internet, Wi-Fi connections etc. In context of library environment, the rise of technology is believed to be started from the publication technology where library publish information sources and monograph. Poll (2003) added, most libraries present their performance in data of input and output:

Input data: income/expenditure, collection size, staff numbers, study places and user space.

Output data: Circulations, reference transactions, inter library loan/document delivery, user training and attendance at events.

In this century, the element of marketing and promoting plays a vital role in delivering solutions to meet user needs. External marketing such as e-newsletters, e-mails, and paper publications were used to promote membership benefits to members (Madden, 2008). The use of social media and interactive website help libraries to reach for its users. The up-to-date information could be blast out to users.

## **THE 21st CENTURY LIBRARY**

### **Advancing Technology:-**

When we discussed advancing of technology in library, there are many new things that can be associated to the enhancement of library services and management. Library started to apply new features in providing information and knowledge to its users. For example, few years back, the library website might not see so interesting enough for users. But, now, the rapid growth of information based engine could be attached to websites, it's give a great look and feels. Users feel it is more user's friendly and easy to navigate. Other technology such as RFID, automated checkout systems and online databases are among the good innovation in helping the library to cater for its users.

Another new implementation on the technology is the e-book service at the airport. The Kuala Lumpur International Airport launches new library that offers free e-books to travelers. This smart facility operates through the use of Bluetooth beacon signals which work on the principles of geo-fencing micro-location technology. It communicates with passengers' Smartphone application, allowing them to access a special virtual library of e-books.



### **Digitization:-**

Library keeps many information and knowledge in their collection. As we know, too many physical collections are kept in the library. It requires big space. Since early year 2000, most libraries are embarked on the digitization initiative. Digitization or digitalization is a process of converting physical documents such as sound, paper or image into an electronic digital form that can be read by computers of other electronic devices. Then, those records will be made available through Internet. One main purpose of this initiative is to preserve the physical collection in the library. By doing this method, library has implementing added-value service for its users

### **New Media / Web 2.0:-**

The growth of social media or Web 2.0 application in the digital age, it gives an added-value to any organization including library and create closer relationship between library and users. Social media can be described as the communication tools that enable other users to response immediately to the issue or topic. Applications such as Facebook, Blog, Twitter, Flickr and Instagram are most popular among users nowadays. This application could be the communication tools by library to deliver information to its users. For instance, it can be view using Smartphone or tablet. When the library is using social media, it is more considering on numbers. The more numbers library get, it means that more users are aware of library announcement and Library users are able to communicate directly to the library staff on issues posted.

### **Information Literacy Programmed:-**

Information literacy could be explained as the process of how someone ability to access, evaluate, organize and use the information from different sources. The sources could be from the library physical collections, CD-ROM, databases or Internet. Library is organizing 7 information literacy programmed in order to educate users in using library collections.

### **Library Building and Facilities:-**

Know a days, the roles of library are not just only provides facilities to study or borrowing books, but library facilities are beyond what the library has before. Facilities and services are changing according to needs and interest by users. Library has becoming place of study and social networking. With current trend of technology, library provides many new things such as Wi-Fi connection in the library. This comes along with the digital services available in the library. Library also provides discussion room and classrooms for any other department to have their group discussion or workshop. In today library, it also may incorporate computer training rooms, career advice services, café and place to do homework<sup>3</sup>. For instance, the Selangor Public Library Corporation provides gym, café and 3D and XD theatres in the library for its users.

### **We could list down some of the advantages of digital library:**

- No physical boundary
- Availability anytime anywhere
- Preservation of documents
- Increase visibility of library
- Added value to the contents
- Space utilization

### **Library as hubs for creative learning:-**

A part of being place of study and social networking, people go to library to find a place for relaxing purpose. In academic libraries, students make use of library as their second home. Most students spend their times at the library. For public library, most of users came from different background, age, race and education level.

## **OBJECTIVES**

The present study is based on the following objectives

- To study the attitude of students of secondary school towards Smart Technology Library
- To compare the students learning process among male and female students
- To compare the Smart Technology learning process among government and self financed students
- To study the availability of Smart Technology for resources among students

## **HYPOTHESES**

HO1: There is no significance difference between students learning process of male and female student of school

HO2: There is significance difference between students learning process of male and female student of school

HO3: There is no significance difference between students learning process of Government and Self-finance students of school

HO4: There is significance difference between students learning process of Government and Self-finance students of school

## **METHODOLOGY**

The present study was carried out by employing survey method.

## **SAMPLE**

The study was carried out among secondary school student of Lucknow to find out the effect of Smart Technology for Libraries on their learning. The students were considered the true representative population and they came from the different classes and sections within the secondary school. The library study was conducted in secondary schools only. A sample of 100 respondents was targeted.

## **TOOLS**

The term survey is quite broad and could include the questions used in a phone interview, the set of items employed in a focus group and the questions on a self-administered respondent survey. Although the processes described in this work can be used to improve all of the above, we focus primarily on self-administered surveys, which are often referred to as questionnaires. For most questionnaires, the overarching goals are to develop a set of items that every respondent will interpret the same way, respond to accurately and be willing and motivated to answer.

## **STATISTICAL TECHNIQUES**

For the present study the questionnaire data were analyzed for determining the personal data and students attitude towards smart technology in general. T-test has been used for comparing

girls and boys attitude towards smart technology. From the data collected, percentage, mean, median, S.D. and t-values were calculated manually.

**ANALYSIS & INTERPREATION**

Result are presented and discussed as follows in the order of the objectives of the study

**Objective 1:** To study the attitude of students of secondary school towards Smart Technology Library

**Table1:-** Showing Students Attitude towards Smart Technology for Library in Percentage

Particulars	No of Students	Percentage
Total	100	100%
Highly Favorable	04	04
Above Favorable	41	41
Moderate Favorable	46	46
Below Favorable	09	09
Highly Unfavorable	00	00

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Table 1 show that only 4% students are highly favorable, 41% student are above favorable, 46% students are moderate favorable, 9% students are below favorable and 0% students are highly unfavorable.

The emerging of technology in the 21st century might be advantage for business, industries, government, academic institutions and library as well. Library has improved its facilities and services for not being just the keeper for books. Changing landscape on how activities or operations been done give some impact to the organisation outcomes and targets. This will be the challenge for some organisation in order to stay relevant. Libraries as the custodian of information and resources really need to be parallel with the development of technology today. The implementation of digital format to library resources is the current trend that libraries must take into consideration as users might want to access easily and remotely. With current widely used gadgets such as smartphones and tablets, more information could be accessed anywhere at any time.

**Objective 2:**

To compare the students learning process among male and female students

**Table2**

Showing Mean, S.D and t-value for the significant difference between attitude of Male and Female Students

Male			Female						
N	Mean	S.D.	N	Mean	S.D.	df	t-value	Level	Significance
50	170.64	23.25	50	180.54	18.30	4.18	2.39	0.05	Insignificant

N=Total Number of Student

M=Mean Score of Male and Female

s.d= Standard Deviation of Male and Female

df= Degree of freedom

Table2 shows that t-value of Male and Female attitude in school toward Smart Technology is 2.39 which is less than the table value at the level of significance. For degree of freedom 4.18, at level 0.05 it is 2.57.

**Objective 3:**

To compare the Smart Technology learning process among government and self financed students

**Table 3:**

Showing Mean, S.D and t-value for the significant difference between Government and Self-finance student

Government			Self-Financed						
N	Mean	S.D.	N	Mean	S.D.	df	t-value	Level	Significance
50	166.6	17.47	50	184.58	21.34	3.89	4.6	0.05	Significant

N=Total Number of Student

M=Mean Score of Government and Self-finance student

s.d= Standard Deviation of Government and Self-finance student

df= Degree of freedom

Table 3 Shows that t-value compares the Smart Technology learning process among government and self financed student towards is 4.60 which is more than the table value at the level of significance. For degree of freedom 3.89, at level 0.05 it is 2.78.

**Objective 4:**

To study the availability of Smart Technology for resources among students

**Figure 4:**

Showing the comparison of smart technology resources Government and Self-finance student

<b>Smart Technology</b>	<b>Government</b>	<b>Self-finance</b>
Library	215	091
Internet & E-mail	936	647
TV set	007	004
TV set	020	006
Software (Library Software)	115	175
Computer Laboratory	006	002
Video Conferencing Equipment	200	017
Tab	205	0
<b>Total</b>	<b>1704</b>	<b>942</b>

Table 4 shows that there is a large difference between resource Government and Self-finance student. In government availability of resources are 1704 and self-finance availability resource are 942. In term of resources availability government are rich than self-finance students.

## CONCLUSION

Findings of the study direct towards below conclusions:-

- 4% students are highly favorable, 41% students are above favorable, 46% students are moderate favorable, 9% students are below favorable and 0% students are highly unfavorable.
- T-value of Male and Female student attitude towards Smart Technology is 2.39 which is lesser than the tabled value at the level of significance. For degree of freedom 4.18, at level 0.05 it is 2.57. So there is no significant difference between the attitude of Male and Female student towards smart technology is retained.
- T-value of Govt. and Self-finance students attitude towards smart technology is 4.60 which is more than the tabled value at the level of significance. For degree of freedom 3.89, at level 0.05 it is 2.78. So there is no significant difference between the attitude of Govt. and Self-finance student towards smart technology is retained.
- The smart technology infrastructure of the student is poorly developed, unevenly distributed and inadequate. However, some smart technology resources like Library, Internet & E-mail, TV set, Software (Library Software), Computer Laboratory were considered to be fairly available. Through not fully adequate, the student recognizes the need for smart technology resources in its academic endeavors and as such there is already something to build on.

## DISCUSSION

The establishment of an effective communication with the consumer base is crucial to let the consumers know that the library provides products and services which are relevant to the needs of the consumers. Library as a nation building agent that could create heart, mind and positive attitude of community.

## IMPLICATION

Today's world is of great competition and endless race so parental encouragement without expectation and pressure has a great significance in student's life and their educational

achievement and success. We also advise parents let children follow their own dreams. Parents should be supportive.

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