
A Study on University Libraries in Tamil Nadu From the Effectiveness of Developing Technology Perspective

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Abstract

The main objective of this research is to study the purpose of academic libraries and its involvement in supporting education and research. Libraries are mostly assigned with a list of fixed tasks like securing, saving, publishing, establishing and preserving information to the users. Right from early times to the present digital era, achieving this goal has always been the main objective of library. Because of the major development and application of new technology in the past few years' traditional methods of library and information services have seen major changes, especially because of the internet and web technologies. So libraries must attempt to provide the right information to people at right time.

Keywords

Library, Education, Digital era and Web technologies.

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INTRODUCTION

In recent times, through the library website itself many library services are provided. The services are being provided to people using various web software and tools by adding the technologies to the services based on web for the users. Libraries are computerized to provide combined solutions for the manual process and web based services on the site and internet using web tools and modern techniques. Subject gateway is an important module of library website, designed to help the users to discover all the information's in a quick and effective way. Subject gateway can be defined as a facility that allows users in an easier access to web based resources in a defined area. The simplest type of subject gateways are sets of web pages containing list of links and provide a simple search facility. More advanced gateway offer a much enhanced service via a system consisting of a resource database and various indexes, which can be searched or browsed through a web based interface. The portal sites or subject gateways redirect a user to the site holding the original material. A library portal reflects the strengths and weaknesses of the libraries very effectively.

The aim of management in any organization is to solve problems, and thereby ensuring that the mission and objectives of the organizations are accomplished. However, even in non- profit organizations, management practices are very important, since without them the goals of such organizations might not be achieved. Intangible goods such as education, social services, public protection, and recreation are often the primary aim of not- for- profit organizations. Although these and similar organizations such as university library may not have to be profitable to attract investors, they must still employ sound management practices if they are to survive and work towards their goals.

REVIEW OF LITERATURE

Saeed Ullah Jan and Rafia A.Sheikh (2014) it is a generally known fact that technology has made room for itself in every field and day-to-day life. The findings of the study reveal that the operations of developing library technologies have positive impact on library services and resources on the public sector universities. It was highlighted that insufficient funding for library computerization, lack of user education programs on emerging library

technologies, lack of skilled library professionals, frequent power failure are the major barriers to the implementation of latest technologies in university libraries of the country. Ifijeh (2014) Digital preservation and cloud computing are the new ways for offering data resources. Scholarly libraries are using advanced technological innovations to offer increasingly inventive services. It is fundamental for academic libraries in developing nations to adapt new patterns in librarianship. Libraries can make potential use of the ICT and can add to the national advancement in the nation. Yang and Dalal (2014) examined the virtual reference services in academic libraries. Discoveries uncovered that larger part of the overviewed libraries were offering virtual reference services through their websites. They were offering diverse kind of virtual services including support by email, telephone services, quick messaging, texting, video calls, interactive sharing of learning's and so forth. Study inferred that virtual reference supporting offers incredible approaches to associate with library's clients and help them in finding required data without minding the time or place.

Aremu, Mukaila et. al., (2014), the analysis of information technology has important implications for marketing in the identification of a library's competitive position. The research study focuses on analysis of perception of 485 users of University of Ilorin library. The results show that information technology will assist university library strategically for competitive advantage, operational efficiency and help users to cope with the technological changes. Ruan and Qiang (2013) Academic libraries must begin virtual reference services for their clients. They found that there is an extraordinary importance of data innovation in academic libraries. They likewise considered the utilization of electronic technology in the United States academic libraries and found that practically all academic libraries in the country were offering electronic services and online supporting facilities for their clients. Kastlelec (2012) a general idea is that the digital library is much cost efficient than the traditional one, but creating a digital library is an expensive project, due to creating a complete organization of machines and people. Digitization tools are not cheap. In the development of digital libraries financial budgeting plays a crucial role, because no matter what library professionals want to do, or what are the user's needs, money is the source of all decisions.

Mary Johnsy A, (2011) as the world develops; the job of the libraries likewise develops in importance. Tremendous changes had occurred in the library division due to the mechanical and data communication technology advancements. To evaluate the perspectives and conclusions of the clients, to recognize the issues looked by the library administrators and to propose a couple of measures for improvements in library.

NEED AND SIGNIFICANCE OF STUDY

Nowadays with the importance of internet, information services based on web have put wide impact on provision of library and information services. The main objective of this research is to study the university libraries from the effectiveness of developing technology perspective in Tamil nadu and also assess its accessibility among the research scholars.

The online library services supporting the growth of academic community is a big reason for an alarm, as it asks for transforming conventional library services into online information services. World Wide Web is offering Challenges just as open doors for libraries to be packed with diverse web applications and demonstrate their essence in online data condition. It is essential to check out web applications and facilities which are helpful for libraries to offer Ubiquitous library services. The online library services supporting the growth of academic community is a big reason for an alarm, as it asks for transforming conventional library services into online information services. Adding an intelligent side to all available facilities at the library is a real opportunity to understand the patterns in user behavior and adapt to their needs. But at the same time, libraries must consider the privacy issues coming with any access to personal data. This study helps to learn how the quality of researchers are enhanced by web based services and suggests new approaches for effective use of web based information.

OBJECTIVES OF THE STUDY

Thus study has following objectives to investigate;

1. To analyze existing web based information services in the universities in Tamil nadu.
2. To investigate the various Effectiveness of developing technology like: Promote knowledge society, Opportunities for developing technology, Self Service, Information and Communication

Technology (ICT) policies and Web based library services .

3. To abstract a research structure to research the fundamental connections between Infrastructure, Web based library services and Effectiveness of Developing Technology.
4. To evaluate the organization facility available in the university libraries in Tamil nadu.

RESEARCH METHODOLOGY

The research was limited to the university libraries from the effectiveness of developing technology perspective in Tamil nadu. A structured questionnaire was developed using parameters identified from previous surveys.

Population

The response rate was 75 percentages and the descriptive data for 247 respondents is presented below.

Research Tool:

ANOVA (Analysis of Variance)
SEM (Structural Equation Modeling)

Hypothesis

H_{1,1}: There is no significant difference between age and the Promote Knowledge Society.

H_{1,2}: There is no significant difference between age and Opportunities for developing technology.

H_{1,3}: There is no significant difference between age and Self Service.

H_{1,4}: There is no significant difference between age and ICT Policies.

H_{1,5}: There is no significant difference between age and Infrastructure.

H_{1,6}: There is no significant difference between age and Web based library service.

H_{1,7}: There is no significant difference between age and Effectiveness of developing technology.

H_{1,8}: There is no significant difference between educational qualification and the Promote Knowledge Society.

H_{1,9}: There is no significant difference between educational qualification and Opportunities for developing technology.

H_{1,10}: There is no significant difference between educational qualification and Self Service.

H_{1,11}: There is no significant difference between educational qualification and ICT Policies.

H_{1,12}: There is no significant difference between educational qualification and Infrastructure.

H_{1,13}: There is no significant difference between educational qualification and Web based library service.

H_{1,14}: There is no significant difference between educational qualification and Effectiveness of developing technology.

RESEARCH QUESTION

Research Question 1 (RQ1) : Does the variables viz. Promote knowledge society, Opportunities for developing technology, Self Service, Information and Communication Technology (ICT) policies impact Infrastructure?

Research Question 2 (RQ2) : Does the variables viz. Promote knowledge society, Opportunities for developing technology, Self Service, Information and Communication Technology (ICT) policies impact Web based library services?

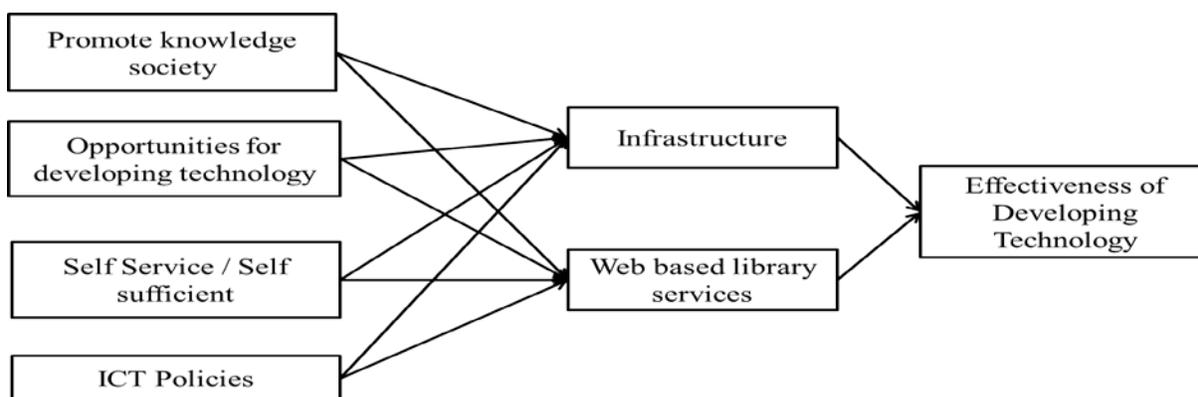
Research Question 3 (RQ3) : Does the variables viz. Infrastructure, Web based library services impact Effectiveness of developing technology?

ANALYSIS AND INTERPRETATION

This chapter essentially presents the results and analysis of the data gathered from the university libraries in Tamil nadu. The data are grouped appropriately to carry out the meaningful analysis.

In the initial segment, it is proposed to exhibit in detail, the view of the respondents on different parts of effectiveness of developing technology perspective in factors like Promote knowledge society, Opportunities for developing technology, Self Service, Information and Communication Technology (ICT) policies. The last part of the section has focused on testing of speculation. The entire research hypotheses which were formulated are tested using SEM.

Conceptual Frame work



Source: Primary data

- ICT policies
- Self service
- Opportunities for developing technology
- Unobserved, exogenous variables**
- e1 (error in the term of Infrastructure)
- e2 (error in the term of Web based library services)
- e3 (error in the term of Effectiveness of developing technology)

STRUCTURAL EQUATION MODELLING (SEM)

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This method is preferred by the researchers because it estimates the multiple and interrelated dependence in a single analysis.

Observed, endogenous variables

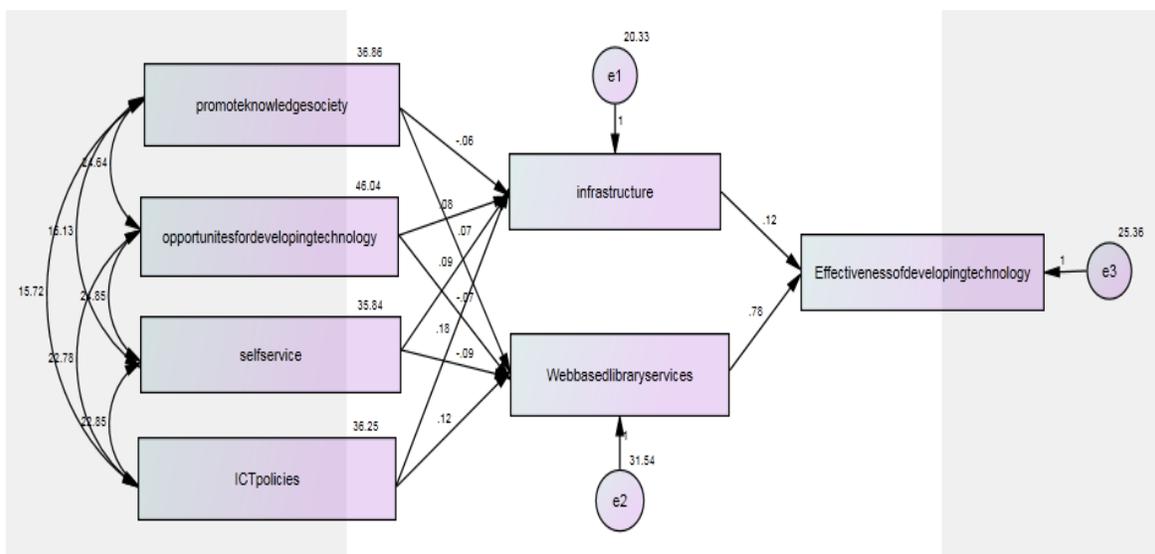
- Infrastructure
- Web based library services
- Effectiveness of developing technology

Observed, exogenous variables

- Promote knowledge society

Variable counts (Group number 1)

- Number of variables in your model: 10
- Number of observed variables: 7
- Number of unobserved variables: 3
- Number of exogenous variables: 7
- Number of endogenous variables: 3



Major Model Fit Indices Summary

Parameters	Acceptable values for Good Fit	Research Model Values
GFI	>0.9	0.998
AGFI	>0.9	0.988
CFI	>0.9	0.999
RMSEA	<0.06	0.04
RMR	<0.08	0.01

INTERPRETATION:

The Goodness of Fit index (GFI) value was 0.998, Adjusted Goodness of Fit Index (AGFI) value was 0.988 and Comparative Fit index (CFI) value was 0.999. All these values were greater than 0.9 indicating a very good fit. It was found that Root Mean Square Error of Approximation (RMSEA) value was 0.04 (lesser than 0.06) and Root Mean Square Residual (RMR) value was 0.01 (lesser than 0.08).

DISCUSSION

The result in the above table shows that the model fit is good for the research analysis.

One Way Analysis of Variance of the Age, Promote Knowledge Society, opportunities for developing technology, Self Service, ICT Policies, Infrastructure, Web based library service and Effectiveness of developing technology.

H_{1.1}: There is no significant difference between age and the Promote Knowledge Society.

H_{1.2}: There is no significant difference between age and Opportunities for developing technology.

H_{1.3}: There is no significant difference between age and Self Service.

H_{1.4}: There is no significant difference between age and ICT Policies.

H_{1.5}: There is no significant difference between age and Infrastructure.

H_{1.6}: There is no significant difference between age and Web based library service.

H_{1.7}: There is no significant difference between age and Effectiveness of developing technology.

Table : 1

Variance		Sum of Squares	Df	Mean Square	F	Sig
Promote Knowledge Society	Between Groups	2295.828	4	573.957	20.399	.000**
	Within Groups	6809.079	242	28.137		
	Total	9104.907	246			
opportunities for developing technology	Between Groups	1888.891	4	472.223	12.050	.000**
	Within Groups	9483.757	242	39.189		
	Total	11372.648	246			
self service	Between Groups	1859.918	4	464.979	16.093	.000**
	Within Groups	6992.276	242	28.894		
	Total	8852.194	246			
ICT policies	Between Groups	1909.334	4	477.333	16.397	.000**
	Within Groups	7045.031	242	29.112		
	Total	8954.364	246			
Infrastructure	Between Groups	174.315	4	43.579	1.894	.112
	Within Groups	5569.207	242	23.013		
	Total	5743.522	246			
Web based library services	Between Groups	54.700	4	13.675	.421	.793
	Within Groups	7855.664	242	32.461		
	Total	7910.364	246			
Effectiveness of developing technology	Between Groups	245.417	4	61.354	1.355	.250
	Within Groups	10956.332	242	45.274		
	Total	11201.749	246			

** Significant at 1% level

* Significant at 5% level

Analysis: It can be seen from Table 1 that Null Hypotheses H_{1.1}, H_{1.2}, H_{1.3} and H_{1.4} are rejected as the p value is lesser than 0.05. All other remaining null hypotheses are accepted.

Discussion: There is significant difference between age and the Promote Knowledge Society. There is significant difference between age and Opportunities for developing technology. There is significant difference between age and Self Service. There is significant difference between age and ICT Policies. There is no significant difference between age and Infrastructure. There is no significant difference between age and Web based library service. There is no significant difference between age and Effectiveness of developing technology. One Way Analysis of Variance of the Educational Qualification, Promote Knowledge Society, opportunities for developing technology, Self Service, ICT Policies, Infrastructure, Web based library service and Effectiveness of developing technology.

H_{1,8}: There is no significant difference between educational qualification and the Promote Knowledge Society.

H_{1,9}: There is no significant difference between educational qualification and Opportunities for developing technology.

H_{1,10}: There is no significant difference between educational qualification and Self Service.

H_{1,11}: There is no significant difference between educational qualification and ICT Policies.

H_{1,12}: There is no significant difference between educational qualification and Infrastructure.

H_{1,13}: There is no significant difference between educational qualification and Web based library service.

H_{1,14}: There is no significant difference between educational qualification and Effectiveness of developing technology.

Table: 2

Variance		Sum of Squares	Df	Mean Square	F	Sig
Promote Knowledge Society	Between Groups	973.698	4	243.425	7.245	.000**
	Within Groups	8131.209	242	33.600		
	Total	9104.907	246			
opportunities for developing technology	Between Groups	346.312	4	86.578	1.900	.111
	Within Groups	11026.336	242	45.563		
	Total	11372.648	246			
self service	Between Groups	384.734	4	96.184	2.749	.029*
	Within Groups	8467.460	242	34.990		
	Total	8852.194	246			
ICT policies	Between Groups	735.259	4	183.815	5.412	.000**
	Within Groups	8219.106	242	33.963		
	Total	8954.364	246			
Infrastructure	Between Groups	14.996	4	3.749	.158	.959
	Within Groups	5728.526	242	23.672		
	Total	5743.522	246			
Web based library services	Between Groups	181.001	4	45.250	1.417	.229
	Within Groups	7729.363	242	31.940		
	Total	7910.364	246			
Effectiveness of developing technology	Between Groups	344.345	4	86.086	1.919	.108
	Within Groups	10857.404	242	44.865		
	Total	11201.749	246			

** Significant at 1% level

* Significant at 5% level

Analysis: It can be seen from Table 2 that Null Hypotheses H_{1,1}, H_{1,3} and H_{1,4} are rejected as the p value is lesser than 0.01 and 0.05. All other remaining null hypotheses are accepted.

Discussion: There is significant difference between educational qualification and the Promote Knowledge Society. There is no significant difference between educational qualification and Opportunities for developing technology. There is significant difference between educational qualification and Self Service. There is significant difference between educational qualification and ICT Policies. There is no significant difference between educational qualification and Infrastructure. There is no

significant difference between educational qualification and Web based library service. There is no significant difference between educational qualification and Effectiveness of developing technology.

CONCLUSION

The usage of modern technologies in library and information science deals with the total management of libraries and various kinds of information centers. As the growth of literature in the field of library and information science, research is growing at a faster rate so the study on Bibliometrics is used to find the outlines of journal coverage, authorship, publication or citations. This consequently leads to a better future for literature. It will also enable in management of library or in evaluating the quality of journals. Results of using technology may also be very useful in decision making in research administration and planning, in development and use in libraries. Thus keeping in view the value of technological developments, the study on the effectiveness in using developing technology in library was carried out which will help the librarians in the selection of literature in the field of library & information sciences

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