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A Study on Digital Literacy Skills and Library Services Delivery in Tamil Nādu Universities: A Correlation

Dr. A. Bagavathi

University Deputy Librarian, The Tamilnadu Dr. Ambedkar Law University, Chennai

Abstract

The Study is about to find a correlation between Digital Literacy skills and the Library Services Delivery in Tamilnadu Universities and more than 75 library professionals of selected Tamil Nādu Universities through random sampling method are used for the study. A questioner in Google Form was designed and circulated among the 75 users through e-mail for data collection using random sampling method. Out of the 75 questioners circulated, only 63 are dully filled and found suitable for data analysis. Descriptive and inferential statistics was used for analysis of Data and Single hypothesis with 0.05 level of significance using the linear regression was tested. Subsequently, Creswell correlational ranking was used to decide the strength of relationship strength between variables and results are displayed in frequency tables. The findings of the study show that majority of library professionals have Digital Literacy skill, a considerable number of Library Professionals have to improve their digital literacy skill in areas like ability to use computer systems for information dissemination, ability to use different software, design a simple webpage, obtain product keys for software, design Mobile Applications, and design Cloud Applications etc. Among other skills and among the numerous services provided by the library, the library professionals were skilful in using internet to search and communicate information, conduct website evaluation and use Boolean logic etc. Moreover, Study results showed a correlational value of 0.963 and the hypothesis yielded a p-value less than 0.05. Which implies that the null Hypothesis is rejected, and it is concluded that there is evidence of linear relationship and hence there is significant relationship between the Digital Literacy Skills of the Library professionals and the Library Service Delivery of the Identified universities in Tamil Nādu. Based on the results of the study it is recommended that library authorities should focus on the ways and means of, intensifying the efforts in creating awareness and should be initiated steps that the library professionals should be provided with appropriate training on digital literacy skills, their application and essence, in order to enable them to acquire more of the skills, together with applying them to maximize the library service delivery, among other things for better service to the users.

Keywords: Digital Literacy Skills, Library Professionals, University Libraries, Library Services, Services Delivery and Academic Libraries etc.

Introduction

The rapid and exponential growth in the amount of available information in diverse sources and formats coupled with the rise in the user's demand to solve their information requirement independently, have brought about much emphasis on the patterns and systems of information creation, organization,



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dissemination, preservation and conservation. This has increased the need for Library Professionals, especially, the information services providers, to acquire competencies and skills for effective and efficient searching, locating, retrieval and utilization of the right information at the right time and from the right place. (Thanuskodi, 2019) Thanuskodi (2019) strongly emphasizes the challenge of the library staff in the digital or Internet age. The raise in competitors, the phenomenal multi-fold growth and the availability of information in this information era, has made the library users to raise their demand and expectations. This above growth, has also created a challenge and force the library users and the library professionals to constantly upgrade their skillsets and knowledge on Digital literacy in order to have the ability to obtain the right information at the right time and from the right place is tantamount to quality and healthy living. This invariably affects the way both the library users and library professionals in their individual functions in their chosen career.

Diverse and abundant information choices are available for the individuals, as a result of the escalating complexity of today's information environment (Bala Sankar, 2022). First of all, these information choices surface in their academic studies, workplaces, and personal lives. Secondly, the complexity of these choices is further aggravated as a result of many openings through which information could be acquired, disseminated and stored. Today, a large amount of information could be obtained from libraries, community resource/information centres, media, and the most popular, the Internet and World Wide Web. Increasingly, information comes to individuals in unfiltered formats, raising questions about its authenticity, validity, and reliability (Dadzie, 2008). This is highly true of most of the digital information and information resources. In addition, information is available through multiple media, including graphical, aural, and textual. All these openings pose new challenges for individuals, especially, the Library users in accessing, evaluating and understanding it, hence, the need for these the library users to appreciate the issue of digital literacy skills. On the other hand, these digital technologies, if properly adopted, could also lead to the quality usage of library services, which is one of the purpose of any academic library (Kamal Kumar Lal, Mamta Chauhan, & Asha Negi, 2023).

(Akidi & Oduagwu, 2021); (Onuoha & Chukwueke, 2021) define the academic library as a library established, maintained and administered by tertiary institutions such as universities, polytechnics, colleges of education, colleges of agriculture, and other technics. The purpose of academic libraries is to foster teaching, learning and community services. This they do through the provision of an array of information resources and library services. Consequently, library services refer to as assistants provided by a library to the users. These services represent a series of personal, direct or indirect assistance provided by the library staff to the users of the library. Some of the academic library services as given by (Adegoke, 2021) Adegoke (2021) may include digital library services, virtual reference services, 'ask a librarian' services, adaptive learning services, inter-library lending services, data consultation services, publishing support services, digital scholarship services, makerspace services, reservation services, selective dissemination of information services, information resources lending services, translation services, photocopying services, and library instruction services. Others include indexing and abstracting, OPAC services, cataloguing and classification, collection development, bindery, and Internet and e-mail services.

The Library professionals of various university libraries adopt different service delivery patterns and method to maintain efficiency and effectiveness (Gurjeet Kaur, 2023). This requires that the library professional are expected to possess learn certain Techniques and skills which are essential for utilizing a



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wide range of information techniques and tools as well as primary sources in moulding information. This requires the library professionals should possess or develop or learn techniques and skills either during their educational years or later through self or training (Lau, 2006). The library professionals are expected to be experts in information management. They should assume the key role of facilitating information and digital literacy through the creation of curriculum-integrated programs addressing modern technologies and the tenets of the 4th industrial revolution. As drivers of Information Literacy, the library professionals are expedient to look into their digital literacy skills in order to build an information-literate society through the delivery of arrays of services in library. The rationale behind this study is to set a correlation between the digital literacy skill of the library professionals of the identified university libraries in Tamilnadu and their library service delivery.

Research Objectives

The main objective of the study is to correlate the digital literacy skills of library professionals and services delivery in the identified university libraries in Tamilnadu. Specifically, the study:

- 1. Identify the digital literacy skills of library professionals of the identified university libraries in Tamilnadu.
- 2. Find the various library services delivered by the library professionals to the users.
- 3. To examine the relationship between the possessed digital literacy skill of the target group and their service delivery in the identified universities of Tamilnadu.

Hypothesis

The null hypothesis was tested at significance level of 0.05.

HO0: There is no Significant relationship exist between digital literacy skills of the library professionals and Library service delivery in the identified university libraries in Tamil Nādu.

HO1: There is Significant relationship exist between digital literacy skills of the library professionals and Library service delivery in the identified university libraries in Tamil Nādu.

Methodology

The Study adopts the correlation design for a sample population of 75 library professionals from 6 Universities of Tamilnadu, consisting of 3 government Universities and 3 private Deemed to be Universities like The Tamilnadu Dr. Ambedkar Law University, The Bharathidasan University, Anna University, SRM University, Vels University, Sathiyabama University.

The study adopted Survey research design. An online Questioner in Google Form was prepared, which was easily understandable Structured and circulated among the identified universities, through e-mail for data collection using random sampling method. The Questioner consists of 37 numbers of 4-point scale questions for data collection. A total of 75 Questioners were distributed, out of which only 63 are dully filled and found suitable for data analysis. This constitutes 84% of the total distributed questioner. The detail breakup is given Table-1.

Description	eMailed	eMail Bounced	Primary data	Response Not Received	Responded	Valid Questioners	Invalid Questioners	
Users	75	3	72	7	65	63	2	
%	100.00%	4.00%	96.00%	9.33%	86.67%	84.00%	2.67%	

Table-1 Questioner Distribution



Limitations of the Study

The Universities were chosen depending on the nature of the study which focuses on the facilities of the university libraries and Library Science Qualified Library professionals comprising of both Academic Librarians cadre and non-academic (Library Professionals) cadre of the above Universities are chosen as respondents. Library staff without any Library Science qualification are excluded from the study.

Data Analysis

The responses received for this study were analysed using descriptive and inferential statistics.

- 1. The mean scores and standard deviation with the adoption of a criterion mean of 2.50 were used to handle the research objectives 1 and 2.
- 2. Pearson Product Moment Correlation was used for research objective 3.
- 3. Creswell's correlation coefficient scale was used in decision making and interpretation with regard to the extent or strength of the relationship of the variables. Very low association is represented with a correlation coefficient (r) of values below or equal to ± 0.20 , values of $\pm 0.21 0.40$ depicts low association, values of $\pm 0.41 0.60$ indicates moderate association, values of $\pm 0.61 0.80$ signifies high association, and values of $\pm 0.81 1.00$ means very high association (Creswell, 2014).
- 4. Linear regression was used for hypothesis testing. The implication was that, when p-value is greater than or equal to the alpha value of 0.05 hypothesis was not rejected (hence, the null hypothesis is accepted), while with a p-value less than the alpha value of 0.05, the null hypothesis is rejected.

Result and Findings

The results are provided in line with the research objectives.

1. **Research Objective 1:** Identify the digital literacy skills of library professionals of the identified university libraries in Tamilnadu.

SI. No	le Description		Agree	Disagre	Strongly	Total	Mean	St. Dev	Remarks
*	•	Agree -	-		Disagre -	*	*	*	+
1	I have the ability to use the Internet in	43	10	5	5	63	3.39	0.95	Agree
	search of information	-		-			0.00		, .g. ee
	I have the ability to use the Internet to	17	21	23	2	63	2.8	0.87	Agree
2	communicate information	17							
	I have the ability to use computer systems	6	12	3	42	63	1.69	1.08	Disagree
3	for information dissemination	0	12	5	42	05	1.09	1.08	Disagree
	I have the ability to conduct website 4 evaluation		18	19	4	63	2.88	0.96	Agree
4									
5	I have the ability to use Boolean logic		10	28	0	63	2.91	0.92	Agree
6	I have the ability to use different software	7	13	43	0	63	2.39	0.69	Disagree
7	I can design a simple webpage		10	17	25	63	2.08	1.12	Disagree
8	I can design a database	37	15	5	6	63	3.27	0.98	Agree
9	I can obtain product keys for software	5	8	30	20	63	1.94	0.88	Disagree
10	l can populate a database		21	23	2	63	2.8	0.87	Agree
11	I can design Mobile Applications		6	15	37	63	1.64	0.95	Disagree
12	I can design Cloud Applications		8	10	34	63	1.91	1.18	Disagree
	Average						2.48	0.95	Disagree

Table-2 Mean	& Standard Devia	tion of Digital Literac	v Skills Resnonses
Table-2 Mican	a Standar u Devia	nion of Digital Littlat	y oning nespondes

Table 2 details the Digital Literacy Skill Responses data of Library Professionals. There 12 Questions relating to Digital Literacy Skillsets of the Library Professionals. The respondents responded their rating on 4-point scale with the rating as Strongly Agreed, Agreed, Disagreed and Strongly Disagreed. From the above Table-2 based on the Total Average Mean Score of 2.48 with a standard deviation (Std. Dev) of 0.95 it is found that there is a total disagreement among the respondents on their opinion on the digital



literacy skill of the library. Since the above is below the Total Average Mean of 2.50 set for this study, hence, the decision is disagreement.

In addition, the opinion on agreement and disagreement with regard to the responses towards individual Digital Literacy Skillsets are decided by majority of the respondents. Among the 12 Digital Literacy Skillsets have agreed responses and their Mean and Standard Deviation are as follows:

- 1. I have the ability to use the Internet in search of information 3.39 (0.95).
- 2. I have the ability to use the Internet to communicate information 2.8 (0.87).
- 3. I have the ability to conduct website evaluation 2.88 (0.96).
- 4. I have the ability to use Boolean logic 2.91 (0.92).
- 5. I can design a database 3.27 (0.98).
- 6. I can populate a database 2.80 (0.87).

Furthermore, the Mean and Standard Deviation of the Majority of the Disagreed Skillsets are

- 1. I have the ability to use computer systems for information dissemination 1.69 (1.08).
- 2. I have the ability to use different software 2.38 (0.69).
- 3. I can design a simple webpage 2.08 (1.12).
- 4. I can obtain product keys for software 1.94 (0.88).
- 5. I can design Mobile Applications 1.64 (0.95).
- 6. I can design Cloud Applications 1.91 (1.18).

As per Table-2 It is found that a majority of the respondents disagree with 6 of the 12 Digital Literacy Skillsets possessed by the Library Professionals with a Total Average Mean value and Standard Deviation of 2.48 and 0.95 respectively.

2. **Research Objective 2:** Find the various library services delivered by the library professionals to the users.

SI. No	Description	Strongly Agree -	Agree	Disagre	Strongly Disagre -	Total	Mean	St. Dev	Remarks	
1	I can deliver quality reference services	44	15	0	4	63	3.52	0.8	Agree	
2	I can deliver referral services to the peak	40	16	7	0	63	3.47	0.69	Agree	
3	I can deliver high-quality Internet services		22	5	0	63	3.44	0.64	Agree	
4	l know how to index library documents for users	34	16	4	9	63	3.14	1.08	Agree	
5	I can deliver adaptive learning services	24	17	8	14	63	2.77	1.18	Agree	
6	I can deliver current awareness services	33	22	4	4	63	3.28	0.86	Agree	
7	I am good at bibliographic search services	23	20	19	1	63	2.98	0.86	Agree	
8	I am good at literature review services	28	26	9	0	63	3.25	0.71	Agree	
9	I can deliver books and articles publication services	35	15	6	7	63	3.19	1.03	Agree	
10	l can comfortably advertise the library on the media	37	14	8	4	63	3.28	0.93	Agree	
11	I can deliver publishing support services	28	25	10	0	63	3.23	0.73	Agree	
12	I am good at the selection of library materials processes	31	19	8	5	63	3.16	0.95	Agree	
13	I am good at knowledge creation and digital humanity services	18	24	10	11	63	2.73	1.05	Agree	
14	I can ensure library websites maintenance	14	28	15	6	63	2.75	0.9	Agree	
15	I can deliver library blogging services	18	15	22	8	63	2.64	1.03	Agree	
16	I can deliver makerspace services	18	26	16	3	63	2.89	0.86	Agree	
17	I can deliver research data consultation services	11	14	9	29	63	2.08	1.18	Disagree	
18	I can deliver "Ask a Librarian" services	17	40	6	0	63	3.13	0.58	Agree	
19	l can deliver digital scholarship support services	12	13	24	14	63	2.33	1.04	Disagree	
20	I can deliver virtual reference services	11	20	18	14	63	2.41	1.03	Disagree	
21	l can comfortably to handle Pleagirasim checking service	18	26	16	3	63	2.89	0.86	Agree	
22	I can comfortably to provide digital library service through remote Access network service	11	14	9	29	63	2.08	1.18	Disagree	
	I can comfortably to provide access to users for online database service	17	40	6	0	63	3.13	0.58	Agree	
24	I can provide support solution to the users of special Library service for Physically Challanged.	12	13	24	14	63	2.33	1.04	Disagree	
25	I can provide support solutions to users on the library mobile application service.	11	20	18	14	63	2.41	1.03	Disagree	
	Average						2.9	0.91	Agree	

 Table-3 Mean & Standard Deviation of Library Service Delivery



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Table 3 represents the Library Service Delivery of the Library Professionals. There 25 Questions relating to the various Library Service of the Libraries of the Identified universities in the 4-point scale with the rating as Strongly Agree, Agree, Disagree and Strongly Disagree. The above Table-3 has a Total Average Mean Score of 2.90 with a standard deviation (Std. Dev) of 0.91 it is found that there is a total Agreement among the respondents on their opinion on the Library Services. The Decision is Agreed, Since the above value is above the Total Average Mean of 2.50 set for this study.

It is found that Majority of the respondent Agree majority of the 25 Library Services and their Mean and Standard Deviation are as follows:

- 1. I can deliver quality reference services 3.52 (0.80);
- 2. I can deliver referral services to the peak 3.47 (0.69);
- 3. I can deliver high quality Internet services 3.44 0.64);
- 4. I know how to index library documents 3.14 (1.08);
- 5. I can deliver adaptive learning services 2.77 (1.18);
- 6. I can deliver current awareness services 3.28 (0.86);
- 7. I am good at bibliographic search services 2.98 (0.86);
- 8. I am good at literature review services 3.25 (0.71);
- 9. I can deliver books and articles publication services 3.19 (1.03);
- 10. I can comfortably advertise the library on the media 3.28 (0.93);
- 11. I can deliver publishing support services 3.23 (0.73);
- 12. I am good at selection of library material's processes 3.16 (0.95);
- 13. I am good at creation and digital humanity services 2.73 (1.05);
- 14. I can ensure library websites maintenance 2.75 (0.90);
- 15. I can deliver library blogging services 2.64 (1.03);
- 16. I can deliver makerspace services 2.89 (0.86);
- 17. I can deliver "Ask a Librarian" services. 3.13 (0.58);
- 18. I can comfortably to handle Plagiarism checking service 2.89 (0.86);
- 19. I can comfortably to provide access to users for online database service 3.13 (0.58)

In addition, the Mean and Standard Deviation of the Majority of the Disagreed Library Services are

- 1. I can deliver research data consultation services 2.08 (1.18);
- 2. I can deliver digital scholarship support services 2.33 (1.04);
- 3. I can deliver virtual reference services 2.41 (1.03);
- 4. I can comfortably to provide digital library service through remote Access network service 2.08 (1.18);
- 5. I can provide support solution to the users of special Library service for Physically Challenged 2.33 (1.04);
- 6. I can provide support solutions to users on the library mobile application service 2.41 (1.03).

As per Table-3 It is found that a majority of the respondents Agree with 19 of the 25 Library Services provided by the Library Professionals with a Total Average Mean value and Standard Deviation of 2.90 and 0.91 respectively.

3. **Research Objective 3:** Examine the relationship between the possessed Digital Literacy skill of the target group and their Service Delivery in the identified universities of Tamilnadu.



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		DL	LS
DL	Pearson Correlation	1	0.963
	Ν	63	63
LS	Pearson Correlation	0.963	1
	N	63	63

Table-4 Correlation Matrix of Association Digital Literacy and Library Service Delivery

Correlation is significant at the 0.01 level (2-tailed), DL = Digital Literacy, LS = Library Services Delivery, N = Number of respondents.

From Table-4 it is interpreted that a correlation coefficient (r) of 0.963 which is a positive value, and it is within the limit of the ± 0.20 . Hence there is a positive relationship between the two variables Digital Literacy Skills of Library Professionals and the Library Service Delivery.

Test of Hypothesis

HO0: There is no Significant relationship exist between digital literacy skills of the Library Professionals and Library Service Delivery in the identified university libraries in Tamil Nādu.

Table-5 Linear Regression Analysis of the Relationship Between Digital Literacy Skills and Library Service Delivery

	df	SS	MS	F	Significance F
Regression	1	40.671759	40.671759	771.1589615	2.56892E-36
Residual	61	3.217206079	0.052741083		
Total	62	43.88896508			

Df= degree of freedom, F = F-calculated, Correlation is significant at the 0.05 level (2-tailed)

The above Table-5 illustrates a p-value less than 0.05, Which implies that the null Hypothesis is rejected, and we conclude that there is evidence of linear relationship and hence there is significant relationship between the Digital Literacy Skills of the Library Professionals and the Library Service Delivery of the library in Identified Universities in Tamilnadu. Hence, the hypothesis that there exists a Significant statistical relationship between Digital Literacy Skills of the Library Professionals and Library Service Delivery in the identified university libraries in Tamil Nādu was accepted.

Discussion of Findings

The Digital Literacy Skills and the Library Services Delivered by the Library professionals of the selected Tamilnadu Universities are illustrated in Table-2 and Table-3. The findings of the study shows that there is non-significant positive and very low association between the Digital Literacy Skills and the Library Services Delivered by the Library Professionals of the Identified Tamilnadu Universities. This is based on the obtained Correlation Coefficient value of 0.963, This represents a positive and very low relationship between the Digital Literacy Skills and the Library Services Delivered by the Library professionals of the identified universities. In addition, the test of Null-Hypothesis with a p-value less than 0.05 indicates that the correlation coefficient is significant. This proves that there does exist significant relationship between the Digital Literacy Skills and the Library Services Delivered by the Library Professionals in the identified Universities.

Based on the result, it is clearly indicated that the library professionals have to further improve their Digital Literacy Skills. The possessed Digital Literacy Skills by the Library Professionals include the capability to use the Internet in search of information, ability to use the Internet for the purpose of communication



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of information, ability to conduct website evaluation, ability to use Boolean logic, design a database, and populate a database. Even though majority of the library professionals possess Digital Literacy Skills, a considerable number of library professionals have to improve in areas like ability to use computer systems for information dissemination, ability to use different software, design a simple webpage, obtain product keys for software, design Mobile Applications, and design Cloud Applications. However, there is positive association and belief that the digital literacy has the ability to use and manipulate digital technologies, through steady adoption of such technologies in library services, the quality of Library Services Delivery can be enhanced, which is contradicted by the very low association.

However, this study clearly indicates that the library professionals are yet to utilize the full potential of Digital ability in order to deliver their better library service, which is due to different traits or Constrain to the proper application of Digital Technologies in libraries. The study also revels the library professional's lack of ability to understand the relationship and potential of Digital Literacy Skills in the Library Service Delivery.

Conclusion

It is clear that the Digital Literacy Skills possession and Library Service Delivery is directly proportional to the Productivity and Utilization of the Library, in order to achieve Sanity in information acquisition and dissemination. The Digital Literacy Skills for Library professionals are very important for Library Service Delivery, since Library Professionals are custodians of information, and it is essential to understand the movement of information in various digital sources before delivery of their service.

The findings of the study state that, there is an insignificant relationship between Digital Literacy Skillsets of the library professionals and the Library Service Delivery in the selected Tamilnadu Universities. This can be inferred from the findings that there is non-significant positive and very low relationship between Digital Literacy Skillsets of the Library Professionals and the Library Service Delivery. In view of non-application of these Digital Literacy Skillsets regularly on the Library Service Delivery and since they are applied depending upon the need, they become insignificant or non-significant. In general, it is concluded that there is very low positive and non-significant relationship between the Digital Literacy Skillsets of the Library Service Delivery.

Hence the following recommendations are stated.

- 1. Initiate appropriate awareness programs on essential requirement of Digital Literacy Skillsets for the discharge of Library Service Delivery among the library professionals.
- 2. Intensify efforts on training programs on Digital Literacy Skillsets.
- 3. The Academic institution management and authorities should emphasis and encourage the library professionals on acquiring Digital Literacy Skillsets and upgrading their knowledge, through Scholarships, sponsoring programs, organising programs etc.
- 4. Encourage the library professionals to deliver more Digital Library Services.
- 5. The Academic institutions should upgrade and include Digital Library Skills as part of their curriculum for Library and Information Science courses.

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