

Digital Literacy Skills and Innovative Service Delivery in University Libraries in North-West, Nigeria

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ABSTRACT

The benefits of Innovative Service Delivery (ISD) in the libraries include enhanced user experience, increased efficiency on information retrieval and access to resources by users. Studies in Nigeria have established that innovative service delivery in many university libraries is inadequate and low. This is observed in university libraries in North-West, Nigeria. Studies have revealed that digital literacy skills (DLS) (photo-visual, reproduction, branching, and socio-emotional literacies) influence innovative service delivery (ISD). However, there is scarce empirical evidence on the influence of digital literacy skills on innovative service delivery in libraries. Surveyed research design was adopted for the study. The population comprised 454 academic librarians in Federal, State and Private universities in North-West, Nigeria with a sample size of 210. Data were analysed using descriptive and inferential statistics. Findings revealed that Digital literacy skills ($Adj.R^2 = .582$, $F(1, 195) = 272.42$, $p < 0.5$) had a positive significant influence on innovative service delivery. Also, digital literacy indicators: photo-visual literacy skill ($\beta = 1.217$, $t = 2.56$, $p < 0.5$), branching literacy skill ($\beta = 1.518$, $t = 2.87$, $p < 0.5$) and socio-emotional literacy skills ($\beta = 1.324$, $t = 3.77$, $p < 0.5$) had positive significant relative influence on innovative service delivery while information literacy skill ($\beta = 0.044$, $t = 0.09$, $p > 0.5$) and reproduction literacy skill ($\beta = -0.507$, $t = -1.11$, $p > 0.5$) had positive and insignificant influence on innovative service delivery. The study concluded that digital literacy skills enhanced innovative service delivery in university libraries in North-West, Nigeria.

Key words: Digital Literacy Skills; Information Literacy; Innovation; Innovative Service Delivery; Libraries; Service Delivery

INTRODUCTION

Innovation is a widely studied subject in both the manufacturing industries and service-oriented institutions like libraries. It is believed that for an organization to be productive as well as retain customers or users of its products and service there is a need for them to be innovative services delivery. The concept of innovation originated from the Latin word, 'innovare' which means "to

make something new”¹. Innovation has been defined by several scholars beyond searching for something new to denote disruptive improvements that metamorphosed the entire knowledge space. Innovation is the search, discovery, development, improvement and adoption of new processes, new products as well as new organizational structures and procedures to achieve better goals². Innovation is the construction of a new and viable offering that increases the value of an institution¹.

Innovative service delivery as a construct is made up of three words “innovation”, “service” and “service delivery. Service is viewed as any activity of advantage that one party offers to another, essentially intangibles and does not result in ownership³. Services are the application of competencies, making use of knowledge, skills, and experience of all stakeholders to achieve set objectives in an organization⁴. For service delivery is defined as the provision of services systematically and securely targeted at a clientele⁵. It also, refers to the process of delivering service to library users. Service delivery can be seen as a product delivered to people as users to satisfy their needs^{6, 7}. The primary intention of service delivery is to satisfy the user of the service as the principal beneficiary, which by implication means that the service has to be innovative⁸.

There are numerous dimensions to service delivery innovations. The four (4) prominent dimensions used to deliver innovations are (i) initiation, (ii) communication, (iii) management, (iv) impact on clients/customers, which are cyclical and continuum in nature⁹. According to the scholars, initiation process involves creation of continuous culture that enshrines service improvement in the organization. Communication process focuses on the creation of a clear and shared understanding of the nature of the new service to be provided. Management process focuses on leadership facilitation and support of service delivery innovation; while impact process focuses on customers and clients satisfaction.

The utilization of technology tools in libraries to deliver services can promote innovation¹⁰. Methods in which services can be innovatively delivered to users in the library are through frequently Asked Questions (FAQ), On-line Public Access Catalogue (OPAC), text messaging, Ask a Librarian, Blogging, and Social Media¹¹. The scholars affirm that FAQ is a tool that is utilized to provide innovative service by answering users' hypothetical questions on problems they may face while using the library. OPAC is a web-based or locally based innovative service

delivery instrument that holds processed bibliographic entries in a library and has aspects of an integrated library system (ILS). Text messaging, often known as "SMS a Librarian," is an innovative service delivery technique that reference librarians can use to send instant messages to single or multiple library users. Ask a Librarian is a live virtual reference service tool that provides innovative services through a platform that allows users to ask questions, make inquiries, and receive responses on specific services from librarians.

Furthermore, the use of blogs is another innovative means through which services can be delivered to users. Blogging is an online platform used by librarians to create and post information to users, colleagues, and others interested in the library's activities and upcoming events. Social media is an innovative service delivery platform used by librarians and library users to interact and socialize with colleagues. Other innovative service delivery methods are use of new technological applications in the library, embedded services, deployment of ICT instructional training services, creation of social media services and research clinic services. One of the ways librarians deliver embedded services is to provide service through ZOOM and other video application in multiple library instruction sessions, tutorials to users, and to customize content towards specific assignments that can be sent to users when they need it. Embedded library services delivery is a metric that involves librarians focusing their service provision on the specific group of users concerning their specific information need. It's a programme that brings the library and librarian to the user, no matter where they are ¹².

Successful application of innovative services delivery is dependent on robust digital literacy skills of a librarian who is the provider of such service. Digital literacy skills are a highly sought competency among librarians. This is because the services delivered by librarians are now been greatly offered through a range of media, including social network sites, mobiles phones and virtual words. Library staff are expected to remain up-to-date with different approaches followed for sourcing, creating and sharing information that are not necessarily supported within the formal academic environment and should reach out to students in a more direct and meaningful ways. Information and communication technology has stimulated educational growth and provided new opportunities in developing countries, introduced digital libraries and created new dynamics in research ¹³. Therefore, this paper is an attempt to analyse the influence of digital

literacy skills on innovative service delivery among the academic library in university libraries in North-West, Nigeria.

RESEARCH DESIGN

This study adopted a survey research design using quantitative methodological approach. The design is considered adequate for the study because the main purpose of the study is to identify and understand the influence of digital literacy skills, and innovative service delivery in university libraries in Northwest, Nigeria. Scholars affirm that survey research design facilitates the process of collecting information from respondents based on their perception of the variables or phenomenon being investigated. The population of this study comprises 454 academic librarians in Federal, State and Private Universities in the North-West Zone, Nigeria. The sampling technique employed for this study was a proportionate stratified sampling technique. In order to obtain the total number of sampled librarians from the study's population, Krejcie and Morgan table for determining sample size was used as a guide. The population of this study which is 454 librarians has a sample size of 210 librarians. Thereafter, Proportionate stratified sampling techniques was used to determine the actual number of sample from each university library in Federal, State and Private University libraries involved in the study.

RESULT

Table 1: Distribution of the Level of digital literacy skills of librarians in university libraries in North-West, Nigeria

Photo-visual Literacy Skill. Rank your level of effective and efficient use of the under listed photo-visual literacy platforms in your library. Tick as many as possible	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
My ability to intuitively and freely use text base and command guide interface to stimulate uses of graphical user interface is	33 16.8%	78 39.8%	49 25.0%	12 6.1%	1 0.5%	23 11.7%	3.31 1.46
My ability to clearly understand and interpret visual images using social media platforms is	64 32.7%	79 40.3%	32 16.3%	7 3.6%	1 0.5%	13 6.6%	3.81 1.31
My ability to interpret digitally altered images is	28 14.3%	84 42.9%	54 27.6%	9 4.6%	2 1.0%	19 9.7%	3.36 1.36
My ability to use laptop computer to create digital images is	46 23.5%	59 30.1%	56 28.6%	14 7.1%	3 1.5%	18 9.2%	3.39 1.43
My ability to use computer in generating digital	41	73	54	11	1	16	3.48

contents is	20.9%	37.2%	27.6%	5.6%	0.5%	8.2%	1.34
My ability to communicate effectively in a digital platforms is	56	77	34	9	1	19	3.62
	28.6%	39.3%	17.3%	4.6%	0.5%	9.7%	1.45
Average Mean							3.50 1.39
Reproduction Literacy Skills.							
Rate your ability to use diverse media to reproduce and manipulate pre-existing digital contents	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
My ability to use word processor applications (e.g. Microsoft Word) is	84	66	29	3	1	13	3.97
	42.9%	33.7%	14.8%	1.5%	0.5%	6.6%	1.32
My ability to operate spreadsheet applications (e.g. Microsoft excel) is	41	70	52	15	1	17	3.43
	20.9%	35.7%	26.5%	7.7%	0.5%	8.7%	1.38
My ability to digitize a document using a digital devices is	39	78	48	17	1	13	3.50
	19.9%	39.8%	24.5%	8.7%	0.5%	6.6%	1.29
My ability to use digital media tools to scan a document is	40	82	43	12	2	17	3.48
	20.4%	41.8%	21.9%	6.1%	1.0%	8.7%	1.38
My ability use photocopying machine to reproduce documents is	63	68	32	12	1	20	3.61
	32.1%	34.7%	16.3%	6.1%	0.5%	10.2%	1.51
My ability use printer to reproduce information document is	54	73	27	14	3	25	3.44
	27.6%	37.2%	13.8%	7.1%	1.5%	12.8%	1.60
My ability use digital camera to take photos, reproduce & disseminates is	41	86	45	8	0	16	3.57
	20.9%	43.9%	23.0%	4.1%	0.0%	8.2%	1.32
Average Mean							3.49 1.31
Branching Literacy Skills.							
Rate the extent of your skills to construct knowledge using digital literacy skills.	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
My ability to apply new technologies into library services is	41	73	54	11	1	16	3.48
	20.9%	37.2%	27.6%	5.6%	0.5%	8.2%	1.34
My ability to use of different storage devices to preserve digital contents is	49	86	36	9	0	16	3.65
	25.0%	43.9%	18.4%	4.6%	0.0%	8.2%	1.34
My ability to adopt/adapt information retrievals techniques is	38	89	46	6	0	17	3.55
	19.4%	45.4%	23.5%	3.1%	0.0%	8.7%	1.32
My ability to Databases is	39	78	49	12	2	16	3.47
	19.9%	39.8%	25.0%	6.1%	1.0%	8.2%	1.35
My ability to upload document to online platform is navigate	57	80	31	9	3	16	3.67
	29.1%	40.8%	15.8%	4.6%	1.5%	8.2%	1.41
My ability to send and receive emails is	81	74	18	4	2	17	3.90
	41.3%	37.8%	9.2%	2.0%	1.0%	8.7%	1.44
My ability to create different file formats eg PDF, gif, etc. is	56	74	35	10	3	18	3.59
	28.6%	37.8%	17.9%	5.1%	1.5%	9.2%	1.46
Average Mean							3.62 1.38
Information Literacy Skills.							
Rate the level of your information literacy skills using the under listed items	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
My ability to assess the authenticity of information is	57	83	35	5	0	16	3.73
	29.1%	42.3%	17.9%	2.6%	0.0%	8.2%	1.35
My ability to determine the reliability of the sources	44	87	36	11	1	17	3.57
	22.4%	44.4%	18.4%	5.6%	0.5%	8.7%	1.37
My ability to evaluate the information resources	48	93	35	5	2	13	3.72

	24.5%	47.4%	17.9%	2.6%	1.0%	6.6%	1.27
My ability to synthesize the information resources	38	80	52	9	2	15	3.50
	19.4%	40.8%	26.5%	4.6%	1.0%	7.7%	1.31
My ability to determine the currency of the resources	59	86	27	6	2	16	3.74
	30.1%	43.9%	13.8%	3.1%	1.0%	8.2%	1.38
My ability to determine relevancy of the resources	53	89	31	5	2	16	3.70
	27.0%	45.4%	15.8%	2.6%	1.0%	8.2%	1.36
My ability to determine the credibility of the sources	49	85	31	8	1	22	3.55
	25.0%	43.4%	15.8%	4.1%	0.5%	11.2%	1.49
Average Mean							3.57 1.36
Socio-emotional literacy Skills.							
Kindly rate the level of your socio emotional skill using under listed items	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
My ability to communicate effectively to the user even under stress is	61	67	35	6	0	27	3.52
	31.1%	34.2%	17.9%	3.1%	0.0%	13.8%	1.61
My ability to handle many user request come at a time is	52	92	32	4	2	14	3.74
	26.5%	46.9%	16.3%	2.0%	1.0%	7.1%	1.30
My ability to multi-task in discharging my duty is	55	79	39	8	0	15	3.69
	28.1%	40.3%	19.9%	4.1%	0.0%	7.7%	1.34
My ability to cheerfully attend to users that are under critical need is	63	79	34	5	0	15	3.79
	32.1%	40.3%	17.3%	2.6%	0.0%	7.7%	1.34
My ability to understand the cultural diversity of users is	54	81	43	4	0	14	3.73
	27.6%	41.3%	21.9%	2.0%	0.0%	7.1%	1.29
My ability to address in appropriate and polite manner to unsatisfied users is	63	80	35	2	2	14	3.81
	32.1%	40.8%	17.9%	1.0%	1.0%	7.1%	1.32
My ability to manage several users without stress is	54	91	27	7	2	15	3.73
	27.6%	46.4%	13.8%	3.6%	1.0%	7.7%	1.34
Average Mean							3.80 1.39

Source: Field Survey

The Decision rule: 1.0 – 1.49 = Very Low level, 1.5 – 2.49 = Low level, 2.5 – 3.49 = Moderate level, 3.5 – 4.49 = High level, 4.5 – 5.49 = very High Level

The table 1 presents the result on the level of digital literacy skills of librarians in university libraries in North-West, Nigeria. The result reveals that the digital literacy skills of librarians in the North-West, Nigeria is high with the grand mean score (\bar{x} =3.59). From the indicators, the findings reveals that socio-emotional literacy skill was rated to be high with an average mean score (\bar{x} = 3.80). This result indicated that respondents have the ability to cheerfully attend to users that are under critical needs (\bar{x} =3.79), have the ability to address in an appropriate and polite manner unsatisfied users (\bar{x} = 3.81) and also have the ability to attend to many users at time (\bar{x} =3.74).

This is followed by branching literacy skills with average mean score of (\bar{x} =3.62). Information literacy skills with average mean score of (\bar{x} =3.57). The indicators that score least are photo-visual literacy skill

with average mean score (\bar{x} =3.50) and reproduction literacy skills with average mean score (\bar{x} =3.49) respectively. The high level of digital literacy skills of librarian in university libraries in North-West, Nigeria could be associated with the current advancement of Information and communication technologies (ICTs) that have generally altered the information landscape across the globe especially with profession of library and information sciences. The phenomenon that makes librarians to increase effort to obtain digital literacy skills training for them to be able to provide innovative library services this digital era.

Table 2: Distribution of respondents on the level of innovative service delivery by librarians in university libraries in North-West, Nigeria

Innovative service delivery. (Embedded Library Service.) Kindly tick the level at which you provide the following Embedded Library Services (Innovative services)	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
I provided information sources for students conducting research in my library	45	58	45	20	10	18	3.28
	23.0%	29.6%	23.0%	10.2%	5.1%	9.2%	1.51
I provide digital tutorials for students conducting research	58	63	38	16	9	12	3.56
	29.6%	32.1%	19.4%	8.2%	4.6%	6.1%	1.42
I assist to narrow students research topics in the library	38	47	40	31	17	23	2.94
	19.4%	24.0%	20.4%	15.8%	8.7%	11.7%	1.61
I participate in research collaboration in the university	81	63	21	12	4	15	3.82
	41.3%	32.1%	10.7%	6.1%	2.0%	7.7%	1.47
I help library users to cite sources correctly	57	57	33	29	4	16	3.44
	29.1%	29.1%	16.8%	14.8%	2.0%	8.2%	1.50
I provide research assistant to library users by specifically helping them to understand the research process	71	48	36	17	3	21	3.53
	36.2%	24.5%	18.4%	8.7%	1.5%	10.7%	1.59
I participate in co-teaching in the department	42	31	17	7	1	98	2.04
	21.4%	15.8%	8.7%	3.6%	0.5%	50.0%	2.16
Average Mean							2.94 1.68
Social media use services	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
I provide information about new arrivals in the library using social media platforms	44	48	34	16	7	47	2.82
	22.4%	24.5%	17.3%	8.2%	3.6%	24.0%	1.87
I communicate to users on upcoming programs in the library using social media platforms	48	65	31	21	12	19	3.30
	24.5%	33.2%	15.8%	10.7%	6.1%	9.7%	1.57
Library news are provided online through the use of social media	59	54	30	22	14	17	3.36
	30.1%	27.6%	15.3%	11.2%	7.1%	8.7%	1.59
I stimulate clients' passion for the library by chatting with them on library issues using social media	50	75	30	4	10	27	3.36
	25.5%	38.3%	15.3%	2.0%	5.1%	13.8%	1.66
I provide real time reference service to the patron using social media	48	60	27	16	15	30	3.10
	24.5%	30.6%	13.8%	8.2%	7.7%	15.3%	1.75
I collect instant feedback from the users using social	68	57	27	13	6	25	3.48

media platform	34.7%	29.1%	13.8%	6.6%	3.1%	12.8%	1.68
I provide links to library resources on social media applications	79	54	21	10	4	28	3.56
	40.3%	27.6%	10.7%	5.1%	2.0%	14.3%	1.73
Average Mean							3.20 1.69
Research Support Services	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
I Provide bibliographic services to scholars	36	67	35	18	11	29	3.06
	18.4%	34.2%	17.9%	9.2%	5.6%	14.8%	1.65
I provide open access publishing opportunities to users	45	71	33	13	5	29	3.26
	23.0%	36.2%	16.8%	6.6%	2.6%	14.8%	1.65
I help to assist users to avoid publishing in predatory journals	38	73	36	14	9	26	3.20
	19.4%	37.2%	18.4%	7.1%	4.6%	13.3%	1.60
I help to provide funding information sources to scholars who use the library	47	77	27	15	4	26	3.36
	24.0%	39.3%	13.8%	7.7%	2.0%	13.3%	1.61
I provide research information training to students	27	56	42	24	14	33	2.79
	13.8%	28.6%	21.4%	12.2%	7.1%	16.8%	1.65
I provide digital common information services to users	37	67	43	17	5	27	3.17
	18.9%	34.2%	21.9%	8.7%	2.6%	13.8%	1.58
I provide information literacy training to library users	45	69	32	15	6	29	3.24
	22.9%	35.2%	16.3%	7.7%	3.1%	14.8%	1.68
Average Mean							3.01 1.69
ICT Instructional Training Services	Very High	High	Moderate	Low	Very Low	Missing	Mean SD
I provide ask a librarian services training to users in the library	59	51	29	22	16	19	3.30
	30.1%	26.0%	14.8%	11.2%	8.2%	9.7%	1.64
I provide training to users on how to use document scanning opportunities provided the library	48	70	29	23	7	19	3.37
	24.5%	35.7%	14.8%	11.7%	3.6%	9.7%	1.53
I provide webinar to users on how to access the library resources	55	55	38	25	7	16	3.40
	28.1%	28.1%	19.4%	12.8%	3.6%	8.2%	1.50
I provide training on internet based library services to users	38	61	39	21	5	32	3.05
	19.4%	31.1%	19.9%	10.7%	2.6%	16.3%	1.67
I provide digital instructional program to users	30	57	32	28	16	33	2.79
	15.3%	29.1%	16.3%	14.3%	8.2%	16.8%	1.69
Audio visual training is provide to users in the library	67	47	31	16	4	31	3.33
	34.2%	24.0%	15.8%	8.2%	2.0%	15.8%	1.76
Online user education is provided by me to users in the library	29	39	46	32	19	31	2.66
	14.8%	19.9%	23.5%	16.3%	9.7%	15.8%	1.63
Average Mean							3.27 1.69

Source: Field Survey

The Decision rule: 1.0 – 1.49 = Very Low level, 1.5 – 2.49 = Low level, 2.5 – 3.49 = Moderate level, 3.5 – 4.49 = High level, 4.5 – 5.49 = very High Level

The table 2 presents the result of innovative services delivery by librarians in university libraries in North-West Nigeria. The result reveals that innovative service delivery in university libraries in North-

West Nigeria is rated moderate as the grand mean score is ($\bar{x} = 3.11$). The general implication of the findings that shows moderate level of innovative service delivery in university library in North-West, Nigeria might be linked to librarians' attitude toward adopting changes and sometime being apathy to the profession. Lack of attending regular training by librarians to acquaint themselves with the current trend in the profession, without which, the librarian could be left behind in the area of providing innovative library services.

Test of Hypothesis One

H₀₁: Digital literacy skills have no significant influence on innovative service delivery in university libraries in Northwest, Nigeria

Table 3: Simple linear regression analysis on the Influence of digital Literacy skills on innovative service delivery in University libraries in North-West, Nigeria

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.433	5.454		.629	.001
	Digital Literacy Skills	.700	.042	.764	16.505	.000
a. Dependent Variable: Innovative Service Delivery						
R = .764 ^a R ² = .584 Adjusted R ² = .582 F(1, 195) = 272.417						

Source: Researcher's Field Survey (2023)

Table 3 shows the simple linear regression analysis result for the influence of digital literacy skills on innovative service delivery in university libraries in Northwest, Nigeria. The independent variable (digital literacy skills) was regressed against dependent variable (innovative service delivery) using simple linear regression analysis. The result revealed that digital literacy skills ($\beta = 0.700$, $t = 16.505$, $p < 0.05$) have positive and significant influence on innovative service delivery in university libraries in Northwest, Nigeria. The F-test is 272.417. This shows that there is sufficient evidence to substantiate the model's usefulness in predicting innovative service delivery. The R^2 is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable. The R^2 value also indicates the size of the effect. The R^2 (0.584) of the regression model indicates that 58.4% of the variation in innovative service delivery in university libraries in Northwest, Nigeria is accounted for by digital literacy skills. Therefore, the null hypothesis one which states that digital literacy skills have no significant influence on innovative service delivery in university libraries in North-West, Nigeria was rejected.

CONCLUSION

The study provide empirical evidence on how digital literacy skills of librarians influences the provision of innovative service delivery in university libraries in North-West, Nigeria. The finding also indicated that digital literacy skills, has effect on innovative service delivery in university libraries in North-West, Nigeria. Furthermore, the study confirmed the submission that digital literacy skills, is of relevance to innovative service delivery in university libraries in Northwest, Nigeria

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Declaration

The authors declare no conflict of interest