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## Innovativeness and Leadership Styles as Determinants Affecting The Use Of Icts Among Librarians In Nigeria

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**INNOVATIVENESS AND LEADERSHIP STYLES AS DETERMINANTS  
AFFECTING THE USE OF ICTS AMONG LIBRARIANS IN NIGERIA**

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## **Abstract**

*This study aimed to determine innovativeness and leadership as determinants affecting the use of ICTs among librarians in Nigeria. The cross-sectional research design was used in this study to survey 254 certified librarians systematically selected from the 5,437 librarians certified by the Library Registration Council of Nigeria (LRCN). A structured questionnaire, which was the research instrument of this study was validated by experts and considered reliable using the Cronbach Alpha formula on SPSS version 20. At against the 254 copies of the questionnaire distributed in online formats, only 177 questionnaires were completely and correctly retrieved and filled. Key findings are librarians had a high level of innovativeness as most librarians were found to try any new app/ICT they hear of at least once etc. It was also found that the democratic style of leadership was the prevalent leadership style in libraries in Nigeria. It was also found that innovativeness ( $F(4, 172)=33.371, p< 000$ ) and leadership ( $F(4, 172)=33.371, p< 000$ ) were both determinants of ICTs usage among librarians. Hence, if librarians continue to increase their level of innovativeness with the help of democratic leaders, increased innovations, meaningful ICT usage, and sustainable development may not be far-fetched in Nigeria. Nonetheless, certain recommendations made must be followed.*

**Keywords: Information Communication Technologies, Innovativeness, Innovations, leadership styles, Libraries, and Nigeria.**

## **Introduction**

Numerous studies have shown that Information and Communication Technologies (ICTs) have saturated all aspects of man's endeavor, library, and information service inclusive. Considering the numerous benefits inherent in the use of ICTs, it is expected that individuals and organizations, librarians and libraries inclusive, would take full advantage of the numerous benefits in Information communication Technologies (ICTs). Moreover, ICTs have been the hub for development in most modern societies today. According to Gujbawu (2004), it is increasingly acknowledged that ICTs are the bedrock for organizations to transform if they want to actualize development in this 21st century. This makes ICTs a tool every individual, cooperation, organization, and the institution must gallantly embrace for professional and personal development.

Information communication technologies have been commonly described as advanced and modern technologies used for information gathering, processing, storage, retrieval, and dissemination. Rouse (2019) described ICT as the infrastructure and components that enable

modern computing. They are tools that facilitate the production, transmission, and processing of information (Eyo, Nkanu, and Nkebem, 2011).

Notably, ICTs can extend library services beyond the walls of the library. The strength of libraries is no longer measured by the number of library users that sit in the four walls of the library. The strength of libraries is measured by the impact the library can make in terms of the number of scholarly databases subscribed to, information disseminated, and the extent at which the library revolves. The library is a growing organism. The constant change brought about by technology changes the role and landscape of libraries. Technology evolves at an exponential speed as evident from the first, second, third, and now fourth industrial revolution which is commonly called 'industry 4.0'. These are products of innovation. Nevertheless, if librarians are not innovative and encouraged by the appropriate leadership, they may remain at the first level of the industrial revolution.

This is because leaders are critical factors when it comes to improving the innovativeness of librarians for proper ICT implementation (Qureshi, 2013). Library managers perform many roles in the library and how they handle various situations will depend on their style of leadership (Barrido & Abadiano, 2018). Leadership style is likely to be one of the most perceived necessary elements of management (Weihrich, Cannice & Koontz, 2008). Despite the extensive study of leadership styles, very little is known field, especially with regards to its influence on the meaningful usage of ICT among people. Nevertheless, leadership was a significant factor that contributed greatly to the overall well-being of many workers, organizations, and nations. Leadership style plays a pivotal role in activating the innovativeness in individuals, librarians to be more specific.

Rogers (2003) sees innovativeness as “the degree to which an individual or organization is earlier in the adoption of an idea in relation to its peers in a system such as a library”. This implies that innovativeness is the ability of an individual to realize an innovation before everyone else. Broadly speaking, innovativeness involves the formation, capture of new value before others, and the execution of new practices in workplaces including the ability to cope with changes made in an organization (Akgun et al., 2014, 889). Therefore, it can be said that innovativeness is the ability to innovate through the application of knowledge, aptitude, and creative blend of mind, which enables one to find the opportunity to explore new things or make changes in existing things for effectiveness. This characteristic is personal to the individual but could be nurtured and developed through the right leadership style, conducive organization culture, and library management.

New and innovative methods and techniques adopted by an institution or library bring in positive changes among its personnel towards their assigned jobs with improved services and also rub off on personnel innovativeness. Moreover, Information communication technology, according to Pandita and Domnic (2016) is being seen as one of the greatest reformers on the innovation and service front, given its accuracy and speed of delivery. There is also a growing concern among professionals that rapid improvisation and innovativeness in the service sector may result in decreased levels of job security. Would this not affect professionals’ zeal to be innovative? On the other hand, as librarians, we know that the library is a growing organism and lack of innovativeness among the librarians may relegate the profession to the background especially in this ICT age. It therefore on this background that the study seeks to investigate innovativeness and leadership as determinants affecting the use of ICT among librarians in Nigeria

### **Statement of the problem**

Theoretical studies as well as research have suggested that both leadership and innovativeness may influence the activities of workers. Certain studies only considered the effect of leadership and innovativeness on business performances. A lot of studies focused on how innovations that arise in workplaces can be a product of leadership. However, researchers in other fields have discovered that leadership and innovativeness have a positive effect on the general performance of service industries and businesses. More so, it appears that the democratic leadership style and autocratic leadership style have a significant effect on organizational performance. On another hand, Information communication technologies (ICTs) have been described as the bedrock of innovations. Nevertheless, the conditions for meaningful use of ICTs may be greatly influenced by leadership as well as the innovativeness of individuals. Based on observations, it appears that even though appropriate use of ICT can play a pivotal role in the professional and personal development of librarians, optimum usage is still lacking especially among librarians. This could be that librarians lack the ability and skills to innovate and explore the numerous benefits in ICTs or perhaps library leaders are not able to provide the platform for the appropriate usage of ICTs among librarians. Despite these submissions and assumptions, there appears that gaps still exist as little or no empirical studies have been conducted on innovativeness and leadership as determinants affecting the use of ICT among librarians in Nigeria. Most authors focused on innovations in organizations and leadership styles that promote ICT use in learning in schools. Therefore, this study seeks to investigate innovativeness and leadership as determinants affecting the use of ICT among librarians in Nigeria.

### **Objective of the study**

The objectives of this study are to:

1. Determine the level of innovativeness that affects the use of ICTs among librarians in Nigeria.

2. Find out leadership styles that influence innovativeness among librarians in their use of ICTs
3. Identify librarians' patterns of ICTs usage for personal/professional development.

### **Research Hypothesis**

Ho1- There is no significant relationship between leadership and the use of ICT among librarians in Nigeria

Ho2- There is no significant relationship between librarians' level of innovativeness and the use of ICT.

### **Literature review**

#### **Uses and frequency of ICT usage among librarians**

ICTs have been earlier described as information communication technologies used for information gathering, processing, storage, and dissemination. ICT has also been widely adopted in several libraries across the globe. ICTs are utilized in the various library operations and functions, such as library administration/management, technical services such as acquisition/collection development, cataloging and classification, circulation/reference services, and serials control and management.

- **Library Administration and management.**

Library administration can be defined as the management of library affairs, the day to day supervision and coordination of library services and operations. Clarke (1999) defined it as the planning, organizing, controlling, leading, and motivating of staff and other library resources towards achieving set goals. Library administration and management have been identified as a major area of ICT utilization in countries as diverse as Australia (Fitzgerald and Savage, 2001) Bangladesh (Islam and Islam, 2004), and even in Nigeria (Adebayo, Olayinka & Adeniran, 2018 & Nwabueze & Ozioko, 2011). Gardner (1994) stated that ICT could be deployed in the area of library management as a means of ensuring better organization and control of ICT services in developing countries, while Olagunleko (2004) highlighted the importance of using ICT for

administrative purposes in public libraries as it ensures easy manipulation and processing of information for more effective ICT-driven library service for users. Similarly, Oni (2004) examined its usefulness ineffective management of resources. Anunobi (2005) found that ICT was mostly used for library administration and management purposes than for other library functions in some university libraries in Nigeria. Okoro (2007), Emojorho (2011), and Singh (2013) have retorted that ICT usage in library management and operations have become indispensable.

- **Technical services (Selection, acquisition, collection development, cataloguing, and classification)**

ICT has also been widely adopted in technical services like acquisition and collection development. Electronic publishing is fast changing the role of librarians in building and acquiring library resources as well as providing access to such resources. The Internet and the World Wide Web have expanded and made available resources that were unimagined in earlier years to be accessible presently without any problem. Computers, they added have had a great impact on the acquisition process in libraries of developed countries of Europe and America, and in some developing countries globally, especially Nigeria. Similarly, many publishers' catalogs and bibliographies can be accessed via online computers, i.e. through the Internet. They explained in detail how ICT facilities are used in the acquisition process, selection of resources, and means of acquiring information resources, such as gifts, and exchange/inter-institutional cooperation (Odeh and Akpokurerie, 2011 & Adesoji, Jegede & Michael Otedola, 2013).

- **Reference services**

Reference service is a core area of library and information science in which ICT is heavily used to satisfy users' needs. It is one of the fundamental library services in meeting the increasing need for users in the present digital environment (Ozioko and Igwesi, 2010). The scholars highlighted the various forms of digital references, advantages of digital references, the changing

roles of reference librarians in the digital environment, and the challenges of digital reference services. They posited that if the various challenges are adequately handled, the advantages of digital reference services would be enjoyed by the reference librarians and users. Similarly, Anyaogu (2007) examined current trends in the utilization of ICT for reference services in libraries and information centers, the roles of reference librarians and reference resources in the effective provision of reference services to the clientele.

Other uses of ICTs among librarians are for Serials control and management, personal development, maintaining relationships, and communication.

### **Innovativeness, Leadership and ICT usage**

ICT presents numerous benefits for librarians and libraries. Arvanitis, Loukis, and Diamantopoulou (2011) noted that ICT can alter the manner man performs, measures, controls, and reports his activities. Also, ICT provides the platform for people, especially workers to get all the information they need for optimum job performances and efficiency. However, meaningful use of ICT may be a product of an individual's level of innovativeness and leadership styles.

Firstly, theoretical literature has it that ICTs bring about and enables innovativeness vice versa. For instance, the advent of the Internet has led to varying innovations such as social media, instant messaging, online transactions like online banking, electronic libraries including new waves of theoretical literature concerning its innovative potential. Cuevas-Vargasac and Larios-Gómezb (2016) stated that "Information and Communication Technologies (ICTs) facilitate innovation through diffusion processes, usage practices, and commercial success. Innovation also has a direct impact on growth and competitiveness" amongst employees and businesses in the use of ICTs. Arvanitis, Loukis, and Diamantopoulou, (2011) carried out a study using 743 hospitals in 18 European countries. They discovered that ICTs used in the hospitals had a

positive effect on innovation processes therein. Moreso, Cuevas-Vargasac, and Larios-Gómezb (2016) believed that greater use of ICTs may result in greater levels of innovation, vice versa.

Leadership, on the other hand, is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal. It is essential in every type of management position. One aspect of leadership skills is that they vary from person to person. Upon research, one may scrutinize some of these skills and leadership types but one must also take into consideration that the best leadership type for one role may not be the best leadership type for another. For this study, the emphasis would be placed on the autocratic leadership style, democratic leadership style, and laissez-faire leadership style. The **autocratic leadership style** is a leader who takes all decisions and policies without consulting anyone else. The autocratic leadership style is also known as a dictatorship, is characterized by force, intimidation, and authority in the decision making processes. In the autocratic leadership style, the leader determines policy and assigns a task to members without consulting them. The underlying principle of the autocratic leadership style is the reward and punishment system. Workers under the autocratic leadership style, carry out directives without any question or explanation (Manajemen, 2011; & Dotse & Asumeng, 2014).

The **democratic leadership style** can also be called the is the participative leadership style. The focus of this leadership style is on performance and people (Puni, Ofei, & Okoe, 2014). This leadership style motivates workers to contribute to the process of decision making (Nwokocha & Iheriohanma, 2015). Emphasis is on cooperation and participation in the making and implementation of policies that serve as guidelines for the organizational operation. Workers under democratic leadership are allowed to make suggestions and asked questions as the need arises. The third type of leadership style which is **Laissez-Faire** refers to the hands-off, let

things-ride approach in its original French phrase. In this type of leadership style, employees are free to do as they wish with little or no interference from their leaders. Laissez-faire leaders are passive and not interested in feedback neither are they interested in making followers satisfy their leadership needs and commitments (Northouse, 2010). Thus, it becomes different to differentiate the leader from the subordinates. Employees, under this leadership style, are free to do their jobs the way they consider appropriate (Robbins, Decenzo & Coulter, 2010).

Notably, several scholars emphasized the importance of leadership for innovation in ICT usage. For instance, Madjar, Oldham, and Pratt (2002) stipulate that the innovativeness of employees can be affected by their leaders' encouragement, support, open communication, feedback efforts. Nystrom Ramamurthy and Wilson (2002) argued that innovativeness takes place more under democratic and cooperative leadership styles in an organic organization structure. It is believed that leadership styles are necessary for the creation of an enabling environment for meaning the use of ICTs as well as the innovativeness of employees.

### **Methods**

The cross sectional research design was used in this study. The population of the study consisted of all certified librarians in Nigeria which is 5,437 librarians (Source: Librarians Registration Council of Nigerian, LRCN, 2018). The figure was collated from the list of certified librarians in Nigeria, 2018. A sample size of 254 librarians was derived using Wimmer and Dominick' (2011) sample size calculator with a 95% confidence level and 6.0% margin of error. Thereafter, the mobile numbers of 254 librarians got from the Librarians Registration Council of Nigerian list of certified librarians in Nigeria were systematically selected from the list. Online questionnaires were sent to their emails, phone numbers and in some case their WhatsApp account and a response rate of 69.7% response rate was achieved. Apparently, a well designed online questionnaires was the research instrument for this study. The opinion of experts in the field of

librarianship, leadership and research were taken into consideration and used for face validity of the research instrument. Corrections were made and some questions were changed. Cronbach's Alpha formula on SPSS version 20 was used to check the internal consistency and reliability coefficient of 0.83 was obtained. Data collected from the online survey were imported into SPSS version 20 and analysed using frequency counts, simple percentages, Pearson Chi-square test and regression analysis.

## Results

**Table 1: Level of innovativeness that affects the use of ICTs among librarians in Nigeria (n=177)**

Variables	Very High Level	High Level	Low level	Very Low level	Mean	Std. Deviation
You always try any new app/ICT you hear of at least once	72(40.7%)	72(40.7%)	16(9.0%)	17(9.6%)	3.12	.933
You always take up any opportunity to learn something new	104(58.8%)	72(40.7%)	1(0.6%)	0	3.58	.506
Anytime you see something different from the usual, you try it	48(27.1%)	112(63.3%)	17(9.6%)	0	3.18	.582
During meetings you make suggestions/give new ideas	102(57.6%)	72(40.7%)	1(0.6%)	2(1.1%)	3.55	.573

### Aggregate mean= 3.33

Respondents were posed with certain items to determine their level of innovativeness that affects their use of ICTs. Majority of the respondents were claimed to have high level of innovativeness since 72(40.7%) of them said that they try any new app/ICT they hear of at least once to a high level ( $\bar{x}$ =3.12, St.d=.933) ; 104(58.8%) respondents always take up any opportunity to learn something new to a very high level ( $\bar{x}$ =3.58 St.d=.506); 112(63.3%) respondents said that they try anything that is different from the usual to a high level ( $\bar{x}$ =3.18, St,D= .582) while 102(57.6%) respondents were found to make suggestions/give new ideas during meetings

( $\bar{x}$ =3.55. St.D=.573). with an aggregate mean score of 3.33, it can be said that level of innovativeness that affects the use of ICTs among librarians in Nigeria is high.

**Table 2: Leadership styles that influence innovativeness among librarians in their use of ICTS(n=177)**

Variables	Mean	Std. Deviation	Types of leadership	Decision
Your leaders do not allow you air your ideas	2.00	.798	<i>Autocratic</i>	Rejected
You leader takes all the glory for the achievement of your colleagues and yourself	2.54	.839	<i>Autocratic</i>	Rejected
Your leader encourages you to be creative/innovative	3.04	1.048	<i>Democratic</i>	Accepted
You leader usually commends/rewards you when you give an idea or innovation	3.01	.756	<i>Democratic</i>	Accepted
Your leader allows freedom of speech/ does whatever you want.	2.21	.930	<i>Laissez-faire</i>	Rejected

**Criterion mean=3.00**

Table 2 shows that respondents were of the view that their leaders encourage them to be creative/innovative (x= 3.04) and usually commends/rewards them when they give an idea or innovation (x=3.01) as both items had mean scores above the 3.00 criterion mean of this study. Thus, both items were accepted. Other items which portrayed autocratic and laissez faire leadership style were rejected. Invariably, the democratic style of leadership is the prevalent leadership style in libraries in Nigeria.

**Table 3: Librarians' use ICTs for professional/personal development(n=177)**

		Which of the following ICT do you use for professional/personal development							Total
		computers/laptops	Smartphones	Social Media	Whatsapp	Internet	Email	Statistical Software Packages like SPSS	
How often to you use	Everyday	47	49	24	2	34	0	0	156

ICTs for professional/personal development									
		26.6%	27.7%	13.6%	1.1%	19.2%	0.0%	0.0%	88.1%
	Weekly	0	0	0	1	14	3	0	18
		0.0%	0.0%	0.0%	.6%	7.9%	1.7%	0.0%	10.2%
	Never	0	0	0	0	0	2	1	3
0.0%		0.0%	0.0%	0.0%	0.0%	1.1%	.6%	1.7%	
Total		47	49	24	3	48	5	1	177
		26.6%	27.7%	13.6%	1.7%	27.1%	2.8%	.6%	100.0%

Table 3 displays a cross tabulation of how often librarians use ICTs and the types of ICTS they use for personal and professional development. Table 3 clearly shows that majority of respondents that is 88.1% of the 177 respondents surveyed used ICTs such as computers/laptops (26.6%), Smartphones( 27.7%), Social Media (13.6%), Whatsapp (1.1%) and Internet (19.2%) every day. Respondents were expected to choose the most commonly used ICTs. Hence, it could be implied that Smartphone is the most commonly used ICT used everyday among librarians in Nigeria.

### Research Hypothesis

**Ho1- There is no significant relationship between leadership and the use of ICT among librarians in Nigeria**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.488	4	5.872	26.986	.000 <sup>b</sup>
	Residual	37.427	172	.218		
	Total	60.915	176			

**Source: SPSS output, 2020.**

A multiple regression analysis was used to test Ho1. The table shows that leadership styles are statistically significantly predicts ICT usage among librarians in Nigeria,  $F(4, 172)=33.371, p < 0.000$ . Hence, the null hypothesis is rejected. It can be said that there is a significant relationship between leadership and the use of ICT among librarians in Nigeria. This is to say that librarians

who had leaders that encouraged them to be creative/ innovative and usually commended/rewarded them when they give an idea or innovation were likely to use ICTs every day.

**Ho2- There is no significant relationship between librarians’ level of innovativeness and the use of ICT.**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.618	4	6.654	33.371	.000 <sup>b</sup>
	Residual	34.298	172	.199		
	Total	60.915	176			

**Source: SPSS output, 2020.**

Using the multiple regression analysis, there was a statistical significant relationship librarians’ level of innovativeness and their use of ICT ,  $F(4, 172)=33.371$ ,  $p < 0.000$ . Since the pvalue if less than the 0.05 significance level of the study, the null hypothesis “There is no significant relationship between librarians’ level of innovativeness and the use of ICT” is rejected. This implies that librarians who always try any new app/ICT you hear of at least once, always take up any opportunity to learn something new, who try something different from the usual whenever they see it, and make suggestions/give new ideas during meetings were likely to use ICTs everyday (frequently). This is to say innovativeness of librarians is a determinant of ICT usage among librarians in Nigeria.

**Discussion of Findings**

The study sought to establish innovativeness and leadership as determinants affecting the use of ICTS among librarians in Nigeria. Findings have revealed that level of innovativeness that affects the use of ICTs among librarians in Nigeria is high. Librarians were said to have high level of innovativeness as most librarians were found to try any new app/ICT they hear of at least once, always take up any opportunity to learn something new, try anything that is different from the usual and made suggestions/gave new ideas during meetings. It was also found that, the

democratic style of leadership was the prevalent leadership style in libraries in Nigeria as librarians claimed their leaders encouraged them to be creative/ innovative and usually commended/rewarded them when they gave an idea or innovation. In determining librarians patterns of ICTs usage, findings revealed that librarians in Nigeria use ICTs such as computers/laptops, Smartphone, Social Media, Whatsapp and Internet every day. Emails and Statistical software packages like SPSS were not used amongst most librarians.

It was also found that innovativeness and leadership are determinants of librarians' usage of ICTs. Librarians who had leaders that encouraged them to be creative/ innovative and usually commended/rewarded them when they give an idea or innovation were likely to use ICTs every day. Also, librarians who always try any new app/ICT you hear of at least once, always take up any opportunity to learn something new, who try something different from the usual whenever they see it, and make suggestions/give new ideas during meetings were likely to use ICTs every day. These findings somewhat agrees with that of Barrido and Abadiano, (2018) findings. They revealed that transactional leadership style has a positive correlation with effectiveness of ICT application tools, some at  $p < .01$  while others at  $p < .05$ . As transactional leader, one engaged with followers at an equal level of morality. In order to become effective in using ICT application tools such as keeping and retrieving records, presentation of information, facilitating and providing data, a leader must assess some level of morality.

### **Conclusion and Recommendations**

The study has been able to establish that innovativeness and leadership are determinants of ICTs usage among librarians in Nigeria. Librarians use ICTs especially Smartphone for their personal/ professional development. Invariably, meaningful use of ICT among librarians is a product of individuals' level of innovativeness and the leadership styles adopted in their libraries.

Librarians who were innovative and who had democratic leaders were likely to use ICTs everyday for meaningful personal and professional development. Also, since it was found librarians had high level of innovativeness, had democratic leaders and also made use of ICTs every day, it is expected that librarians' level of innovativeness would increase even more. Hence, if librarians continue to increase their level of innovativeness with the help of democratic leaders, increased innovations, meaningful ICT usage and sustainable development may not be far-fetched in Nigeria. Nonetheless, certain recommendations must be made and followed:

1. If ICTs are to be continuously used by librarians in productive ways, librarians must be disciplined and focused so as increase innovations in the library for increased organizational goals.
2. Democratic leadership styles have been found to increase meaningful usage of ICTs for personal/professional development, thus it is suggested that all library managers in Nigeria should try to be encourage their subordinates to be more creative and commend and rewards librarians as the need arises.
3. Librarians while been innovative and always try something different from the usual whenever they see it, should be cautious. They are advised to verify the authenticity of every new thing they see so as not to fall victims of cyber fraud.
4. Leaders in libraries should endeavor to create the require platforms to boost innovations in the library as without adequate infrastructure, innovativeness of librarians and leadership styles may not produce desired outcome for library development.

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