Challenges in Provision of Digital Information System

Danbaba Shuaibu[1], Babangida Abba[2], Mustapha Abubakar Jumare[3], Bashar Farouk Rugga[4]

[1]Ph.D. Research Scholar, Department of Library and Information science,
Career Point University Kota (Rajasthan) India

[2]Department of Library and Information science, Kebbi State Polytechnic Dakingari, Nigeria.

[3]Federal Polytechnic Kaltungo Gombe State

[4]Msc. IT Research Scholar, Career point university Kota (Rajasthan) India

Abstract

This paper is all about the concept of digital information system, digital information system provision, types of digital information system, contribution of digital information system in the development of human society, contribution of digital information system, Use and application of digital devices in literacy in the digital era is currently very important. Therefore, courses or outreach is needed for all people who have an interest in reading to be able to further develop themselves. In every society of today, the use of digital media is an important key in the successful implementation of learning online. There is a need for a quick adjustment to the current place of education. The current situation forces digitization to accelerate.

Keywords: Concept of Digital Information System (CDIS), Digital Information System Provision (DISP), types of digital information resources, Contribution of digital information system (CDIS).

INTRODUCTION

Globally the age of ICT has adopted with the new trend's information technology environment, every field, and department is supposed to accept new emerging technology in it. Information Communication Technologies (ICTs) refer to hardware, software, networks and media for collection, storage, processing, transmission and presentation of information in the format of voice, data, text and images (Shodiyev, 2021). Scholars have recognized the tremendous contribution of ICTs towards agriculture and rural development (Magiri et al., 2022; Singh, 2006). ICT plays a significant role in rural development by helping the rural farmers to access new knowledge, up-to date information and entrepreneurship skills. There are different ICTs including computers, internet, geographical information systems, mobile phones and traditional media (radio, television) which are used in delivering agricultural information to the farmers (Engotoit et al., 2016). In different parts of the world ICTs are seen to have positively contributed towards rural development. Audu (2017) confirmed that agricultural extension workers apply technological gadgets such as computers, phone, tablets, internet etc. to generate, access, manage, store, customize and share information to cater for the demand of rural farmers.

Concept of Digital Information System

The concept of digital information system is depending on storage, process and disseminates information to users through electronic systems. Digital information system may include a combination of structured/unstructured text/numeric data, scanned images, photo, video, audio, graphics, recording etc. A paradigm Change in Social Cognition The digital age has brought not only new ways of collecting and processing information for human beings (and other intelligent, reasoning entities as well) in the different societies on the globe — regardless of the social and political order or ideological commitment but it has also made it necessary for researchers to develop new ways of thinking about and understanding digital culture in the quest for answers to complex questions about literacy and human learning and social cognition.

Digital Information System Provision

Digital presence is life-threatening to social stability and sustainable development. However, digital divide between communities, neighbors, and individuals has been in existence for a quite sometimes (Han et al., 2021). Loo and Wang (2017) examined China's e-development data from 2008–2014. They find that the urban–rural digital gap has widened over the years, even though digital disparities at the provincial level have been drastically decreased. China is recognized as a global digital superpower with the US and ranked top 4 in digital riser ranking of G20 by the World Economic Forum (2020). However, the urban–rural digital divide is still a reality the country needs to confront, as its 40% rural population only represents 28% of the country's Internet users (Statistic 2020). Encouraging people towards the adoption of technology in the rural communities is an effective means of eradicating digital divide. To understand the urban–rural digital divide and improve inclusion of rural dwellers in the digital economy, the agriculture sector plays a vital economic role in rural development. SMM refers to "product and service promotion and integrated marketing communications via social media platforms, such as Face book, Twitter, and Instagram". Since consumers increasingly rely on social media platforms for networking, entertainment, and shopping, more and more marketers consider SMM as a key channel to communicate with their target audience (Han et al., 2021). CMO 2020 survey, shows that the percentage of companies' marketing budgets on social media has increased from 3.5% in 2009 to over 13% in 2020 (Edeling et al., 2021). Subsequently, there is a growing attention in understanding the use of SMM among practitioners and academics (Han et al., 2021). We Chat is the most popular messaging application it has become one of the most popular m-payment services in less than three years. During the first half of 2016, (Liu, 2021). With an estimate of 1 billion monthly active users, We Chat offers companies various tools, such as moments advertising and local ads, to target heterogeneous consumer segments across the region. Many small and medium-size enterprises (SMEs) can develop We Chat marketing in-house with very limited budgets (Diener & Špaček, 2021). Mobile devices have the capacity to address the digital inclusion issue (Aliero et al., 2021). Despite the widespread adoption of We Chat, farmers in rural community may not have equitable ICT resources or skills to search out necessary digital marketing activities (Sukumar et al., 2021).

Types of Digital Information Resources

The use of different types of digital information system particularly radio, television and mobile phones can accelerate rapid development by improving access to information in a timely way. They can provide useful and relevant information to solve problems of society by enabling individuals and households to learn and acquire new skills and technologies and also share innovations globally. This will help to foster share of information for sustainable and equitable societal development and help to bring about increased new activities and improved livelihoods of people. This is further supported by Kraus et al. (2021) that through technology use, there are more benefits connected to economic aspects in increased earnings and production. From the perspective of agricultural information and knowledge information systems (AKIS), technology can be seen as a useful tool in improving connections between research, farmers and agricultural extension systems (Antwi-Agyei & Stringer, 2021).

Technology build-in connection through enhancing the exchange of information especially technology among the three domains and make them function as one institution. In research institutes, small extension sections as well as research–extension committees are created, and technology such as mobile phone are used to easier communication. Using technology, the Agricultural extension brings information and new technologies to farming communities, allowing them to improve their production, incomes and standards of living. According to Natai (2021), voice subscribers (mobile and fixed-line) increased from about 1.5 million in 2003 to 17 million in 2009 and the subscriptions broadcasting especially cable television and radio services have also gradually developed over the years; up to 2010 there were 28 TV license holders and 53 radio license holders. However, in most places of the country, radio and television continue to be the most common technology in rural society. From the past years up to date, radio stations have gained publicity and their numbers have increased which have created more chances of people to receive important information needed in boosting their standard of living. The mobile technologies significantly decrease costs related with communication and information sharing everywhere in the world (Sheng & Lu, 2020). Such costs include the time and distance in accessing information. It is true that the effective use of radio, television, mobile phone and other technology facilities in sharing digital information services can have a great contribution to the information access.

Contribution of Digital Information System

Its clear that digital information system has many contributions to the development of human endeavors which completely enhanced and change the entire human life globally, in fact now a days if you are not digitally wise you will be left behind in every aspect of life. Some of the Digital Information System Contribution are: Being the researcher is a Librarian I want to first start with Library

Library

A librarian, who was responsible for keeping the information in the form of books, is now dealing with information available in various formats like audio-video recordings, graphic material, full text and bibliographic databases and digital resources. Making these resources available is the new responsibility of modern librarianship. The amount of information is increasing day by day and technology is also providing new methods for its management, bringing the libraries closer to its user than ever before. This is the right

time for librarians to take up the challenges and make best use of the opportunity to transform the library and their role. Modern librarian is the one who combines the traditional skills of librarianship with the information technology and who has educational ability to apply technology in the management of knowledge. Today the technology and knowledge management are the two things that make a librarian a modern one.

Every library followed different type's services to users. In this age of Information ICT changes the concept of traditional library work as well as service. Now days many reference books like dictionaries, hand-books, encyclopedias, directories, abstracting and indexing services etc are published in electronic form. Digital libraries have been focused mainly on providing access to current digital information resources. The new trends of ICT and in Web technologies have brought significant changes in the concepts of traditional reference services and a number of web-based 'expert services. Web-based Services Libraries provide Web-based real-time reference services using specific software, BBS, interactive communication tools, call center management software, library catalogue and union catalogue, bibliographic databases, subject gate ways in specific discipline, Remote information services, CD-ROM databases, providing link to websites, Accessing and procuring e-reference sources, Document delivery services, Bulletin board service, Discussion groups and forum. Electronic document delivery services Web 2.0 Web 2.0 is focus on the ability for people to collaborate and share information online. Web 2.0 basically refers to the conversion from static HTML web pages to a more dynamic web that is more organized and is based on serving web applications to users. Web 2.0 Services and Tools Web access to OPACs: - With the help of WEBOPAC users can learn how to use one universal access client, the web browser. Online Instructions: - with the help of Web Browsers library professionals provides online based bibliographic or library use programmes. It provides online instructions on searching online resources and virtual tours of library collections. Electronic document delivery: - The libraries to deliver the copies of journals and other documents in digital format mainly in PDF to the library users.

Agricultural Reform Via Digital Information System

The desire to promote better information access to improve the socio-economic condition of the farmers has always been the top priority of agricultural expansionists and rural advisory service providers. Further, the presentation of technology among farmers of Madhya Pradesh, Uttar Pradesh and Tamil Nadu of India reported that information acquisition and facilitating transactions in input and output markets by technology-based initiatives have also helped farmers in reducing transaction cost (Harisha, 2018). However, one component which can boost agricultural production is the contribution of digital information system. Since agricultural extension depends to a large extent on information exchange on the one hand and a broad range of other actors on the other LAMIDI (2018), technology therefore can be used as a average in bridging the information gap. There is also a growing recognition of farmers and members of rural communities realizing the importance of knowledge, information and suitable learning methods Atiso et al. (2021) in order to move towards development. Therefore, in order to benefit the rural people, extensionists are grappling with the question of how to harness ICTs to improve rural livelihoods in order to contribute towards better information exchange and access. In this regard, extension experts are also interested in investigating with advanced e-extension initiatives (Atiso et al., 2021). The role of technology as an instrument for progress and

development has been widely acknowledged in this 'Global Information age', and it has been observed that people with all walks of life are being obstructed by the IT sector directly or indirectly.

Communication Channels Via Digital Information System

Information and communication technologies (ICT) particularly the mobile phone has immensely penetrated every field of life like education, business, commerce, and agriculture. mobile phone-based communication has rapidly grown in the recent past and became the most used communication tool among all ICTS of the current age. recent statistics showed that 62.9 percent of the population worldwide already own a mobile phone with 4.68 billion users on the planet (STATISTA, 2018). this trend is also similar in pakistan as the country has seen an abrupt rise in mobile phone users from 88 million in 2008 to 152 million in 2018 (PTA, 2019). this rapid growth of mobile telephony has emerged as a successful communication tool which has not only transformed the working style of many sectors but also created new professional dimensions in various businesses including agriculture (Sullivan & Omwansa, 2015; Asongu & Asongu, 2019). in the agriculture sector, smooth exchange on information is a key to the successful adoption of farm innovation needed for the agricultural development but due to lack of resources and poor infrastructure in many developing countries, a huge communication asymmetry exists between the latest agricultural knowledge and farmers (Baloch & Thapa, 2016). in this scenario ICT, particularly the mobile phone has shown a great potential to facilitate communication by enabling the smooth exchange of knowledge between the various stakeholders in agriculture (Aker, 2018).

Mobile phone for agricultural information

several studies postulate that mobile phone technology use is important to farmers and supports crop production (Baumüller, 2017; Ciard, 2018; de Silva & Ratnadiwakara, 2014; Duncombe, 2018; Furuholt & Matotay, 2019; Gayi & Tsowou, 2019; Wellard, Rafanomezana, Nyirenda, Okotel, & Subbey, 2020). the use of mobile phone technology in the crop farming value chain enables small-scale farmers (SSFS) to access farming information that supports optimal decision-making and increases crop productivity. consequently, it is envisaged that SSFS using mobile phone technology may have the potential to improve food security and reduce poverty in many parts of the world. Mungera and Karfakis (2021) describe SSFS as people who own between 0.1 and 10 hectares of land. small-scale farmers commonly have access to less than 2 hectares of land (Nepad, 2020; Vanlauwe et al., 2019).

Small-scale farmers generally use mobile phone technology to acquire information to enhance crop productivity, prevent plant diseases, and develop better marketing strategies (Bhandari, Bohara, & Satyal, 2021; Carmody, 2016; Chhachhar & Hassan, 2018; Heeks, 2018; Ogbeide & ele, 2015; Shyam, 2014). unfortunately, only a few studies have explored mobile phone technology use in public libraries and identified challenges facing SSFS. for example, most of the studies have focused on the impact of application of mobile phones (Balraj & Pavalam, 2016; Mccole, Culberttson, Suvedi, & Mcnamara, 2014), the effectiveness of mobile phone technology use (Nwaobiala & Ubor, 2017), the assessment of farmers' attitudes (Fadairo, Olutegbe, & Tijani, 2018), farmers' empowerment (Saravanan & Bhattacharjee, 2019), comparative factors

involved in mobile phone use (Arinloye, Linnemann, Hagelaar, Coulibaly, & Omta, 2014), and potentiality of the role of public libraries to mobile phone technology in agriculture (Adebo, 2017).

Digital Literacy Movement in Society

The goal line of the Digital Information System in Society Intelligence uses media in the community is highly prioritized. In this era, using digital in the world has become a habit or lifestyle, which is connected to information technology. The spread of digital media causes changes in behavior in society. Information that appears on social media is correct but is not followed by media skills to filter and process data. Digital literacy in society aims to teach people the mastery of technology and communication or internet networks wisely and creatively in finding, assessing, using, and processing information. Digital literacy also has the aim that users have the responsibility of using digital social media and can understand legal aspects that intersect with Law no. 19 of 2016 concerning Electronic Information and Transactions. Things that need to be known include the use of internet networks and useful program programs, the basics of computer operation, trends in the digital world, security and confidentiality systems and entrepreneurship.

Conclusion

High speed internet facility shall be made available in all local area of in the nation. Mobile phone and bank account of every people shall enable participation in digital and financial space at individual level. Easy availability of service center to common people at everywhere. Need to strengthen the safe and secure cyber space in the world. Shareable private space on public cloud these are the different information technological issues before the digital literacy. Use and application of digital devices in literacy in the digital era is currently very important. Therefore, courses or outreach is needed for all people who have an interest in reading to be able to further develop themselves. In this research the authors describe the use of digital media as an important key in the successful implementation of learning online. There is a need for a quick adjustment to the current place of education. In fact, this situation is not easy, but it is our perspective that must be changed as the current situation forces digitization to accelerate.

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