



Proposed Model for Information Access Using Web 2.0 as Platform for Sustainable Development

A. A. Olajide, A. A. Salman and D. D. Ashaver

Department of Library and Information Science, University of Ilorin, Ilorin, Nigeria

Email: afolafemy@yahoo.ca ; salbiodun@gmail.com; doosuurshater71@gmail.com

Abstract

Development has always been a product of information or knowledge produced. Sustaining the development is the aspiration of any organization. Today as a result of lack of access to information; sustaining development is a bit challenging. Web 2.0 has come to the rescue of accessibility of information and at the same time a platform for information and knowledge. It has also been discovered that web 2.0 possess various characteristics that made it a suitable platform for information processing to achieve development. Sustaining the development is now possible on Web 2.0 due to some of its characteristics and the fact that information is better spread and processed on it. The model proposed showed that Web 2.0 is appropriate for information and knowledge accessibility and management with the antedate outcome as sustainable development.

Keywords: Web 2.0, Sustainable Development, Information accessibility, System, Power

1. Introduction

Sustainable development is the aspiration of any organization or society; as this is what ensures continuity, profitability, relevance and acceptability. The present age is a mix of information and knowledge or a transition in process form information to knowledge. Knowledge as good as it is will always be a product of information. Knowledge can then be converted to anything so ever that will cause a positive effect on the system (organisation, society, institution, businesses, etc). the primary raw material for knowledge is information but not just the availability of information but the accessibility and appropriate utilization to get the desired knowledge- which can then be transform to whatever is the goal of the system.

Web 2.0 has been described to have functions in virtually all aspect of human endeavour due to its basic characteristics that have made it be highly social. The sociality of web 2.0 can make it to have usefulness and function in improving the standard of living of users and even that of community at large. Sustainable development can be described as keeping the wheel of progress of any system rolling with improvement in the way and manner of rolling it. It is the focus on which other processes, techniques, and products of the system aspire to achieve. . Sustainable development is a global desire to see to the wellness of all the citizens of the world irrespective of their location or country of origin. It is equally expected that no known reason should be sufficient enough to prevent any individual from achieving the best of him/herself at least to an average standard of living.

Various factors could be responsible for development of a system; these ranges from natural and human resources to technological advancement. Studies in recent time have identified information and knowledge as key developmental resources (Shafack, 2016; Drucker, 2006) for the growth of the nation at large. These developmental resources (information and knowledge) are applicable to any system and settings. Wand (2016) reported a strong correlation between access to information and national development. Sustainable development

goals as enshrined in the 2030 United Nations goals are the desire of the world at large to ensure that the citizen of the world achieve the best possible and maintain the world ecosystem for the future generation.

It can therefore be premised that sustainable development is a function of access to information and knowledge. IFLA (2012) has come up with the conclusion that access to information is a fundamental human right that can break the cycle of poverty and support sustainable development. The development of information and knowledge has been a measure of the development of nations in the world. Information and knowledge advanced nations have been described to be developed nations of the world. The importance of access to information has led to the development of information distribution and dissemination since the time of town criers to horse rider dispatch of news to megaphone, radio stations and television stations. The modern day internet or web 1.0 has been described as a phenomenon that revolutionise information dissemination while the appearance of web 2.0 has been unprecedented in terms of information “production and consumption”.

1.1 Importance of Access to Information.

Library and Information Science (LIS) charter (2014), stated that right of access to information can make a difference; the difference cut across all strata of life. Information is a fundamental right of every citizen and system and should be so treated so as to achieve Sustainable development. Access to information goes a long way to provide the basic knowledge that is required in carrying out the activities that will assist in achieving the set out objectives of any system. IFLA (2014) described access to information as a fundamental requirement for personal and social development and for participation. LIS charter (2014) stated that development is impeded in the developing nations due to lack of information. Dapo-Asaju and Bamgbose (2016) opined that any society that will record significant stride in the quest to achieve the 17 SDG must be a society that has empowered his citizen with unfettered access to information. Information accessibility, usage and usability coupled with the level and quality of infrastructure available or accessible will determine the extent of how a society will use and adapt the increased knowledge and information to better its present situations. The better situation of any system can come in-terms of competitive advantage, power, profitability, greater influence, etc. once these goals are achieved and can be maintained and sustained over a long period of time, it becomes sustainable development.

Shafick (2016) in his analysis of the various ways through which information and knowledge drives the development of a nation and or a system identified information literacy as the most important. Information literacy can be said to be related to information access. Access to information in any society will have the following impact:

- Create a knowledge society
- Create a literate environment
- Create an enabling society where rights and privileges are taken up on time and also protected,
- There will be less loss in terms of manpower, energy, resources, etc,
- It helps in making appropriate forecast about different issues,
- It helps in understanding of the basic flow and interaction of the various sectors and ecosystem of the society.
- It can help to reduce conflict and disturbances.
- It makes people to work smarter.
- It helps in timely and correct access of resources needed for improvement, growth and sustainability.

LIS charter (2014) summarized the importance of access to information in the information age as being crucial and is a source of wealth and power; it makes for better people, more efficient and effective workers; and more responsive and responsible citizens.

2.0 Proposed model of information access through web 2.0 for sustainable development

Information accessibility has been well delineated to be different from information availability (Ugah, 2008; Aguolu and Aguolu, 2002,). Literature has described them to be inseparable factors of using information (John-Okeke, 2006). Odunlade (2017), stated that awareness of information resources availability is very important but access to them is another thing that must be enhanced.

2.1 Web 2.0 in Information Accessibility

Also, information accessibility today has been proposed to be enhanced by Web 2.0. the internet has been described as the height of information and communication technology providing boundless access to all kind so of information and records, which enhances information generation and sharing (Oriogu, Ogbuiyi, & Ogbuiyi, 2014). Web 2.0 which is an internet application has come with all these attributes; providing far greater services/opportunity for information accessibility and usability than ever imagine could be possible in years past. The internet provides a platform for information recording, accessibility, sharing, and retrieval (Unagba, 2006; Nwatawala, 2005). Thus it implies that Web 2.0 provides a platform for development and not just casual development but sustainable development. Organization has discovered the usefulness of Web 2.0 in bringing about development (Chu, Woo, King, Choi, Cheng & Koo, 2011) as a result of many capabilities and functionalities of Web 2.0. This development can be sustained by the use of Web 2.0 which has been described as ubiquitous. This ubiquitous property of Web 2.0 keeps in a cycle in terms of existence and reach and size that can be accommodated on it. Web 2.0 has been highly linked with information processing; this processing aspect has been looked at from various dimensions: knowledge management (Yates &Paquette, 2011; Alavi & Denford, 2015; Nath, 2012; Jimenez & Barradas, 2009; Naikal, 2012; Soltysik-Piorunkiewicz, 2015; Balubaid, 2013) which include knowledge creation, transfer, distribution, curation/storage, utilization, etc; information management (Chawner, 2008; Bugshan, 2015; Duffy, 2009) which includes information generation, transfer, distribution, curation/storage, utilization, etc.

2.2 Information in Sustainable Development

Information resources must be available, accessible and used in the process of knowledge acquisition, learning and research (Unegbu, Lawal-solarin & Ladan, 2017). Knowledge, learning and research are the pivotal factors of development or power today. Any society or organization that will develop must have knowledge acquisition, learning and research in an ubiquitous manner available to its citizenry. This ubiquitous is what web 2.0 has provided. Unegbu, Lawal-solarin & Ladan, (2017) stated further that good information resources must be accessed either by retrieval or receipt to meet the desired need. The desired need of accessing any information is for development- which can be of diverse sorts. Information brings about a dramatic change in the achievement of organisational or system goals (Essays, UK 2013). Development can be for economic reasons, political power, knowledge advancement, innovation, improved methodology/technology, better society etc.

2.3 Information Accessibility in Sustainable Development

Aina (2011) stated that accessibility determines the speed at which an information output is obtained irrespective of the format. The speed of obtaining information will depend on the speed of development as you only work with what you have. Accessing information gives you an edge in development (Mitchell, 2012; Gausul, 2012). Accessibility according to Nwachukwu, Abdulsalami and Salami (2014); is the ability to access the functionality and possible benefits of some systems or entity. Accessibility of information on Web 2.0 enhances the functionality of the information through the application of the various characteristics of Web 2.0 which enhance

the appropriate and deeper exploration of information accessed. This exploration of the information accessed also enhances the conversion of the information to development through the involvement and interaction of some other characteristics of Web 2.0. These involvement and interaction made possible on Web 2.0 are lacking in so many other platforms of accessing information making the intrinsic value of the information to be locked in them and reducing the developmental benefits of such platforms. Nwachukwu, Abdulsalami and Salami (2014) described information as a vital source that must be available and accessible for organizations to achieve their goals and survival. The achievement of goals and survival can be linked with power and sustainable development.

3.0 Web2.0., Information Accessibility and Use in Sustainable Development

Web 2.0 has broken to a great extent the barrier of information inaccessibility. It now depends more on how to harness the power of Web 2.0 that will determine the information quality and quantity that someone can have access to. This quality and quantity of information access and used determines the competitive advantage- which is the power or sustainable development. Information technology has revolutionized the traditional means of information processing, storage and dissemination (Oriogu, Ogbuiyi, and Ogbuiyi, 2014). Strong correlation has been found between accessibility and use of information resources (Oyediran-Tidings 2004; Ugah, 2008; Odunlade, 2017, Unegbu, Lawal-solarin&Ladan, 2017). The use of information and/or information resources will lead to competitive advantage (Bugshan, 2015; Mazzeo, 2011; Cakmak, &Tas, 2012; Madadipouya, 2015; Berisha-Shaqiri, 2015) or power and when well circulated and managed it becomes sustained development. Ani (2013) discovered that accessibility and utilization of web-based information resources is significantly correlated with the productivity of academic staff.

Development cannot be separated from power (information, economic, technological or human). Accessibility with adequate processing (use) of information today is to be regarded as power and not just mere availability or accessibility to information. Information availability and/or accessibility may not result into power or development until it is properly processed and used. When development is not well circulated or managed, it may not be sustained. So many developments have not gone beyond the discovery stage or have not been able to make the needed impact as a result of inability to access or distribute such development/innovations to time or larger audience. Ahmad, Sr, Asst, Ali and Jabeen (2018) stated that professionals using web 2.0 perform better. The better performance is an indication of development which can be sustained. Saldanha and Krishnan (2012) found that industry knowledge intensity is found to be positively associated with higher propensity for Web 2.0. Web 2.0 has come to the rescue of time and distance barrier in dissemination of development/innovation (Taylor, 2010; Martin, M. &Noakes, M. 2012; Romero, Alarcon-del-Amo, M. & Gomez-Borja, M. 2013) keeping the cycle of development rolling. Peer production (from long tail or networking characteristics of Web 2.0) can harness human skill, ingenuity and intelligence more efficiently and effectively (Tapscott& Williams, 2006).

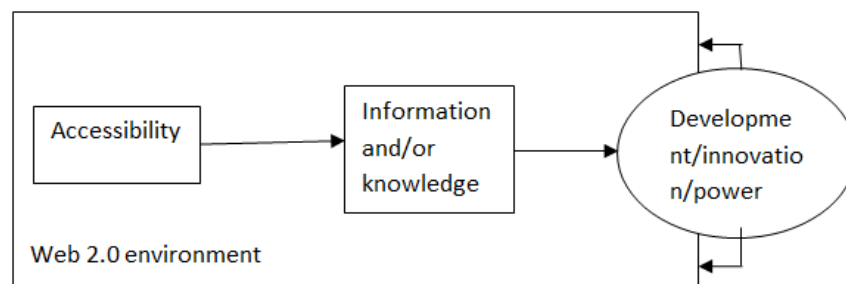


Fig 1: Proposed model of information accessibility for sustainable development

The various characteristics of Web 2.0 make it possible to host both information and knowledge and access them at the same time. Web 2.0 ubiquity in terms of access has been reported in literature once there is internet (Hwang, Chu, Chen, Cheng, 2014; Gosseck, 2009; Boyd, 2007). The cloud storage, mass participation, makes it possible to be a platform for hosting and holding large quantity of information in various formats (Yates & Paquette, 2011). The issue of processing of information on Web 2.0 using some of its characteristics to produce knowledge or competitive advantage or sustainable development have been documented by researchers (Ballew, Omotosho, & Winter, 2015; Yates & Paquette, 2011; Olajide 2015, Panahi, Watson and Patridge, 2012), Web 2.0 is useful for sustainable development through the application of some of its application in information access and processing. Gharama, Rad, Ahmadi, Rani and Bamiah (2018) asserted also that web 2.0 has significant positive impact on sustainable development.

4. Conclusion

Web 2.0 has been identified as the information reservoir of this age. There is inherent benefit for every system to adopt the use of web 2.0 for information processing to gain competitive advantage. The use of Web 2.0 for accessing information has never been unprecedented and it is a blessing to this generation. The characteristics of Web 2.0 have found usefulness both at the end of information accessibility within and outside of Web 2.0. Information processes that are required to translate information into knowledge, competitive advantage, power etc are all made possible by the use of characteristics of Web 2.0. Development achieved through information accessibility on Web 2.0 can easily be re-circled as information raw materials for another level of development, innovation, power, etc; thereby keeping the wheel of development continuously or sustained.

References

- Aguolu, C.C., & Aguolu, I.E. (2002). Libraries and information management in Nigeria. Maiduguri: Ed-Linform Services.
- Ahmad, s., Sr, G., Asst, Ali, A. and Jabeen, S. (2018). Application of interactive technology (web 2.0 tools) in leading universities across the globe. In *future of libraries: trends, issues and challenges*, Black prints.
- Aina, R.F. (2011). Foundation of Information studies. Lagos. Emaphine Reprographics Ltd.
- Alavi, M. & Denford, J. S. (2015). Knowledge management: process, practice and Web 2.0. <https://onlinelibrary.wiley.com/doi/10.1002/9781119207245.ch6>
- Ani, O. E. (2013) Accessibility and utilization of electronic information resources for research and its effect on productivity of academic staff in selected nigerian universities between 2005 and 2012. A Ph>D thesis submitted to Univeristy of south Africa. http://uir.unisa.ac.za/bitstream/handle/10500/13057/thesis_.pdf?sequence=1
- Ballew, M T., Omoto, A. M. & Winter, P.L. (2015). Using Web 2.0 and Social Media Technologies to Foster Proenvironmental Action. *Sustainability* 2015, 7, 10620-10648; doi:10.3390/su70810620
- Balubaid, M. A. (2013). Using web 2.0 knowledge to enhance knowledge sharing in an academic department. *Procedia- Social and Behavioural Sciences* 102(22), 406-420. <https://www.sciencedirect.com/science/article/pii/S1877042813042924>
- Berisha-Shaqiri, A. (2015). Management Information System and Competitive Advantage. *Mediterranean Journal of Social Sciences*, 6(1), 204-208.
- Boyd, D. (2007). Incantations for Muggles: The Role of Ubiquitous Web 2.0 Technologies in Everyday Life. *O'Reilly Emerging Technology Conference*, San Diego, CA. March 28
- Bugshan, H. (2015). Open innovation using Web 2.0 technologies. *Journal of Enterprise Information Management*, 28(4), 595-607. <https://doi.org/10.1108/JEIM-09-2014-099>
- Cakmak, P. I. & Tas, E. (2012). The Use of Information Technology on Gaining Competitive Advantage in Turkish Contractor Firms. *World applied Sciences Journal* 18(2), 274-285. <https://pdfs.semanticscholar.org/40b9/b73a95f617af9e22a1a3c1bb31fe08ebe2fa.pdf>



- Chawner, B., (2008). Spectators, not players: information managers' use of Web 2.0 in New Zealand. *The Electronic Library*, 26(5), 630-649.
- Chu, S. K. W., Woo, M., King, R. B., Choi, S., Cheng, M. & Koo, P. (2011). Examining the application of Web 2.0 in medical-related organizations. *Health Information and Libraries Journal*, 29, 47-60.
- Dapo-Asaju, H. S. & Bamgbose, O. J. (2016). Provision of sustainable development goals (SDG) information to Nigerian citizens through a collaborative approach: a proposal. *IFLA WLIC 2016*. : <http://creativecommons.org/licenses/by/4.0>
- Drucker, P. F. (2006) *Classic Drucker: Essential Wisdom of Peter Drucker*. Harvard Business Review. Boston, MA: Harvard Business School Publishing.
- Duffy, J. (2009). Information management using Web 2.0 technology. Thesis submitted to Massachusetts Institute of Technology for award of Masters in Business Administration. <http://hdl.handle.net/1721.1/50100>
- Essays, UK. (November 2013). The importance of information systems. Retrieved from <https://www.ukessays.com/essays/information-systems/the-importance-of-information-systems.php?vref=1>
- Gausul, K. M. (2012). Role of information for rural development in Bangladesh: a sector-wise review. *Information Development*, feb, 6; <http://journals.sagepub.com/doi/abs/10.1177/0266666911417642?journalCode=idva>
- Gosseck, G. (2009). To use or not to use web 2.0 in higher education. *Procedia social and Behavioural Sciences* 1(2009); 478-482.
- Gharama, A. A., Rad, B. B., Ahmadi, M., Rani, M. F. C., and Bamiah (2018). The impact of Web 2.0 on sustainable tourism. *Journal of Engineering Science and Technology*, July, 132-143.
- Hwang, G., Chu, H., Chen, B. & Cheng, Z. S. (2014). Development and evaluation of a web 2.0-based ubiquitous learning platform for schoolyard plant identification. *International Journal of Distance Education Technologies*, 12(2), 83-103. <https://pdfs.semanticscholar.org/cc73/128d2b16a9c4ac59752d3700ae0bf25f180f.pdf>
- IFLA (2014) The Lyon Declaration on Access to Information and Development. Available from: <http://www.lyondeclaration.org/>
- Jimenez, G. & Barradas, C. (2009). Knowledge management systems based on Web 2.0 technologies. https://link.springer.com/chapter/10.1007/978-1-84882-628-1_13
- LIS charter (2014). The library and information services (LIS) transformation charter: Commissioned by the Department of Arts and Culture (DAC) and the National Council for Library and Information Services (NCLIS). http://www.nlsa.ac.za/Downloads_01/2014_Final_LIS_Transformation_Charter.pdf
- Madadipouya, K. (2015). A review on the strategic use of its applications in achieving and sustaining competitive advantage. *International Journal of Managing Public Sector information and Communication Technologies*, 6(2), 21-30
- Martin, M. & Noakes, M. (2012). Fostering a web 2.0 ethos in a traditional e-learning environment. *The Electronic Journal of e-Learning* 10(3), 284-292.
- Mason, M. K. (2018). Potential of information and communication technologies (ICTs) for developing countries. <http://www.moyak.com/papers/ngo-icts.html>
- Mazzeo, M. J. (2011). How to use information for competitive advantage. *IEDP research*, 26th April, <https://www.iedp.com/articles/how-to-use-information-for-competitive-advantage/>
- Mitchell, T. (2012). Essays on the importance of access to information in developing countries. PhD thesis, The London School of Economics and Political Science. <http://etheses.lse.ac.uk/520/>
- Naikal, A. (2012). Impact of Web 2.0 on knowledge management. A paper presented at the international content management in networked environment 3-4 December, India. https://www.academia.edu/3308295/Impact_of_web_2.0_on_Knowledge_management?auto=download
- Nath, A. K. (2012). Web 2.0 Technologies for Effective Knowledge Management in Organizations: A Qualitative Analysis. P274. https://libres.uncg.edu/ir/uncg/f/Nath_uncg_0154D_10898.pdf



- Nwatawala, M. N. (2005). Potentials for utilization of information and communication technology in intergrated management in Tanzania. *African Journal of Library, Archival and Information Science*, 15(15), 40-50.
- Odunlade, R. O. Availability and Accessibility of Information Resources as Predictor of Lecturers' Teaching Effectiveness" (2017). *Library Philosophy and Practice* (e-journal). 1509. <http://digitalcommons.unl.edu/libphilprac/1509>
- Olajide, A. A. (2015). Social media platform as a knowledge management tool: Nigerian Librarians Experience. *Journal of information & knowledge management*, 14(3), 9 pages.
- Oriogu, C. D., Ogbuiyi, S. U. and Ogbuiyi, D. C. (2014). Availability and accessibility of ICT in the provision of information resources to undergraduates students in Babcock University Library. *Research in humanities and Social sciences* 4(14), 29-33.
- Oyediran-Tidings, S. (2004). Information needs and seeking behavior of library users: Results from Yaba College of Technology, Lagos. *Lagos Journal of Library and Information Science*. 2(2):77-88.
- Panahi, S, J Watson & H Patridge (2012). Social media and tacit knowledge sharing: Developing a conceptual model. *World Academy of Science, Engineering and Technology*, 64, 1095–1102.
- Romero, Alarcon-del-Amo, M. & Gomez-Borja, M. (2013). Learning styles and web technology use in business and economics university students. *Procedia- social and Behavioural Sciences* 141(20140, 1281-1290. https://ac.els-cdn.com/S1877042814036453/1-s2.0-S1877042814036453-main.pdf?_tid=22f18155-838a-4d20-b44b-412a37f64677&acdnat=1529501410_36187896156344ca8ad50cbbf1a50583
- Saldanha, T. J. V. & Krishnan, M. S. (2012). Organisational adoption of Web 2.0 technologies: an empirical analysis. *Journal of Organisational computing and Electronic commerce*, 22(4), 301-333.
- Shafack, R. M. (2016). The LIS and Information Science (LIS) profession and the Cameroon Development vision 2035: a perception study. *Journal of Sustainable Development*, 9(4), 225-233.
- Soltysik-Piorunkiewicz, A. (2015). Knowledge management impact of information technology Web 2.0/3.0. The case study of agent software technology usability in knowledge management system. *AIP Conference Proceedings* 1644(1) <https://aip.scitation.org/doi/10.1063/1.4907840>
- Tapscott, D., & Williams, A. D. (2006). *Wikinomics - How mass collaboration changes everything*. London: Penguin Books Ltd
- Taylor, T. I. (2010). Connecting to marginalized groups through Web 2.0. *Academic Services Faculty and Staff Publications*. Paper 67. http://scholarcommons.usf.edu/tlas_pub/67
- Ugah, A. Di, "Availability and Accessibility of Information Sources and the Use of Library Services at Michael Okpara University of Agriculture" (2008). *Library Philosophy and Practice* (e-journal). 190. <http://digitalcommons.unl.edu/libphilprac/190>
- Unagba, A. O. (2006). Towards an information and communication technology: Conscious Nigeria Society. *The Research Librarian*, 1(1), 72-84.
- Unegbu, V. E., Lawal-Solarin, & Ladan (2017). Library resources availability and accessibility as determinants of undergraduates library use in Lagos State University, Nigeria. <http://eprints.covenantuniversity.edu.ng/8689/1/VIN%20and%20LADAN%20%20and%20ESTHER%20LIBRARY%20RESOURCES%20AVAILABILITY%208.pdf>
- Wand, P. A. (2016). Information centers and socioeconomic development in MENA: finding a quantitative relationship. *IFLA and Institutions*, 42(2), 109-117.
- Yates, D. & Paquette, S. (2011). Emergency Knowledge Management and Social Media Technologies: A Case Study of the 2010 Haitian Earthquake. *International Journal of Information Management*, 31(1), 6-13.