An Evaluation of E-Government Service Usage in the Federal Republic of Nigeria

Rabiu Ibrahim[1], Shadi M.S. Hilles[2], Shamsiyya Muhammad Adam[3], Wael M. Yafooz[4]

[1] Faculty of Computer and Information Technology, Al-Madinah International University, Malaysia, brancyringim@yahoo.com
[2] Faculty of Computer and Information Technology, Al-Madinah International University, Malaysia, shadihilless@gmail.com
[3] Faculty of Computer and Information Technology, Al-Madinah International University, Malaysia, shamsiyyaadam@yahoo.com
[4] Faculty of Computer and Information Technology, Al-Madinah International University, Malaysia, waelmohammed@hotmail.com

Abstract

Ease of use as well as comprehensiveness associated with a general public agency's internet site as well as having the capacity along the individual to finalize work on the web are considered the attributes that compose an efficient internet website. Individual limitations to internet based services comprise personal computer knowledge as well as preference for an additional methods of communication. Nonetheless, the pace related to social development as well as end user acceptance related to cost-efficient wireless equipment's have proven within the speedy usage of latest technologies. For that reason the progressively speedy take-up related to online services supplies a considerable prospect regarding the private and non-private sectors to shift their services as well as products via the internet. Several public organizations are making their internet websites just like extensions from their classic services. This study, consequently, investigates the essentials in addition to quality related to online public services, electronic government (e-government), as well as residents' endorsement related to online information as well as services as effective as well as dependable. Consumers ought to be as fully satisfied along with their online experiences completing an activity as they would usually be considering visiting an office

Keywords: e-government, services, evaluation, technology, acceptance, model, theory, framework information

1. Introduction

Developments in information and communication technology (ICT) has ushered a new era. Communication methodologies between Governments and various shareholders, including citizens, businesses and various agencies have significantly impacted and influenced the implementation of e-government processes after the late 90s. Consequently, the public sector has invested heavily in developing various information technologies to ensure more effective communication channels with the various stakeholders [1, 2]. Government functions and processes are gradually evolving from laborious paper based processes to online functions which contribute to efficiency and effectiveness, ensuring greater satisfaction within the general population and businesses that have to deal regularly with the Government machinery [3]. E-government services are minimally affected by aspects and limitations of time and distance, and enable stakeholders to retrieve required information regarding policies and associated regulations towards enabling them to efficiently fulfil day-to-day functions. Besides, e-government initiatives also contribute to greater transparency, making government functionaries more accountable for their actions [4].

Nevertheless, there are certain challenges associated with successfully implementing e-government functions, including the availability and development of adequate infrastructure, ensuring aspects of privacy and security and working upon aspects of efficient services [5, 6]. Emerging trends in how e-government functions are executed relate to aspects of the changing behaviour of citizens and their expectations from the service since the processes perceives the minimal involvement of humans. Besides, it is a difficult process to correctly perceive how individuals would react to the induction of new processes and technologies [5].

It is therefore important to thoroughly evaluate the multiple parameters towards fully comprehending the expectations of citizens with regard to e-government processes. Nevertheless, there is still much input required to fully understand the multiple dimensions associated with the issue and how the general public perceives the same, which would ensure the continued success and sustainability of any initiatives undertaken in this regard [6, 7, 5].

Internet based electronic services (e-services) have been widely utilized worldwide to rationalize operating costs of various processes instituted, towards enhancing the degree and extent of services provided to the general public and the private sector. The widespread acceptance of new amenities normally delivered is a function of the service level, and should there be major shortcomings observed in this regard there is every possibility of the processes instituted to be considered a failure [8, 9]. The quality of

services provided would determine the extent of qualitative advantage accrued by the system, and would be measured and reflected to the degree to which it contributes towards enhancing productivity and improving relationships amongst multiple stakeholders. Strategically, this would contribute towards enhanced levels of customer satisfaction and trust within users [8]. Therefore, it is very important for governments and allied agencies to ensure that it is easy for the users to utilize the system implemented [10]. In this regard, [11] conclude the majority of e-government services instituted were initiated without proper feasibility studies, something which is seemingly seconded by the likes of earlier conclusions made by [12] etc.

Reviews of the available literature and an evaluation of the existing quality of e-services delivered indicate that multiple dimensions need to be considered towards successfully evaluating e-service quality levels. On the downside, researchers are not necessarily all on the same plane regarding the aspects to be considered in this regard, and there is seemingly little consensus associated [13, 14]. One reason contributing to such diversity in perspectives amongst the various researchers could be attributed to the inadequacy of the conceptual framework presented in this regard [8, 15, 16]. Besides, various researchers evaluating e-service quality standards could have periodically omitted multiple aspects which are important to the design of an effective web portal [9, 13].
While various researchers have all focused on the primary aspects associated with e-service quality [17], standardizing the various aspects globally is a major challenge in consideration of the changing dynamics of the entire industry and its associated paradigms [15]. An initial assessment of the extent of e-services provided within the Federal Republic of Nigeria, conducted by [18], a technology research corporation, concluded that in consideration of the fact that the standards of online services delivered differed amongst various countries, the corresponding plans towards developing the same also differed which made it harder to design a standardized system for all countries involved.
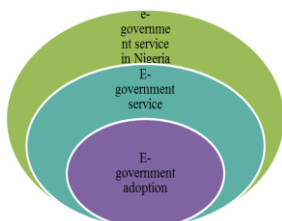

Figure 1.1. Perspectives of the Problem

Rotchanakitumnuai [13] had earlier researched which is an upcoming developing economy, this treatise has focused on various other countries. While there seems to have been an exponential increase in the extent and prevalence of Internet services within the country as a whole, the same is not necessarily reflected in the range of e-government services offered [19, 11] is also of the perspective that service usage is generally a function of the extent to which online services can resolve the end-users requirements.

To summarize the issue, the challenge can be evaluated from multiple perspectives, reflected in Figure 1 and in Table 1 Broadly, the issue perhaps primarily relates to how related initiatives are implemented. Subsequently, quality issues are identified, with a focusing on service standards of e-government initiatives within Nigeria, specifically.

The egovrtd2020 consortium recommended a thorough review of the existing ICT processes, comparing the processes prevalent with those already in operation in comparable European countries [12, 20, 21, 22]. Such a comparison would enable a better perspective on the desires and expectations of the end users and was of the perspective that aspects related to socio-cognizant parameters, which are both secure and constitute an expansive range are of specific importance in considering models for most developing economies.

Table 1. The Problem by Literature

E-government adoption	References
Studies on the Adoption of E-government	Research References
There are major shortcomings in the studies made with regard to e-government systems, especially within developing economies.	[6, 28, 7, 28, 5, 30]
Working on electronic services offered by -government is not a priority within emerging economies.	[5]
Studies on the electronic services offered by government	Research References
Electronic government systems are rolled out without due consideration of aspects of quality and implementation.	[12, 11, 12]
Sustained shortcomings are observed in researching e-government parameters within developing economies.	[15]
Widespread differences in perceptions of e-government processes conclude in minimal consensus on the standards to be maintained.	[15]
Nigeria e-government service	References
Very few users are capable to access and benefit initiatives from electronic government services.	[19]

Some of the associated models and hypothesis presented in this regard has tried examining and lining up the various innovations accrued in this regard. These studies have summarized and highlighted the various challenges faced by users in accessing multiple e-government and online administrative systems. Thus, the Unified Theory of Acceptance and Use of Technology (UTAUT) relates to a hypothesis incorporating some 8 prevailing technology acceptance models [34]. On a related note, [35] used the UTAUT model towards concluding and presenting relevant

recreation analysis which evaluates the impact of e-government initiatives, and the exact system which should be worked upon by individual governments.

Some of the associated models and hypothesis presented in this regard has tried examining and lining up the various innovations accrued in this regard. These studies have summarized and highlighted the various challenges faced by users in accessing multiple e-government and online administrative systems. Thus, the Unified Theory of Acceptance and Use of Technology (UTAUT) relates to a hypothesis incorporating some 8 prevailing technology acceptance models . On a related note, [34] used the UTAUT model towards concluding and presenting relevant recreation analysis which evaluates the impact of e-government initiatives, and the exact system which should be worked upon by individual governments. Nevertheless, implementing e-government processes entail multiple challenges at times which are periodically highlighted by various governmental agencies. These include aspects related to the supporting infrastructure, issues of privacy and security, and the availability of premium services (5, 23]. There are not many experimental studies conducted with regard to e-government processes within Asia. Yuen-Luk (2008) has correspondingly highlighted this aspect.

A United Nations survey on e-government initiatives conducted in 2010 has highlighted five countries who have successfully implementing e-government undertakings. The Republic of Korea was therefore considered the front-runner in this regard, with a score of 0.8785, followed by the United States having a score of 0.8510 in the UN's index. The two countries were followed by Canada with an index of 0.8448, the United Kingdom with a score of 0.8147 and the Netherlands trailing at 0.8097. The average score on the global scale was concluded to be 0.4406, while Europe averaged at 0.6227. The Americas had an average score of 0.4790 and Asia recorded a score of 0.4424 which was the closest to the global average mentioned.

Although there are multiple studies undertaken on the subject throughout the world at any given time, it is nevertheless observed that the same could not be said if specifically focused on the developing economies. In this regard, the current study evaluates the prevalence of e-government functions in the West African nations, with a focus on the Federal Republic of Nigeria. The associated e-governance model used and the perspectives of the users in delivering services would be evaluated in detail in the course of the study undertaken.

2. Related Studies

Gronlund [39] are of the perspective that electronic government services are closely interrelated with e-government functions, online and digital government protocols. E-government processes could therefore be considered in consideration of social, political, technical and economic aspects which has contributed to researchers and scholars not agreeing to uniformly defining e-government processes. Instead, [5] is of the perspective that e-government processes are not necessarily limited to

processes related to simply convert traditional government processes to the electronic form. Instead, it also has financial, social and technological implications contributing to rationalize the processes currently executed.

Nevertheless, the technical parameters associated with e-government processes are perhaps amongst the challenging aspects in this regard. [31, 32, 33] are of the perspective that recent initiatives trying to synchronize and standardize IT based services associated with e-government functions within the government sector is a positive initiative. Feng (2002) is of the perspective that the majority of researchers consider e-government processes to be closely interlinked with electronic commerce initiatives. [5] is of the perspective that indeed there is a commercial aspect to government functions executed. Nevertheless, an associated misconception often attributed to e-government processes relates to the technical aspects undertaken, without due consideration of the implementation stages involved [38] is of the perspective that the major aspect to be considered in successfully concluding e-government initiative relates to how the processes designed are ultimately implemented.

E-government processes could therefore be instituted at multiple levels of government, be that at the council level, at the legal or the organizational level. However, wherever implemented, it should contribute to efficiency and effectiveness of the functions conducted. In this regard, the relevant models include Government-to-Citizen, which is also stated as Government-to-Employees (G2e), Government-to-Business (G2b), Government-to-Customer (G2c) and Government-to-Government (G2g). Most governments have adopted some form of e-government processes in their systems. Service quality is judged by the users in consideration of the quality of services they come across in trying to use the systems [29]. Therefore, if the users have greater expectations from the systems installed in comparison to what is actually delivered, the system would be perceived not to have met expectations [14].

The egovrtd 2020 consortium recommended a thorough review of the existing ICT processes, comparing the processes prevalent with those already in operation in comparable European countries [35]. Such a comparison would enable a better perspective on the desires and expectations of the end users. [37] was of the perspective that aspects related to socio-cognizant parameters, which are both secure and constitute an expansive range are of specific importance in considering models for most developing economies. Also these studies have summarized and highlighted the various challenges faced by users in accessing e-government systems. Thus, the Unified Theory of Acceptance and Use of Technology (UTAUT) relates to a hypothesis incorporating some 8 prevailing technology acceptance models [34]. On a related note, [35] used the UTAUT model towards concluding and presenting relevant recreation analysis which evaluates the impact of e-government initiatives, and the exact system which should be worked upon by individual governments.

The aspects related to the supporting infrastructure, issues of privacy and security, and the availability of

premium services [5, 23]. There are not many experimental studies conducted with regard to e-government processes within Asia. Yuen-Luk (2008) has correspondingly highlighted this aspect. A United Nations survey on e-government initiatives conducted in 2010 has highlighted five countries who have successfully implementing e-government undertakings. The Republic of Korea was therefore considered the front-runner in this regard, with a score of 0.8785, followed by the United States having a score of 0.8510 in the UN's index. The two countries were followed by Canada with an index of 0.8448, the United Kingdom with a score of 0.8147 and the Netherlands trailing at 0.8097. The average score on the global scale was concluded to be 0.4406, while Europe averaged at 0.6227. The Americas had an average score of 0.4790 and Asia recorded a score of 0.4424 which was the closest to the global average mentioned.

Since that majority of the similar studies focused on developed countries, the current study evaluates the prevalence of e-government functions in the West African nations, with a focus on the Federal Republic of Nigeria. The associated e-governance model used and the perspectives of the users in delivering services would be evaluated in detail in the course of the study undertaken.

3. Methodology

This treatise is primarily concerned with evaluating the importance of e-government initiatives within the government and the general population. The study intends gaining an understanding of the multiple dimensions associated with how e-governments function, summarizing the experiences of the end-users of the systems implemented with regard to such diverse functions including disseminating information, providing multiple services or placing relevant enquiries. A description of the user's experiences would form the basis of further improvements in the systems towards fulfilling end-user expectations. In implementing online services, it is generally intended that a major portion of the agency's functions would henceforth be web based and accessible from anywhere. Besides summarizing the end-user expectations, the treatise details how the various government agencies responded to the feedback received periodically.The same would direct e-service managers on their shortcomings and guide them on how to improve delivery standards. The treatise therefore intends contributing towards enhancing public awareness of the various e-government portals, with a focus on African economies.

Although research on e-government functions have concluded much, the recommendations are seldom adopted. Kumar, Mukerji et al. (2007) have observed this to be a global phenomenon, even though enhancements in this regard could contribute towards greater acceptance and use of the processes implemented [24]. Indeed, there are seemingly severe shortcomings in the review of quality standards related to e-government processes. Considering the importance of service standards and efficiencies in

information technology, the majority of government ministries have their individual web portals [25, 26]. Building upon the same, the implementation of e-government processes helps in the development and efficiency of the various departments, although the current standards in this regard leaves much to be desired [27], with significant opportunities for major improvements of the prevailing standards.

4. Conclusion

Numerous of researchers have explained various challenges in effectively implementing e-government systems related to how government functions are executed in relation to the functions of various stakeholders in alignment with literature related to IT, various technology adoption models, the diffusion of innovation theories and practices, and the course of action undertaken [5]. On the other hand, a few studies have also been conducted, considering how e-government services function, and evaluates the associated e-service quality perspective[13], with the current initiative focused on quality standards. Considering that e-government systems fulfill the needs of users, the current initiative tries focusing on how e-government services benefit ordinary citizens. The current study is more concerned with web based systems and how they disseminate information amongst end-users and associated stakeholders. Considering e-services in this context, and its industrial dependency, the current study solely focuses on the standards maintained within the Federal Republic of Nigeria.

The paper explains the theories and associated aspects contributing to the research, the problems, aims, significance contribution, and the overall scope of the current initiative. Considering the lack of attention to this field of research in the West African countries, this paper dig in down to embrace the same techniques used in other part of the world. Hopping to come up with the good end result considering all the challenges.

References

[1]. Al-Shehry, A.M. (2008). Transformation towards e-government in Kingdom of Saudi Arabia: technological and organisational perspectives, Ph.D thesis, De Montfort University. Leicester, England.

[2]. Al-Shehry, A., Rogerson, S., Fairweather, N. B., & Prior, M. (2006). The motivation for change towards e-government adoption: case studies from Saudi Arabia. Paper presented at the eGovernment Workshop '06 (eGOV06), Brunel University, West London.

[3]. Gichoya, D. (2005). Factors affecting the successful implementation of ICT projects in government. The electronic journal of e-government, 3(4), 175-184.

[4]. Rokhman, A. (2011). E-Government Adoption in Developing Countries; the Case of Indonesia. Journal of Emerging Trends in Computing and Information Sciences, Volume 2 (No: 5), 228-236.

[5]. Shareef, M. A. (2009). An investigation of critical factors of citizen-centric electronic-government adoption Unpublished Academic, Carleton University, Ottawa, Canada.

[6]. Carter, L., & Belanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance factors. Information Systems Journal, 15(1), 5-25.

[7]. Kumar, V., Mukerji, B., Butt, I., & Persaud, A. (2007). Factors for successful e-government adoption: a conceptual framework. The electronic journal of e-government, 5(1), 63–76.

[8]. Lee, G. G., & Lin, H. F. (2005). Customer perceptions of e-service quality in online shopping. International Journal of Retail & Distribution Management, 33(2), 161-176.

[9]. Kim, M., Kim, J.-H., & Lennon, S. J. (2006). Online service attributes available on apparel retail web sites: an E-S-QUAL approach. Managing Service Quality, 16(1), 51-77.

[10]. Turban, E., McLean, E., & Wetherbe, J. (2008). Information technology for management: transforming business in the digital economy (6th ed.). New York: Wiley & Sons.

[11]. Chutimaskul, W., Funilkul, S., & Chongsuphajaisiddhi, V. (2008). The quality framework of e-government development. Paper presented at the Proceedings of the 2nd International Conference on Theory and Practice of Electronic Governance.

[12]. Wimmer, M., Scholl, H., Grönlund, Å., Andersen, K., Papadomichelaki, X., Magoutas, B., et al. (2006). A Review of Quality Dimensions in e-Government Services. In Electronic Government (Vol. 4084, pp. 128-138): Springer Berlin / Heidelberg.

[13]. Rotchanakitumnuai, S. (2008). Measuring e-government service value with the E-GOVSQUAL-RISK model. Business Process Management Journal, 14(5), 724-737.

[14]. Chang, C. C., Chen, C. Y., & Chiang, Y. H. (2011). How to Establish a Scale That Best Fits Your Agenda: The Guidelines to Build a Web Service Quality Scale. International Journal of Electronic Business, 9(4), 346-354.

[15]. Yang, Z., Cai, S., Zhou, Z., & Zhou, N. (2005). Development and validation of an instrument to measure user perceived service quality of information presenting web portals. Information & Management, 42(4), 575-589.

[16]. Gera, R. (2011). Modelling e-service quality and its consequences in India: an SEM approach. Journal of Research in Interactive Marketing, 5(2/3), pp.203 – 225.

[17]. Li, H., & Suomi, R. (2009). A proposed scale for measuring e-service quality. International Journal of u-and e-Service, Science and Technology, 2(1), 1-10.

[18]. Gartner (2007). Saudi Arabia e-Gov Progress Assessment Report, Riyadh KSA: Yesser Program.

[19]. Al-Sobhi, F., Weerakkody, V., & Kamal, M. M. (2010). An exploratory study on the role of intermediaries in delivering public services in Madinah City: Case of Saudi Arabia. Transforming Government: People, Process and Policy, 4(1), 14-36.

[20]. Ibrahim, R., Hilles, S. M., Adam, S. M., Jamous, M. M., & Yafooz, W. M. (2016). Theoretical Framework Formation for e-government Services Evaluation: Case Study of Federal Republic of Nigeria. Indian Journal of Science and Technology, 9(37).

[21]. Ibrahim, R., Hilles, S. M., Adam, S. M., & El-Ebiary, Y. (2016). Methodological Process for Evaluation of E-government Services base on the Federal Republic of Nigerian Citizen's E-government Services usage. Indian Journal of Science and Technology, 9(28).

[22]. Farag, O. M., & Hilles, S. M. Evaluate the e-banking services on North Africa Bank: Case of Tripoli branch.

[23]. Buhl, H. U., & Löffler, M. (2011). The Role of Business and Information Systems Engineering in E-Government. Business & Information Systems Engineering, 3(6), 341-344.

[24]. Agrawal, A. (2009). Assessing E-Governance Online-Service Quality (EGOSQ). In E-Government Development and Diffusion: Inhibitors and Facilitators of Digital Democracy (pp. 133-148): IGI Global.

[25]. Alshehri, M., & Drew, S. (2010). Challenges of e-government services adoption in Saudi Arabia from an e-ready citizen perspective. World Academy of Science, Engineering and Technology, 29, 5.1.

[26]. Alshomrani, S. (2012). A Comparative Study on United Nations E-Government Indicators between Saudi Arabia and USA. Journal of Emerging Trends in Computing and Information Sciences, 3(3), pp. 411-420.

[27]. United Nations Public Administration Program (2010). United Nations e-Government survey 2010. Accessed 31 May 2010 from http://www2.unpan.org/egovkb/global_reports/10report.htm

[28]. Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. The Journal of Strategic Information Systems, 17(2), 140-154.

[29]. Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL: A multiple-item scale for assessing electronic service quality. Journal of Service Research, 7(3), 213-233.

[30]. Yonazi, J., Sol, H and Albert Boonstra, A. (2010). Exploring Issues Underlying Citizen Adoption of eGovernment Initiatives in Developing Countries: The Case of Tanzania. Electronic Journal of e-Government, 8(2), pp176-188.

[31]. Momani, A. M., Jamous, M. M., & Hilles, S. M. (2017). Technology Acceptance Theories: Review and Classification. International Journal of Cyber Behavior, Psychology and Learning (IJCBPL), 7(2), 1-14.

[32]. Ibrahim, R., Hilles, S. M., Adam, S. M., & El-Ebiary, Y. (2017). Electronic government Services Usage, Adoption and Evaluation: A Review Paper. International Journal of Contemporary Computer Research, 1(1), 6-13.

[33]. Bicking, M., Janssen, M., & Wimmer, M. (2006). Scenarios for governments in 2020: Towards a roadmap for future E-Government research in Europe. exploiting the knowledge economy: Issues, applications and case studies, 407-415.

[34]. Venkatesh, V., Sykes, T., & Zhang, X. (2011). 'Just what the doctor ordered': a revised UTAUT for EMR system adoption and use by doctors. Paper presented at the System Sciences (HICSS), 2011 44th Hawaii International Conference on.

[35]. lAwadhi, S., & Morris, A. (2008). The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait. Paper presented at the Hawaii International Conference on System Sciences, Proceedings of the 41st Annual.

[36]. Wimmer, M., Codagnone, C., & Janssen, M. (2008). Future e-government research: 13 research themes identified in the eGovRTD2020 project. Paper presented at the Hawaii International Conference on System Sciences, Proceedings of the 41st Annual

[37]. Maumbe, B. M., Owei, V., & Alexander, H. (2008). Questioning the pace and pathway of e-government development in Africa: A case study of South Africa's Cape Gateway project. Government Information Quarterly, 25(4), 757-777.

[38]. Yildiz, P. B., Shyr, Y., Rahman, J. S., Wardwell, N. R., Zimmerman, L. J., Shakhtour, B., . . . Roder, H. (2007). Diagnostic accuracy of MALDI mass spectrometric analysis of unfractionated serum in lung cancer. Journal of thoracic oncology: official publication of the International Association for the Study of Lung Cancer, 2(10), 893.

[39]. Grönlund, Å., & Horan, T. A. (2005). Introducing e-gov: history, definitions, and issues. Communications of the Association for Information Systems, 15(1), 39.