Exploring the Integration of ICT in Public Sector Management in Namibia

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INTRODUCTION

Namibia has followed other countries in the world to embrace 4.0 revolution in its governance of both public and private sectors. The Namibian government has consistently developed to embrace data and correspondence innovation (ICT) by pursuing world directions and using the advantages of innovation. The Division of Public Service Information Technology Management (DPSITM) was set up in the Office of the Prime Minister (OPM) in the year in which the nation became autonomous, 1990, to coordinate and regulate all parts of public help ICT use. The office started its tasks as per the e-administration strategy by setting principles, rules and systems that aided the obtainment of equipment and programming, ICT preparing and later in the foundation of an administration wide organization (GRNNet), as well as web creation. In 1993, the ICT strategy was formed in such manner to set the preparation that permitted further exercises to guarantee that the advantages of ICT could be completely understood. The Cabinet Committee on Information Telecommunications (CCIT) has been proposed to be set up to guarantee that ICT matters are treated at the country's most elevated decision-making level (Republic of Namibia, 2005:6).

Over the course of the last years, Namibian Government has consistently attempted Public Service Changes in accordance with Vision 2030, National Development Plans and the South West Africa People's Organization (SWAPO) Party decisions manifestoes. These changes incorporate Service Charters to guarantee that the Namibian Public Service would turn into proficient, meritocratic, productive, compelling and responsible in the conveyance of administrations to the help clients or to the country. This is being finished considering the way that the individuals' personal satisfaction is of outmost significance for vision 2030. It is for this reason this study aims to explore further on the impact ICT use has on public sector management in Namibia.

BACKGROUND

For the successful implementation of e-government and the provision of services to citizens, public sector employees must adopt information technology/systems (IT/IS). This research bargains with a modern issue and is of extraordinary relevance to Africa, comparing with a period when nearly all governments in African nations have progressing ICT ventures pointing at proficiency of organization and change of open division administrations (Amegavi et al., 2018; Evans, 2018a; Evans, 2018b; Hwabamungu et al., 2018; Karanja, Sang and Ndirangu, 2018). In numerous advanced nations, inside a brief period, computerized government has advanced quickly from fundamental employments of ICT as straightforward instruments to facilitate highly organized authoritative work to the integration of ICT throughout government operations. The expanding utilize of Web 2.0, social media, and mobile and remote ICT by

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citizens has incredibly impacted the way public services are given and how citizen engagement forms are delivered (Liu and Yuan, 2015: 140). Be that as it may, African nations are slacking behind in digital government selection compared with created nations. For African countries to effectively receive ICT, precise investigations ought to be carried out to get it the impact of ICT on open organization. Namibia being member of African states and also embracing the e-governance in public sectors is also not in exception in terms of making sure the effects of ICT integration in public sector management. Hence a lot still need to be done in Namibia also to effectively implement the e-governance in public sector.

In interest of savvy administration, governments have adopted different data and communication technologies (ICTs) over the past two decades. The rapid dissemination of Web 2.0 and portable technologies has given elective channels for open agencies to collaborate with citizens within the generation of public services. Despite the benefits of e-governance innovations, their potential negative impacts are famous by researchers and professionals. One vital issue is value (Sorrentino, Sicilia, and Howlett, 2018). The existing writing has centred on aberrations in coproduction participation and given uncertain discoveries. A few studies report that citizens with moo financial status (SES) and racial minorities are less likely to coproduce through 311 (Pak, Chua, and Moere, 2017; Thomas and Streib 2003), which might exacerbate existing incongruities in open benefit arrangement between disadvantaged and advantaged citizens (Bovaird 2007; Rosentraub and Sharp 1981). In differentiate, other ponders report that 311 service apps energize impeded citizens to take an interest in coproduction since of their moo taken a toll and comfort (Clark, Brudney, and Jang 2013; Tang et al. 2019), possibly reducing disparities. Be that as it may, observational inquire about to look at the ultimate impacts of these e-governance innovations on value in service outcomes is uncommon (Clark et al. 2020). Especially, we know relatively little almost nearby governments join 311 demands information in their benefit conveyance decision-making and how this process influences the dissemination of open administrations to distinctive bunches.

To fill this gap this study explored the impact of ICT integration in public sector management in Namibia, this will enable the study to look at equity distribution of services to all sectors in Namibia even those in the remote areas. The coming of the Web opened collaborative openings for businesses and governments around the world. By the conclusion of the final thousand years, web innovation had ended up commonplace, well inside reach of standard people. This marvel had two noteworthy results in the arena of open benefit conveyance, i.e., expanded mindfulness of person rights and higher expectations from open administrations. Utilization of data and communication innovation (ICT) by developed countries begun early on, and numerous thinks about found positive results of utilizing ICT in open services. The positive comes about were not restricted to benefit suppliers only—the open in common profited from digital administrations as well. The utilize of ICT brought about in way better data dispersal, in expansion to enhancing the productivity of open benefit conveyance in numerous nations that selected for open service transformation. Numerous researches have been conducted to assess the part of ICT in advancing the efficiency of open administrations. Chen and Hsieh (2014) note that in spite of numerous pitfalls, it is rectify to state that the digitalization of open administrations can lead to superior open benefit arrangements and superior administrations. They fight that this is due to more up to date innovations that permit enormous information handling in distant better; a much better; a higher; a stronger; an improved higher and speedier manner. Hence, as Bhatnagar (2014) too noted, a better-informed arrangement making and benefit conveyance can take place. There's no question that digitalization in public services is both energized as well as detested, as it is inescapable that the method comes with both stars and cons. Discoveries of such ponders bolster our starting perceptions in this regard. The presentation of ICT into open administrations in creating economies, on the other hand, lagged both in time and scale. Need of information, preparing, activities, and assets are usually mentioned as reasons

for the deferred presentation of advanced change in creating economies. On the flip side, in any case, most governments are criticized for acting as a huge brother as they advance attack the private space of the open with enormous information analytics. Such analytics are not continuously utilized charitably by the governments as Linkov et al. (2018) taken note in their treatise on government methodologies for maintainable computerized administration. However, for this study, the purpose is too merely to explore the integration of ICT in public sector management and assess its effects.

FOCUS OF THE ARTICLE

There are various researches distributed over time that assert the utility of ICT into governance. Such thinks about highlight the utilize of ICT in clarifying the aces and cons thereof. ICT has been found to help in data spread, moving forward, progressing straightforwardness and encouraging greater citizen cooperation. Bhatnagar (2009) has carried out a broad ponder and clarified the potential of e-governance for both large-scale and small-scale ventures. Gurbaxani and Whang (1991) expressed that the utilize of ICT settle organization issues by tending to the asymmetry in data arrangement and is thus allur-ing. The bungle between the expressed destinations and the genuine sending can both be devastating as well as expensive. This jumble can clearly be a result of the information crevice that emerges due to misconception or not completely understanding the ultimate goals of the framework, i.e., catering to the citizens' needs. In hypothesis, citizen cash is went through on the arrangement and renewal of public services. In this way, individuals are actually slanted to know the method of reasoning of investing on such services. Similarly, individuals would like to be beyond any doubt of the appropriateness of such investing, i.e., whether cash is allocated straightforwardly in extent to the administrations given by the government or not.

Within the case of Namibia, in spite of the fact that a critical sum of reserves to present e-governance and related ICT regimes has come from universal benefactor offices, a huge sum of venture has been distributed from the open exchequer in roughly the final ten a long time. Subsequently, an evaluation ought to be made regarding how execution has progressed with the changes due to ICT arrangement. The victory of reform and investing will make strides open certainty in such measures and the related expenditure. Korneta (2019) stresses that it is vital to legitimize the esteem of such administrations in open discernment in order to permit proceeded bolster for speculations into innovations. Zheng (2017) watched with ample evidence that change in benefit conveyance is considered a critical execution pointer of e-governance. Whereas numerous ponders have been conducted on e-administration, the proficiency of ICT regimes in post-implementation scenarios has not been investigated. Del Sordo et al. (2017) watch that it is additionally a reality that the concept of e-governance, particularly within the setting of creating countries, is generally modern and not completely caught on. Hence, this study is worth pursu-ing to explore further how ICT integration in public sector management may influence service delivery in Namibia.

TECHNOLOGY ADOPTION IN PUBLIC SECTOR MANAGEMENT

Since long before gaining its independence, Namibia has pushed for the computerization of its govern-ment. However, only the Ministry of Finance and the Military were the main areas of computerization in the beginning. Other Ministries were forced to buy their own computers or rely on donors for them.

The Namibian government established a Directorate of Public Service Information Technology Management in 1991 after realizing that the procedure for acquiring ICT equipment was not being done correctly. Later, in 2001, the Directorate was promoted to a Department. The Directorate or Department was established in order to facilitate the coordination of IT procurement and use within the government. In the 1990s, the Directorate conducted a survey of government workers and found that there was a shortage of ICT skills, with 95% of the Ministry's staff lacking these skills. The government was forced to establish an information technology policy for the public service as a result of this finding and the fact that Namibia is a signatory to the Millennium Declaration, the Declaration of the Principles of the Information Society, and it's Action Plan. The purpose of the Policy was to coordinate ICT initiatives within the government, from their acquisition to providing government workers with the required ICT skills. Additionally, the policy gave the government direction as it set up the government computer network and developed ICT implementation strategies. In support of the Millennium Declaration, Namibia launched its first e-Government Policy in 2005. This policy aims to address some socioeconomic issues that nations around the world face. ICTs (e-Government) are thought to be a tool for achieving some of the goals outlined in the Millennium Declaration (Republic of Namibia, 2005). The goal of Namibia's e-Government policy from 2005 was to use technology to streamline administration, service delivery, and communication between various parties, including between government agencies, the general public, and businesses (Republic of Namibia, 2005).

Computerized change may be a need for the advanced endeavour, whether open or private, due to the quality and vertiginous speed with which digitalization has entered and has taken over the lives of majority of people, which has implied that numerous organizations have not been able to adjust to it however. The most and most vital reason for this state of undertakings in organizations is the need of knowledge or trained personnel, which might permit them to get it how to manage with this alter. Whereas numerous public administration administrations have made extraordinary advance, the complete potential of computerized adjustment remains untapped. The advanced government display changes persistently to reflect how the government tries to discover inventive advanced arrangements in social, financial, and political regions and how it seem transform the decision-making handle (Al-Ruithe, Benkhelifa,& Hameed,2018; Weerakkody, Omar, El-Haddadeh, & Al-Busaidy,2016; Omar, Weerakkody, & Sivarajah, 2017). ICT execution in organizations and its interaction with organizational viability has been a long-studied subject with extraordinary significance. As this may include a wide extend of technology and different sorts of organizations, Cooper and Zmud broadly characterized data technology (IT) usage as "an organizational exertion coordinated toward diffusing fitting information technology inside a client community"(Cooper & Zmud,1990). . In specific, data innovation has been recognized as the potential motor for changing how the government works, either by changing the internal process of government operations to progress organizational viability or by changing the governments' intuitive with other people and organizations exterior the government (e.g., via e-government) (Luna-Reyes, Gil-Garcia, 2014).

EFFECTS OF TECHNOLOGY INTEGRATION IN PUBLIC MANAGEMENT

The Republic of Namibia (2014) reported on Namibia's e-Government readiness, which was assessed based on the presence of a policy framework that supports e-Government, accessibility of ICTs, use of the appropriate ICTs platform for e-Government purposes, possession of the necessary capacity in terms of ICT skills, and the willingness of various stakeholders to use ICTs. According to the results, Namibia's overall score for e-Government readiness was given as 2.2 out of 4. Namibia received a score

of 2.11 out of 4 for having policies that support e-government, 2.71 out of 4 for the accessibility of e-government by various stakeholders, and 1.95 out of 4 for the use of various ICTs for e-government. Namibia receives a 2.21 out of 4 rating, specifically for the availability of the required ICT skills, and a 2.05 rating for the willingness of various stakeholders to use e-Government. As can be seen, a lack of infrastructure and functional literacy are the main obstacles to the development of e-Government in Namibia. Further to that, access to government is skewed towards urban environments. Despite the high numbers of mobile phones and mobile phone users, the majority of rural residences are excluded from access and participation in e-Government due to a lack of access (Ministry of Information and Technology, 2015). Similar challenges include a lack of ICT skills in Namibia and the high cost of Internet access, according to Stork et al. (2013).

The wonders of electronic-based administration, especially the open division administrations utilizing the web and advanced device information administrations, organize popular government, video imaging, and graphical interfacing, have permitted governments to develop websites that contain an assortment of online materials (Darrell, 2005). As more people take advantage of these highlights, the advanced government replaces conventional ways of get to base on individual visits, phone calls, and mail conveyance (Darrell, 2005). At the side the advancement of innovation, open segment administrations through the government are key and down to earth (Al Ajeeli & Al-Bastaki, 2010). In a few cases, a definite relationship design between advanced governments and a more beneficial worker benefit show is found (Fugini, Maggiolini & Ramon, 2014).

The relationship between government and digital information frameworks has two joins to a near citizen-centric perspective of the dual-component e-government and e-governance. E-government alludes to online open reporting practices by Governments to citizens and conveyance of services over the web. E-Governance is an activity for citizens to participate and to deliver their conclusions on the government website (Manoharan, 2014). E-Government must be a more oriented practitioner, contributing to different models and implementations online financial straightforwardness, performance reporting, progressing citizen interest, security issues in E-governance, races, and e-Government organize at the local level of government (Manoharan, 2014). In fact, the computerized administration Extend has an impact. Analysing the advanced government requires the commitment of digital innovation, measuring digitization, and answering questions approximately how Governments oversee legal obligations on data innovation controls. The state has defined a fabulous advanced administration technique, but it does not viably offer and execute arrangements and programs that fit the nearby needs. The nation ideally formulates particular plans that convey comes about and can help policymakers, information masters, and open sector researchers to create best hones for future national strategies (Darrell, 2005).

The capabilities of computerized media grow the social organizing control of affective strengths to be able to bargain with financial alter (Beverungen, Beyes & Conrad, 2019). The Computerized framework in any organization taking the lead role can verbalize and create “advanced” activity rationale, enforcing digital rationale for advancement with computerized innovation. The Digital government can realize political relations, democracy, and cooperation of different components (Reddick, 2020). Trust and responsibility within the computerized age incorporate some key focuses, i.e., intelligently computer administrations accessible for education accessibility, control over the data they receive, political differences, and culture; and intelligently media an assortment of political, instructive, social, and entertainment services (O’Neill, 2020). The accessibility of information on the various dynamics of administration can be utilized to supply several concepts about the similitude created within the digital bureaucracy (Whelan, 2019). The governments, whereas taking policies, ideally advance the advancement of intuitively computer services, empowering the improvement of advances that maximize client control over what data

is gotten by individuals, families, and schools that utilize. The digitalization within the open segment takes after an developmental (but not essentially direct) process of embracing fundamental capabilities and models of electronic and shrewd government, taken after by the development of compelling savvy administration settings and the collaborative environment, which characterizes them (Pereira, Parycek, Falco, & Kleinhans, 2018). Concurring to Janowski, the computerized government advancement goes from no legislative change, to inside government change, change that moreover influences the connections between government and non-government stakeholders, and at last changes that depend on the national, neighbourhood or sectoral government context (Janowski, 2015).

CHALLENGES OF TECHNOLOGY INTEGRATION IN PUBLIC SECTOR MANAGEMENT

According to research by the United Nations (2014), Stage 1 (69%) e-Government services in Namibia are the most prevalent and are primarily focused on informing the public. Only a small percentage of government websites (32%) offer Stage 2 two-way communication, which may include the ability to download and submit forms online. Only 18% of Namibian government websites have progressed to Stage 4 and only a very small percentage (14%) have reached Stage 3. These results support the Republic of Namibia's (2014) observation of the scant content on official websites. Similar observations were made by Tomlinson (2011), who came to the conclusion that Namibia's government agencies' websites are informative, interactive, and that transaction-oriented websites are uncommon after studying at least twenty-four websites in the country's public sector. Only 2.91 people out of every 100 people in Namibia have access to fixed broadband (The United Nations, 2014), making it a country with poor telecommunication connectivity. According to The United Nations (2014), 107.79 people have access to mobile phone communication worldwide, which is a majority of the population. This is due to Namibia's policy and regulatory environment, general economic growth, and declining telecommunication prices (Stork et al., 2013). The United Nations, however, advises Namibia to concentrate on "bridging infrastructure gaps to provide an enabling environment for eGovernment development" (United Nations, 2014).

The problem that prevents the effective implementation of e-health in some developing countries appears to be exacerbated by the absence of specific and comprehensive legislation and policies developed by stakeholders, such as government policymakers (Furusa & Coleman, 2018). There are no explicit policies or guidelines describing how various government departments are expected to collaborate with healthcare facilities in the implementation of e-health systems, unlike in Namibia. According to Nielsen (2017), e-health implementation needs to be guided by systems integration standards and models. Additionally, the fragmentation of e-health has been attributed to a lack of standards and legislation regarding the transfer, security, and confidentiality of information between stakeholders (Malunga & Tembo, 2017).

The concept of development within the open division is exceptionally particular, and its targets, substance and promotion are different from the advancement within the setting of the private segment (Godenhjelm & Johanson, 2016; Pollitt, 2011). In this manner it is level headed to support an argument of Laegreid et al. (2011) who portrays advancement within the open segment as an equivocal concept. Looking at of the evolution of this concept from the verifiable viewpoint it can be pointed out that one of the capacities of the public segment associations was the advancement of programs that cantered on the usage of innovation in private segment associations (Hansson et al., 2014). A common inquire about require within the discourse of the troublesome advances is morals and ethical issues. By far, AI is the foremost morally disputable innovation. Inquire about bearings with respect to AI include privacy

investigate (reconnaissance, profiling), morals of computerized choice making (especially concerning delicate choices, e.g., in law requirement and wellbeing), issues of capable research. The results of inconsistencies between the genuine world and the information utilized for AI-based decision making were distinguished as a high-priority investigate issue as choices based on deficient (or even biased) data may be unjustifiable and risky (Dameski, 2018).

Adjusting the values of autonomous AI framework creators with the open intrigued could be a major investigate require, which have to be addressed before such frameworks are actualized on the huge scale. In any case, moral and social barriers can be distinguished within the selection of AI, and brought about from needs in citizen believe on machine intelligence and the uneasiness on the substitution of representatives by machines (Androutsopoulou, Karacapilidis, Loukis, & Charalabidis, 2019). (Ronzhyn & Wimmer, 2019) conducted a study on the moral issues with troublesome advances, concluding that there's a noteworthy number of moral issues associated to the implementation of troublesome innovations in open administrations. In expansion, (Alexopoulos et al., 2019) prescribe advance inquire about in security and ethical issues within the collection of individual information and the proprietorship of such information by machine learning in government administrations. Hence this current study exploring the integration of ICT in public sector management is filling this gap by finding the possible solutions on ICT integration in public sector management and how emerging issues are going to be addressed. Considering that computerized change influences citizens, commerce and the open division and requires organizational alter and modern advanced advances, administration preparing is found to be relevant for applying any of the troublesome innovations within the open division. Considering artificial intelligence and machine learning (AI/ML) applications, pertinent viewpoints incorporate the ability to include citizens within the handle, as well as knowledge administration and commerce models of social work (social advancement). Preparing on process/change administration is critical for utilizing Virtual Reality and Augmented Reality (VR/AR) as well as eID and eSignature in government. Essentially, block chain, cloud computing or Internet of things (IoT) applications require preparing for public employees on extend administration, business, doing trade and cost-benefit analysis. Likewise, these capabilities are of tall significance totally different concepts of Government 3.0 that employ troublesome innovations in arrange to use the benefits of these innovations within the specific contexts and to decrease potential dangers

SOLUTIONS AND RECOMMENDATIONS

The discoveries of this ponder have a few critical arrangement suggestions for policymakers. The researcher has appeared that ICT incorporates a positive and significant relationship with open division administration. The suggestion is that, as many African economies start to tread the way of advanced government, ICT should be the building piece upon which present day African open division management is built. Through the combined utilize of ICT for the creation, improvement and interlinking of an assortment of social, regulation and innovative ecologies to provide open administrations which are seen as authentic, imaginative, valuable and welfare-enhancing, ICT arrangements can upgrade the capacity of public managers in Africa. This may assist advantage the community by bringing together "the open segment, gracious society and worldwide on-screen characters, as well as by improving discussion with, and support by, all circles of society and achieving a more participatory prepare of administration and decision-making" (Navarra and Cornford, 2005: 10). In see of this, policymakers and public managers ought to pay more consideration to ICT patterns to guarantee that the potential gains are completely maximized. All partners have the obligation to collaborate to create approaches and applications that will

maximize the benefits of ICT at each level of open division in Africa. Clearly, nearly all governments in African nations have progressing ICT ventures pointed at productivity of administration and enhancement of open segment administrations. ICT infrastructural enhancements pointed at decreasing the costs of web transfer speed will contribute to the rapid execution of broadened computerized government. Namibia is not in exception hence the integration of ICT in public sector management is investable if the country aims to be on the par with the rest of the countries in the world and Africa at large.

It is vital to note that creating advanced government in Africa will require colossal specialized information, involvement, and budgetary venture. African nations ought to tap into assets and skill of neighbourhood, territorial, and international members as partners. Imperative stakeholders must be included within the advanced government endeavours: citizens, experts, the scholarly world, businesses, governments, worldwide organizations, innovation engineers, providers, clients, and other decision-makers. Endeavours ought to be made to use ICT as devices for the integration of ICT all through government operations.

FUTURE RESEARCH DIRECTION

There's adequate room for future thinks about. Right presently, advanced government is enmeshed in frequently unclear definitions, conceptualizations, and measurements. In arrange to form advance, be that as it may, open organization researchers and professionals ought to address the challenges related with current definitions, conceptualizations, and estimations, in portion through encourage conceptual refinement, the development of appropriate typologies and measures, and rigorous empirical examination. Advance thinks about are required to consider how ICT could be channelled for the genuine battles open supervisors confront, particularly within different political and social settings in Africa. A great beginning point would be to construct encourage inquire about into the degree to which approaches and institutional arrangements are superior suited to deliver a framework to upgrade participation in advanced government and the conveyance of modern advanced government administrations. Future inquire about ought to look at case ponders completely different settings or look at extra outcome measures to measure the impact of ICT execution on open organizations and their organizational effectiveness. At whatever point conceivable, and with an adequate sum of collected data, huge data on day by day exchanges or studies of representatives ought to moreover be inspected in future experimental ponders.

CONCLUSION

As a field of scholarly study, the advanced government has risen from a few disciplines, including public organization, information administration and advancement, data innovation, information management, component and prepare administration, communication and organizational culture, among others. There have been a few endeavours within the final decade to layout this developing academic community, evaluating the developing body of inquire about spoken to by unused, changed distributions each year. In this study the focus was on exploring the ICT integration in public sector management and the audit ponder pointed to get it the part that digital government inquire about plays within the hypothesis and hone of public sector management. E-Government is based on innovation arrangement and digitization approach bureaucracy that's available to the community. Computerized bureaucracy must be started by governance to address spatial (geology and put), digital (communication and time), as well as cognitive (knowledge and instruction). IT and its cross-country enterprises as a tool in reconfiguring open orga-

nization, approaches, and powers cover organization, advanced, and economic entrepreneurship Situated Based Community. E-Government regulations incorporate open administration, protection, social media, and democracy, development within the organization, managerial effectiveness, open benefit conveyance, and citizen involvement. This ponder requires continuous thinks about on the assessment and performance of government websites in empowering openness, information accessibility, energetic intelligent, and accuracy of different information, clients, and computerized benefit frameworks.

The key challenges for creating and usage of collaborative advancement are bureaucratic resistance to alter, fear to require dangers, diverse inspirations of partners included in innovation, authoritative culture, need of satisfactory human assets, and unique or indeed conflicting goals.

REFERENCES

Al Ajeeli, A. T., & Al-Bastaki, Y. A. L. (2010). Handbook of research on e-services in the public sector: E-government strategies and advancements. doi:10.4018/978-1-61520-789-3

Al-Ruithe, M., Benkhelifa, E., & Hameed, K. (2018). Key issues for embracing the cloud computing to adopt a digital transformation: A study of Saudi public sector. *Procedia Computer Science*, *2018*(130), 1037–1043. doi:10.1016/j.procs.2018.04.145

Alexopoulos, C., Lachana, Z., Androutsopoulou, A., Diamantopoulou, V., Charalabidis, Y., & Loutsaris, M. A. (2019). How Machine Learning is Changing e-Government. In *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance* (pp. 354–363). 10.1145/3326365.3326412

Amegavi, G. B., Bawole, J. N., & Buabeng, T. (2018). The dynamics of e-government enactment in a developing country public sector organisation: Evidence from Ghana. *International Journal of Electronic Governance*, *10*(1), 74–92. doi:10.1504/IJEG.2018.091267

Androutsopoulou, A., Karacapilidis, N., Loukis, E., & Charalabidis, Y. (2019). Transforming the communication between citizens and government through AI-guided chatbots. *Government Information Quarterly*, *36*(2), 358–367. doi:10.1016/j.giq.2018.10.001

Argo, T. A., Prabonno, S., & Singgi, P. (2016). Youth Participation in Urban Environmental Planning through Augmented Reality Learning: The Case of Bandung City, Indonesia. *Procedia: Social and Behavioral Sciences*, *227*, 808–814. doi:10.1016/j.sbspro.2016.06.149

Beverungen, A., Beyes, T., & Conrad, L. (2019). The organizational powers of (digital) media. *Organization*, *26*(5), 621–635. doi:10.1177/1350508419867206

Bhatnagar, S. (2009). *Unlocking E-Government Potential: Concepts, Cases and Practical Insights*. Sage Publications India. doi:10.4135/9781446270202

Bhatnagar, S. (2014). *Public Service Delivery: Role of Information and Communication Technology in Improving Governance and Development Impact*. Asian Development Bank. http://hdl.handle.net/11540/4206

Bovaird, T. (2007). Beyond Engagement and Participation: User and Community Coproduction of Public Services. *Public Administration Review*, *67*(5), 846–860. doi:10.1111/j.1540-6210.2007.00773.x

Burak, P., Alvin, C., & Andrew, V. M. (2017). FixMyStreet Brussels: Socio-Demographic Inequality in Crowdsourced Civic Participation. *Journal of Urban Technology*, *24*(2), 65–87. doi:10.1080/10630732.2016.1270047

Chen, Y., & Hsieh, T. (2014). Big Data for Digital Government. *International Journal of Public Administration in the Digital Age*, *1*(1), 1–14. doi:10.4018/ijpada.2014010101

Clark, B. Y., Brudney, J. L., & Jang, S.-G. (2013). Coproduction of Government Services and the New Information Technology: Investigating The Distributional Biases. *Public Administration Review*, *73*(5), 687–701. doi:10.1111/puar.12092

Clark, B. Y., & Jeffrey, L. (2020). Do Advanced Information Technologies Produce Equitable Government Responses in Coproduction: An Examination of 311 Systems in 15 US Cities. *American Review of Public Administration*, *50*(3), 315–327. doi:10.1177/0275074019894564

Cooper, R. B., & Zmud, R. W. (1990). Information Technology Implementation Research: A Technological Diffusion Approach. *Management Science*, *1990*(36), 123–139. doi:10.1287/mnsc.36.2.123

Dameski, A. (2018). A Comprehensive Ethical Framework for AI Entities: Foundations. In M. Iklé, A. Franz, R. Rzepka, & B. Goertzel (Eds.), *Artificial General Intelligence* (pp. 42–51). doi:10.1007/978-3-319-97676-1_5

Darrell, M. W. (2005). *Digital government: Technology and public sector performance*. Princeton University Press.

Del Sordo, C., Orelli, R. O. L., & Emanuele, P. (2017). Governing the public sector e-performance: The accounting practices in the digital age. In *Decision Management: Concepts, Methodologies, Tools, and Applications*. IGI Global. doi:10.4018/978-1-5225-1837-2.ch082

Evans, O. (2018a). Digital agriculture: Mobile phones, internet & agricultural development in Africa, Actual. *Problems of Economics*, *7–8*(205-206), 76–90.

Evans, O. (2018b). Connecting the poor: The internet, mobile phones and financial inclusion in Africa, Digital Policy. *Regulation & Governance*, *20*(6), 568–581. doi:10.1108/DPRG-04-2018-0018

Fugini, G. M., Maggiolini, P., & Ramon, S. V. (2014). *E-government and employment services: a case study in effectiveness*. Springer. doi:10.1007/978-3-319-02030-3

Furusa, S., & Coleman, A. (2018). Factors influencing e-health implementation by medical doctors in public hospitals in Zimbabwe. *South African Journal of Information Management*, *20*(1), 1–9. doi:10.4102ajim.v20i1.928

Godenhjelm, S., & Johanson, J. E. (2016). The effect of stakeholder inclusion on public sector project innovation. *International Review of Administrative Sciences*, *2016*, 1–21.

Gurbaxani, V., & Whang, S. (1991). The Impact of Information Systems on Organizations and Markets. *Communications of the ACM*, *34*(1), 59–73. doi:10.1145/99977.99990

Hansson, F., Norn, M. T., & Bundgaard, V. T. B. (2014). *Modernize the public sector through innovation? A challenge for the role of applied social science and evaluation*. Academic Press.

Hwabamungu, B., Brown, I., & Williams, Q. (2018). Stakeholder influence in public sector information systems strategy implementation – The case of public hospitals in South Africa. *International Journal of Medical Informatics*, *109*, 39–48. doi:10.1016/j.ijmedinf.2017.11.002 PMID:29195704

Janowski, T. (2015). Digital government evolution: From transformation to contextualization. *Government Information Quarterly*, *32*(3), 221–236. doi:10.1016/j.giq.2015.07.001

Karanja, D., Sang, A. K. A., & Ndirangu, M. (2018). Influence of Integration of ICT on human resource management in Kenyan public universities. *International Journal of Sustainability Management and Information Technologies*, *3*(6), 73. doi:10.11648/j.ijsmit.20170306.13

Korneta, P. (2019). Critical success factors for Polish agricultural distributors. *British Food Journal*, *121*(7), 1565–1578. doi:10.1108/BFJ-06-2018-0398

Lægreid, P., Roness, P. G., & Verhoest, K. (2011). Explaining the Innovative Culture and Activities of State Agencies. *Organization Studies*, *32*(10), 1321–1347. doi:10.1177/0170840611416744

Linkov, I., Benjamin, D., Trump, K. P.-J., & Florin, M. V. (2018). Governance strategies for a sustainable digital world. *Sustainability*, *10*(2), 440. doi:10.3390u10020440

Liu, S. M., & Yuan, Q. (2015). The evolution of information and communication technology in public administration. *Public Administration and Development*, *35*(2), 140–151. doi:10.1002/pad.1717

Luna-Reyes, L. F., & Gil-Garcia, J. R. (2014). Digital Government Transformation and Internet Portals: The Co-evolution of Technology, Organizations, and Institutions. *Government Information Quarterly*, *2014*(31), 545–555. doi:10.1016/j.giq.2014.08.001

Malunga, G., & Tembo, S. (2017). Implementation of e-health in developing Countries challenges and opportunities: A case of Zambia. *Science and Technology*, *7*(2), 41–53.

Manoharan, A. (2014). *E-government and websites: A public solutions handbook* (A. Manoharan, Ed.). Routledge. doi:10.4324/9781315719542

Ministry of Information and Technology. (2015). 2nd National ICT Summit: Bridging the Digital Divide. Windhoek: Namibia.

Navarra, D.D., & Cornford, T. (2005), ICT, innovation and public management: governance, models and alternatives for e-government infrastructures. *ECIS 2005 Proceedings*, 121.

Nielsen, M. (2017). eGovernance and Online Service Delivery in Estonia. *Proceedings of the 18th Annual International Conference on Digital Government Research*, 300-309. 10.1145/3085228.3085284

O'Neill, O. (2020). Trust and accountability in a digital age. *Philosophy (London, England)*, *95*(1), 3–17. doi:10.1017/S0031819119000457

Omar, A., Weerakkody, V., & Sivarajah, U. (2017). Digitally enabled service transformation in UK public sector: A case analysis of universal credit. *International Journal of Information Management*, *2017*(37), 350–356. doi:10.1016/j.ijinfomgt.2017.04.001

Pereira, G. V., Parycek, P., Falco, E., & Kleinhans, R. (2018). *Smart governance in the context of smart cities: A literature review*. Information Polity. doi:10.3233/IP-170067

Reddick, C. G. (2020). Politics, Democracy and E-Government: Participation and Service Delivery. *Memory (Hove, England)*.

Republic of Namibia, Office of the Prime Minister. (2005). *The E-Governance Policy for the Public Service of Namibia*. http://www.eservice.org/

Ronzhyn, A., & Wimmer, M. A. (2019). Literature Review of Ethical Concerns in the Use of Disruptive Technologies in Government 3.0. In L. Berntzen (Ed.), *ICDS 2019: The Thirteenth International Conference on Digital Society and e-Governments* (pp. 85–93). Athens: IARIA.

Rosentraub, M. S., & Sharp, E. B. (1981). Consumers as Producers of Social Services: Coproduction and the Level of Social Services. *Southern Review of Public Administration*, *4*(4), 502–539.

Sorrentino, M., Sicilia, M., & Howlett, M. (2018). Understanding Co- Production as a New Public Governance Tool. *Policy and Society*, *37*(3), 277–293. doi:10.1080/14494035.2018.1521676

Stork, C., Calandro, E., & Gillwald, A. (2013). Internet going mobile: Internet access and use in 11 African countries. *Info*, *15*(5), 34–51. doi:10.1108/info-05-2013-0026

Tang, T., & Ho, A. T.-K. (2019). A Path-Dependence Perspective on the Adoption of Internet of Things: Evidence from Early Adopters of Smart and Connected Sensors in the United States. *Government Information Quarterly*, *36*(2), 32132. doi:10.1016/j.giq.2018.09.010

Thomas, J. C., & Streib, G. (2003). The New Face of Government: Citizen-Initiated Contacts in the Era of E-Government. *Journal of Public Administration: Research and Theory*, *13*(1), 83–102. doi:10.1093/jpart/mug010

United Nations. (2014). *UN e-government survey 2014: United Nations Department of Economics and Social Affairs (UNDESA)*. United Nations.

Weerakkody, V., Omar, A., El-Haddadeh, R., & Al-Busaidy, M. (2016). Digitally-enabled service transformation in the public sector: The lure of institutional pressure and strategic response towards change. *Government Information Quarterly*, *2016*(33), 658–668. doi:10.1016/j.giq.2016.06.006

Whelan, A. (2019). "Ask for More Time": Big Data Chrono politics in the Australian Welfare Bureaucracy. *Critical Sociology*. Advance online publication. doi:10.1177/0896920519866004

Zheng, Y. (2017). Explaining Citizens' E-Participation Usage: Functionality of E- Participation Applications. *Administration & Society*, *49*(3), 423–442. doi:10.1177/0095399715593313

ADDITIONAL READING

Akinsola, S., & Munepapa, J. (2021). *Utilisation of e-collaboration tools for effective decision-making: A developing country public-sector perspective*. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1560-683X2021000100006

Stewart Kaupa, S., & Atiku, S. O. (2020). *Challenges in the Implementation of Performance Management System in Namibian Public Sector*. https://www.researchgate.net/profile/Sulaiman-Atiku-2/publication/342657539_Challenges_in_the_Implementation_of_Performance_Management_System_in_Namibian_Public_Sector/links/5efee95d4585155050879e99/Challenges-in-the-Implementation-of-Performance-Management-System-in-Namibian-Public-Sector.pdf

Waldt, G. (2016). *Towards an E-Governance competency framework for public service managers: The South African experiment*. https://repository.up.ac.za/bitstream/handle/2263/59010/Van_Der_Walt_Towards_2016.pdf?sequence=1

KEY TERMS AND DEFINITIONS

E-Government: This is a state of affairs when the leaders of the state and different sectors control and administer rule of law via online platform.

Exploring: When one is trying to discover new information about something or topic of interest.

Impact: The influence something has over another which may cause positive or negative changes.

Integration: Putting or incorporating things to work together to achieve a common goal.

Management: The way to plan, control, organize, and evaluate functions of certain entity or organisation.

Public: Is the state which are free to people or community engagement.

Sectors: Different entities of the government which offer different services to the people.