

**DIGITAL TECHNOLOGY APPLICATION BENEFITS AND IMPEDIMENTS IN LAND
ADMINISTRATION IN SOUTH EAST NIGERIA**

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ABSTRACT

This study is an assessment of the extent of service delivery benefits obtainable from digital technology application to land administration and the impediments in South East Nigeria. The study is anchored on the critical relevance of land administration to sustainable development, the place of digital technology application in defining the current global standard in land administration and the reality that local and national practices that significantly fall short of global standards are no longer acceptable in today's world that has turned into a global village. Key service delivery benefits obtainable from digital technology application to land administration were identified and the extent of factors militating against their realization in the five states of south east Nigeria were assessed. Survey method was adopted in the study, using instrument of questionnaire. Purposive sampling technique was used, with sample size of 150 respondents involved, composed of land administration service providers comprising land officers, land surveyors, town planners and other support staff of the government ministries in charge of land administration in the states. Results revealed that the level of service delivery benefits obtainable from digital technology application to land administration is significant but the extent of factors militating against the application in the states is generally significant. The study concludes and recommends that in view of the significant benefits obtainable from digital technology application to land administration and the significant impediments to the application, therefore is urgent need for the states to remove all the existing impediments in order to migrate swiftly to a holistic Digital Land Administration System (DLAS) and be on current global best practices.

KEY WORDS: Land, land administration, digital technology application, global best practices.

1. INTRODUCTION

1.1 Background

Land administration undoubtedly stands out as a key driver of development based on the pivotal place occupied by land in the life of man and human activities. Land is often regarded as the single most important asset which can be possessed by an individual, an organization, a family, a community, a state or a nation. It provides the base for shelter (a basic need of man), base for food production (another basic need of man), and base for production of clothing (yet another basic need of man). Even security, which is now seen also as a basic need of man, has requirement for land. In fact, there is hardly any sector of the economy of a nation that has no requirement for land. Umeh (1973) holds that land is a fundamental necessity of life and the very foundation and framework on and within which social, political and economic activities of a nation function. Similarly, Adeniyi (2015) asserts that land is the ultimate and most basic resource on which the wealth of a nation and the continued existence of the population rest. Therefore, any nation that understands the focal position of land in her overall economy can never joke with the issue of land administration.

Land administration is basically the act of direction and supervision of public and private interests and objectives in land ownership and use, usually aimed at achieving a secure, harmonious, and peaceful public and private productive efforts in land ownership and use. Interestingly, the relevance of land administration to sustainable development has been acknowledged for nearly three decades now. Towards the end of the 20th century, the Bathurst Declaration (1999) identified and recognized the nexus between land administration and sustainable development, acknowledging the central place of land administration in dictating the pace of development.

Notably, the term “sustainable development” is a development concept defined by the UN’s Brundtland Commission (1987) as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs”. Although fundamentally enunciated to stand on economic, social, and environmental factors as the three pillars of sustainability, the phenomenal growth in the application of digital technology to virtually every sector of human activity in the current 21st century has brought technology as the fourth pillar of development sustainability. (Velpuri and Stendler, 2009).

As land occupies critical position in the life of people and with the reality that digital technology is now defining global best practices in land administration, it is worth noting that DevX (2024) refers to best practice as “a method or technique that is accepted as superior because it produces results that are better than those achieved by other means,” representing “the most efficient and effective way of accomplishing a task.” Hence, global best practices in land administration could be regarded as the approaches or methods that are globally considered as the standards that represent the most efficient and effective ways of land governance.

Land governance in every clime needs to be designed to serve the four basic functions of land administration, identified by Enermark (2009) as control of land tenure, land value, land use, and land development. These basic functions are the driving force for allocation and control of property rights, use restrictions, and use responsibilities upon which global best practices in land administration rest in order to protect land rights and permit those rights to be used and traded efficiently and effectively in terms of simplicity, fastness, security, and minimal cost. (Enermark, 2009; Williamson, 2000).

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

As things stand now, for a nation or state to be on current global best practices in land administration, the application of Digital Technology (DT) has become inevitable since the traditional analog approaches no longer have the capacity to drive and satisfy the demands of the 21st-century world. However, in Nigeria, it appears there are many obstacles to the application of this global new paradigm as the traditional analogue approach still appears dominant in the five states of south-east Nigeria.

1.2 Objectives of the Study

- i. To determine the level of potential service delivery benefits obtainable from digital technology application to land administration in the states of south east Nigeria; and,
- ii. To ascertain the extent of factors militating against digital technology application to land administration in the states.

1.3 Justification for the Study

The significance of this study lies in the critical place which land occupies in the life of human beings and every nation, which makes land administration stand as the soul and heart of good land governance for optimization of land economy of a nation. Based on the pervasiveness of DT application to virtually every field of life as the new paradigm in the 21st-century world, the need for a study on its application to land administration becomes imperative.

1.4 The Study Area

The study area is the South East geopolitical zone of Nigeria made up of the five states of Abia, Anambra, Ebonyi, Enugu, and Imo. Figure 1 is the Map of Nigeria showing the six geopolitical zones of the country, with the South East painted red; while Figure 2 is a map showing the five states of South East Nigeria.

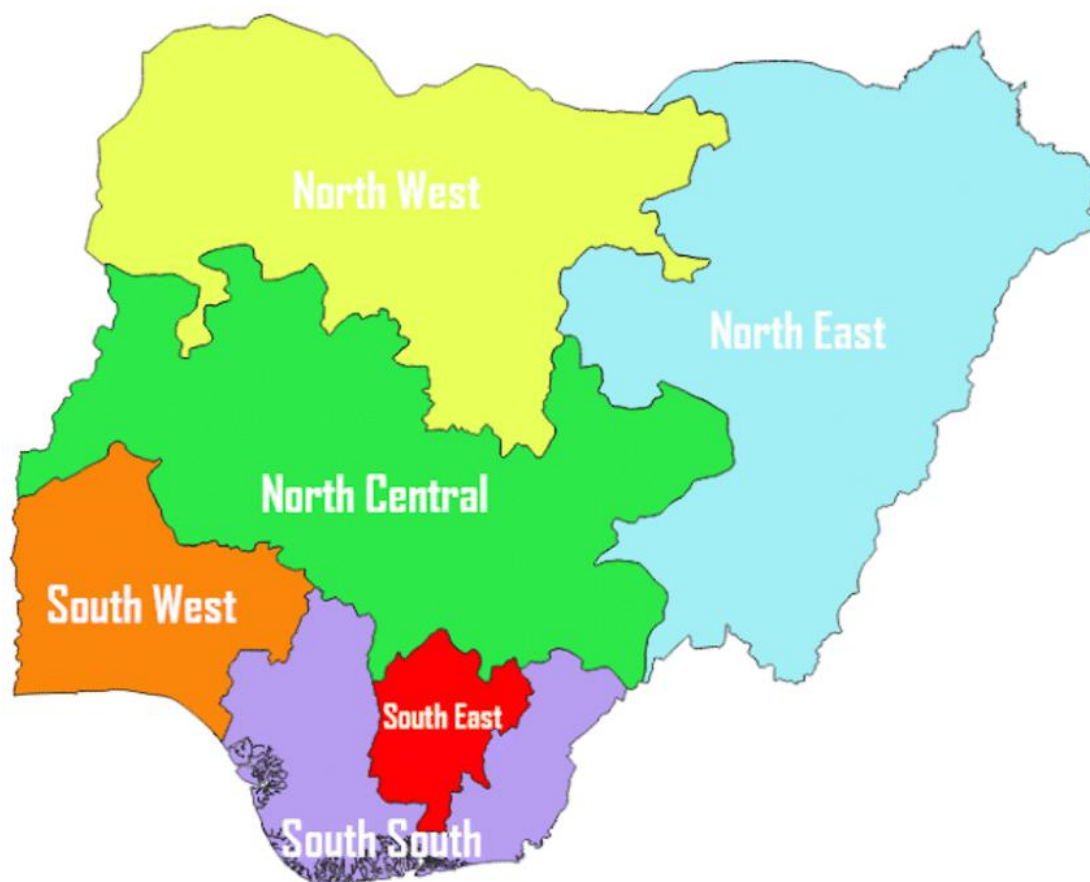


Figure 1: Map of Nigeria showing the six Geopolitical Zones of the country, including South East.

Source: Department of Surveying and Geo-informatics, Nnamdi Azikiwe University, Awka (2024)

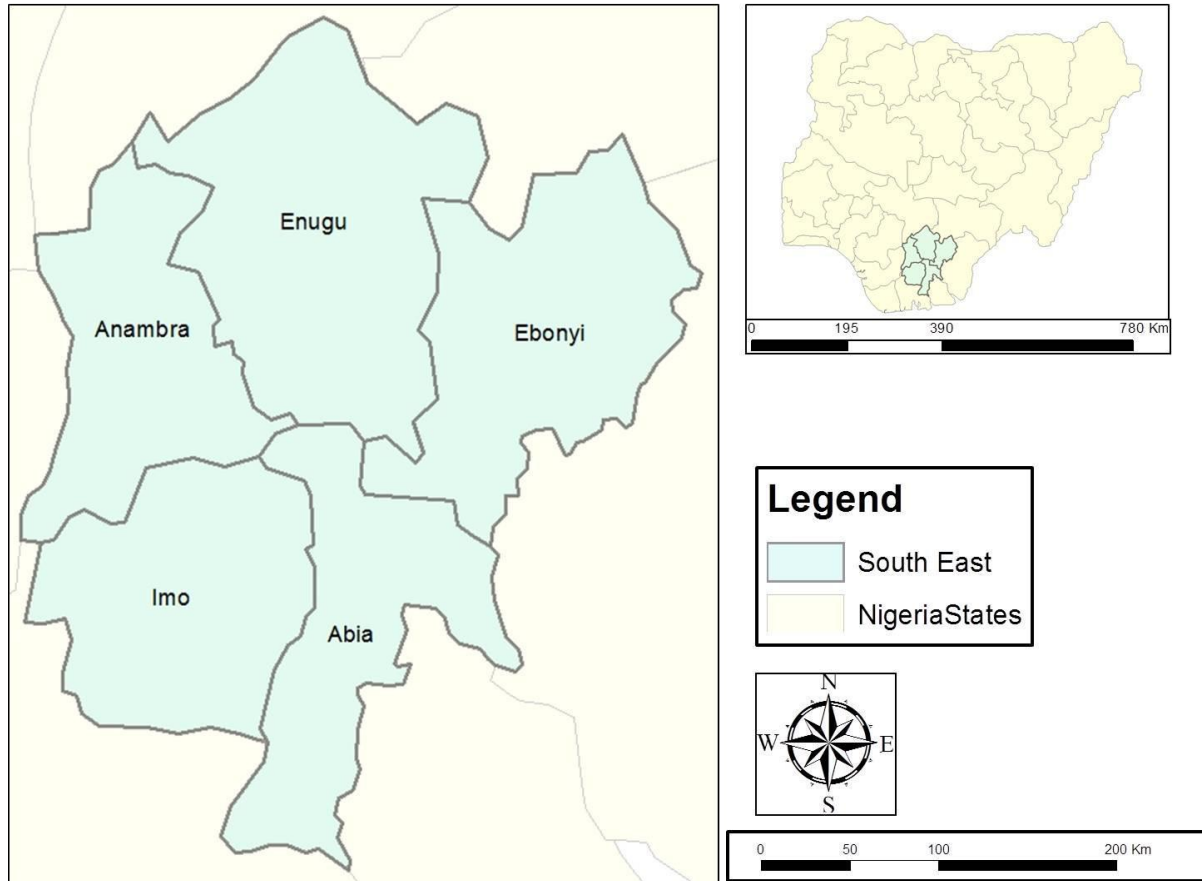


Figure 2: Map showing the five states of the South East, Nigeria

Source: Department of Surveying and Geo-informatics, Nnamdi Azikiwe University, Awka (2024)

2.0 REVIEW OF RELATED LITERATURE

2.1 The Concepts of Land

There are different perspectives from which land is seen. These different perspectives form what has been developed as the concepts of land. Over the years, six concepts of land have been identified (Umeh, 1967; Ogbuefi, 2001; Egolum, 2002). Thus, land may be viewed from the perspective of the physical, economic, legal, socio-political, spiritual, or abstract concept. Some scholars have now extended to a seventh concept by carving out from the legal concept what they identify as a statutory concept based on the statutory exclusion of minerals as part of land in Nigeria (Emoh and Nwachukwu, 2016).

The physical concept sees land as the earth's crust (the physical land); the economic concept looks at land as a factor of production; and the legal concept views land as the earth's crust with everything natural or man-made permanently attached thereto. From socio-political perspective, land is viewed as a territory over which a people have control; the spiritual concept views land from the religious perspective as obtainable in many African traditional societies, where land is seen as having a spiritual connection with the deity; and finally, the abstract concept derives principally from the interplay of the physical and legal concepts by seeing land in terms of rights and interests in and over the use of the physical earth.

2.2 Land Administration as the Driver of Land Policy.

Land administration essentially entails the direction, control, and supervision of land ownership rights and use to achieve desired objectives. It has been defined as *the process of determining, recording, and disseminating information about ownership, value, and use of land and its associated resources* (UNECE,1996). Its overall goal is fundamentally to drive the articulation and implementation of land policy. It presupposes that the state or government takes responsibility for overseeing and ensuring that the land resources within her geographical jurisdiction are administered and managed in the manner that protects people's land rights, investments, and developmental efforts (Agwubike, 2021). One thing considered critical in the operation of land administration is land registration

2.3 Land Registration as the Cornerstone of Land Administration

In land administration, land registration is arguably the central thing around which other things revolve. It is the nucleus, the center of gravity. Without land registration, land administration becomes hollow and of no functional use (Agwubike, 2021). It may be regarded as a system by which all matters evidencing or affecting ownership, title, rights, and interests in and over land are recorded in a legally backed register to serve as security of land title, rights, and interests, as well as serve as an information bureau in facilitation and support of land market transactions and mortgage financing. With land register, a record is kept on every parcel of land. Depending on the design of the register, recording may cover matters of ownership, location and site, size and shape,

rights/interests held, development status and value, and other sundry matters affecting the land, including any judicial decision (Onyike, 2016; Agwubike, 2021). The register is usually established and operated by the Government.

The benefits of land registration are many and include proof of land ownership, priority ranking in settlement of dispute, support of land market for easy transfer of title, security of registered interests, safe keeping of document as certified true copy may be obtained in case of loss of original document, supporting compensation claim upon compulsory acquisition of land or environmental damage, facilitation of mortgage loan operation, notice to the whole world on interest in land, simplicity and certainty of interest held during title search, improvement in market value, and facilitation of dispute resolution (UNECE, 1996; Agwubike, 2021).

2.4 The Concept of Digital Technology

Digital Technology (DT), also known as Information and Communication Technology (ICT) *“refers to electronic tools, devices and systems that process, transmit and store data in binary form. Unlike analog technology which carries data in wavelength signals, digital technology encodes data as true or false, on or off. It encompasses all the systems and devices that encode and use the binary number system to represent data. These devices range from digital watches and televisions to cutting-edge robotics and artificial intelligence”* (Berman, 2021). Simply, it represents technology that relies on the use of microprocessors in form of computers and other applications that are dependent on computers such as the internet and other devices, operating mainly as wireless network with increasing sophistication in application through configuration of hardware and software to achieve greater capacity and speed in receiving, storing, transmitting and displaying larger amount and variety of data for various uses (Agwubike, 2021).

2.5 Digital Technology as Definer of Best Practices in Land Administration

There is no doubt that the application of digital technology to every sector of human endeavour has experienced phenomenal growth in the 21st century. It has become the new paradigm that touches on every sector of human works of life, including land administration. DT has therefore become the current driver of global best practices in land administration. Ezealigo (2023) notes that the key goals of DT are to simplify the process, increase efficiency and ultimately produce greater user satisfaction in service delivery. On this, Onuora (2023), advises that the strategies for implementation of digital technology solutions for achievement of best practices are to: (i) research and select the right technology and service providers; (ii) create and develop a detailed implementation plan; (iii) invest in comprehensive training programs for staff; (iv) manage change, innovation and communication; and, (v) consider regulatory and legal frameworks to ensure that the chosen solutions comply with relevant regulations, data protection laws, and security standards.

2.6 Empirical Review

2.6.1 Service Delivery Benefits obtainable from Digital Technology Application to Land Administration in the states.

Studies have shown that digital technology application to land administration engenders a lot of service delivery benefits in land governance. A number of such studies include those conducted by World Bank Group (2008), Vos (2010), Akeh (2016), Nwokike (2019), El-Hallaq and El-sheikh Eid (2020), and Taurus and Wamae (2022).

The work by World Bank Group (2008) is instructive as it centred on *Application of Information and Communications Technology (ICT) to land related projects through both*

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

donor-supported interventions and autonomous development. The World Bank findings since mid1990s when it started application of ICT to land related projects is that there have been increasing advantages of substantial reduction in the time required to complete transactions, improved access to information by the public and other government agencies, reduction in the costs of data acquisition, and substantial contribution to standardization of system design. The demonstrated advantages of ICT application as well as the key lessons learned include more simplification, increased efficiency, less cost, and greater accuracy.

A study by Vos (2010) was on *the Dutch example in transformation to digital technology application to land administration.* The study showed that digitalization of the Dutch land registration produced many benefits, including speedy registration of deeds and accessibility of registered deeds for anyone who desires. The digitalization project which was executed incrementally in phases finally saw all paper documents scanned and digitally stored, resulting in a new speed of efficiency. It was a total shifting away from paper recordings. Documents became electronically recorded and existing as electronic documents and delivered with electronic signature that maintains the same evidential value as any hand written signature. The text contents of the electronic form of deeds became as comprehensive as the paper version. This considerably and tremendously improved the operational standards and registration efficiency. It manifested in improved productivity of both the registry, the operators and stakeholders in the system as well as improvement in the legal security of the land rights. The ultimate result was easy and fast access to getting facts from the system, producing the benefits of reduced search time and workload, and then faster and greater accuracy in service delivery.

Another study by Akeh (2016) was on “*The Role of Geographic Information System on Urban Land Administration*”. It posited that the current manual system of filing, storing, recording and retrieval of information relating to land can no longer be sustained in the face of the rising growth of information technology. As a recommendation, it made assertion for the adoption of GIS technology in land administration for facilitation of timely title registration process, improved tenure security, land information sharing, faster and reliable land transactions for efficient land market, reduction in corruption associated with land dealings, and decision support system to the Government at all levels in formulating and implementing policies relating land.

Nwokike (2019) directed attention to the *Effect of the Introduction of Land Information Management System on Land Administration in Anambra State*. The research was made with a view to ascertaining digital technology’s impacts on the performance of the State Ministry of Lands in professional service delivery to the society. The research relied on the opinions of land officers in the Ministry of Lands, registered private estate surveyors and legal practitioners in Anambra State. Sample size of 324 was derived using Taro Yamane Formula from the population of the study. The study used statistical tables and textual modes, using inferential statistics to present, analyze, interpret or explain the relationship between the independent and dependent variables. Using T-Test and Wilcoxon Signed-Rank Test with SPSS, the results identified the problems faced in analogue land administration in the state and found out further that the digitalized Anambra Land Information Management System has affected land administration positively in the aspects of ease in the retrieval of information for decision making (77.484%), increased revenue to government through the re-validation of titles

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

(76.194%), decrease in the cost and space required for storing land records (70.452%), and reduction in cases of land disputes (57.936%). It recommended that the Ministry should establish a website which will enable e-payment of land taxes, electronic application for Certificate of Occupancy and making enquiries about land in the state, initiate an enlightenment campaign to acquaint the general public on the relevance of computerization of land records as well as its inherent benefits to the state.

Similarly, El-Hallaq and El-sheikh Eid (2020) studied on *Development of a GIS Based Land Registry System for the Gaza Strip*. The study was against the backdrop that the system for land registration in the Gaza Strip was extremely traditional and leading to frequent conflicts between data on maps and on ground, making decisions relating to land problems not easily made. Thus, such an out-of-date system leads to difficulties in tracking and updating land owners and identifying the actual current owners. The research, from its results, recommended a new automated land registration system in the Gaza Strip. Through a multi-user unified database with identified access per user, the new system would ease land registration for both Gaza citizens and the Palestinian Land Authority's (PLA) employees. A user-friendly web-based GIS tool would accelerate the land registration process in addition to providing a decision support system for easy managing and interpreting attribute and spatial data in a precise logical manner that can create and maintain accurate, secure and comprehensive land registration system in the Gaza Strip.

Perhaps the study by Taurus and Wamae (2022) on *Land Records Digitization and Service Delivery in the Ministry of Lands in Kenya* could be considered as one of the most informative

on service delivery benefits of digital technology application to land administration. The study was on records continuum theory and the technology acceptance model. Using descriptive survey approach, the study focused on the staff at the Registry of the Ministry of Lands at Ardhi House as its target population. Primary data collection was by use of structured questionnaire patterned according to the study objectives. A sample of 154 officials involved in the lands records management system at the headquarters of the Ministry of Lands was used. The survey was preceded by a pretest survey of 10% of the sample population in order to pretest the validity and reliability of the research instruments. Data presentation and analysis were by use of descriptive and inferential statistical tools that included using tables and charts in data presentation. Results established that there was a strong positive and significant relation between digitization of land records and the service delivery at the Ministry of Lands in Kenya ($r = .806$, $\text{sig} = .000 < .05$), with observable implication that a unit change in the variables positively results in a unit change in the service delivery. The study in the end provided a strong advocacy for implementation of application of digital technology to land records management system for improved land planning and management, quick land information access that provides strong support for decision making on land matters.

2.6.2 Factors Militating Against Digital Technology Application to Land Administration in the States.

Notwithstanding the enormous service delivery benefits, some studies have presented the factors that militate against application of digital to land administration, including studies by Umeokafor (2010), Dugeri and Adama (2018), Babatunde, Oyetunji, and Oyetunji (2018), Bayern (2018), and Adjekophori, Ojeh, Anyanwu, and Mustapha (2020).

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

The study by Umeokafor (2010) was on *Review of Land Information Management in Enugu and Anambra States and the Potentials of GIS in Improving Land Information Management in the States*. Part of the findings from the study was that poor awareness and low level of knowledge and skill were impediments to application of digital technology to land administration. With this, the study recommended vigorous awareness campaign and training.

Dugeri and Adama (2018) conducted research on *The Challenges that have arisen in the Attempt at Digitalizing Land Administration System in Nigeria Using Kaduna State as Case Study*. The study was conducted using survey approach and sampling technique. It was done through a structured questionnaire that was administered on the officials of land administration in the state as well as other relevant stakeholders there. The questionnaire was structured in a 5- point Likert scale format. Data collected from the questionnaire were collated, analyzed and presented with the use of descriptive frequencies and percentages. The analyzed data showed that the major challenges that mounted obstacles to digital technology application to land administration were poor power infrastructure, low internet connectivity and paucity of trained personnel. Being a study outside South East Nigeria, extension to South East is needed.

In another study by Babatunde, Oyetunji, and Oyetunji (2018), it was investigation on *Barriers to ICT Deployment in the Nigerian Real Estate Practice*. The study sought to find out the barriers to the deployment of ICT in the provision of real estate services in Nigeria, using Lagos State as the case study. Geographically in the State, the study further delineated on the basis of locational pattern to the central business districts where there is agglomeration of real estate professional practice in the State. The study adopted survey method and used sampling

technique. The main research instrument was the use of questionnaire. The structured questionnaires were administered on 172 real estate firms and 516 heads of practice of the firms in the study area. In the sampling, stratified random and snowballing sampling techniques were used. The collected data were analyzed by use of the weighted mean score and simple t-test analysis. Results showed that the rapid changes in ICT technologies is the most challenging obstacle to deployment of ICT in real estate practice. As a recommendation for overcoming this obstacle, the study holds that practitioners should be on continuous improvement in their knowledge and skills on the use all forms of ICT software in real estate practice.

Similarly, from the study by Bayern (2018) on *The 5 Biggest Challenges to Digital Transformation and how to Overcome them*, there are things that have been identified as the usual associated impediments. Granted that the study was not particularly focused on land administration, there is need to also appreciate the fact that it never excluded land administration. It was a study that covered 1,000 business decision makers in various economic sectors. Survey approach was used in the study, applying sampling technique. Applying on the respondents, the business success areas measured were improved user experience and satisfaction (53%), greater market agility (49%), increased revenue and profitability (49%), increased employee productivity (49%), and faster time to market (48%). Generally, from the result of the study, drawn from Riverbed, it was observed that although as much as 98% of the respondents agreed that the use of digital apps for delivery of services is considered critical to best practice for achievement of operational success by company, as high as 95% of the respondents stated that there are obstacles encountered in attempt to apply digital technologies. It revealed that the topmost among the obstacles were budget (funding) constraints (51%),

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

overly complex or rigid legacy nature of IT infrastructure (45%), lack or poor end user experience (40%), lack of appropriately-skilled personnel (39%), and lack of buy-in by top leadership on prioritizing digital initiatives (37%). Based on these results, it recommended as solution the modernization of networks and infrastructure, better management of digital user experience, improvement in service desk capabilities, and accelerating of application development. The study is a generalized one on business decision making in various economic sectors which although did not exclude land administration requires a more recent and focused one on land administration in South East situation.

Adjekophori, Ojeh, Anyanwu, and Mustapha (2020) evaluated *the processes and constraints of land administration in Delta State Nigeria*. The descriptive research design was used in this study. Primary data were obtained through the administration of questionnaire on 277 respondents across five urban centers in the study State. The sample comprised 96 Estate Surveyor and Valuers, 168 Estate Agent/Private Property Developers and 13 Land Officers. Given the nature of the respondents, combinations of simple random and purposive sampling techniques were adopted in selecting the sample. Data gathered were analyzed systematically with descriptive and inferential statistical tools: mean score, standard deviation, relative impact index, factor analysis and Pearson-chi square. Findings revealed that land administrative, technical, financial, and market challenges were the major constraints.

111 . METHODOLOGY

The study adopted survey research method. The study population was land administration service providers in the states of south east Nigeria. They included the officers of the Department of Lands, Department of Survey, Department of Town Planning, Department of Finance/Revenue & Accounts, and Department of Administration, Research and Statistical Planning of the Ministry of Lands. These officers constituted the target population for the study. With this, the target population of the study came to a total of 1,779 from which a sample size of 327 was determined using Taro Yamani formulae. The research instrument for data collection was questionnaire structured in Likert Scale format. Out of the 327 respondents, 309 copies of the questionnaire were properly filled and retrieved. Data were analyzed with Analysis of Variance using Statistical Package for Social Sciences (SPSS).

IV. ANALYSIS AND RESULTS

This study analyzed data obtained from the study questionnaire and the two postulated hypotheses were each tested on null hypothesis. Decision Rule was to accept the null hypothesis if the p-value is greater than or equal to 0.05, otherwise reject it.

Hypothesis One: The level of service delivery benefits obtainable from digital technology application to land administration in the states of south-east Nigeria is not significant. In data analysis, one sample t-test was used and one set of observation was compared to a standard, using Analysis of Variance Statistical Package. The results were as shown in the table below:

Table 1: One Sample Statistics for Level of Service Delivery Benefits obtainable from Digital Technology to Land Administration

	N	Mean	Stan. Dev	Stan Error Mean
Level of service delivery benefits obtainable from digital technology application to land administration in Abia State	110	4.5948	.16480	.01571
Level of service delivery benefits obtainable from degree of digital	49	4.8659	.23220	.03317

technology application to land administration in Anambra State				
Level of service delivery benefits obtainable from digital technology application to land administration in Ebonyi State	13	4.3846	.53891	.14947
Level of service delivery benefits obtainable from digital technology application to land administration in Enugu State	92	4.3106	.37744	.03935
Level of service delivery benefits obtainable from digital technology application to land administration in Imo State	46	4.3199	.40984	.06043

Source: Researcher’s Statistical Computation, 2025

Table 2: One-Sample Test for Level of Service Delivery Benefits obtainable from Digital Technology Application to Land Administration. Test Value = 3.

	T	Dif	Sig. (2-tailed)	Mean Dif.	95% Confidence Interval (Lower)	95% Confidence Interval (Upper)
Level of service delivery benefits obtainable from digital technology application to land administration in Abia State	101.496	109	.000	101.496	1.5637	1.6259
Level of service delivery benefits obtainable from digital technology application to land administration in Anambra State	56.249	48	.000	56.249	1.7992	1.9326
Level of service delivery benefits obtainable from digital technology application to land administration in Ebonyi State	9.264	12	.000	9.264	1.0590	1.7103
Level of service delivery benefits obtainable from digital technology application to land administration in Enugu State	33.305	91	.000	33.305	1.2324	1.3887
Level of service delivery benefits obtainable from digital technology application to land administration in Imo State	21.842	45	.000	21.842	1.1982	1.4416

Source: Researcher’s Statistical Computation, 2025

The level of service delivery benefits obtainable from digital technology application to land administration in the states are significant, as seen from table 2, with p-values of 0.000, which are all less than 0.05.

- **Hypothesis 2:** The extent of factors militating against digital technology application to land administration in the states are not significant. One-sample t-test was used and a set of observations was compared to a standard.

Table 3: One-Sample Statistics for Extent of Factors militating against Digital Technology Application to Land Administration

	N	Mean	Stan. Dev.	Stan. Error Mean
Extent of factors militating against digital technology application to land administration in Abia State	110	1.6714	.26991	.02573
Extent of factors militating against digital technology application to land administration in Anambra State	49	2.7930	.18225	.02604
Extent of factors militating against digital technology application to land administration in Ebonyi State	13	4.8571	.23328	.06470
Extent of factors militating against digital technology application to land administration in Enugu State	92	3.6071	.09849	.01027
Extent of factors militating against digital technology application to land administration in Imo State	46	4.2236	.25315	.03732

Source: Researcher’s Statistical Computation, 2024

Table 4: One-Sample Test for Extent of Factors militating against Digital Technology Application to Land Administration

	T	Dif	Sig. (2-tailed)	Mean Dif.	95% Confidence Interval (Lower)	95% Confidence Interval (Upper)
Extent of factors militating against digital technology application to land administration in Abia State	-51.625	109	.000	-1.32857	-1.3796	-1.2776
Extent of factors militating against digital technology application to land administration in Anambra State	-7.950	48	.000	-.20700	-.2593	-.1546
Extent of factors militating against digital technology application to land administration in Ebonyi State	28.703	12	.000	1.85714	1.7162	1.9981
Extent of factors militating against digital technology application to land administration in Enugu State	59.130	91	.000	.60714	.5867	.6275
Extent of factors militating against digital technology application to land administration in Imo State	32.783	45	.000	1.22360	1.1484	1.2988

Source: Researcher’s Statistical Computation, 2024

The extent of factors militating against digital technology application to land administration in the states are significant, the p-values are 0.000, which are all less than 0.05.

4.2 Discussion of Results

From the results of the postulated two hypotheses, we discover firstly that the level of service delivery benefits obtainable from digital technology application to land administration in the states is significant. Secondly, that the obstacles that militate against application of digital technology to land administration in the states remained significantly high generally in the study area, except Abia State where the extent is relatively low.

V. CONCLUSION AND RECOMMENDATION

The study concludes that having regard to high degree of service delivery benefits obtainable from digital technology application to land administration and the high extent of obstacles to its application in the states of south-east Nigeria, it is now a necessity for every state in the region to urgently take steps in reforming her land administration practice by removing the impediments obstructing the application of digital technology to land administration. The crying need now in the study area is for rapid incremental replacement of the traditional analogue system with Fit-For-Purpose (FFP) Digital Land Administration System (DLAS). This is because under the current global reality, DLAS is the only land administration practice with limitless capacity and capability to make each state be on the current global standards. Therefore, each state in south-east Nigeria should adopt and prioritize her own Fit-For-Purpose DLAS (FFP-DLAS) in order to come up to the level of global best practices in land administration for efficient and effective service delivery.

REFERENCES

- Adeniyi, P.O. (2015). Land reform: *A critical success factor for land use transformation and environmental sustainability*. Paper presented at the 9th Annual Lecture of the Faculty of Environmental Sciences, NAU, Awka.
- Adjekophori, B., Ojeh, P. Anyanwu, M. and Mustapha D. (2020). Evaluating the processes and constraints of land administration system in Delta State Nigeria. *International Journal of Civil Engineering, Construction and Estate Management* 8(2),18-30. Sourced from <https://www.eajournals.org> on 17/11/2023.
- Agwubike, I. J. (2021). *Digital technology application and title registration as necessary paradigm in land administration for sustainable development*. Presented at the Mandatory Continuing Programm Development of Anambra branch of Nigerian Institution of Estate Surveyors &Valuers
- Akeh, G. (2016). *The role of geographic information system in urban land administration in Nigeria*. Cited from <https://www.researchgate.net/publication/322971102>.DOI:10.15406/moj.2016.01.0004 on11/11/2023.
- Bayern M. (2018). The 5 biggest challenges to digital transformation and how to overcome them. Sourced from <https://www.corporatemodelling.com> on 25/01/2023.

Bike, Ijeoma J., Emoh, Fidelis I., Oladejo Esther I.

- Berman, M. (2021). *What is digital technology? Programming insider*. Sourced from <https://programminginsider.com/what-is-digital-technology> on 20th October, 2023.
- Brundtland Commission (1987). *Our common future: Report of the World Commission on environment and development*. Retrieved from <https://www..are.admin.ch>mediaon> 5/01/2022.
- DevX, (2023). *Best practices* : Definition, Examples-Glossary-DevX. Cited from <https://www.devx.com>terms>best> practices on 05/03/2025.
- Egolum, C.C.(2002). *Fundamentals of estate management*. Enugu: Snaap Press Ltd.
- El-Hallaq, M. A. and El-sheikh Eid, M. I. (2020). Development of agis-based land registry system for the Gaza strip. *International Journal of Engineering Technologies and Management Research*. Sourced from <https://www.researchgate.net/journal/International-Journal-of-Engineering-Technologies-and-Mana> on 12/11/2023.
- Emoh, F. I. and Nwachukwu, C. C. (2016). *Land administration and management*. Awka: Christon International Company Ltd.
- Enemark, S. (2009). *Global Trends in Land Administration*. First International Conference of the Arab Union of Surveyors, Beirut. 29th June – 1st July. Accessed from <https://www.fig.net>councilon> 15/11/2022.
- Ezealigo, C. (2023). *Ethical considerations in the application of modern ICT tools to real estate practice in Nigeria*. Being a paper presentation at the MCPD Seminar organized in Enugu by NIEVS, Enugu State Branch.
- Nwokike, O. S. (2019). Effect of the Introduction of Land Information Management System on Land Administration in Anambra State. *Advanced Journal of Science Engineering & Technology*. 4,4. Cited from <https://aspjournals.org/ajset/index.php/ajset/article/view/7#:~:> on 12/11/2023.
- Ogbuefi, J.U. (2001). Concepts of land: A perspective study of the implication of land management in Nigeria in Property Law and Management Section of *Ebonyi Law Journal* of Ebonyi State University, Abakaliki.
- Onyike, J. A. (2016). *Land administration, control and management as an indispensable tool for improved revenue generation in Enugu State*. Paper presented at capacity building seminar organized by NIESV Enugu State branch for land officers in Enugu State.
- Umeh, J.A. (1973). *Compulsory acquisition of land and compensation in Nigeria*. London: Sweet & Maxwell.
- UNECE, (1996). *Land Administration Guidelines*. Sourced from <https://unece.org>publications> on 20/09/2022.

Velpuri and Stendler, (2009). *Role of land administration in sustainable development- Case studies of India and Switzerland*. Sourced from <https://www.fig.net>papers> on 2nd January, 2025.

Williamson, I.P. (2000). *Best practices for land administration systems in developing countries*. International Conference on Land Policy Reform held in Jakarta for Support for Long Term Development of Land Management Policies. Accessed from <https://web.worldbank.org> on 07/02/2023

World Bank Group comprising Stanley, V.; Cook, E.; Tarhanen, M.; Adlington, G.; and Bell, K. (2008). Information and Communications Technology in Land Administration Projects Cited from <https://openknowledge.worldbank.org/handle.....> on 9/11/2023