

Land registration within the framework of land administration reform in Lagos state

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This study identifies certain key features of the current land registration system which address the effectiveness of an Electronic Document Management System (EDMS) in land registration. The study uses both qualitative and quantitative data. The sample population for the study includes Lagos land title registration officials, practicing firms of lawyers and estate surveyors and valuers, from which the sample size was systematically drawn. The study employs descriptive statistics, mean item score and factor analysis to isolate critical factors germane to title registration. The paper concludes that EDMS has not aided boundary dispute resolution neither has it increased the number of applications processed. However, it has improved public confidence in transactions, centralized and consolidated file storage and facilitated availability of an on-line document search and retrieval system at the registry. It has also reduced waiting time for obtaining information on land matters and an improved managerial efficiency was identified as a strength. Furthermore, three critical components were identified as problems for land registration including lack of institutional framework, ambiguous legal framework and inadequacy of technical skills/competent staff. The study therefore recommends an all-encompassing system of land registration which will systematically increase registered titles, reduce land charges/cost and reduce boundary disputes.

Keywords: challenges; EDMS; effectiveness; land registration; sporadic titling; land administration reform

Introduction

Land registration generally describes systems by which matters concerning ownership, possession or other rights in land can be recorded to provide evidence of title, facilitate transactions and prevent unlawful disposal. It is also a system by which ownership of real property is established through the issuance of an official certificate indicating the name of the individual in whom such ownership is vested. Land registration as noted by Riddell (2000) and Joireman (2006) is necessary to enhance the capacity to defend individual rights of ownership where the need arises.

Despite its huge benefits, land registration is sometimes mitigated by poor administrative procedures experienced by applicants. Meadow and Arnot (2006) and Pienaar (2009) affirm that land administration in most parts of Africa and especially land registration is often associated with old, grey men shuffling around with maps and deeds which are unnecessarily time consuming, results in poor service delivery, delays in obtaining information, continual frustration of registry staff and opaque official procedures.

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Nigeria is not an exception to this. Recognizing the problems, Lagos State Government in 2005 introduced the Electronic Document Management System (EDMS) with the main objectives of first storing all available data electronically and second ensuring proper indexing of documents, to centralize and consolidate file storage, to make information available in an on-line real-time manner and to set up an on-line document search and retrieval system at the registry. The Land Registry co-ordinates the keeping and storage of proper records of all land transactions in the State. This includes registration of titles, deeds and certificates of occupancy, issuance of certified true copies of titles, judgment of land registry cases, public information service on land matters, land registry court, certificate of titles and other registrable instruments affecting lands within the State. The aim is to ensure efficient and effective land resource management that promotes equitable access, enabling an environment for land delivery, land information and an ability to contribute to the sustainable socio-economic development of Lagos State (Lagos State Land Bureau Handbook, 2010).

Land is a central issue in the development process and secure land rights underpin sustainable development by making it possible and attractive to undertake long-term investment (Arnot & Meadow, 2006). It is thus necessary to assess the effectiveness of the EDMS on ease of land registration procedures and emerging trends in Lagos State as an emerging mega city. The EDMS as a land administration strategy in Lagos is aimed to contribute to efficiency in the land administration system in Lagos, reduce boundary disputes and facilitate quick on-line search as a way of improving basic land information in the State as well as rehabilitation and digitization of land records and cadastral maps in Lagos. The objective set to achieve this is to assess procedures for land registration in the study location. Further, it seeks to identify significant problems affecting ease of land registration with a view to evolving appropriate solutions. Formalization of land rights has been promoted as a pre-requisite for economic development. High on the agenda for formalization is the need to ensure security of land transactions, ease of acquisition of land titles and ease of title registration. The underlying benefits, which have been noted by Deininger and Binswanger (1999), Deininger (2005) and De Soto (2000), include increased tenure security, a regulatory environment that promotes transfer to more efficient land uses and improved access to credit for sustainable development.

The Land Administration System (LAS) practiced in Lagos State is a sporadic method of titling where land registration is done at the request of the land holder (buyer of a land parcel). Adeniyi (2013) reported that not more than 2.5% of land in Nigeria has certificates through sporadic registration. Furthermore, Ukaejiofo and Nnaemeka (2014) noted that only 30% of the States (out of 36 States in Nigeria), Federal Capital Territory inclusive, have initiated improved land governance, being mainly computerization and application of GIS.

The current situation concerning land titling includes but is not limited to the following:

- official procedures to obtain certificates of occupancy are complicated, long, costly and prone to corruption;
- 97.5% of the property rights are not formalized and thus cannot be used as a security for mortgages (dead capital); and
- land tax collection is laden with incoherent land information depriving the government of the resources to build an effective system.

According to Kanji, Cotula, Hilhorst, Toulmin, and Written (2005), it is clear that the current systems which provide individual land title on demand (sporadic titling) favour high-income groups and investors in urban areas which is a fraction of the total population. This seems to deter an effective land market as land resources cannot be effectively used and exchanged when most land rights are unregistered.

Lagos being the most populous city in Nigeria and second fastest-growing city in Africa, also an emerging mega city, has taken a bold leap towards reducing administrative burden and conflict resolution and introducing a land information system through the use of a technology referred to as the EDMS. The underlying question in this research is how effective is the EDMS in the context of land titling and registration in Lagos. The following research questions were formulated to assess the effectiveness of EDMS in land registration:

- what is land registration;
- how effective is the EDMS technique used;
- what are the procedures of land registration and titling;
- what are the benefits of land registration; and
- what are the problems mitigating effective title registration in the study area.

Literature review

The act of registration is the culmination of a number of processes that feed into the registration system. Formal planning, surveying and conveyancing are highly specialised sets of activities that prepare property for registration and maintain its technical and legal integrity (Cousins et al., 2005). Arnot and Meadow (2006) note Lagos land registry was plagued with many problems, not least being the manual nature of processing of land titles and registration. This gave rise to a variety of problems including tedious official processes, continual frustration of workers attempting to locate files, data loss due to poor filing, long wait for feedback or reply, users of the registry expressing continual dissatisfaction and opaque official procedures. The system gave rise to poor service delivery, delay in obtaining information and rampant corruption.

This situation could not be allowed to continue and Lagos State Government in 2004 had a vision for a more viable, modern, effective and workable land management system. Thus it was decided to embark on a comprehensive project whereby all title documents kept at the land registry were to be archived onto a data base to enable easier access for users of the registry. This led to the development of the EDMS now in use at the land registry. The project itself began in January 2005. Janssen (2014) defines EDMS as a software system for organizing and storing different kinds of documents. This type of system is a more specialized kind of document management system, a more general type of storage system that helps users to organize and store paper or digital documents. EDMS refers more specifically to a software system that handles digital documents, rather than paper documents although, in some instances, these systems may also handle digital scanned versions of original paper documents. Furthermore, electronic document management provides a way to centrally store a large volume of digital documents. Many of these systems also include features for effective document retrieval. It is also a collection of technologies that are used to create, capture, index, distribute, review, maintain, store, retrieve and dispose of information assets.

Major components of EDMS include imaging, document management and workflow processing. EDMS is often primarily used for archiving. In order to provide good classification for digital documents, many electronic document management systems rely on a detailed process for document storage, including certain elements called metadata. The metadata around a document will provide easy access to key details that will help those who are searching archives to find what they need, whether by chronology, topic, keywords or other associative strategies. In many cases, the specific documentation for original storage protocols is a major part of what makes an electronic document management system so valuable to an organization.

However, from observation, Lagos lands bureau needs more sophisticated software for decentralization of database and promotion of on-line processing as files are still been monitored from one office to the other. The five major keys to a successful implementation of EDMS include project planning, standard EDMS features, document management security, workflow automation and system integration. EDMS helps create a single centralized repository of all electronic documentation with features such as version control, access control and audit trail. Its workflow ensures complete compliance with management guidelines since it resolves the crisis of managing, finding and tracking documents in a critical information-intensive regulatory environment. It also provides printing of barcodes on documents, helping to track details like date of printing, document code, author, version, origin and document validity. However, the interoperability of the reform is yet to commence as files continue to be transferred from one office to the other manually instead of an online web interaction between processing officers.

Steps taken towards implementation of EDMS include employment of an external consultant to the project, with proposals from different consultants assessed to evaluate and assess the solution best suited to the need of the Land Registry and Survey Directorates. The company found to have offered the best solution was thus invited to commence the project. They moved to site in August 2004 and work commenced as follows: the physical sorting of files, purchase of file racks and shelves, installation of equipment, wiring of network, testing of the system, employment of staff, installation of software for scanning, managing, retrieval, searching of documents and, for the database, testing of software on the network.

Furthermore, total refurbishment of the land registry was done as there was need to create a better working environment to attract customers and lift staff morale, purchasing equipment such as computers, shelves and photocopiers. In addition, steps were taken to ensure adequate security and fire alarm system, security monitors were also placed in strategic locations around the premises to monitor the movement of visitors to the registry, re-organization of staff and offices, staff training and scanning the backlog of documents with over 9.6 million pages of documents scanned (Arnot & Meadows, 2006). Thereafter, new documents are being scanned as they trickle in.

Finally, an EDMS Management Committee was set up comprising representatives of the external consultants managing the project, and senior staff from the land registry. The role of this committee is to monitor the progress being made in the computerization process as well as solve any/all operational problems which may arise.

Challenges of Lagos land registration

According to Arnot and Meadows (2006), the UK Government's Department for International Development (DFID) supported the reform of Nigeria's land registration

processes under the auspices of its Security Justice and Growth programme between 2005 and 2010. The British Council supported by Her Majesty's Land Registry provided both practical and technical assistance to a number of Nigerian State Lands Bureaux in order to improve physical security of records and buildings, enhance organisational capacity and encourage greater participation in land markets. The provision of such assistance is seen as a pre-requisite to promote greater confidence in land markets and assist with economic development. However, the number of registered land titles is yet to increase significantly as EDMS is a management tool used in converting manual records to digital as well as enhancing quick on-line search. There is, therefore, a need for an effective Land Administration Strategy (LAS) such as Systematic Land Titling and Registration (SLTR) as a strategy for social cohesion and economic development as experienced in Jamaica (Koh, 2014) and Uganda (Gasant, 2014).

According to Griffith-Charles (2004), land titling is the initial process of formally recognizing rights to land while land registration is the process of initially recording legally valid rights to land. The author asserts that title registration carries the additional guarantee not only of those rights being valid but also of the transactions regarding those rights being legally recognized by virtue of the recording process. Moreover, subsequent transactions in land must be recorded in the registration system at the time of transaction to be legally valid or to have legal priority over unregistered transactions. The conversion of land records from paper to digital began in the 1970s where paper records with large number of staff were replaced with computers and trained managers and technicians in the western world (Williamson, Enemark, Wallace, & Rajabifard, 2009).

Therefore, Nigeria needs to prepare for the challenge of converting manual titling and registration to digital for interoperability. Department of International Development (DFID) (2010), notes that government needs to monitor and manage the ownership and value of land in order to enable and stimulate the growth process. It is for this reason that land registration systems play an important part in the growth process as an effective land administration system records and disseminates information about the ownership, value and use of land. Moreover, Koh (2014) and Gasant (2014) note that various land administration strategies embarked upon in Jamaica and Uganda are seen to have increased tax payers, decreased land registration fees and enhanced land information.

Oboli and Akpoyoware (2010) reported that various steps have been taken by government to improve surveying and land registration. At the Federal level, the Federal Land Information System (FELIS) has been set up to facilitate land transactions and administration while Abuja Geographic Information System (AGIS) was introduced in the Federal Capital Territory (Abuja) under an electronic data capture scheme. In Lagos State attention is being paid to registration of land titles and business enterprise identification while standardization was given high priority. Other states that have taken a bold leap forward to modernize land administration include Ogun, Benue, Anambra, Kano, Jigawa, Niger, Ekiti, Ondo, Cross River, Enugu and Delta. Moreover, DFID (2010) affirms that effective land administration may reduce poverty by giving people guaranteed protected land rights, which serve as a source of personal wealth and provide opportunities for economic independence.

Furthermore, accessible land administration systems can also serve to protect land transactions, allowing citizens to buy and sell land securely. More so, when land-related court cases and conflicts are taken into account, the lack of an effective land administration system can represent a significant financial burden upon both State and Federal governments alike. This is why efficient land registration has a positive impact on

access to justice. Arnot and Meadow (2006), Griffith-Charles (2004) and UNECE (2005b) further identified the importance of land registration as giving government a capacity to manage a valuable natural resource so sustaining the rule of law by regulating real estate and land markets and providing security not only for landowners but also for national and international investors and the finance sector.

Moreover, it assists the development of labour markets by easing labour mobility, assisting the development of financial markets by providing collateral security, assisting in the creation of new business entrants and providing government with a source of revenue which may be used for a variety of purposes. Furthermore, it brings transparency to the allocation, distribution and other transactions on land, provides information for land reform or land redistribution policies, provides access to a secure tradable commodity, provides access to formal services and rights and provides access to credit for investment in either business or human capital and promotes good governance.

Binswanger and Deininger (1993) assert that there are some exogenous economic and social factors that complicate the relationship between land titling and formal land markets. Van der Molen (2002) adds that the problems of land registration include granting of land title being too slow and time consuming, land title hardly reflecting what is on ground and so threatening the security of many customary right holders. Kuntu-Mensah (2006) and Larbi (2008) identifies some challenges to effective land registration systems as being institutional, technological, and financial constraints.

The institutional issues revolve around lack of a comprehensive approach, as there are too many agencies involved in the registration process. For instance, the activities of surveying, conveyance and registration of land parcels are spread among different agencies resulting in duplication of efforts. The processing of a Governors Consent for example, may involve the Survey Department, Town and Country Planning, Lands Commission and the Land Title Registry, each of which successively depend on the other for some certificates. This generally causes delay, with a title registration taking on the average between two to three months. Technological and resource constraints revolve around the available technologies with most agencies being inadequate to match the current demand for land transactions as many simple tasks take a long time because of lack of appropriate tools and technology necessary to execute them, while more personnel need to be trained in information technology and computing procedures.

Financial constraint revolves around financial support and grants from international bodies. Typically, the registration fees may not generate enough revenue. Even so, the registration fee of about 13% of the total land value seems too high for some landowners and makes them unwilling to register their title. Hence, it is rather uncertain if the registration system can support itself without government subsidy.

Benefits of Electronic Document Management System (EDMS) at Lagos registry

It should be noted that EDMS does not relate to GEMS3 and SLTR but is a prerequisite for Land Administration Strategy in Lagos. The EDMS scans and captures data which allows an organization to control the production, storage, revision, management and distribution of electronic documents, yielding greater efficiencies in the ability to re-use information and control the flow of documents within an establishment (Arnot & Meadow, 2006). The registry has been transformed by the introduction of the EDMS and the associated changes which include documents having been archived into a database for easy accessibility by users, manual searching of documents having been

eliminated and introduction of an online searching capability which makes searching of documents less time consuming, so aiding easy monitoring and control.

Availability of industrial photocopiers which contain a backup system that can cope with large volumes of Certified True Copies of documents has increased effectiveness in service delivery. Alongside the establishment of the EDMS, progress has been made in the production of digital base maps to provide accurate and up to date information. An ethos of staff training has been developed and computer training has been to the fore. External consultants have given training in customer service, change management, time management, project management, supervisory management and systems administration. Finally the land registry website (www.lasg.com) has been established to promote easy access to information.

Historical background - Lagos land registry directorate

There was no Land Registry in Nigeria until after the cessation of Lagos by King Docemo to the British in 1861. Therefore, before the advent of the colonialist, land was simply administered under Native Law Custom. That meant land in Lagos was administered according to Yoruba Custom. The first type of land instrument operated in Nigeria was known as Crown Grant and the first one was registered in 1863 while the last of such was registered in 1918. In the same year, compulsory survey of land before registration was introduced. However, modern survey did not come into being until 1934.

The Land Registry used to be known as Federal Land Registry and was located at the Federal Survey Office at Igbosere Road, Lagos. With the creation of Lagos State in May 1967, the Registry became known as the Lagos State Land Registry and it moved to the premises of the High Court of Lagos State Complex, Igbosere. The State enacted its own version of all laws, which included Land Instrument Registration Law (1925) and State Land Law (all Registration Laws). The Land Instrument Registration Law confers authority on the Registry to have custody of all registered land instruments, which include Deeds of Assignments, Leases, Sublease, Mortgages, Releases and Assents, Orders of Court/Judgements, Purchase Receipts, among others and in recent times, to include Certificates of Occupancy.

In Lagos, the deeds and titling systems are in operation. Deeds operate under the Land Instrument Law and Land Use Act, while titles operate under the Registration of Titles Law as well as the Registered Land Law 1965. Currently, the Land Registry Directorate in the Lands Bureau is the most developed land registry in Nigeria and indeed West Africa (Lagos State Land Bureau Handbook, 2010). As a result of current State government's vision to revamp and computerize land management systems in the State, a viable, modern storage and tracking of land titles system has been put in place.

There are three types of land registration in Nigeria as noted by Oluyede (1978). These include registration of instruments, registration of title and registration of encumbrances or charges. The technical evolution of land registration according to Williamson (2008) emerged from manual systems where hard copy maps and indexes are used prior to the computerization stage where scanning of survey plans and other relevant document take place. This has further moved to online land administration with the aid of web enablement with e-land administration allowing for interoperability and i-land administration spatially enabling government and private sectors in land transactions.

Lagos Lands Bureau, according to DFID (2010), has been at the forefront of improving land registration processes in Nigeria. Since 2004 and from early 2005 the

bureau has been engaged in a programme of improvement and reform aimed at upgrading facilities, modernising operations and making information more accessible to citizens. At the initial stage, the system was paper based and extremely cumbersome. Processes were time consuming and open to malpractice and abuse. The objective was to computerise the land records and reduce the administrative burden to both the Lagos State government and the ordinary citizens transacting with land. The first stage was starting with the deeds and file records, Lagos undertook a mass scanning exercise for all their land records culminating in the creation of an electronic document management system. This innovation reduced access times for information and ensured the preservation of valuable existing land administration information.

The next step was the creation of a public access interface to the records which now allows external practitioners to undertake searches online, being a key process in property transactions. Now property searches that previously took days can be completed in minutes while public confidence in the system has also increased as a result of this dynamic computerised service. Further consultancy input from the Department for International Development in conjunction with Nigeria's Security Justice and Growth Programme (SJG) has enabled the Lands Bureau to continue to develop this resource to create a framework for recording and processing subsequent property transactions online, again increasing their potential to improve customer service.

Having computerised the vast majority of their records by late 2005, the focus shifted to reducing application processing periods. The result was a reduction in completion times from over a year in many cases to just 30 days for a correctly lodged application. By the end of 2006, the number of land transactions being handled at the Lands Bureau had doubled when compared to 2004 (DFID, 2010). This was also due to new transparency initiatives and simplification of the fee structure enabling ordinary citizens to calculate their own transaction costs.

Further process analysis and consultancy input supported by Security Justice and Growth Programme (SJG) resulted in additional efficiencies, enabling the State government to lower overall fees and taxation by 50% whilst simultaneously increasing overall revenue due to the increased uptake of these services. In fact, according to DFID (2010), the level of revenue generated by the land registry in 2008 was almost five times higher than in 2004 and is continuing to grow steadily and across all categories of transactions.

Effectiveness of EDMS in land administration

EDMS is a management tool for converting manual data into digital form while enhancing quick on-line search. This is a pre-requisite for effective land administration reform. Land administration reform is a critical requirement to reduce the administrative burden to Lagos State government, stakeholders and ordinary citizens transacting on land. Where countries lack robust and tested land administration systems, significant dysfunctions can occur which include weak land markets, conflict over ownership, social disharmony, reduction in yield, negative impacts on the environment, lack of an essential policy tool that can assist governments in creating a civil society with democratic norms and reduced potential for economic growth.

The overall effectiveness of EDMS is directly dependent upon the extent to which a new strategy such as SLTR is employed to systematically boost land registration in Lagos State. As such, EDMS has only contributed to the land administration reform in Lagos State through digitization of manual land data and archiving, being a prerequisite

for effective land administration strategy. The following are the major features of the EDMS employed by Lagos land registry:

Documents Creation:	Document Publishing:
<ul style="list-style-type: none"> • Document preparation • Creation of reusable header Footer Templates • Configurable review approval workflow • Optional word or HTML- based document Editor • E-forms as documents 	<ul style="list-style-type: none"> • Publish documents in PDF or word • Publish created document to a category • Publish external document to a category • Organize documents • Publish documents directly from external applications
<p>Authorization and access control</p> <ul style="list-style-type: none"> • Configurable document access controls • Access policy setting for single or group of docs • View permissions through HTML • Document print controls • Document edit controls 	<p>Alerts and Intimations</p> <ul style="list-style-type: none"> • Configurable event-based alerts • Critical documents access alerts <ul style="list-style-type: none"> o Opened by o Printed by o Duration • Review- due alerts • Pending action reminders
<p>Application Integration</p> <ul style="list-style-type: none"> • Document log in through external applications • Document view through external applications • Organize documents through external application 	<p>Dash boards</p> <ul style="list-style-type: none"> • Documents stored in each category • Documents under each department • Documents coming up for review • Tasks • Usage behaviour

Systematic Land Titling and Registration (SLTR)

The objective of a systematic land title and registration process is to accelerate the land title registration process using the section by section, block by block, parcel by parcel and one parcel, one visit principle where all relevant information required for issuing land title can be captured on a single visit to the property. However, this system is yet to be adopted in Lagos State due to bureaucratic bottle necks, extensive funding requirements and political structure of the country.

Presently, there is an on-going project on SLTR which commenced in 2012 and tagged supporting project implementation by Adam Smith International (ASI) in conjunction with DFID/World Bank funds to support improved business regulation through Growth and Employment Project (GEMS) in some parts of the country excluding Lagos. GEMS3 works with private and public stakeholders at national, state and local government levels to build and deliver a systemic framework that will help make it easier to do business in Nigeria. This is to achieve lasting improvements in economic opportunities for the poor, especially women. The goal of the project is to improve the business environment in order to increase employment and economic growth and thus GEMS3 is targeting the improvement of land, tax and investment systems in a number

of ‘focal’ states. The goal of the proposed intervention is to raise the supply of securely titled land in pilot States by regularizing and bringing a substantial number of informally held properties within the realm of the land rights’ statutory system, thus offering right-holders in particular the women and the poor a higher degree of protection and enforcement.

Some of the States where the pilot study is on-going include Niger, Kano, Kaduna, Kogi, Cross River and Ondo. The consideration of SLTR is crucial because, as asserted by Adebisi (2013), since formal land registration began in Nigeria in 1863, not more than 2.5% of the land in the whole country has been registered. There is therefore an urgent need to implement SLTR in various states of the federation as EDMS seems only to have improved the storage of files in digital form, quick on-line search as well as reducing administrative burden.

Theoretical framework: Integrated land registration system

According to Van der Molen (2002) there are three basic requirements of the traditional (western) land registry and cadastre:

- persons exercising real rights are unambiguously identified, whether as individualized right holders or as defined members of a legally recognized body;
- rights to land are unambiguously defined either by statutory law or customary law; and
- the object of exercise of rights is well defined and eligible for determination by geometrical processes which could either be individualized or mapped.

Land registration theory asserts that land activities support the economic, social and environmental development of a country (Gershon, 1999). A good land registration system should provide a country with the infrastructure to efficiently implement land-related policies and land management strategies. Land in modern administration includes resources and buildings which are the land itself and all attached to it or under the surface as well as the marine environment (UNECE, 2005a). The adoption of land registration systems as noted by Williamson, Enemark, and Rajabifard (2008) provides an integrated framework to aid decision makers to make choices about improvement of systems. This is based on the organised systems used throughout modern western economies where the latest technologies are available. It is also applicable to developing countries that struggle to build even rudimentary systems. The improvement of integrated land administration involves using four basic ingredients in the design of any national approach which includes the land management paradigm (with its four core administration functions of land tenure, land use, land valuation and land development), common processes found in every system, a toolbox approach (offering tools and implementation options) and a role for land registration in supporting sustainable development.

Methodology

This a longitudinal enquiry spanning 10 years (2005–2014), covering the period over which Lagos State has embarked on land registration reform. Land registration involves procedures by which land rights are recognized, the definition and delimitation of boundaries between parcels, recording of information about land rights, right of holders and parcels, procedure governing land transaction, resolution of uncertainty or adjudication of disputes concerning land rights and boundaries, institution and processes for

land planning, controlling and monitoring of land use, land valuation and taxation procedures and land reform programs aimed at redistributing or reconfiguring land areas. However, this study is limited to the effectiveness of EDMS in registration in Lagos State. This study, therefore, seeks to identify some of the challenges which emerged administratively since the introduction of the land registration reform in Lagos in 2005 with a view to evolving appropriate solutions.

The methodology is structured according to a series of questions that serve to demonstrate the effectiveness of EDMS in land registration in the study area. Primary data about EDMS in relation to land registration between 2005 and 2014 were obtained through questionnaires, interviews and observations. The sample frame considered for the study are the 318 practicing firms registered with The Nigerian Institution of Estate Surveyors and Valuers, Lagos State Branch who are referred to organized group of professionals who engage in title search and documentation processing aside from property management, valuation and agency practice amongst others and the 1214 registered firms of the Nigeria Bar Association, Ikeja Branch, Lagos State. A systematic random sampling technique was adopted in the sample selection in which every 10th firm on the registration list was drawn for the study. This gives a total of 153 comprising the sample size for the study.

Questionnaires were randomly distributed among the sampled firms while interviews were conducted among the members of staff of the Lands Bureau. Qualitative data were collected from open interviews with stakeholders including the Land Bureau officials while quantitative data were collected through structured questionnaires. These questionnaires were designed to examine the effectiveness of EDMS objectives in relation to land registration in the study area. To complement the primary data collected, a thorough review of the historical documents, official reports, news articles and interviews with stakeholders was carried out to facilitate a detailed understanding of the present situation of Lagos land registration system and its challenges.

The structured questionnaire was designed to seek the opinion of the respondents on the level of effectiveness of EDMS on land registration on a 1–5 Likert scale (using 1 for strongly disagree, 2 for disagree, 3 for indifferent and considered fairly agree, 4 for agree, 5 for strongly agree).

Data analysis – EDMS-registration

This section presents the response of interviewees and respondents on the EDMS strategy embarked upon by Lagos State government. The EDMS software installation was outsourced; however, the EDMS-title registration process was carried out by the Lagos State Land Bureau staff members only. Seventy-one per cent of the interviewees reported that their cadastral map is available on-line (Williamson, 1981). The finding also showed that titles on the digital map are yet to be indexed by way of a link to the title registers. In the event of a loss of title and record the respondents indicated that it took average of a month to restore full customer services as against the two-weeks claimed by Lagos State Lands Bureau. Even though the EDMS-registration aspect of the land administration is manned by the staff in the Ministry, in about 66.7% of all available cases the process of boundary mapping/cadastral is outsourced. The objectives of EDMS which are to store all available data electronically, to ensure proper indexing of documents, to centralize and consolidate file storage, to make information available in an on-line real-time manner and to set up an on-line document search and retrieval system at the registry has

been achieved to a large extent. However its effectiveness is sometimes mitigated by power failure, internet disruption and over centralization of work.

Effects of the current EDMS strategy

The analysis examines the effect of the current land registration practice in Lagos State. In the second column of Table 1, the magnitude of the effect of the listed factors is given in terms of average score. The factors are ranked in the order of the mean scores. The last three columns of the Table report the result from one-sample t-test that delineates significant factors.

From the above, the first five (5) factors in the table (improved public confidence in transaction, centralized and consolidate file storage, availability of on-line document search and retrieval system at the registry, reduction in waiting time for obtaining information on land matters and improved managerial efficiency) are considered most important on two grounds. First, they all yield a score above 4.00 units bound. Second, they are statistically different from a test value (benchmark) of 3.49; $p < 0.05$. This indicates that EDMS in Lagos State has improved digitization of land records, being a pre-requisite for an effective land administration system. However, it has not aided boundary dispute resolution nor has it increased the number of applications processed and increased revenue generation. This study indicates that, contrary to Arnot and Meadow (2006) who identified improvement in revenue generation for the State as one of the likely benefits of EDMS, there has not been any substantial improvement in revenue generation in the State. This is further supported by the Lagos State recent reduction of land charges from 13% to 3% in first quarter of 2015.

The study also investigated average time taken in processing application for change of ownership and application for deemed grant and re-certification. Findings showed that for majority of the respondents, it took more than 120 days to complete the processing of any of the aforementioned titles. However, about 3.5% of the sampled population affirmed completion of Governor's consent processing within 30 days.

Table 1. Effects of the EDMS on land registration practice.

	Mean	t	df	Sig.
Improved public confidence in transaction	4.50	4.517	5	0.006
Centralized and consolidate file storage	4.50	3.499	3	0.040
Availability of online document search and retrieval system at the registry	4.33	4.000	5	0.010
Reduction in waiting time for obtaining information on land matters	4.33	4.000	5	0.010
Improved managerial efficiency	4.17	4.060	5	0.010
Management of information and statistical data	4.00	NA	NA	NA
Noticeable improvement in the work ethics of the registry	4.00	NA	NA	NA
Better administrative effectiveness	4.00	1.975	5	0.105
Boundary disputes reduction	3.83	0.855	5	0.431
Improved number of application processed	3.83	2.060	5	0.094
Increased revenue generation	3.40	-0.177	4	0.868
Overall	4.11	8.242	5	0.000

Source: Authors' Fieldwork, 2015.

Principal Component Analysis

Principal Component Analysis (PCA) was adopted to explore critical problems affecting land registration in the State. The results are shown in Tables 2–5. The data displayed factorability potential based on the Bartlett's test of sphericity. Initially, four components were identified and these together explained 82.52% variance, with high impact emanating from first and second components as implied from the percentage of variance.

With a clear cut at third point from the Scree Plot in Figure 1, three factors were extracted for rotation using Varimax method.

The three explored factors together explained 75.59% variation as seen in Figure 1, compared to 82.52% by un-rotated factors.

The rotated component matrix indicates sufficient loading on three components. The dominant variables on the first component are lack of institutional framework, lack of legal backing and lack of supportive policy. These have a common theme centred on institutional factors. The second component centres on the ambiguous legal framework being high loading factors. On the third component is inadequacy of technical skills/competent staff. The key success of the EDMS strategy is the continuous data

Table 2. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.359
Bartlett's Test of Sphericity	Approx. Chi-Square	924.52
	Df	136
	Sig.	.000

Source: Authors' Fieldwork, 2015.

Table 3. Total Variance Explained (Eigenvalues).

Component	Initial Eigenvalues		
	Total	Percentage of Variance	Cumulative Percentage of Variance
1	7.196	42.332	42.332
2	4.327	25.452	67.784
3	1.329	7.815	75.599
4	1.176	6.917	82.516

Source: Authors' Fieldwork, 2015.

Table 4. Total variance explained after rotation.

Component	Initial Eigenvalues		
	Total	Percentage of Variance	Cumulative Percentage of Variance
1 Institutional Factors	7.196	42.332	42.332
2 Ambiguous Legal Framework	4.327	25.452	67.784
3 Inadequacies of Technical Skills/ Competent Staff.	1.329	7.815	75.599

Source: Authors' Fieldwork, 2015.

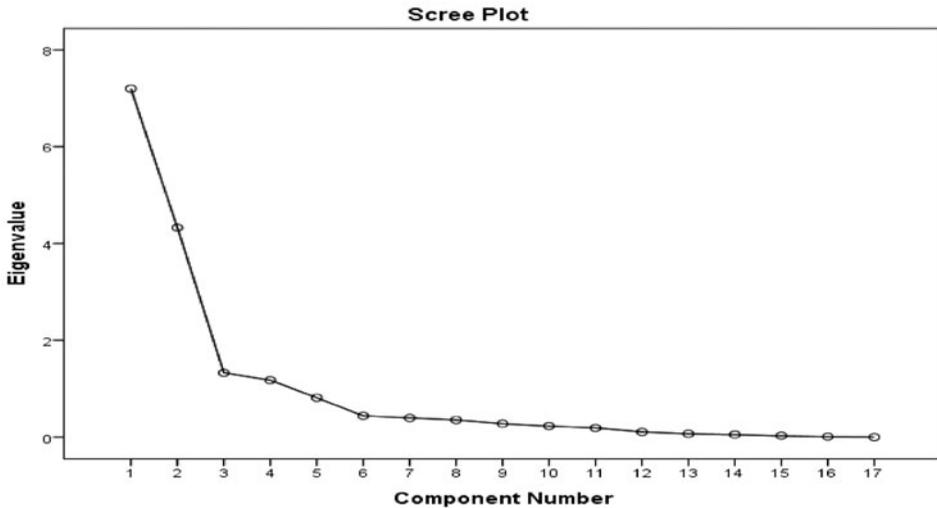


Figure 1. Scree plot from principal component analysis.
Source: Authors.

quality and improvement process which has led to improved confidence in transactions as evidenced in Table 1.

However, this has not increased land title registration since the sporadic method of land registration is deeply entrenched where individuals or landowners walk in at their instance for land documentation. Therefore, the SLTR need to be urgently embarked upon as a necessary prerequisite for social cohesion and economic development in Lagos State. The institutional and ambiguous legal framework is still an issue of concern which needs concerted effort by all stakeholders for the effectiveness of SLTR. Furthermore, training and capacity building should be continuous for usability and sustainability of the EDMS strategy in Lagos State, being a prerequisite for an effective land administration system.

Discussion of findings

This study gives indication to the problems experienced during the land registration process in Lagos. The problems are ranked in order of severity as lack of institutional framework, the second component centring on the ambiguous legal framework and third component being inadequacy of technical skills/competent staff. The problems of land registration include granting of land title being too slow and time consuming, land title hardly reflecting what is on ground and so threatening the security of many customary right holders. The institutional issues revolve around lack of a comprehensive approach, as there are too many agencies involved in the registration process which makes the process ambiguous with the activities of surveying, conveyance and registration of land parcels being spread among different agencies resulting in duplication of efforts. This generally causes delay, with a title registration taking on the average between two to six months if not more.

Technological and resource constraints revolve around the available technologies with most agencies being inadequate to match the current demand for land transactions due to few skilled personnel knowledgeable in information technology and computing

procedures. EDMS, as seen in Table 1, has improved public confidence in transactions, centralized and consolidated file storage, created availability of an on-line document search and retrieval system at the registry, reduced waiting time for obtaining information on land matters and improved managerial efficiency. These are pre-requisites for effective land administration reform as well as a reduction in an ambiguous legal framework.

Conclusions and recommendations

The importance of institutions providing land owners with secure tenure and allowing land to be transferred to more productive uses and users is contended to be high. This implies that, under appropriate circumstances, interventions to improve land administration institutions, in support of these goals, can yield significant benefits. This study focused on insights into the current scope and content of Lagos land administration and the EDMS.

This study has identified certain key features of the current land registration strategy which address the effectiveness of EDMS in land registration. Overall, the purpose of EDMS in land registration has been achieved as improved public confidence in transactions, centralized and consolidated file storage, availability of on-line document search and retrieval system at the registry, reduction in waiting time for obtaining information on land matters and improved managerial efficiency were identified as its strengths.

However, it has not aided boundary dispute reduction nor has it increased number of applications processed. Furthermore, three critical components were identified as problems of land registration including lack of institutional framework, ambiguous legal framework and inadequacy of technical skills/competent staff. This study therefore recommends adoption of an all-encompassing system of land administration which will systematically increase registered titles, reduce land charges/costs and reduce boundary disputes with continuous training and capacity building of staff for competency and effective handling of land registration matters.

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