AN EVALUATION OF THE IMPACT OF INFORMATION AND COMMUNICATIONS TECHNOLOGY ON REAL ESTATE PROFESSIONAL PRACTICE IN SOUTH-EAST ZONE, NIGERIA

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ABSTRACT

The potential of information and communication technology for improving the quality of professional services in real estate profession is generally acknowledged. Many reports on information and communication technology exists in developed countries while very little exists for developing countries. The aim of this study was therefore to examine how information and communications technology has changed the working processes of the real estate professionals and the current state of information and communication technology in the real estate industry. The research was conducted at three levels; the firm, the institutions of higher learning and the public sector practice. The results of a structured questionnaire survey of firms, institutions of higher learning, and the public sector practice were presented. The results indicated that while most aspect of the profession has been largely computerized data and document management is still done in the traditional way in most cases. Most professionals use internet mainly for emails and its potential in other areas that are strategic are yet to be fully exploited. The impact of information and communications technology on professional practice has been mainly in making jobs easier for the professionals, facilitating decision-making and savings in operating costs, among others. The notoriously inefficient national electric power supply system and high cost of computer hardware and software in relation to the dwindling fortunes of real estate professionals in Nigerian depressed economy are key obstacles to increased investments. However, most of the respondents were optimistic about the future of information and communication technology in real estate professional practice. The findings it is hoped, should guide the profession in adopting appropriate policies to internalize the globally acclaimed benefits of information and communications technology.

Keywords: information, communication, technology, real estate professional, practice, real estate industry, estate surveyors and valuers.

INTRODUCTION

That the world is currently experiencing phenomenal changes in social, political, economic and technological spheres cannot be disputed. One fundamental instrument for this increasing transformation is technology, especially computer technology, and evolution of low cost, global communications system which constitute major challenges that will dominate and fundamentally shape developments in the 21st century, particularly in the economic and financial sectors (Usman, 1999). The rapid growth of information and communication technology since the latter part of the 20th century has been an important contributor to improvements in all facets of human activity. In fact, information and communication technology has increasingly become part of our daily routine. Dixon (2005) citing Perez (2002) and Gordon (2000) notes that in over hundreds of years, periods have occurred when technological change

has brought about radical changes to the market boundaries, increasing the scope to exploit intellectual capital. Examples according to Kakulu (2008) include printing, steam power (including electricity), canals, and railways, mass media, and more recently information and communication technology. Udechukwu and Soremekun (2006) citing Brady (1991) and Olawore (1999) suggested that the world of today is propelled by information, in profound proportion, via the agency of information. Information, in the present times, more frequently described a fourth resource, is essential as land, labour and capital in the production process; advances in information technology have tremendously facilitated the processes of gathering, storing, handling and utilizing this vital resource from the above, it could be viewed that information has become very important in all spheres of human activities. This led to the aptness of terming this 21st century the information age (Emeagwali, 2003; Udechukwu and Soremekun, 2006). Information and communication technology improved the process of information sharing and communication which is now quicker. The use of computers is common in our everyday activity and its usefulness extends to teaching, research and taking managerial decisions. Akinboye (2008) asserted that information and communications technology had thrown up great challenges for national economies by reducing the world further into a global village as well as by providing enormous information through a wide range of inter-connectivity.

Developing nations have considerably increased information and communications technology access especially for telephone services and the internet. Nigeria though ranked as a third world country or a developing country is also experiencing a boom in the economy as a result of information and communications technology, this contradicts the expectations of researchers like Davenport (1993), Odedra-straub (1996), Chin and Fairlie (2004) based on their views that developing countries have low information and communication technology penetration rate. This has greatly helped to record substantial success in various businesses in the country. Information and communication technology is developing in Nigeria just like other developed nations of the world. There is a huge improvement in the development of mobile phones as the number of subscribers increased from 370,000 in 2001 to 16.8million in September 2005 making the phone market the second largest in Africa (Kakulu, 2008). Oladapo (2006) asserted that the potential of information and communication technology for improving the quality of professional services is acknowledged. He further stated that substantial reports have been recorded in countries like US (Issa et al., 2003; Toole, Finland (Samuelson, 2002) and New Zealand (Doherty, 1997) among others, comparatively few exist in developing country like Nigeria. While it is not surprising that the findings are similar in many respects for these industrialized countries, the results, according to Austin (1990), might not be applicable to a developing country like Nigeria due to differences in cultural, socio-economic and regulatory environments (Javenpaa et al; 1998; Dewan et al, 2000; Seyal et al., 2000).

Information and communication technology is often claimed to enhance working processes and has the potential to transform organizations and entire industries. The idea is meant to support status quo, but fundamentally and radically reshape organizations and industries (Crowston and Myserb, 2004;

Crowston et al, 2001). In the context of the real estate professional, many changes have occurred in the profession. For instance, Mendelson and Kraemer (1998) say " changes in information and communication technology have transformed not only organizations, the nature of interactions among them, their boundaries and the industries they operate in' (Mendelson and Kraemer, 1998). From the above, it could be clearly seen that a lot of transformations have happened as a result of information and communications technology in the south-east zone. At the firm level, changes in working conditions in terms of property management and agency. At institutions of higher learning, the changes are reviewed as it affects individuals and at the public sector, the working processes.

The real estate professionals in Nigeria operate in a competitive market where new development emerges and where information is very essential. Given the rigorous process employed in the real estate business processes via the traditional processes, the real estate professional is expected to be conversant with new technologies and the changes that comes with it if the goals and objectives of the organization is to be successfully achieved. The real estate professional handles enormous amounts of transactions and records and keeps details of projects which are handled which are usually recorded in papers and stored in filing cabinets. Retrieving information from these files and updating these files is always time consuming especially in situations where large volume of data is involved. In agency practice, the process of obtaining information for assembling of properties for sale or lease, advertising and securing buyers and tenants is rigorous, as the number of properties increases, finding information becomes difficult. In such circumstance, keeping track on changes and matching the client's requirement becomes difficult.

In the public sector practice, proper documentation and data management remains a major challenge for works personnel (Kakulu, 2003). The volume of landed property data handled by state ministries in the south east zone is bulky and as a result takes up considerable space with the use of traditional filling method. Retrieval and updating of these records are done via the manual method and searching for titles in properties may take weeks or months and as a result fraud is often committed. Therefore, it is often common that two individuals might have title to one property. Schools are faced with absence of e-classrooms, modes of obtaining information, filling and documentation.

The study is meant to show relationships between the real estate industry and available changes in the processes as a result of the adoption of information and communication technology. The working processes are reviewed at three (3) levels; private sector, public sector and the institution on the assumption that the three levels have taken into consideration all aspects of the profession. The research also reviewed the current use and the prospect for increased use and the extent of adoption of information and communications technology by real estate professionals.

Review of Related Literature

Information and communications technology is one of the most outstanding breakthroughs in technology since the invention of computer. It is viewed as the study, design, development, implementation,

support or management of computer based information systems, particularly software applications and computer hardware (Kakulu, 2008; citing ITAA). Information and communications technology also facilitates collecting, storing and analysis of information that may be transmitted electronically and includes telephones, communication lines used to enhance communication between employers and employees, businesses and customers, and business across physical boundaries (Foo, 2002). Information and communications technology is also concerned with handling, collection or capturing of information, its storage and finally the communication of processed information to the point at which it was to be used (Dixon, 1998). Appropriate and enabling technologies are applied to information processing and the interest centers on computing, telecommunications and digital electronics including mobile phones, hardware, and software.

The term " Real Estate according to Hemuka (2002) means property that is actually existing, genuine or immovable and such properties includes land, buildings, structures, piers, dams, and all types of development on land. The practice as stated by Kakulu (2003) refers to anything done in connection with real estate from acquisition through development, management, maintenance and disposal. The real estate practitioner's work requires high level of information documentation, processing, storage and retrieval. His information intensiveness is such that tools and technologies would speed up documentation, management and information handling that is professionally necessary. Accuracy, correctness, completeness, relevance, timeliness are required to meet the real estate professional needs. Their role in performing the core functions of valuation, property management, estate agency, maintenance management, project management, feasibility and viability appraisals etc. to meet society needs are essential and therefore information and communications technology is required ensure apt performance. This has resulted to a paradigm shift from the traditional processes to digital processes in the industry.

Information and communication technology is gradually precipitating changes in industry structure and in ways companies work and compete. The idea of potential transformation of entire industries is not meant to support status quo, but to fundamentally and radically re-shape organizations and industries (Crowston et al., 2004). Also the resulting decline in the costs of information processing and communication lead to restructuring of businesses changed the nature of interactions among them, their boundaries and modes of operation. The enhancement via information and communication technology has resulted in fundamental change and adoption of more advanced systems. Some of such advancements include:

The mobile phone which supports a variety of other services such as text messaging, internet access, email, MMS, gaming, photography, short term wireless communications etc is a device that can make and receive calls over a radio link while moving around a wide geographic area. The United Nations report, states that the mobile phones have spread faster and has enhanced livelihood of the poorest in developing countries by providing access to information in places where landlines or internet are not available. In the real estate industry, information accessibility, mode of information communication, complex

interactions and negotiations is enhanced and no restrictions are made.

The email facilitates exchange of messages, mail information, and swapping of data files. The email is similar to the manual process for addressing, writing and mailing a hard copy letter, the main difference is that the manual process requires the use of paper, envelop, stamp and have your post office deliver the letter, whereas email requires only an email program, the correct email address and an internet connection. Through this medium communication to other branches, vetting and easy access to clients is possible.

The hardware are the physical components of the computer and consists of both the input and output devices for specialized tasks. The input and output devices includes scanners, touch screens, digital cameras, webcams, mouse, touch pads, monitor, keyboard functions, display and transmitting of information from computer to computer. All the above, aids the performance of work functions of the real estate professional.

Real estate business and the impact of information and communication technology

The principal application areas for information and communications technology within the real estate industry in Nigeria includes; property management, maintenance, agency, valuation and portfolio management.

Agency is the fiduciary relationship created when one person acts on behalf or under the control of another. Agents are seen as intermediaries and have significant effect on economic activities of a nation. For such a relationship faith and trust are necessary. Information and communication technology have enhanced the traditional agency processes, properties are now listed online as opposed to the traditional method of listing on the firm's board, property gazette, newspapers and magazines. In Nigeria, properties are listed on property 24, the Nigerian property centre, private property, Olx.com etc. Estate surveyors are afforded the opportunity to list their properties which are viewed by individuals and organizations. A seller may decide to use an agent to sell a property which is listed in the Multiple Listing Service (MLS); the MLS are general listing services on the internet where properties for sale and lease are listed. Agents alone have the ability to use the services due to their organizational affiliations and networks with real estate boards that holds proprietary right to MLS data (Saber and Messinger, 2010). Typical agency software's have been developed to provide database structures for storing details about properties, companies, agents, applications, clients, tenants, and landlord and perform functions to create a diary of events, mailing lists, archiving and storage of comparables and generation of property particulars (Kirkwood, 2003). Generally, information can also be disseminated via the use of mobile phones, companies' websites. Negotiation and execution stages can be done online while tying and editing, filing, documentation and storing of information can be done through the computer, hard drive or flash.

Property Management entails the operation and control of commercial, industrial and residential real estate usually on behalf of the owner. It is an activity that seeks to control interests in property owner for a purpose which the property is held and embraces a wide

variety of interrelated activities associated with leases (Singh, 1996; Kakulu, 2008). The primary functions of property management are threefold: achieve the objectives of the property owners, generate income for the owners, and preserve or increase the value of the investment property (Kyle, 2000). A property manager cannot survive without his records, his inability to maintain a good filing system will render the whole process ineffective. Data should be sorted and kept separate for easy collection, retention and retrieval of records (Nwankwo, 2004). Information and communication technology application has a number of advantages over the manual system including the ease of storage, the ability to retrieve large amounts of data required, economy of space, reduction of operational cost and time (Olawore, 1999). Database such as computerized property management systems (CPMS) e.g. *EstMan* is available in the market to all property managers desirous of computerizing their operations. The CPMS comprises of elements such as data relating to the properties, the landlords, the tenants and the leases in digital form (Adebiyi, 2003). *Financial record keeping* is a crucial activity in property management; book keeping calculations are performed automatically including accounts receivables. Accounting programs are used to reduce the tedious process of adopting the manual systems. Drafting of documents and letters for tenants are made easier and less time consuming with the use of software's.

The new software programs offer template for letters as well as pre-written form of letters to meet all sorts of needs; late notices, eviction notices, lease termination and letters on all types of problems. If the software does not have a letter one needs to save after drafting. Specifically, in connection with review and renewal of tenancies and other action dates, a completely automatic key date's system is available (Kyle, 200; Stapleton, 1994). Properties are marketed via websites which displays information like the firms brochure, properties of clients available for sale or letting, these information are made easily accessible the widest audience and the public with no boundaries. Alile (1997) identified that, with multimedia technology, marketing rental properties has become more sophisticated in the sense that “you can walk through houses… without leaving your room”. Property owners can create personalized website to show pictures and views of all property, rental applications and news, advice from experts in the real estate industry. Office automation can increase the size of operation and enable real estate offices to grow. Inter office communication will be better, faster and cheaper. Communication over long distances and transfer of computerized data speed is enhanced.

Maintenance; Software packages are developed to tackle maintenance issues. Three areas that require information and communication technology support includes; recording and monitoring, assessment and analyzing the condition of property, predicting costs. To enhance maintenance through information and communications technology, the problems have to be identified quicker, the performance analyzed to ensure that information are made readily available to enhance performance. Detailed financial records are stored on the system or a data to be updated as changes occur. These records are relied upon to give exhaustive record of all transactions.

The Study Area

Three states were adopted to compare changes due to information and

communication technology. They include Anambra, Enugu and Imo states. Due to the vast nature of the states, the state's capital only was adopted for the purpose of the research. Anambra state is an inland state with its state capital at Awka; Enugu, the capital of Enugu state is noted for its coal deposit, the largest in Africa while Owerri, the capital of Imo state is named after the Imo River.

For the study to be duly addressed, qualified and experienced Estate surveyors working in Estate firms, institution of higher learning and ministries were adopted. Primary and secondary sources of data were adopted. Out of the 185 questionnaires distributed 141 were returned. The frequency distribution table, pie charts and analysis of variance (ANOVA) were adopted for data presentation and analysis.

Findings

The tests were carried out separately for each state to check the significant relationship between information and communication technology and changes in working processes of real estate professionals. The first analysis was conducted for Anambra state, where the Ho proposed that there is no significant relationship between information and communication technology and changes in working processes, the answer was recorded in a 5-point scale and the results indeed proposed that there is significant impact as information and communication technology has changed the working processes. The second hypothesis on the current level of usage of information and communication technology and its future prospects, it was perceived that although estate surveyors are currently using information and communication technology that there is need to fully adopt it in all aspects of their work. Most of the estate surveyors are of the view that consistency in use ensure future improvements in all aspects of their work.

The same tests were conducted for both Enugu and Imo states with slight difference in results. Though the least square difference was adopted to tackle the difference and find out the fault. The three results were compared and a consensus was reached that information and communication technology has impacted in several ways especially changes in working conditions.

The questionnaire also tackle some of the questions, cross tabulation was adopted to compare the results from each state. The initial part of the questionnaire checked the level of experience of the professionals, level of computer literacy, number of information and communication technology users and level of usage while the other part tackled the information and communication technology tools, software adopted by professionals and changes in conduct of their work. The results indicate that the professionals are experienced while few are inexperienced information and communication technology users. The results also indicate that most hardware and software are used by professionals, except for few like video conferencing, GIS and GPS etc.

The results of the research generally indicate that the mobile phone is widely used by all respondents. 50% of the respondents are of the view that the internet and business application program such as spreadsheets, databases, word processors and computer aided design program has greatly enhanced their working processes. The results show high level of computerization among

professionals who use desktop and laptop and low level of computer literacy, for a developing country like Nigeria, this contradicts the expectations of Davenport (1993), Odedra-straub (1996), Chin and Fairlie (2004) based on their view that developing countries still have low computer penetration rate. The results also indicates that insufficient power supply is the most prominent factor that impede the use of information and communication technology, other prominent factors include high cost of computer hardware and software, inadequate information and communication technology tools in institutions of higher learning. The results also indicate that the major impacts of information and communication technology lies in facilitating decision making, makes the job of the professional easier, savings in cost of operation.

Recommendations

To maintain their businesses, real estate professionals must recognize the growing importance of information and communication technology and its potential impact on value. As a relevant profession the need to remain at par with the rest of the industry by a gradual shift from traditional methods to information and communication technology is important. To take on this challenge, estate surveyors and valuers should be fully trained and sufficiently literate to adopt information and communication technology products in every aspects of their professional practice. The Board and the Institution should take on the challenge and help train estate surveyors on the impact of information and communication technology.

CONCLUSION

Information communication technology in Nigeria has advanced from level zero to the current situation on ground and a lot is yet to be done to achieve a situation where the working processes are easier and faster. Currently, new advancements have been proposed and we need to change and be at par with other professions. The institutions really need to look at those areas that need advancement and work in line to enhance such areas.

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