

Management Information System (MIS) Application in Estate Surveying and Valuation Practice in Abuja Metropolis, Nigeria

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Abstract

This study examined the application of Management Information System by Estate Surveying and Valuation Firms in their professional practices. The study attempts to assess its effect on the staff performance with regards to their professional practices. The instrument used for data collection was self-administered questionnaires with a total of fifty-four (54) copies administered to registered Estate Surveying and Valuation firms based in Abuja metropolis which constitute 40% of 135 firms in the metropolis and the whole of the fifty-four copies administered were retrieved representing 100% response rate. The data analysis was achieved using simple descriptive statistics. Relative Importance Index (RII) was used to rank the impacts of the variables using a 5-point Likert scale. The study revealed that MIS to be a useful technological tool that can be used to access the necessary information required for decision making process. The study however showed that most Estate Surveying and Valuation firms were not enlightened about the inherent potentials of the MIS applications to the day-to-day running of Estate Surveying and Valuation firms. However, the major challenge militating against the usage of most of the information technology including MIS by some of the Estate firms has to do with lack of technical know-how. The study recommends the need by the ESV Firms to identifying the best type of MIS that best suit the operations of the various aspect of their professional practises such marketing, agency, property management, property development, record management, human resource management, financial or accounting aspect, etc. for efficient service delivery of activities.

Keywords: Management Information System, Estate Surveying and Valuation, Abuja Metropolis, Nigeria

1.0 Introduction

Studies have shown that technology has evolved significantly as a very crucial aspect of development Adetola & Omonijo (2019), culminating in changes in the way and manner businesses are being run in today's world Oludayo & Omonijo (2020), thereby reflecting changes in the nature of production process. Since about three thousand B.C, mankind has been known for keeping, recovering, manipulating and communicating. However, its origin in modern life could be traced to the work of Leavitt and Whisler, (1958), who argue that new technology

does not have one established name and that the descriptions ascribed to technology are in three-fold. These include the procedures for processing, the engagement of numerical and mathematical systems in making decisions and the simulation of higher order of thinking through computer programmes as contained in Wikipedia (2014).

The need for business management has become imperative in view of difficulty entailed in a business enterprise or management (Olowookere, Odukoya, Omonijo, Adekeye, Igbokwe, Elegbeleye & Okojide, 2020). Management constitutes an important aspect of man's economic life and regarded as vital to the body of modern social organisation marked through scientific or logical thoughts and technological improvements (Karam, n.d.). In today's business world, organisations and firms are often in haste to enhance their capability so as to be able to cope and survive amongst their competitors. Hence, organisations are trying to advance the level of their sharpness, agility or activity by improving on their making decision skills to have more efficient and effective results in order to align with market fluctuations. Many firms often adopted the use of information technology in an attempt to achieve efficiency while few of these organisations have absolute knowledge on the significance of applying management information system (MIS) to their practices for the purpose of achieving more effective results.

Drucker (2005) cited in Robinson (2012) identified the basic function of management to involve marketing and innovation as management described the act of generating corporate policy, organising, forecasting, planning, controlling, coordinating and directing an organisation's resources aimed at achieving the objectives of the organisation.

Management Information System (MIS) refers to man, technology, corporate society, organisation and the relationship between them (Dakolo, 2009). Karim (2011) described MIS as a coordinated perspective of data required for management at different level in making operational, deliberate and strategic decisions. MIS is seen as a scheme that entails collection of processed data (information) which is provided to managers at all levels who make use of such information for decision making, planning, program application, and control (Vahid, 2013). It summarises, analysis and manages any type of data which is beneficial to company's management body. This includes areas such as marketing on social media, sale, human resource management, inventory and any other necessary data that will be needed for the company or organisation. MIS is used in such a way to monitor an organisation's performance or routine in factual time which is applied within an establishment and contains an entire information, different communication medium that are orderly and organised. Information system thus, has all elements in the gathering, collection and distribution of data and involves changes in software, hardware, communication channels, data and people which could be of great advantage.

MIS are information-based systems that give managers online access to existing performance of the organization and historical account or records. In line with Izuchukwu (2017) who stated that planning, controlling, organising and decision making are amongst the functions offered by MIS at the different management level, where managers also use this information gotten to gain more

insight into different department's activities. It aids in automatically producing weekly, monthly, quarterly or yearly reports and can also be retrieved to yield special information or report when required. The system has an effect on the process of implementing strategies with regards to contributing to the development of specific measures or procedures concerning a process for making decisions, in fast tracking the process of decision making by providing factual and fast data to managers which will eventually help managers to make the best decisions. The fall of the matter is that of recent, managers are often confronted with abundant information, information as data processing have been able to recognise, analyse, maintain and recover information for utilisation. Management information system is not entirely different from other information system. The difference is that it provides a general setting on various information or data systems that are compatible with each other.

Estate Surveying and Valuation (ESV) practice are involved with decisions at various stages, starting from choosing the right tenant to ways of properly managing these tenants and information is the life blood of ESV practices to make right decisions. Estate firms and practitioners are under financial and other organisations and as such information is very essential for their activities. However, making correct decisions is always very important to the profession and if the relevant information needed to make decisions or if an organisational plan is not available at the right time, it will result to poor organisational planning, priority of needs will be poorly set, improper decision making and defective or poor setting of activities (Adebayo 2007 as cited in Reddy, 2009).

The advantage of MIS has not been utilised to its full potential by most ESV firms and the use of ICT has been implemented but more so many firms have adopted it wrongly because it has not been properly managed hence, there is inadequacy in delivering the best result. In simple terms ICT (information communication technology) deals with communication soft wares while MIS is a much broader view that deals with information system as a whole such as the people involved, communication channels, data, etc. whereby there are processes to deal with soft wares for effective result and the process for acquiring more data on a chosen subject matter from higher levels. Most Estate Surveyors and Valuers depend only on their NIESV (Nigeria Institute of Estate Surveyors and Valuers) and ESVABON (Estate Surveyors and Valuers Registration Board of Nigeria) certification without broadening their ICT and MIS knowledge which has limited their knowledge and prevented these professionals from being most effective in the performance of their duties.

It has been observed that there is no proper means of assessing or increasing the performance of staff activities in ESV firm, the assessment of staff activities is majorly done as a result of what is brought to the table like briefs, either management or for sale briefs. This is so because there is little understanding in regards to MIS which is necessary to acquire more information on organisational activities, acquire knowledge from other business enterprise that has made progress in the area of management information and to examine or study those aspects in order to enhance ESV firm's level of performance.

In order to get new strategies in getting new customers as clients an understanding and application of marketing MIS or any other type of MIS will broaden the scope and knowledge of Estate professionals (ESV) on business intelligence and competitive intelligent which would enhance the decision on how to penetrate into the market and attain both new business opportunities and potential clients. Also, when the right soft wares are not adopted in keeping up to date information for adequate follow up of management properties and in account department, financial MIS is lacking when past records are unavailable to be compared with current records as manual methods are still carried in financial dealings or recordings. Although, ICT has an important role in contributing to the rapid technology progress and productive growth but it is not sufficiently applied in real estate practise. Other systematic methods and procedures should be adopted to maintain professionalism in ESV practices and to be a unique symbol to other professionals competing with the job were trained for. So therefore, MIS studies the general view of information system and does not focus only on the software aspect of information system. MIS as a study and practice has various dimension such as Financial MIS, Marketing MIS, Human resource MIS, Sales MIS, Management MIS amongst others.

Many Estate Surveying and Valuation firms in Nigeria in general and Abuja in particular are faced with internal and external challenges which affects proper management of information system such as knowledge sharing between surveyors and estate firms in adoption of soft wares (Information Technology), there is insufficient skill in directing advancements or technologies to achieve an effective output or decision of a set goal. As MIS result to better ways to carry out activities for maximum returns, it aids in eliminating the manual method of registering clients, keeping files and accounting or recording clients cash transactions which serves as a problem. The fact that most property managers especially ESV's are not fully aware of information systems and communication channels that can be used for effective output when dealing with clients or properties tends to affect its adoption and employment in their practices.

This constraint result to affecting the professionalism of estate surveyors or property managers. This study is set to address the shortcoming in the current application of management system. Management information system tool will therefore be adopted and looked in respect to the various department of real estate practice. Hence, this research is set out to ascertain to what extent has Estate Surveying and Valuation firms within Abuja metropolis of Nigeria has been making use of Management Information System in their professional practise and how has the use of the system been helping them in their decision-making process.

2.0 Literature Review

The application of information management in science is used as a synonym for management information technology while in management it signifies technology management but has emphasis on the connection of information system to an enterprise performance and competitiveness (Synott 1987 as cited in Wilson, 2002). Information Management referred to the three (3) elements characteristics which are required to be kept in balance. It is relevant because

information is usually not transferred adequately from the people who knows to the people who actually needs the information. Information management does not just involve connecting information but ensuring there is a continuous flow from the source to those who requires the information like managers to make certain decisions. These three elements are information as the core, then technology and governance (see **fig. i**). In information, there must be an understanding of different types of information and how this information can be managed by record keeping for past, present, and future purposes. Technology involves advanced mechanism used in various fields to achieve specific goals. While governance is about the standard of information, freedom in information regulation in a smaller content it involves those that deals with this information (White, 2011).

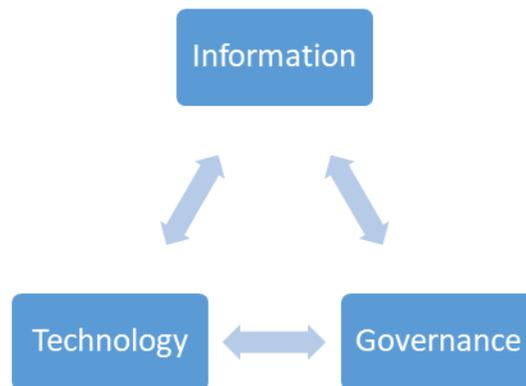


Fig. i: The Relationship Between Technology, Information and Governance

2.1. Concept of Management Information System (MIS)

MIS involves computer based and manual system which transforms data into relevant information essential to provide support necessary for making right decisions. In a study of MIS (Karim, 2011) stated that a high percent of financial institutions has adopted and often make use of MIS in order to promote the provision of their rendered services. Management as a word is included with the factors of production with machines, materials, manpower and money. It is the most crucial force for a successful performance for all manner of social activities.

According to Francis (n.d.), MIS generally constitute the internal and core control of an organisation that covers the use of individuals, technology, procedures and documents by administration management to resolve work issues such as costing, services to be provided and business strategy to be applied. It is different from other information systems because they are used to examine and evaluate other systems that could be applied to the activities to assist the operation of the organisation. It is a system where planning and integration of systems are carried out for the collection of relevant information, transforming it into the right data that can be supplied to executives at different levels which aids at providing the right information at the right time to interested personnel of the information. Management Information System includes technology resources, procedures and people used in businesses to deliver information to corporate managers at various level.

Mekonnen (2017) described MIS as the collection of software, tools, processes an man to carry out different business tasks at different organisational levels as organisations have various department involved in record management, reports generation, transactions performance, and association of vital data to be supplied at different management level. Management information system is basically deals with communicating the data that has already been processed into information, it is MIS responsibility to provide appropriate information that would be needed in taking market decisions while Izuchukwu (2017) sees MIS as the understanding of people, type of organisations, technology and the relationship between them and it is usually organised within the functional parts of an organisational body where different types of MIS can be applied such as; Marketing, Financial, Human resource, Manufacturing MIS, etc.

Tech Target Networks; Rouse (2015) was of the opinion that MIS is being used broadly as decision support framework, people management resource and data base recovery applications; it covers that are important to the organisation's capacity to survive including estate accounting while Ozer (2015) believed MIS as the tool for implementation of strategy process in an attempt to contribute and develop certain procedures as regards to making decisions, accelerating the steps for decision making by providing speedily information mandatory at management level. Vahid (2013) described MIS as a system which entails collection, processing of data (information) and provides it to managers at all levels who uses such information for decision to be made, planning, program implementation, and control.

Asemi and Safari (2011) were of the view that MIS have various definitions but that the most appropriate description of MIS is the fact that it is a method used in an organisation to provide previous, present and future information relating to the internal and external operational skill for the business enterprise; it is a framework that supports the planning, operation and control functions in an organisation by securing the retrieved information in a uniform manner in order to enable decision makers to make decisions at the right time. Ajayi, Omirin and Fadekemi (2007) stated that MIS is used in the process of making decisions for short term, long term and budget planning.

2.2 Estate Surveying and Valuation Firms Employing the Use of MIS

The principal implementation areas for Information communication technology within real estate involves property management and maintenance, marketing, valuation, residential agency, good service to consumers, building development, commercial and residential agency, appraisal and property portfolio management.

Khivasara and Suratkar (n.d.) study of this design is aimed at providing procedures on the subject of online information and remote assistance developed to deal with records and general documents for ESV practices, pictures regarding the sites owned by the firms and to deal with the data stored or preserved in the system. The proposed system for this study consists of modules which includes homepage, residential, commercial and administrative module. From findings it was represented in an E-R diagram that acts as a gate way to information web. In

conclusion, the website makes ESV firms' beneficiaries from the internet as there is a better interface for individuals, clients, agents and realtors to interact and make necessary connections to get new business opportunities. The online platform also helps valuers and clients or individuals to know the cost of land immediately from available information and also, clients are able to access cost of properties on internet which helps them to focus on the property within their budget.

Christopoulou and Haklay (n.d.) studied the issue in property valuation processes and proposed new approaches that will help to handle the complexities. Knowledge discovery method was the method proposed in this study and the incorporation of location of properties into the framework. From findings several methods have been developed to help in property valuation as different important factors has been under represented such as location, large quantity of data that must be considered in extracting useful knowledgeable information that can actually help in valuation. It was recommended to use the computer assisted property valuation framework, knowledge discovery which is applied to difficult problems in order to reveal formerly unknown information. In conclusion, the conceptual analysis of decision support system for property valuation uses the method for residential valuation which includes data for environmental, locational and transactional data characteristics.

Mahajan, Bhuvad and Chaudhari (2016) aim was to develop a real estate application in order provide a prototype of ESV listings which gives buyers the platform to search for properties by address and characteristics. Microsoft ASP. NET and SQL 2008 was used to develop this application. From findings, users of this application is provided with login details (ID) and passcodes or password. In conclusion, the availability of this application makes the process easier.

Jaranowska (2015) aimed at the application of support management procedures by making use of data systems which has now become one of market's basic requirement for competition. The system adopted was CAFM (Computer Aided Facility Management) software. From findings CAFM are grouped as price of license and the price for implementation. In conclusion, CAFM should have a flexible customise modules for controlling and supporting an organisation. A model of business intelligence, online analytical processing and data warehousing are easily convenient form to adopt. In Conclusion, property management system is to support the managers activities and from the analysis information system is of a positive effect for efficiency.

Navaz (2013) in his study, investigated the general automated information system that are implemented in an organisation including all of the data retrieved and communication channels for the information. The types of system for management information includes operating system, information systems and system management. There are two approaches to the use of MIS such as the first approach is focused on the essential capability of computer system and communication technology which can be used for the improvement of efficiency; it is subjective

management information system that is referred to as base management system. While the second approach focuses on the strength and opportunities that can be offered from clients within the organisation. In conclusion, it was recommended that Estate Surveying and Valuation Firms can implement the same approaches mentioned for more efficient result.

Veljanoska and Axhiu (2013) aim was to introduce the unlimited support of information system to management events of a corporation. A study was done on the types of management and decision-making systems which includes; transactional management, decision support, management information system and executive support system. From findings, in traditional firms this system is not used to complement one another thus there's an obstruction on the flow of information from one end of the organisation to the other. Whereas in contemporary firms they are closed link together which takes into account the main areas on an enterprise but it is not executed properly in terms of managing the information acquired and gathering the information from systems described to make the information flow. It has been recommended that small companies should enhance the use of information system in order to obtain some of the power from larger companies and grow into a large organisation. In conclusion, managers invest in information systems because of the real value of economic that they add to the enterprise as it is a vital tool to create value for the firm.

Liu (2011) study analysis project MIS in order to manage real estate project on time and accurately that provides the necessary information needed by managers for decision making support. There are three types of core system design that was adopted in this study and they are schedule control, quality control and cost control subsystem design. From findings quality control system design implements the process to operate and carry out activities with regular inspections and evaluation in determining the standard in cost and quality necessary for Surveyor like Quantity Surveyor. In this 21st century, business information management is required to achieve a strong competition base for business enterprises in this knowledge and network economy age.

Wainaina (2010) study was to increase the use of information, communication and technology on firm's operational activities which includes the product, staff's structure, working practices of the firm, customer service quality and general sales. Questionnaire survey was done to collect primary data where a sample of 153 firms was selected randomly from offices in CBD (Central Business District) and other available small markets that had firms. From the findings, the data analysis retrieved provided evidence that management of information technology has an important impact which affects how ESV firms carry out their activities. In conclusion, information system is used by individuals affected by the availability of technology.

The study McDonagh (2002) objective was to identify the important factors related with high level of performance when managing real estate assets and the existent use of computerised real estate MIS (CRE MIS) for corporate real estate. In this research statistical tests were used to ascertain the current state of CRE MIS amongst organisations and to determine if there is a

significant relationship between CRE MIS features and additional organisational aspects. It was found that on a scale of 5 10% respondent considered good MIS as unimportant but majority rated the significance of exact information. Also, from observation gotten from responses that needed minor improvement in their organisation were the ones that implemented high-level performance in computerised real estate management information system. In the light of the above it was been concluded that an advanced CRE MIS in certain business areas can be a factor to increase outsourcing and a good Computerised real estate MIS is an important foundation without which nothing can be built or solid.

2.3 The Impact of MIS on ESV Firms Performances.

Durojaye and Tihamiyu (2016) investigated the importance of inter-relationships amongst Estate Surveyor's knowledge sharing behaviour for an ideal information management. Among the theoretical models, Unified Theory of Acceptance and Use of Technology-2 (UTAUT-2) was the methodology employed for the study. Systematic sampling was used for the administration of questionnaires to

200 Estate Surveyor and Valuer's who were registered with the Nigerian Institution of Estate Surveyors and Valuers out of which only 186 participated in the study. The findings reasoned action theory for the study and explained the knowledge sharing behaviours in estate management and surveying profession. A major recommendation from the study is that the study of management and Estate companies should implement corporate strategies in order to help professional staffs increase their knowledge towards the culture of firms.

Munirat, Sanni and Kazeem (2014) examined the impact management information system will have on organisational businesses in Nigeria. The study conducted interviews and the use of questionnaires to collect information which used Z-test to analyse the data statistically. The selected local governments for the survey were five in number and the total number of respondents were 100 for the study of adopting the use of information systems such as data process system to DSS (Decision Support System) that became a foundation of new business enterprise. The result from the research showed that there are lots of or obstacles affecting continuous growth and development of MIS in Nigeria other than financial capability of an organisation or firm in respect to ESV practices.

The study by Altameem and Alseed (2014) attempted to identify strategic applications necessary to support an organisation's strategy with information system for effectiveness in achieving an organisation's goal. Five phases of SISP were explained and analysed which includes; Strategic Business Planning, Information Systems Assessment, Information Systems Vision, Information Systems Guidelines and Strategic Initiatives. It was found that the fourth phase or aspect is to improve the firm's capability as it enhances the potentials of the planning system. The success of SISP will help users understand future opportunities and then stretch out their scope to exploit organisational skills to get maximum returns from the opportunities. In conclusion, most ESV firms agrees with the fact that information system is a vital aspect that can provide various

advantages and raise the firm's performance but organisations that have or adopt SISP have fewer issues in implementation of their plans with easy process in choosing a hardware. Naranjo (2009) study analysed the role top management team takes in relating management information systems and strategic performance. It adopted collection of data from 92 top management teams as it proved how different teams interacted with MIS and the performance of organisations on the reduction of cost and flexibility.

Ravichandran and Lertwongsatien (2005) investigates how managing information system resource and capability can affect a firm's performance. The model adopted was an empirical study test data that was collected from 129 firms. The result from findings suggested that the change in a firm's performance depends on the extent in which IT is adopted and used as a framework to enhance and support the firm's principal competencies like what the firm is known for or what the firm is capable of. In conclusion organisations like ESV firms have been able adopt and invest more on IS with the mind set to improve the firm's performance but most organisation may get less result than others.

The study of Molinari, Paganin and Talamo (2002) aim was to organise the knowledge of maintenance management in order centralise, rationalise, preserve and consistently update all retrieved information from diverse sources (and operators), also to effectively transmit knowledge enabling all users to obtain information in respect to their functions and assemble data for statistical explanations. Information system structure was analysed in this study and it comprises of five division which are logical structure, data collecting model, data sheets system, information form and software system. The methodology was adopted because estate surveying and valuing firms are divided into various level.

From their findings the major problem was stated to be information management and this can be resolved by having a well-planned maintenance on differs knowledge regarding technical attributes and performance of buildings, location and functions of the buildings in management, maintenance of cost indexes, the procedures, means and time for maintenance, etc. In summary, information system is an important tool if properly managed to support all processes in regards to controlling the technical performance and economic values of facilities or buildings.

Gold, Malhotra and Segars (2001) analysed the issue on management of effective knowledge from the view of an organisation's capability. Priori measurement model of theoretical construct space was the methodology used which supported the knowledge in relation to a firm's competition environment and they were able to ascertain the soundness of their research model by assessing three (3) sub-dimensions of infrastructural capability (culture, structural and technological), four (4) sub-dimensions of process capability (acquisition, application, conversion and protection) and one dimension of effectiveness was developed. From findings 1,000 formal survey was collected which yielded to the assessment of 323 executives of KM activities within their firms and respondents of this research were senior staffs or managers in organisations. Through the theory analysis and empirical testing, the study confirmed the notion

or perception that firms have tendency for successful knowledge management (KM) by developing an organisation's basic capabilities.

3.0 Study Area

This study took place in Abuja, the capital city of Nigeria. It was established in 1976 (Encyclopaedia Britannica). It is located in the country's centre, within the Federal Capital Territory (FCT). It has good climate, available land for use, multi-access possibilities, and good soil for farming. Abuja is located north of the convergence of the Rivers Niger and Benue. It is bounded by Niger State to the West and North, Kaduna at the North-East, Nassarawa to the East and South and Kogi to the South-West. It has a land mass of 7,315km² while the city is located within a landmass of 275.3 km². Abuja serves as a major commercial hub in Nigeria housing the headquarters of major organisations and companies (Wikipedia, 2018).

In the Federal Capital Area, Abuja Municipal Area Council (AMAC) is the most popularly known area council. Its headquarters is located in Garki district. AMAC is considered the most dominant council area in Nigeria. This is because the headquarters of many ministries and paratats are located there (Tukool, 2018).



Fig. 2: Map of Abuja (AMAC)

4.0 Research Methods

To achieve the aim of this study, qualitative survey research method was adopted with the required data sourced through the use of structured questionnaires. The sample for the questionnaire administration was chosen practising Estate Surveying and Valuation firms in Abuja metropolis. Questionnaires were administered on Estate Surveyors and Valuers working in registered Estate Surveying and Valuation firms in Abuja metropolis. Out of the 135 ESV firms operating within Abuja metropolis, a total of 54 questionnaires were administered to the estate

surveying and valuation firms with offices within the metropolis and all the administered questionnaires were retrieved. The data collected were analysed using descriptive statistics such as relative importance index, frequency and percentages.

5.0 Data Presentation, Analysis and Interpretation of Results

5.1 Preliminary Survey Details

The interpretation and analysis of this study is mainly descriptive which involve the use of simple percentages, charts and relative important index. A total of 54 questionnaires were administered to the estate surveying and valuation firms within Abuja metropolis and all the questionnaires administered were retrieved. This is presented in the table 4.1 below.

Table1: Distribution of Questionnaires to Staff of ESV Firms

	Questionnaires Administered	Questionnaires Retrieved	Percentage (%)
Respondent	54	54	100%

Source: Researchers Computation

The response gotten indicated that the respondents were co-operative and willing to help in the research through the questionnaire process.

5.2 Descriptive Analysis and Data Presentation

The analysis presented below comprises of the data gotten from estate surveyors and valuers working within estate surveying and valuation firms in Abuja. In the questionnaire the respondents were asked varying questions ranging from their age, professional and academic qualifications and other personal details. Their responses are detailed in Table 4.2 below which are meant to assist the researcher in knowing the bio-data of the estate surveyors and valuers that filled the questionnaires in order to examine the consistency of the information.

Table 2: Socio-Economic Characteristics of staff in Estate Surveying and valuation firms

Parameters	Subdivision	Frequency	Percentage
Gender	Male	38	70.4
	Female	16	29.6
Age	21-30yrs	27	50.0
	31-40yrs	20	37.0
	41-50yrs	5	9.3
	51-60yrs	2	3.7
Level of qualification	HND	12	22.2

	B.Sc	33	61.1
	M.Sc	9	16.7
	Ph.D	0	0
Professional qualification	Probationer	26	48.1
	ANIVS	12	22.2
	RSV	4	7.4
	FNIVS	2	3.7
	Others	10	18.5
Years of Practice	1-5yrs	26	48.1
	6-10yrs	23	42.6
	11-15yrs	2	3.7
	>20yrs	3	5.6

Source: Researchers Computation

The responses in Table 2 reveals that there are more male than female in estate surveying and valuation firms within the study area as there were 38 males which constitute 70.40% as against 16 females which is 29.6% of the respondent. Population is a clear indication that there are more male than female practising the profession. This might have to do with the nature of the profession is found to be demanding and tedious which make the practice to be male dominated. Regarding the ages of the respondents, more of the respondents are within the age bracket of 21-30 years (50%). This could be as a result of the period youth or people who are most active in their place of work and lives, and it also indicate a commencement of estate surveying and valuation practice at an initial stage. The table also contain the highest level of academic qualification attained by most of the respondents which shows Bachelor of Science (B.Sc) (61.1%) and Highest National Diploma (HND) (22.2%). A low percentage of other respondent (16.7%) had their Master's degree while none of the respondents were PhD holders. From this presumption, all respondent has good background and will be helpful in this study. Also, deductions from the professional qualification indicated that 48.1% of the respondents were probationers which was the highest, 22.2% were Associate members of the Nigerian Institution of Estate Surveyors and Valuers (NIESV), 7.4% and 3.7% of the respondents were Registered Estate Surveyors and Valuers (RSV) and Fellow of the Nigerian Institution of Estate Valuers (NIESV) respectively. Other respondents constituted 18.7% of the sampled responses which means Estate firms had other professionals like Accountants and Human Resources Managers are required to contribute in estate practices to achieve a set goal. Also, the result shown from years of practice indicates that the 1-5years of practise has the highest response (48.1%) and 6-10 years (42.6%). The lowest response was from 11- 15 years (3.7%) and above 20 years (5.6%). There was no response from 16-20 years of practice.

5.3 Ascertaining the Extent of Employment of MIS by the Respondent Estate Firms

In order to know the importance of MIS in to the staff in their everyday work and also know the extent of how MIS has been employed in their estate practices the respondents ESVs were asked about the importance of MIS to their office practices. The Table below present their responses.

Table 3: Frequency of Respondent on the Importance of MIS Application in Real Estate

Parameters	Subdivision	Frequency	Percentage (%)
Importance of MIS application	Very Important	52	96.3
	Fairly Important	2	3.7
	Not Important	0	0

Source: Researchers Computation

Table 3 indicates that 52 (96.3%) of the respondents are of the opinion that management information system is important while 2 (3.7%) are of the opinion that management information system is fairly important. None of the respondent opined that MIS is not important that means all the respondent are aware and know the importance of MIS.

Table 4: The frequency of MIS Applications Respondents

Parameters	Subdivision	Frequency	Percentage (%)
Conversant application	MIS Marketing MIS	24	44.4
	Finance MIS	11	20.4
	Human MIS	10	18.5
	Intellectual MIS	9	16.7

Source: Researchers Computation

Table 4 indicates that all of the respondents are conversant with at least one application of management information system. About 24 (44.4%) are conversant with marketing information system, 11 (20.4%) are conversant with Financial MIS, 10 (18.5%) are conversant with Human Resource MIS and 9 (16.7%) are conversant with Intellectual MIS which is a property management system based on E-business which can integrate property information, resident information and user information required to improve the development for property management. The respondent are conversant with at least one MIS application which means that they are being used in ESV firms directly or indirectly in their day to day activities.

Table 5: Frequency of the types of MIS being applied in ESV Firms

Parameters	Subdivision	Frequency	Percentage (%)
Type of MIS	DSS	8	14.8
	CBI	6	11.1
	Microsoft	33	61.1
	Others	7	13.0

Source: Researchers Computation

The respondents were asked to indicate the type of MIS being employed in their respective firms and in Table 5, 8 (14.8%) of the respondents indicated that they are using decision support system (DSS), 6 (11.1%) of the respondent were using competitive business intelligent (CBI) in their firms, 33 (61.1%) of the respondent claimed that they were using Microsoft word or excel in their firms while 7 (13.0%) of the respondent indicated that other types of MIS are being employed in their firm. From this analysis, it is presumed that the respondent who selected other option, DSS or CBI may have little or more understanding of different types of management information system other than Microsoft word or excel while the respondent that selected Microsoft word or excel may not be fully exposed to different types of management information system.

Table 6: Frequency information update and types mostly used in Estate Firms

Parameters	Subdivision	Frequency	Percentage (%)
Information update	Hourly basis	5	9.3
	Daily basis	21	38.9
	Weekly basis	14	25.9
	Monthly basis	10	18.5
	Yearly basis	4	7.4
Type of information	Current data	39	72.2
	Future data	4	6.7
	Previous data	11	20.4

Source: Researchers Computation

Respondent were asked how often information or new data is being updated in their firms and the responses in Table 6 indicates that 5 (9.3%) of the respondents indicated hourly basis, 21 (38.9%) of the respondent which is the highest indicated daily basis which means that MIS is employed to a good extent in the aspect of data because of how frequent the information or data is updated, 14 (25.9%) of the respondents however indicated weekly basis as how often information is updated, 10 (18.5%) of the respondent selected monthly as how often information is being updated and 4 (7.4%) of the respondent indicated yearly basis as how often information

is updated in their firms. Of all the respondent, 39 (72.2%) selected current data as the most essential type of data in decision making process. 4 (7.4%) of the respondent selected future data as the most essential data and 11 (20.4%) of the respondent selected previous data as the essential data for decision making process. Based on the fact that decisions are updated daily, it portrays that current data in ESV firms are used daily which was the highest option selected to make decisions.

Table 7: Frequency of how often staff are trained on MIS in ESV Firm

Parameters	Subdivision	Frequency	Percentage (%)
Staff trained	Very often	11	20.4
	2-4months	4	7.4
	4-6months	10	18.5
	Once in a year	5	9.3
	When necessary	24	44.4

Source: Researchers Computation

The analysis of the respondent’s responses in the Table 7 above reveals the frequency of how often staff are being trained on management information system application. 11 (20.4%) of the respondents indicated that their staff are trained very often, 4 (7.4%) of the respondents indicated that their staff are trained within every 2 and 4 months, 10 (18.5%) of the respondent confirmed that staff are being trained within every 4 to 6 months, 5 (9.3%) of the respondents indicated that staff are trained once a year on MIS application and 24 (44.4%) of the respondent which is the highest frequency indicated that staff are trained on MIS application when necessary. This means that there may not be any fixed time for training of staff but it could occur when the management deems it necessary. It can be concluded from the above that MIS is thus employed in most Estate Firms to a good extent because MIS is considered as important in respondent firms thus staff are trained when necessary.

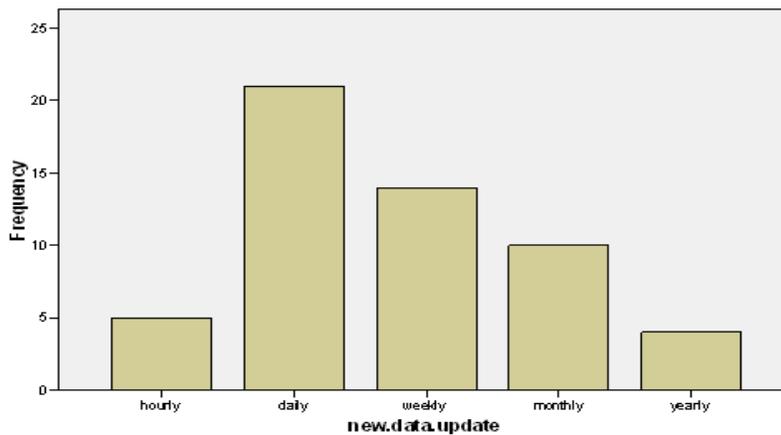


Figure 4: Chart showed the frequency of how often data is updated

5.4 Assessment of the Role of MIS in Decision Making Process

In order to meet the second objective, questions were asked from the respondents on the role of management information system in real estate practices. Relative Importance Index (RII) was used to analyse the scale questions which helps to determine how strongly the respondent agrees to the variables given. The respondents were asked to rate their opinion using a 5-point likert scale. Where 5 is “Strongly disagree”, 4 is “Agree”, 3 is “Undecided”, 2 is “Disagree” and 1 is “Strongly Disagree” respectively.

Table 8: The Role of MIS in decision making process

S/N	The Role of MIS in decision making process	5	4	3	2	1	TOTAL	RII	RANK
1.	MIS is the collection of relevant data to provide right information at the right time	24 120	26 104	3 9	0 0	1 1	54 234	0.87	3 rd
2.	MIS has interaction with information about the progress of the company	27 135	27 108	0 0	0 0	0 0	54 243	0.9	1 st
3.	MIS is used to provide ready information to makers of decision	22 110	25 100	6 18	1 2	0 0	54 230	0.85	5 th
4.	MIS gives accurate projection on the firm’s performance	22 110	27 108	5 15	0 0	0 0	54 233	0.86	4 th
5.	MIS enables all staff to have the necessary data to make decisions	15 75	33 132	6 18	0 0	0 0	54 225	0.83	6 th
6.	MIS reveals how to utilise the internal and external operational intelligence of an organisation or firm.	23 115	30 120	1 3	0 0	0 0	54 238	0.88	2 nd

Source: Researchers Computation

The analysis in Table 8 above shows in form of a relative importance index the role of MIS in decision making process in estate surveying and valuation firms. From the analysis in the table, the respondents ranked the role of MIS having interaction with information about the progress of the company first with RII=0.9, this was followed by how MIS reveals the use of internal and external operational intelligence of an organisation or firm with RII=0.88 as second, this was followed by the role of MIS collecting relevant data to provide right information at the right time which was ranked third RII=0.87, followed by how MIS gives accurate projection on the firm’s

performance which was ranked forth with RII=0.86. The role of MIS in providing ready information to decision makers was ranked fifth with RII=0.85 and the role of MIS in enabling all staff to have the necessary data to make decisions was ranked sixth with RII=0.83.

5.5 Examination of the Impact of MIS on Performance in ESV Practices

The analysis in this section is aimed to resolve the third objective of the study on the impact of MIS in ESV practices and it is also sought to rank the impact of MIS on performance of staff, activities, etc. carried out in ESV practices. For analysis of the data the Researcher assigned 5, 4, 3, 2, and 1 to “Strongly Agree”, “Agree”, “Undecided”, “Disagree” and “Strongly Agree” respectively.

Table 9: Ranking on Performance in ESV Practices

S/N	Impact of MIS on Performance in ESV practices	5	4	3	2	1	Total	RII	Rank
1.	MIS assists only staff majorly at managerial level for decision making	4 20	12 48	14 42	17 34	7 14	54 158	0.59	5 th
2.	MIS helps in controlling the technical performances in real estate practices	10 50	37 148	6 18	1 2	0 0	54 218	0.81	3 rd
3.	It is essential to know the type of software for MIS which would help in effective delivery of services	21 105	28 112	5 15	0 0	0 0	54 232	0.86	2 nd
4.	MIS manages and improves relationship with external parties	13 65	34 136	5 15	2 4	0 0	54 220	0.81	3 rd
5.	Trained Staff would help in effective delivery of activities.	36 180	17 68	1 3	0 0	0 0	54 251	0.93	1 st

Source: Researchers Computation

Table 9 shows the ranking of the impact of MIS on the performance of ESV practices. The table shows that the first ranked response from the respondents was that trained staff helps in the effective delivery with an IRR= 0.93, this was followed by how essential it is in knowing the type of software for MIS which would help in effective delivery of services with an IRR= 0.86 as the second, followed by how MIS helps in controlling the technical performances in real estate practices and how MIS help to manage and improve relationships with external parties were thirdly ranked with IRR= 0.81 respectively. The fifth rank of MIS impact which stated that MIS helps only staff majorly at managerial level for decision making retrieved a negative response

from respondent with RII=0.59, which means that MIS is necessary at all level for effective performance on ESV practices.

5.6 Ascertaining the Challenges to the Adoption of MIS in ESV Firms

In an attempt to know the challenges militating against the adoption of MIS in ESV firms, different opinion was collected and the RII is used to rank using a 5 point likert scale in the table below.

Table 10: Challenges to the Adoption of MIS in ESV Firms

S/N	Challenges to the adoption of MIS in ESV Firm	5	4	3	2	1	Total	RII	Rank
1.	High cost and network connection of some Management Information System	21 105	19 76	11 33	3 6	0 0	54 220	0.81	1 st
2.	It is difficult to fully understand how MIS works and we are not really aware of the entirety of MIS	2 10	20 80	17 51	13 26	2 2	54 169	0.63	5 th
3.	Lack of training of staff on MIS application	6 30	32 128	12 36	4 8	0 0	54 202	0.75	2 nd
4.	MIS is of exclusive requirement and quality to embrace	9 45	23 92	13 39	9 18	0 0	54 154	0.72	3 rd
5.	Environmental factor is liable to affect the adoption of MIS	5 25	23 92	17 51	9 18	0 0	54 186	0.69	4 th

Source: Researchers Computation

From Table 10 the highest ranked challenge to the adoption MIS in ESV firm is high cost and network connection of some Management Information System (RII= 0.81), another highly ranked challenge is lack of training of staff on MIS application which leads to ignorance and poor usage of these MIS applications (RII= 0.75), closely followed by another challenge that MIS is of exclusive requirement and quality to adopt or embrace (RII= 0.72), with the next challenge of environmental factor that can be liable to affect the adoption of MIS (RII= 0.69) and last in rank is the difficulty to fully understand how MIS works and not really being aware of the entirety of MIS (RII= 0.63). This means that MIS application is an easy task to learn but due high cost to purchase an application or to connect some of this application or other factors like training of staff in the firm it may affect or discourage the effective adoption of MIS

6.0 Conclusion and Recommendation

This study examined the application of management information system by Estate Surveying and Valuation firms in Abuja metropolis of Nigeria in a view to assess the performance of the firms in regards to managing real estate projects on time and accurately. Consequently, findings from the study revealed that MIS was viewed to be very important by Estate Surveying and Valuation Firms and as such it is being employed to a notable extent. From the analysis it was also indicated that Microsoft word or excel has the highest rank of MIS application that has been employed by ESV Firms. Also, most of the staff were aware and make use of at least one types of MIS which includes; Marketing MIS, Financial MIS, Human MIS and Intellectual MIS. Also, the study showed that MIS provides required information in facilitating communication between different departments in the firm which makes it capable for managers to make appropriate decisions on the progress of the organisation. However, finding from the study also indicated high cost, connection of network application and poorly trained staff poses serious challenges to the full adoption of MIS by Estate Surveying and Valuation firms. In conclusion the study recommends the need by the ESV Firms to identify the best type of MIS that can be applied in the different aspect of their professional practise. MIS should be applied in Marketing, Agency, property management, property development, record management, Human resource management, financial or accounting aspect, etc. for efficient service delivery of activities.

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