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Article · January 2015

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Factors Influencing the Use of Information and Communication Technology in Real Estate Practice in Minna

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Abstract

The study explored motivating factors influencing the use of ICT in Minna. The target population were registered Estate Surveyors and Valuers domiciled and operating within the Minna property market. The respondents were extracted from the 2011 NIESV membership Directory. Survey data from 15 estate firms were collected to analyze the vital motivating factors influencing the use of ICT in real estate practice. A five point Likert scale was used to examine their opinions and spearman rank correlation was used to test if there is any relationship between internal and external motivating factors. The result indicated that increased productivity of staff, enhanced quality of customer services, knowledge sharing factor, information accessibility, improved decision making and time saving are the most influencing motivating factors while competitors' pressure, availability of ICT infrastructure, management and business size, reduced overall cost are less influencing motivating factors. The study further revealed that internal motivating factors strengthened the use of ICT in their domain. There is negative correlation between the internal and external motivating factors. Niger state branch of NIESV and ESVARBON should recommend the use of ICT to all estate firms and estate surveyors and valuers. Also, the work concludes by recommending further conduct of comprehensive indigenous research and development (R&D) in ICT driven real estate practice in Minna by liaison with various educational institutions offering estate management in their domain in order to be abreast of global best practices.

Keywords: ICT, Real Estate Practice, Motivating Factors, Nigeria

Introduction

The introduction of ICT (Information and Communication Technology) has made every professional and researcher to be adopting various forms or types of technologies to aid the services rendered (Krubu and Osawaru, 2011). New technological advancements are researched and developed rapidly and it influences and affects the way information and other activities are handled by professionals. Over the past few years, the estate surveyors and valuers (ESV) and other professions in the built environment are facing entirely new circumstances due to the new and rapid expanding information and communication technology (ICT) industry.

ICT is refers to as the infrastructure and product development that facilitate the collection, storing and analysis of information that may be transmitted electronically (Sing, 2002). While Rodriguez and Wilson (2002) cited the World Bank definition of ICT as the set of activities which facilitates electronically means of processing, transmission and displaying of information.

The pace of changes brought about by the introduction of various ICT trends have led to re-organization, changes in work pattern, and demand for new skills and job retraining in every profession (Ogunsola and Aboyade, 2005). It also has significant impact on the living condition of people worldwide (Ogunsola and Aboyade, 2005).

Real estate practice all over the world is information sensitive and intensive profession (Sawyer and Crowston, 1999).Sawyer and Crowston (1999) also identified that the value of information skills available to Estate Surveyors and Valuers will determine how they connect landlords and tenants, sellers and buyers. The real estate professionals around the world therefore clinch to ICT with passion in order to face the challenge of stiff competition posed by other allied professions who are trying to encroach into their duties (Reijo, Elias, Jouko, Miettinen ...and Jussi, 2005; Reijo, Elias, Jouko, Miettinen ...and Gersberg, 2007).

The real estate practice in Nigeria has not been left out (Babawale, 2012).The introduction of ICT in other sectors of the economy has led to changes in conventional working process or practice of real estate in the country (Kakulu, 2008). The rapid adoption of ICT by Nigerian banking sector in their daily operations and services has gear up every professional of which Nigerian estate surveyors always play an important role (Kakulu, 2008). The estate surveyors and valuers slowly adopted ICT through the adoption of various ICT tools such as land information system (LIS), geographical information system (GIS), and electronic data base management, the use of Automated Valuation Model (AVM) among others (Babawale, 2012).

The real estate practice is Minna is in its early years of operation and almost every real estate firm in the metropolis has embraced ICT in one form or the other. There is therefore the need to know what factors influence their operations.

Literature Review

The development and availability of ICT has influenced all spheres of real estate practices and its usage has generated enormous benefits to the profession (Kirkwood, 2003; Dixon & Thompson, 2005; Real Estate Insight, 2010). Globally, real estate practice functions and activities remain the same but the mode of practice is subject to changes and variation from place to place (Reijo *et al.*, 2005; Dixon & Thompson, 2005; Reijo *et al,* 2007). Kakulu (2003) and Kirkwood (2003) recognize the primary aspects or areas of real estate practice where ICT applications have been widely adopted. They are valuation and property appraisal, property management, property portfolio management, estate agency and facility management. Kirkwood (2003) further identifies geographical information systems (GIS) as ICT application which cuts across all aspects of real estate practice. Even though real estate professionals or estate surveyors and valuers have broadly embraced the ICT, they still continue to work within the conventional paradigm of the profession (Kirkwood, 2003).

In the developed countries of America and Europe, the works of Sawyer and Crowston (1999); Wigand, Crowston, Sawyer and Allbritton (2001), Kirkwood, (2003); Sawyer, Wigand and Crowston (2005); Reijo et al, (2005); Reijo *et al,* (2007) and Peansupap and Walker (2005) in Australia had shown that real estate practice has been computerized with in-depth use of ICT and these researches have also shown different factors influencing the use of ICT in their domains. Also, Yang, Ahuja and Shankar (2007) in India; Alam and Kamal (2007) & Alam, Omar & Nik Hisham (2011) in Malaysia; Sing (2005) in Singapore have conducted different researches and studies on the factors that influence the use of ICT in real estate practice in developing countries of Asia. However, in Nigeria the bulk of the predominate academic research in Nigerian ICT centred on the impact of ICT on productivity, working environment and the small and medium scale enterprises (SMEs) development. The environment of ICT was frequency approached by librarians, lawyers, business administrators and few environmentalists.

The researches and studies of Omidiji (2007), Alagbe (2007), Ashaolu (2011), Irefin, Abdul-Azeez & Tijani (2012) & Tiemo (2012) have not pointed out something in their findings that you may want to zero down to what factors influence the use of ICT in real estate practice, especially in the studied area-Minna. There is still a gap that needs to be filled.

The motivating factors for this study were derived from reviewed studies. Management and business size as a motivating factor was adopted from Tiemo (2012). Competitors' pressure, reduce overall cost, enhanced quality of customer services, knowledge sharing factors and information accessibility were adopted and modified from Windrum and de Berranger (2003) study. Availability of infrastructure was modified from Irefin *et al*. (2012) study while increase productivity of staff, improved decision making and time saving was absorbed from Sawyer and Crowston (1999).

The Study Area

Minna metropolis is the capital of Niger State in Nigeria and it is principally a Gbagi tribe settlement with diverse people of different background (Nuhu, 2007). The metropolis located on latitude 9^0 37'N and longitude 6^0 33'E.It is approximately 145km from Abuja by road (Husaini, 2007). Minna lies mostly within the Guinea Savannah zone and the vegetation cover of the area is now secondary vegetation due to human devastative effects for agriculture and other purposes. The 2006 population census estimated the population of the metropolis to be around 201,429 which comprised of 105,803 males and 95,626 females while the current total population was put at 304,113 (Husaini, 2007).

Research Methodology

In this research, the target population are registered ESV domiciled and operating within the Minna property market. These respondents were extracted from the 2011 NIESV membership Directory. The directory provides a comprehensive list of all registered ESV in Nigeria together with their firms' addresses. In total, 15 Estate Surveying and Valuation firms in Minna registered under Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) as stipulated under Cap E13 Law of Federal Republic of Nigeria 2007 were drawn from the directory. The entire 15 firms were questioned for the purpose of this research. Structured questionnaires were administered to them. To study the motivating factors influencing the use of ICT, Likert scale was used. The Likert scale enabled us to weigh the opinions of each firm as regards to set variable motivating factors. The rating points were as follows: Very High (VH)) = 5, High (H) = 4, Indifferent (I) = 3, Low (L) = 2, Very Low (VL) = 1.Decisions was based on the mean scores that were reached using the benchmark or cut- off index under.

Table 1: Likert Scaling benchmark or cut- off index

S/N	Cut Off	Decisions
1	1.00 - 1.50	Very Low
2	1.51 - 2.49	Low
3	2.50 - 3.49	Indifferent
4	3.50 - 4.49	High
5	4.50 - 5.00	Very High

Source: Morenikeji, 2006.

Spearman rank correlation analysis was employed to test if there is correlation between the internal and external motivating factors influencing the use of ICT in real estate practice.

To check the critical value:

The degree of freedom is calculated by using

$n - 2$

Where n is the total row.

Therefore, the degree of freedom = $15 - 2 = 13$

The critical value at the degree of 13 at 0.05 level of significance is 0.560, if this is greater than the calculated value of R then the correlation is not significant, therefore there is weak negative relationship between them.

H_o will be accepted and H_1 rejected.

Findings and Discussions

Motivating Factors Influencing the Use of ICT among the Estate Surveyors and Valuers in Minna.

The researchers sought to access the motivating factors influencing the use of ICT among the estate surveyors and valuers in Minna. A list of possible factors derived from literature was suggested to estate surveyors and valuers in this regard. Responses were measured on a 5- point Likert scale corresponding to very high, high, indifferent, low and very low. Spearman correlation was also used to test if there is correlation between the internal and external motivating factors influencing the use of ICT in real estate practice in Minna. The results are provided in tables 1 – 3.

Table 1: Responses of firms to motivating factors influencing the use of ICT in real estate practice

S/N	Respondents opinion	Perceptions(Weighted Opinions)					Total No. of Respond-cents			
		V. H. (5)	H. (4)	I. (3)	L. (2)	V. L. (1)		Total Weighted Opinion	Mean Score	Interpretation
1	Increased Productivity of staff	9 (45)	5 (20)	1 (3)	0 (0)	0 (0)	15	68	4.53	Very High
2	Enhanced Quality of Customer Services	9 (45)	6 (24)	0 (0)	0 (0)	0 (0)	15	69	4.6	Very High
3	The competitor's pressure	3 (15)	6 (24)	4 (12)	1 (2)	1 (1)	15	54	3.6	High
4	Knowledge sharing Factor & Information accessibility	8 (40)	7 (28)	0 (0)	0 (0)	0 (0)	15	68	4.53	Very High
5	Improved Decision Making	8 (40)	7 (28)	0 (0)	0 (0)	0 (0)	15	68	4.53	Very High
6	Availability of ICT Infrastructure	4 (20)	6 (24)	4 (12)	0 (0)	1 (1)	15	57	3.8	High
7	Management & business size	5 (25)	8 (32)	1 (3)	0 (0)	1 (1)	15	61	4.07	High
8	Reduce Overall Cost	7 (35)	5 (20)	3 (9)	0 (0)	0 (0)	15	64	4.27	High
9	Time Saving	12 (60)	3 (12)	0 (0)	0 (0)	0 (0)	15	72	4.8	Very High

From Table 1 reveal that; increased productivity of staff, enhanced quality of customer services, knowledge sharing factor and information accessibility, improved decision making and time saving are the most highly motivating factors influencing the use of ICT in real estate practice in Minna. This is revealed from their mean score ranging from 4.53 to 4.8. On the other hand, the competitors' pressure, availability of ICT infrastructure, management and business size, reduced overall cost are not as influential as the other listed motivating factors based on their mean range of 3.6 to 4.27.

Table 2: Classification of Motivating Factors adapted after Tiemo (2012).

S/N	Motivating Factors	Internal (frequency)	External (frequency)
1	Increased Productivity of staff	12	3
2	Enhanced Quality of Customer Services	11	4
3	The Competitors' pressure	3	12
4	Knowledge sharing Factor & information accessibility	9	6
5	Improved Decision Making	13	2
6	Availability of ICT Infrastructure	6	9
7	Management &business size	10	5
8	Reduced Overall Cost	15	0
9	Time Saving	15	0

Table 2 shows the results of classification of suggested motivating factors in the use of ICT in real estate practice in Minna based on the responses of estate surveyors and valuers.

TABLE 3: Derived from Classification of Motivating Factors.

S/N	Motivating Factors	Internal (frequency)	External (frequency)	D (R_1-R_2)	D^2
1	Increased Productivity of staff	12	3	9	81
2	Enhanced Quality of Customer Services	11	4	7	49
3	The Competitors' pressure	3	12	-9	81
4	Knowledge sharing Factor & information accessibility	9	6	3	9
5	Improved Decision Making	13	2	11	121
6	Availability of ICT Infrastructure	6	9	-3	9
7	Management &business size	10	5	5	25
8	Reduced Overall Cost	15	0	15	225
9	Time Saving	15	0	15	225
	TOTAL				**825**

To test if there is no correlation between the internal and external motivating factors influencing the use of ICT in real estate practice in Minna.

$$R = 1 - \frac{6\sum d^2}{n(n^2-1)}$$

$$R = 1 - \frac{6(825)}{15(15^2 - 1)}$$

$$R = 1 - \frac{4950}{15(225 - 1)}$$

$$R = 1 - \frac{4950}{15(224)}$$

$$R = 1 - \frac{4950}{3360}$$

$$R = 1 - 1.4732$$

$$R = -0.4732$$

The calculated value of R (H_1) is – 0.47 which is less than the critical value (H_0) of 0.560, it implies that there is negative correlation between the internal and external motivating factors. And the relationship or association is a weak one.

Increased productivity of staff, enhanced quality of customer services, knowledge sharing factor and information accessibility, improved decision making and time saving are the most highly motivating factors influencing the use of ICT in real estate practice in Minna based on their mean score range from 4.53 to 4.8 while the competitors' pressure, availability of ICT infrastructure, management and business size, reduced overall cost are not as influential as the others listed above.

This finding is in agreement with the studies of Alam & Kamal (2007); Alam *et al* (2011) in Malaysia Reijo *et al* (2005); Reijo *et al* (2007) in Europe which revealed that the majority of the adopted factors are significant to the adopting of ICT in their locality. The study further reveals that internal motivating factors are more in number compared to the external motivating factors as could be seen from table 2. This means that internal motivating factors strengthen the use of ICT in their domains.

Also, the calculated value of R is – 0.47 and because this value is less than 0.560, it implies that there is negative correlation between the internal and external motivating factors.

Conclusion

The research on the factors influencing the use of ICT in the studied area has shown that ICT is applicable to all areas of real estate practice and that the motivating factors influencing the usage are based on increased productivity of staff, enhanced quality of customer services, knowledge sharing and information accessibility, improved decision making as well as time saving. The findings further revealed that the majority of these factors influencing the use of ICT in the studied area are based on internal force or driver within the firms. Therefore, it is compulsory for estate surveyors and valuers in Minna and Nigeria as a whole, to have a vivid understanding of the factors influencing the use of ICT in real estate practice which is invaluable to the profession.

Recommendations

All estate firms in Minna should tap into the unrestricted opportunities of ICT by investing in it so as to derive effective and productive services from its usage. Estate firms should also learn and embrace the use of video conferencing, GIS and LIS service packages because they are modernized effective tools for real estate practice on the promotion of products and services through their marketing techniques and display of real estate attributes. GIS and LIS services can be promoted and developed through the association with Niger State Geographical Information System (NiGIS) which was established to carry out automated Land information system in the state.

The Niger state branch of NIESV and ESVARBON should also assume leading role in the development of real estate practice by recommending the use of ICT to all estate firms and estate surveyors and valuers. They should further conduct comprehensive indigenous research and development (R&D) in ICT driven real estate practice in Minna by liaison with various educational institutions offering estate management in their domain in order to be abreast of global best practices. Intensive Mandatory Continuous Professional Development (MCPD), seminars and workshops should also be organized regularly at branches and national levels on the application of ICT in real estate practice.

Estate firms operating in Minna should also organise in-house training and workshop among themselves in order to be fully prepared to cope with the ever changing ICT driven world.

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