

**EFFECT OF INFORMATION AND COMMUNICATION
TECHNOLOGY ON THE PERFORMANCE OF ESTATE SURVEYORS
AND VALUERS DURING COVID-19 PANDEMIC IN FEDERAL
CAPITAL TERRITORY ABUJA – NIGERIA**

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ABSTRACT

Coronavirus disease 2019 (Covid-19) had to change the way everything is done in the world today and necessitate the adoption of technology. The estate surveyors and valuers are expected to perform their duties diligently to meet the challenges posed by COVID-19 but this is often not achieved due to their attitudes towards the use of information and communications technology (ICT). The objective of the study is to investigate the effect of ICT on the performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja. Data for the work were gathered through a questionnaire and analyzed using descriptive statistics and chi-square was used to test the formulated hypotheses. A population of 1300 respondents and a sample of 306 was drawn using Yamane's (1967) simplified formulae. The findings showed that access to ICT services negatively affects the performance while reliability and attitude positively affect the performance with statistical significance. The study concluded that if properly managed, ICT has the potential to improve estate surveyors and valuers performance during COVID-19 pandemic in FCT Abuja. In light of these, the study recommended that surveyors and valuers should be trained and furnish on the benefits of ICT to develop a holistic digital framework and migrate their activities to online platforms. Governments should provide an enabling environment for optimum usage of ICT and improve on the awareness campaign to educate the public on Covid-19 pandemic.

Keywords: Attitude, Covid-19, ICT, Reliability, Surveyor, Performance.

1.0 INTRODUCTION

Information and communications technology (ICT) is a new phenomenon that revolutionized numerous professions in our societies and makes the world a global village. Technology is

developed to solve human problems and improve performance through innovations and creativity. The usage of ICT in estate management as a discipline and a noble profession has reduced a lot of uncertainties and enhance the performance of estate managers but the emergence of coronavirus disease 2019 (Covid-19) in Federal Capital Territory (FCT), Abuja in March 2020 has posed a serious threat to every stakeholder in the FCT, Abuja. Aliyu, Iliya and Sampson (2020) asserted that service organizations were among the early adopters of ICTs using the internet to allow individual employee or group of employees to demonstrate their competencies towards improving performance in the organization.

The global health crisis has continued to change the ways the estate managers perform their tasks in the last eight months, it encourages a paradigm shift from traditional forms of performing tasks to ICT based in order to improve performance in an organization. Evidence of change is shown in the total or partial lockdown as surveyors and valuers utilized the ICT to solve problems related to their noble profession and enhance service delivery. Mohammad, Razaei, Zare, Akbarzadeh and Zare (2014) asserted that ICT is one of the new technologies that have affected the organizational and industrial environment around us. The information accessed through digital technologies can promote innovation, increase productivity and enrich the quality of lives (Ogwuche & Ahmed, 2018). Uzoka (2002) as cited by James (2013) viewed ICT as the harnessing of electronic technology in its various forms to improve the operations and profitability of the business as a whole. The pandemic has increased a lot of psychological disorder in the general well-being of people as the Federal Government of Nigeria (FGN) instituted lock-down measures and banned public gatherings to limit the spread of COVID-19 pandemic.

Aliyu et al. (2020) asserted that the indicators of performance are vague because the performance index requires a relationship between inputs and outputs and it may be erroneous to use the same measurement instrument with the same standard in assessing different variables. Therefore, the concept of performance gives rise to a lot of debates due to lack of access to relevant information which could be subjective or objective. Performance is the contribution made by an individual towards the growth and development of the organization (Ehrlich & Cataldo 2012).

ICT in an organization has a serious effect on the performance of employees with practical and financial implications most especially during Covid-19 pandemic. Several studies have examined the relationship between ICT and employee performance but Covid-19 pandemic encourages a paradigm shift towards improving performance in an organization. There are various factor mitigating the use of ICT during Covid-19 pandemic like network, internet costs general awareness, technological changes, etc. There is an impending need to critically resolve the essential factors related to ICT like reliability, accessibility, attitude and ascertain how it affects the performance of estate surveyors and valuers.

The objective of the study is to investigate the effect of ICT on the performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja. The following hypotheses were developed and tested:

H01: Reliability of ICT has no significant effect on the performance of estate surveyor and valuer during COVID-19 pandemic in FCT, Abuja.

H02: Access of ICT services has no significant effect on the performance of estate surveyor and valuer during COVID-19 pandemic in FCT, Abuja.

H03: Attitude of estate surveyor and valuer towards ICT has no significant effect on their performance during COVID-19 pandemic in FCT, Abuja.

The significance of this study in the period of COVID-19 pandemic cannot be overemphasized especially on the realization that ICT neutralises the challenges among the populace. This study is also useful to the academia, policymakers and investors in a competitive environment by exposing them to the causes and ways to manage the virus in reducing fear on their activities.

2.0 LITERATURE REVIEW

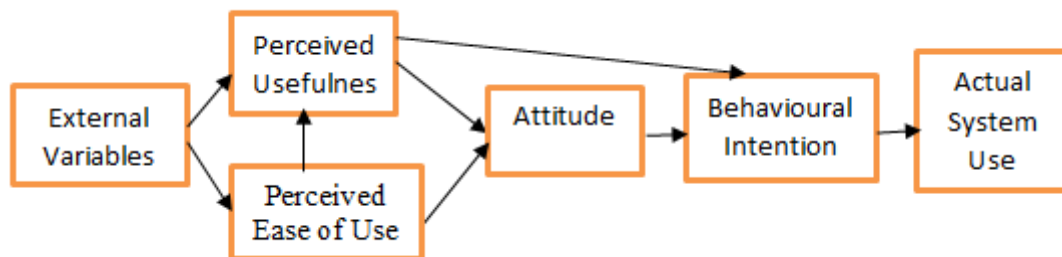
The relevance of ICT to several organizations cannot be overemphasized during the Covid-19 pandemic. Therefore, several professional bodies try to embrace ICT in running their activities to enhance effective and efficient service delivery. COVID-19 has been an issue of essential concern in the universe and recently in Nigeria, the situation has resulted to a significant decline in the general activities spread across every sector (Aliyu, Ibrahim & Mohammed, 2020). ICT is a new phenomenon that revolutionized every profession in the world and a key driver to performance in every organization (Aliyu, Iliya & Sampson, 2020). Debela (2009) opined that the automation of physical activities affects blue-collar workers and changed the nature of office work.

Experiences and different practices in organizations have resulted in the evolution of theories and beliefs and for this study, a few related theories underpinnings from which the study is grounded is adopted as a theoretical framework and these include Scientific Management Theory, Technology Acceptance Model (TAM), Expectancy Theory and Social-technical System Theory.

Scientific management theory was propounded by an American inventor and engineer called Frederick Winslow Taylor in 1909. The theory laid the foundation for the application of science to management in order to ensure effective and efficient performance in an organization. The theory focused on improving efficiency and elimination of waste in an organization. It required managers to develop a science of each operation to replace opinion and rule of thumb. The theory is relevant because it laid the foundation for the application of science to management in solving human problems for effective and efficient performance in the organization. Also, the theory aimed at improving performance through the use of technological innovations.

The Technology Acceptance Model (TAM) laid the foundation on technological innovation on how customers come to accept the innovations and use it to achieve their goals; this theory was propounded by Fred Davis. The degree to which a customer believes that using a particular technology enhances performance depends on a number of factor influencing their decision. According to Davis (1989), Perceived Usefulness (PU) is the degree to which a person believes that using a particular system would enhance his or her job performance while Perceived Ease Of Use (PEOU) is the degree to which a person believes that using a

particular system would be free from effort. According to TAM, whenever a customer perceives an innovation in the technology the customer believed in a positive direction that the technology can perform. Besides, the PU has a constant effect on attitude while PEOU affects attitude. Besides, TAM was adopted as the theoretical base for this study because it aimed at improving performance through technology to solve human problems for effective and efficient performance. The TAM is depicted below:



Source: www.ischool.utexas.edu

The expectancy theory was propounded by Victor Vroom in 1964. The theory stated that the propensity to act in a certain way is contingent on the expectation that the act will follow by the specific outcome and the relation between that outcome and the goals of the individual employee or organization as a whole. Mohammed and Mohammed (2012) asserted that the behaviour of an individual result from conscious choices amongst options whose purpose is to maximize pleasure and minimize pains. The theory is relevant because if an estate surveyor and valuer embrace ICT and plan strategically, their performance will improve. This theory is aim at improving performance through the reward systems.

The social-technical system theory described a holistic approach to the workplace, it recognizes the interaction between employees and technology in the workplace. Also, if a number of employees is less than the required responsibilities in the organization then work overload may surface while, if the number of employees is more than the required responsibilities in the organization then a high chance of resources to be scrambled may eventually emerge among the employees which can gradually create conflicts in the organization. According to Trist (1981), there are two compulsory and complementary subsystems that assist the organization to operate smoothly. The social and technical subsystems are complementing each other towards improving performance however, the social subsystem involves the employees while the technical subsystem involves the technical resources that assist employees to work.

Empirical studies carried out over the years in different places, using various methodologies and variables showed mixed or inconclusive results which give room for further research using different variables and methodologies. Certain factors such as the study objectives, the constraints, the era, the location, etc. accounted for the similarities and differences. It is relevant to commence the review of Aliyu et al. (2020) carried out a study on ICT and employee performance in Federal Polytechnic, Nasarawa (FPN) with the objective to investigate the effect of ICT on employee performance in FPN. Survey method was used and data was collected using a structured questionnaire. Data was analysed using descriptive

statistics and regression analysis. A sample of 273 respondents was taken from a population of 855 employees using Yamane's simplified formulae. The results showed that there is a significant relationship between ICT and employee performance in FPN with a strong significant positive effect. The study concluded that if properly managed, ICT has the potential to improve employee performance in FPN. One major shortcoming with the study as observed by the current study was they used only one institution to represent the entire institutions and the choice of FPN was not clearly justified. This alone would not be sufficient to generalize their findings.

Ayodele (2020) carried out a study on assessing the effect ICT usage on the efficiency of service delivery in the public service sector in Abuja, Nigeria with the objective to assess the effect of ICT usage on the efficiency of service delivery in the public service sector in Nigeria. Survey research method was used and data was collected using a structured questionnaire, ordinary least square method of regression analysis was used. A sample of 282 workers of Federal Civil Service in Abuja was used. The results showed that there is a significant relationship between ICT usage and efficiency service delivery in Abuja, Nigeria. The study concluded that ICT usage is a key factor for quality. One major shortcoming with the study as observed by the current study was the sample size was not clearly justified.

Ogwuche and Ahmed (2018) carried out a study on the impact of ICT on teaching and learning in Nigerian tertiary institutions with the aim to determine the positive and negative influence and challenges of ICT on teaching and learning in Nigerian tertiary institutions. The results showed that integrating ICT into the teaching and learning process in all institutions of learning is long over-due. One major shortcoming with the study as they did not specify the methodology they used and the tertiary institution they used was not clearly justified. This alone would not be sufficient to generalize their findings.

Adewoye and Abioro (2017) carried out a study on ICT and employees job security in selected manufacturing companies in Nigeria with the objective to examine the effect of ICT on job security of employees in Nigeria. Data were analysed using descriptive statistics and Pearson Product Moment Correlation to test the hypotheses. The study results showed that ICT provides higher productivity, the security of employee job and more value creation. One major shortcoming with the study as observed by the current study was the choice of two manufacturing companies from among the existing firms in Nigeria was not clearly justified. This alone may not be adequate to draw a final conclusion.

3.0 METHODOLOGY

This study used survey research design because the respondents were spread all over the area council in FCT, Abuja which comprises of six area councils namely: Abuja municipal area council (AMAC), Abaji area council, Bwari area council, Gwagwalada area council, Kuje area council and Kwali area council respectively. The suggestion of choosing FCT Abuja was on the basis that it is second with the highest recorded cases of Covid-19 after Lagos and a major growing number of estate surveyors and valuers. The primary instrument used for the collection of data for this study is the questionnaire administered to respondents. 1300 estate surveyors and valuers were randomly selected and administered a copy of the well-structured

questionnaire which was analyzed using descriptive statistics and chi-square to test the formulated hypotheses.

The study sample was determined using Yamane’s (1967) simplified formulae. The Yamane (1967) formulae are given as:

$$n = N / (1 + Ne^2) \dots\dots\dots (1)$$

Where: n = the calculated sample size,

N = the population size, and

e = the acceptable sampling error and the choice of 0.05 level of significance is purely and exclusive decision of researchers.

$$\text{Thus, } n = \frac{1300}{1 + 1300(0.05)^2} \quad n = \frac{1300}{1 + 1300(0.0025)} \quad n = \frac{1300}{1 + 3.25} \quad n = \frac{1300}{4.25} \quad n = 305.8823$$

≈ 306 respondents

The chi-square test technique was used for testing the hypotheses. The chi-square formulae is given as:

$$X^2 = \frac{\sum(O-E)^2}{E} \dots\dots\dots (2)$$

Where **X²** = Chi-square,

O = Observed Frequency,

E = Expected Frequency, and

∑ = Summation.

4.0 RESULTS AND DISCUSSION

This section contains the presentation and the analysis of data as well as the discussion of the findings. The administered copies of questionnaire were designed in line with the research questions, objectives and hypotheses in order to ascertain the relationship among the different adopted variables of coronavirus disease and performance of micro-businesses in FCT Abuja. The study covered six area councils (AMAC, Abaji, Bwari, Gwagwalada, Kuje and Kwali) in the FCT, Abuja.

Table 1 Return Rate of Respondents

<i>Responses</i>	<i>Questionnaire Administered</i>	<i>Questionnaire Not Returned</i>	<i>Questionnaire Returned</i>	<i>Percentage of Total Questionnaire Returned</i>
AMAC	51	6	45	18.15
ABAJI	51	10	41	16.53

BWARI	51	8	43	17.34
GWAGWALADA	51	9	42	16.93
KUJE	51	11	40	16.13
KWALI	51	14	37	14.92
Total	306	58	248	100

Source: Field Survey, 2020

The return rate of respondents on Table 1 displays the response rate on the numbers of questionnaires administered to each area council in FCT, Abuja who were the respondents for this study. It revealed that 51 questionnaires were administered to each area council in FCT, Abuja. Besides, 18.15% of the total questionnaires returned were from AMAC, 16.53% were from Abaji, 17.34% were from Bwari, 16.93% were from Gwagwalada while, 16.13% were from Kuje and 14.92% of the respondents were from Kwali. This table also shows that out of a total of 306 questionnaires administered, 248 representing 81.05% were retrieved or returned and that is sufficient enough for the continuation of analysis.

Hypothesis one:

H01: Reliability of ICT has no significant effect on the performance of estate surveyor and valuer during COVID-19 pandemic in FCT, Abuja.

Table 2 Observed Frequency

<i>Options</i>	<i>SA</i>	<i>A</i>	<i>U</i>	<i>D</i>	<i>SD</i>	<i>Row Total</i>
M	38	33	22	24	33	150
F	21	25	22	11	19	98
Column Total	59	58	44	35	52	248

Source: Field Survey, 2020

Table 3 Expected Frequency

<i>Options</i>	<i>SA</i>	<i>A</i>	<i>U</i>	<i>D</i>	<i>SD</i>
M	28	30	16	24	52
F	16	27	16	11	28

Source: Field Survey, 2020

Table 4 Contingency Table

<i>O</i>	<i>E</i>	<i>O - E</i>	$(O - E)^2$	$\sum(O - E)^2/E$
38	28	10	100	3.57
21	16	5	25	1.56
33	30	3	9	0.30
25	27	-2	4	0.14
22	16	6	36	2.25
22	16	6	36	2.25

24	24	0	0	0
11	11	0	0	0
33	52	-19	361	6.94
19	28	-9	81	2.89

Source: Field Survey, 2020

Level of significance = 0.05

Degree of Freedom = (Number of Row – 1) (Number of Column – 1)

Degree of Freedom = (2 – 1) (5 – 1)

Degree of Freedom = 1 x 4 = 4

Tabulated $X^2 = 9.48$

Calculated $X^2 = 19.90$

The decision rule states that when calculated x^2 is less than table x^2 , H_0 will be accepted. On the contrary, when calculated x^2 is greater than table x^2 , H_0 will be rejected. Since the computed value (19.90) is greater than the critical value (9.48), we reject the null hypothesis and conclude that reliability of ICT has a significant effect on the performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja. This implies that reliability of ICT in terms of time required and quality of services result in poor performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja.

Hypothesis two:

H02: Access of ICT services has no significant effect on the performance of estate surveyor and valuer during COVID-19 pandemic in FCT, Abuja.

Table 5 Observed Frequency

Options	SA	A	U	D	SD	Row Total
M	48	21	19	17	41	146
F	33	16	22	15	16	102
Column Total	81	37	41	32	57	248

Source: Field Survey, 2020

Table 6 Expected Frequency

Options	SA	A	U	D	SD
M	35	21	26	18	46
F	31	11	22	17	21

Source: Field Survey, 2020

Table 7 Contingency Table

O	E	O - E	(O - E) ²	$\sum(O - E)^2/E$
38	35	3	9	0.25
33	31	2	4	0.12

21	21	0	0	0.00
16	11	5	25	2.27
19	26	-7	49	1.88
22	22	0	0	0.00
17	18	-1	1	0.05
15	17	-2	4	0.23
41	46	-5	25	0.54
16	21	-5	25	1.19

Source: Field Survey, 2020

Level of significance = 0.05

Degree of Freedom = (Number of Row – 1) (Number of Column – 1)

Degree of Freedom = (2 – 1) (5 – 1)

Degree of Freedom = 1 x 4 = 4

Tabulated $X^2 = 9.48$

Calculated $X^2 = 6.53$

The decision rule states that the null hypothesis should be rejected if the chi-square calculated (6.53) is greater than the critical value of chi-square (9.48), otherwise accept. Since the computed value is less than the critical value, we accept the null hypothesis and conclude that access of ICT services has no significant effect on the performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja. This implies that accessibility of ICT services in terms of convenience and location might not necessarily result in poor performance of estate surveyors and valuers during COVID-19 pandemic in FCT, Abuja.

Hypothesis three:

H03: Attitude of estate surveyor and valuer towards ICT has no significant effect on their performance during COVID-19 pandemic in FCT, Abuja.

Table 8 Observed Frequency

Options	SA	A	U	D	SD	Row Total
M	62	23	13	26	34	158
F	24	8	10	22	26	90
Column Total	86	31	23	48	60	248

Source: Field Survey, 2020

Table 9 Expected Frequency

Options	SA	A	U	D	SD
M	49	36	23	19	31
F	20	10	12	22	26

Source: Field Survey, 2020

Table 10 Contingency Table

<i>O</i>	<i>E</i>	<i>O - E</i>	$(O - E)^2$	$\sum(O - E)^2/E$
62	49	13	169	3.44
24	20	4	16	0.80
23	36	-13	169	4.69
8	10	-2	4	0.40
13	23	-10	100	4.34
10	12	-2	4	0.33
26	19	7	49	2.57
22	22	0	0	0.00
34	31	3	9	0.29
26	26	0	0	0.00

Source: Field Survey, 2020

Level of significance = 0.05

Degree of Freedom = (Number of Row – 1) (Number of Column – 1)

Degree of Freedom = (2 – 1) (5 – 1)

Degree of Freedom = 1 x 4 = 4

Tabulated $X^2 = 9.48$

Calculated $X^2 = 16.86$

The decision rule states that when calculated x^2 is less than table x^2 , H_0 will be accepted. On the contrary, when calculated x^2 is greater than table x^2 , H_0 will be rejected. Since the computed value (16.86) is greater than the critical value (9.48), we reject the null hypothesis and conclude that attitude of estate surveyors and valuers towards ICT has significant effect on their performance during COVID-19 pandemic in FCT, Abuja. This implies that the general attitude of estate surveyors and valuers towards ICT results in their poor performance during COVID-19 pandemic in FCT, Abuja.

5.0 CONCLUSION AND RECOMMENDATIONS

The results and analyses showed that access of ICT services negatively affects the performance of estate surveyors and valuers during COVID-19 pandemic in FCT Abuja while the reliability of ICT and attitude of estate surveyors and valuers towards ICT positively affects the performance of estate surveyors and valuers during COVID-19 pandemic in FCT Abuja with statistical significance. The study concluded that if properly managed, ICT has the potential to improve estate surveyors and valuers performance during COVID-19 pandemic in FCT Abuja.

In light of these, the study recommended that surveyors and valuers should be trained and furnish on the benefits of ICT to develop a holistic digital framework and migrate their activities to online platforms. Governments should provide an enabling environment for optimum usage of ICT and improve on the awareness campaign to educate the public on Covid-19 pandemic.

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