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RESEARCH ARTICLE

Drivers of the Adoption of E-Government Services in the deliverance of healthcare services in Federal Health Institutions

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Abstract: The study examines Drivers of the Adoption of E-Government Services in the deliverance of Healthcare services in Federal Health Institutions. The study adopts drivers such as perceived Usefulness and perceived ease of use and their influence in the adoption of E-Government Services in the deliverance of Healthcare services in Federal Health Institutions. The survey research design was adopted in collecting 400 sample from administrative staff of the University of Calabar Teaching Hospital, Calabar using the purposive sampling. The sample size was determined using Taro Yamane sample size determinant technique. The questionnaire was the instrument of data collection. Data collected was analyzed using simple regression analysis at 0.05 confidence level. Result revealed that Perceived usefulness significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions (R-value of 0.176^a). Also result revealed that Perceived Ease of Use significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions (R²-value of .018). based on this result the study recommends amongst others that there is need for efforts to improve this basic infrastructure by the government should be strengthened both in terms of coverage and quality.

Keywords: Drivers; perceived usefulness, perceived Ease of Use; Adoption, E-governance

1. Introduction

Innovation in modern technology has changed the pattern of human existence. Technology has changed way we interact with other people, the way we organize and carry out business activities. As the use and adoption of modern technology and it's offshoots grows and becomes an everyday part of life .As a result of these, governments of developing and developed nations are now adopting modern technology in the administration of their nations (Gupta, Sun, & Singh, 2018) this is known as E-governance. The nation behind government adoption of E-governance is rated in the nation of providing government services electrically to its people, business and agencies with the aim of providing better services to its people, improving interaction with its business and industry, empowering its citizens and bringing



information closer to its people(Ullah, Pinglu, Ullah, Abass & Khan, 2020; Bloom & Uwizeyimana, 2020; Erukoha &Angioha, 2019; Angioha & Ugal, 2019).

According to United Nation (2020), E-governance survey of 2020, the leading nation in the adoption of E-governance are Denmark, Korea, Estonia and Finland. According to the report, in the Africa , nations such as Mauritania , Seychelles, and south Africa are leading in the adoption of E-governance .The increase rate of the adoption of E-governance can be attributed to covid-19 lockdown where governments were force to pursue digital government strategies to deliver services to its people (Bloom & Uwizeyimana, 2020; Abdou, 2021) , as well as provide increased quality and amount of information to its people (Ullah, Pinglu, Ullah, Abbas & Khan, 2020; Angioha, Erukoha, Agba & Ikhizamah, 2020).

According to the United Nation Department of Economics and Social Affairs (2020), Nigeria is ranked 141 out of 193 in the adoption of E- governance with an H index of 0.4406. Though the rating is low, but the covid-19 pandemic and the challenges of providing services and information, the Nigerian government , it's agencies and institutions are making efforts to adopt E-governance so as to provide better services to its people citizens. Though, there are inherent problems in the adoption of E-governance such as lack of ICT infrastructures, epileptic power supply, lack of qualified personnel's and the resistance to change attitude by most public servants. Yet government and its institutions are pursuing the adoption of E-governance. These study attempt s to assess those factors influencing the adoption of E-governance in government establishment with reference to the university of Calabar teaching hospital.

2. Technology Acceptance Model

The technology acceptance model of Davis (1989) is one of the models that predicts the adoption, used and acceptance of information technology. The model focus on those behavioral attitude and intention to use or adopt technology. According to Davis (1989) when an individual or an entity perceive that an innovation in technology is useful and this technology is easy to use, they will adopt such technology. The TAM model is an offshoot of the theory of reasoned action that argues that social behavior is motivated by an individual's intention and attitude to predict the use of information (Ajibade, 2018; Fishbein & Ajzen, 1975).

The TAM model is built on two factors, perceive usefulness and perceived ease of use. According to Davis (1989) perceived usefulness refers to an individual's perception that using a specific innovation in technology will enhance this his or her performance and productivity. Perceived ease of use is an individual's perception that using an innovation in technology will be easy to use or free of effort. (Davis, Bagozzi, & Warshaw, 1989). According to Davis and Venkatsch (1996), perceived usefulness and ease of use as important factors in determining behavior towards adopting new technology is influenced by external factors such as social, political, cultural and economic factors. The model has been used by different studies to analyse behavioral intention to use information technology (Jan & Contraras, 2011; Povtz, Baylis, Bull, Boxer, Bekelman, Gleason, Czaja, 2019; Hubert, Blut, Brock, Zhang, Koch & Riedl, 2019; Diop, Zhao & Duy, 2019). Hence government intention and actual adoption of E-governance is predicated on E-governance is useful in the provision services and its ease of use in the deliverance administrative services.

2.1. Study Hypothesis

H₀: Perceived usefulness does not significantly influence the adoption of E- governance services

H₀: Perceived ease of use does not significantly influence the adoption of E-governance services.

3. Research Method and Materials



3.1. Study Settings and Sampling

The study area is University of Calabar Teaching Hospital. The population of the study is the administrative staff of the selected institution under study. The purposive sampling technique was used in selecting senior member of staff of the selected institution under study. 400 staff were selected. The sample size was determined using the Taro Yamane sample Size determinant technique at 0.05 confidence level. The participants were randomly selected from the administrative staff in the institution under study.

3.2. Instrument and Data Collection Process

The survey design was adopted for the study. A semi-structured interview questionnaire was adopted to collect data from the study. Containing 14 items, it instrument was designed in a Likert scale sample format. Data was collected in three weeks and with the assistance of five research assistance, who were trained on the data collection process.

3.3. Analysis Procedure

Data analysis was done with the interpretation of collected data using descriptive and inferential statistics, carried out using the statistics package for social science (SPSS) version 21-table , frequency distribution, graphical illustration, and lineal regression were used for the analysis at 95 percent confidence level.

4. Results and Discussion

4.1. Presentation of Collected Data

Perceived usefulness and perceived ease of use was used to analyze the drivers of adopt E-government service. analysis was carried out using simple regression analysis at 0.05 confidence level. The result is presented in table 1 and 2. Out of the 400-instrument distributed, only 387 was return and used for analysis.

4.1.1. Hypothesis One

Perceived usefulness does not significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions. The independent variable is Perceived usefulness, while the dependent variable is adoption of E- Governance Services. Both variables were measured continuously and inferential statistics involving simple linear regression statistics was used to test the hypothesis at .05 level of significance and the result is presented in table 1.

Table 1. Summary Simple Linear Regression Analysis of Perceived usefulness and the adoption of E- Governance Services

Variables	Mean	Std. Deviation
Perceived usefulness	14.9255	3.64173
adoption of E- Governance Services	27.6966	14.95803

Model	Sum of Squares	Df	Mean Square	F	R	R Square	Adjusted R Square	Sig
Regression	1440.900	1	1440.900	16.472	.076 ^a	.030	.029	.000 ^a
Residual	247584.547	385	222.648					
Total	249025.447	386						

The result of analysis as presented in table 1 revealed R-value of 0.176^a. Correlation coefficient is a standardized measure of an observed degree of relationship between variables, it is a commonly used measure of the size of an effect, and that values of ± 1 represent a small effect, ± 3 is a medium effect and ± 5 is a large effect. Also, the R²-value of .030 imply that 30% of total variance is accounted for by predictor variable (Perceived usefulness). Furthermore, the regression ANOVA revealed that the F (1, 1112) = 16.472; p < .000, is significant. Thus, the null hypothesis was rejected. This implies that there is a linear

association (contribution) of the predictor variable (Perceived usefulness) to adoption of E-Governance Services. The adjusted R² (.029) shows some shrinkage of the unadjusted value (.030) indicating that the model could be generalized on the population. Based on the result, it was concluded that Perceived usefulness significantly influence the adoption of E-Governance Services in the deliverance of Healthcare services in Federal Health Institutions.

4.1.2. Hypothesis two

Perceived Ease of Use does not significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions. The independent variable in this hypothesis Perceived Ease of Use, while the dependent variable is adoption of E- Governance Services. Both variables were measured continuously and inferential statistics involving simple linear regression statistics was used to test the hypothesis at .05 level of significance and the result is presented in table 2

Table 2. Summary simple linear regression analysis of Perceived Ease of Use and adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions

Variables	Mean	Std. Deviation
Perceived Ease of Use	12.2361	4.40584
adoption of E- Governance Services	27.6966	14.95803

Model	Sum of Squares	Df	Mean Square	F	R	R Square	Adjusted R Square	Sig
Regression	4591.436	1	4591.436	20.888	.136 ^a	.018	.017	.000 ^a
Residual	244434.011	385	219.815					
Total	249025.447	386						

The result of analysis as presented in table 2 revealed R-value of 0.136^a. Correlation coefficient is a standardized measure of an observed degree of relationship between variables, it is a commonly used measure of the size of an effect, and that values of ± 0.1 represent a small effect, ± 0.3 is a medium effect and ± 0.5 is a large effect. Also, the R²-value of .018 imply that 18% of total variance is accounted for by predictor variable (Perceived Ease of Use). Furthermore, the regression ANOVA revealed that the F (1, 1112) = 20.888; p < .000, is significant. Thus, the null hypothesis was rejected. This implies that there is a linear association (contribution) of the predictor variable (Perceived Ease of Use) to adoption of E- Governance Services. The adjusted R² (.017) shows some shrinkage of the unadjusted value (.018) indicating that the model could be generalized on the population. Based on the result, it was concluded that Perceived Ease of Use significantly influence the adoption of E-Governance Services in the deliverance of Healthcare services in Federal Health Institutions.

4.2. Discussion of Findings

The result from first analysis revealed that Perceived usefulness significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions. The parametric statistics result revealed that there is a linear association (contribution) of the predictor variable (Perceived Usefulness) to adoption of E- Governance Services, this is because result revealed R-value of 0.176^a. Also, the R² -value of .030 imply that 30% of total variance is accounted for by predictor variable (Perceived usefulness). Furthermore, the regression ANOVA revealed that the F (1, 1112) = 16.472; p < .000, is significant. Thus, the null hypothesis was rejected. The adjusted R² (.029) shows some shrinkage of the unadjusted value (.030) indicating that the model could be generalized on the population. Based on the result, it was concluded that Perceived usefulness significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions.

The result from the second analysis revealed that Perceived Ease of Use significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions. From the descriptive analysis carried out, it was discovered that 78.00 per

cent of the respondents reported that E-Governance is easy to use, most of the respondents, 78.00 per cent agreed employees adapt to E-governance easily. From the parametric statistic, it was discovered that there is a linear association (contribution) of the predictor variable (Perceived Ease of Use) to adoption of E- Governance Services. This is because the R-value is significant at 0.136a. Also, the R² –value of .018 imply that 18% of total variance is accounted for by predictor variable (Perceived Ease of Use). The regression ANOVA also revealed that the F (1, 1112) = 20.888; p < .000, is significant. Thus the null hypothesis was rejected. Perceived Ease of Use significantly influence the adoption of E- Governance Services in the deliverance of Healthcare services in Federal Health Institutions. Based on the result, it was concluded that Perceived Ease of Use significantly influence the adoption of E-Governance Services in the deliverance of Healthcare services in Federal Health Institutions.

This findings is similar to that of Tubaishat (2017), who argued that perceived ease of used significantly relates to nurses adoption of electronic health records Hamid, Razak, Bakar, and Abdullah (2016) reported that perceived ease of use ($\beta = 0.14$, $p < 0.05$) were positively related to continuance intention to use e-government. Tahar, Riyadh, Sofyani and Purnomo (2020) perceived ease-of-use and perceived security had a positive effect on the use of e-Filing.

5. Conclusion

The study examines drivers of the adoption of E-Government services by healthcare institution. To achieve the objective of the study, two hypotheses were raised for the study. From the analysis of data, result revealed that perceived ease of use and perceived usefulness ere the drivers in the adoption of E-governance in Health care institutions. The study recommends that;

- i. the currently available basic infrastructure (ICT) for e-governance diffusion is not sufficient to full fill the requirements of e-governance technology in Nigeria. Therefore, efforts to improve this basic infrastructure by the government should be strengthened both in terms of coverage and quality.
- ii. Government institutions should aggressively create continuous awareness to the staffs with regard to the usage and benefits (usefulness) of e-government services

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