

# Employee Acceptance of E-Health and Its Implication for Performance in Specialist Hospitals in Ondo State, Nigeria

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## ABSTRACT

The study examined e-health (ICT) acceptance on employee performance in Ondo State specialist hospitals. The study investigated the challenges facing acceptance of e-health by employees of state specialist hospitals and also examined the effect of acceptance of e-health on the performance of employees in state specialist hospitals. The purpose was to access how e-health can help improve service delivery in teaching hospitals in the study area. The work is anchored on the Technology Acceptance Model (TAM) which is an adoption model focusing on users' acceptance of information systems or computer technologies. The aim of this theory is to describe factors that determine technology acceptance and information technology usage behavior. Primary data was used for the study. The questionnaire was used for the collection of data. The number of respondents for the study is 318. Descriptive and inferential statistics were used for data analysis. The research findings using descriptive analysis showed that a lot of challenges exist and affect the degree of acceptance of e-health by the employees in the study area. The result also showed that e-health (ICT) acceptance has a positive significant effect on employee performance in the state specialist hospitals in the study area. The hypothesis stated was tested at a 0.05 level of significance to determine the effect of e-health acceptance on employees' performance using regression analysis and it was rejected because the p-value was less than 0.05 (Beta=0.208, t=7.149, Sig=0.000, p<0.05). The study, therefore, concludes that there are challenges that affect the acceptance of e-health (ICT) and that there is a significant positive effect of e-health acceptance and performance of employees in the state specialist hospitals in Ondo State, Nigeria.

**Keywords:** Electronic-health (e-health), Employee Performance, ICT, ICT Acceptance, Specialist Hospitals.

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## I. INTRODUCTION

E-Health is the use of information and communication technologies (ICT) in support of health and health-related fields, including healthcare services, health surveillance, health literature, and health education, knowledge, and research ((Joaquin *et al.*, 2010). An example of areas where E-Health is used includes treating patients, conducting research, educating the health workforce, tracking diseases, and monitoring public health. (World Health Organization, 2013) In short, E-Health is a useful term to describe the combined use of electronic communication and information technology within the healthcare sector (Mitchell *et al.*, 1999). Information and communications technology (ICT) adoption and utilization include electronic health records (EHR), Health information systems (HIS), Telemedicine, and the Internet.

Over the last decade, the use of Information and Communications Technology (ICT) has helped develop new ways of providing efficient and secure healthcare delivery (Drury, 2015). The use of computer technologies has resulted

in a rapid increase in the use of ICT applications in health care, collectively and commonly referred to as eHealth (European Commission, 2012). ICT has been referred to as a key instrument in healthcare delivery and public health internationally (Drury, 2015). When designed and implemented effectively, ICT can improve access for geographically isolated communities, provide support for healthcare workers, aid in data sharing, and is an effective electronic means for data capture, storage, interpretation, and management. In this context, ICT for health refers to any tool that facilitates the communication, processing, or transmission of information by electronic means for the purpose of improving human health (Bukachi & Pakenham-Walsh, 2017).

Employees are considered an important asset for good and effective performance in any organization (Armstrong, 2009). Armstrong further stated that improved performance is achieved through the employees in the organization. Until the 1980s, performance was usually interpreted as the output of a combination of ability and motivation, given appropriate resources, and hence motivating people became a key

component of most management work (Torrington *et al.*, 2018). In this respect, when the full potential of employees is unlocked, an organization can achieve unlimited output, efficiency, and effectiveness (Truong, 2012). It is important, however, to note that not all employees are equal in their working as they have different modes of working. Some employees have the highest capability regardless of the incentive, while others may have an occasional jump-start. Nonetheless, if all employees are handled effectively, the results can be greater productivity and increased employee morale (Truong, 2012). Also, work environments play an important role in employee performance. Work environments which include physical and technological environments are argued to impact immensely on employee performance either towards negative or positive outcomes (Chandrasekar, 2011).

In developing countries, preventable diseases and premature deaths still inflict a high toll. The inequity of access to basic health services affects distinct regions, communities, and social groups (Kuhn *et al.*, 2014). This study, therefore, investigated the challenges facing acceptance and the effect of acceptance of e-health (ICT) on the performance of employees of state specialist hospitals with a view to improving the service delivery of stakeholders. The questions answered were:

- i. What are the challenges facing acceptance of e-health (ICT) by employees of the state specialist hospitals in the study area?
- ii. What is the effect of acceptance of e-health (ICT) on the performance of employees in state specialist hospitals in the study area?

The research hypotheses stated were:

- i. There are no challenges affecting employee acceptance of e-health (ICT) in the state specialist hospitals in Ondo State.
- ii. ICT acceptance has no significant effect on employee performance in state specialist hospitals in Ondo State.

## II. LITERATURE REVIEW

### A. ICT Acceptance and Adoption

Information and Communication Technology (ICT) play a very important role in helping organizations to have an edge over contemporaries in terms of accessibility to global space. Duan *et al.*, (2002) ascertain that the use of ICT in many organizations has assisted in reducing transactional cost, overcoming the constraints of distance, and have cut across geographic boundaries thereby assisting to improve the coordination of activities within organizational boundaries.

Acceptance of new technologies is very important in initiating the movement towards higher quality and competitiveness in the world of business organizations (Turan & Urkmez, 2010). Dyerson (2009) claims that the acceptance and adoption of ICT are widely seen as critical for the competitiveness of an organization in an emerging global market and have resulted in the more effective use of time. According to Hazbo *et al.* (2008) state that ICT can provide opportunities for business transformations.

### B. Electronic Healthcare (E-Health)

The World Health Organization defines e-health as the combined use of electronic information and communication technology (ICT) in the health sector. Electronic HealthCare (e-health) is considered to be the application of Information and Communication Technologies (ICT) across the whole range of functions that affect healthcare, from diagnosis to follow-up (Denise, 2013). According to a systematic review of evaluations of e-health implementations by Blaya *et al.* (2010), the greatest potential for e-health may lie in systems that improve communication between healthcare institutions, support medication ordering and management, and help monitor and improve patient compliance with care regimens.

E-health covers the development and use of a wide range of ICT systems for healthcare such as electronic health records, telemedicine, health information systems, mobile devices, e-learning tools, and decision support systems (Gerber *et al.*, 2010). The value of e-Health is in its ability to help lower costs in the health sector while delivering better care within a citizen-centered approach (Currie & Finnegan, 2009). Additionally, e-Health through the use of Personal Health Records (PHR) is a key factor in empowering patients and will help them to play an increasingly central and active role in their own healthcare (Markle, 2004).

### C. Employee Performance

Stup (2013) also explained that to have a standard performance, employers have to get the employees' task to be done on track to achieve the organization's goal or target. By having the work or job done on the track, employers could be able to monitor their employees and help them to improve their performance. There are several factors identified by Stup (2013) that work towards the success of the employees' performance. The factors are such as physical work environment, technological environment, equipment, meaningful work, performance expectation, feedback on performance, the reward for a good or bad system, standard operating procedures, knowledge, skills, and attitudes.

Performance can be separated into organizational performance and employee performance. Employee performance is known also as job performance. However, it seems that employees' performance is commonly objectively measured in organizations, and it will appear that there are few alternative options (Otley, 2019). Performance in organizations is reliant on the performance of employees and other sides such as the environment of the organization, The difference between organizational and employee performance is apparent, therefore organizations that are doing well are the ones that successfully attain objectives (Otley, 2019), in other words, effectively implementing and developing appropriate strategy and employees' performance is the single result of an employee work (Hunter, 2016).

## III. THEORETICAL REVIEW

### A. Technology Acceptance Model (TAM)

TAM is based on the Theory of Reasoned Action; Davis (2006) developed the Technology Acceptance Model, which deals with the prediction of the acceptability of a tool and identifying the modifications that must be brought to the system in order to make it acceptable to users. This model

suggests that the acceptance of an information system is determined by perceived usefulness and perceived ease of use. Perceived usefulness is defined as the degree to which an individual believes that the use of an information system will improve performance. Perceived ease of use refers to the degree to which an individual believes that the use of a system will be effortless. (Hauseer & Shugan, 1980; Larcker & Lessing, 1980; Swanson, 2010). As demonstrated in the theory of reasoned action; the technology Acceptance Model is based on the belief that the use of an information system is determined by the behavioral intention, but on the other hand, the behavioral intention is determined by the individual's attitude towards the use of the information system and also by his perception of its utility. According to Davis, the attitude of an individual is not the only factor that determines his use of a system but is also based on the impact that it may have on his performance. Therefore, even if an employee does not welcome an information system, the probability that he will use it is high if he perceives that the system will improve his performance at work. Besides, the Technology Acceptance Model hypothesizes a direct link between perceived usefulness and perceived ease of use. With two systems offering the same features, a user will find more useful the one that he finds easier to use (Dillon & Morris, 1996).

#### IV. METHODOLOGY

The survey research design was adopted for the study. The study was carried out in four (4) state specialist hospitals in Ondo State. The state specialist hospitals were located in Ilepa Ikare Akoko, Akure, Okitipupa, and Ondo respectively. The population of the study comprised Doctors, Nurses/ Midwives, Community Health Extension Workers (CHEW), Health Information Managers (HIM), Medical Laboratory Professionals (MLP), and Pharmacy Professionals (PP) who are employees in the hospitals. The research instrument used by the researcher for the study was a survey questionnaire and it was divided into three sections, sections A, B, and C. Section A contained the demographic information of the respondents while sections B and C contained structured questions that guided the study in achieving its stated objectives. The questionnaire was administered to the respondents using simple random sampling. The responses to the items in the questionnaire were structured on a five-point Likert scale. The alternatives ranged from strongly disagree to strongly agree. A sample size of three hundred and eighteen (318) was selected out of the population size of one thousand five hundred and fifty-seven (1,557) based on the statistical formula which allows a researcher to sample the population with the desired degree of accuracy (Mugenda & Mugenda, 2003), out of which two hundred and fifty-six (256) copies of questionnaire were retrieved. This represents an 80.5% response rate for the study which was fully filled in by the respondents and was valid for analysis.

The reliability test showed a Cronbach's alpha value higher than 0.7. Descriptive and inferential statistics were used for the data analysis. The first objective was analyzed using the frequency, means, standard deviation, ranking, and importance of each sub-variable items. While inferential

statistics of Multiple Linear Regression were used to analyze the second study objective.

#### V. RESULTS AND DISCUSSION

The demographic characteristics of the respondents are considered in five categories which include the age of respondents, gender of respondents, respondents' category, respondents' length of service with the hospital, and respondents' educational qualification.

As shown in Table I, the respondents' age group distribution shows that many of the respondents are still in their active age group. Specifically, the age group 31 years and above has the highest percentage in the respondents' age distribution which is 48.0%. Age group 26 - 30 years comes next with 29.0% of the age distribution, respondents of age group less than 20 - 25 years were the next with 18.8% representation, while respondents that are in the age group of less than 20 years are the least represented in the total age distribution with 4.2% representation. The gender characteristics show that the largest population of the respondents are male representing a total of 59.8% of the total respondents of the study. While 40.2% of the respondents are female, this shows that males constitute the majority of the respondents in the study area.

The respondent's category in Table I shows that majority of the respondents are nurses/ midwives representing the highest in the distribution with 41.0% representation followed by respondents that are doctors with a 22.7% representation in the distribution. Next, are respondents that are pharmacy professionals with a 16.7 representation in the distribution followed by medical laboratory professionals with a 10.2% representation followed by respondents that are health information managers with a 6.3% representation while respondents that are community health extension workers are the least represented in the distribution with a 3.1% representation.

Respondents have acquired different years of service within the course of working as medical employees in specialist hospitals. Respondents with 11-20 years of experience represent the highest in the distribution having a 34.0% of the total distribution, coming in the second position are respondents with 21-30 years of work experience with a 28.0% representation, and respondents with 10 years and below works experience are next with a 21.0% of the distribution, while respondents with 31 years and above work experience are the least represented in the distribution accounting for 17.0% of the distribution.

The respondents have attained a different level of education in their respective fields, respondents with RM/ RN academic qualification holders represent the highest in the distribution with 41.0% of the distribution, this shows that the majority of the respondents are academically grounded. While respondents who are HND/ B.Sc. / B.Tech holders are the next in line with 25.7% of the total distribution, while respondents with M.Sc. / M.Tech academic qualification holders are in the next position with 17.2% of the total distribution. Followed by respondents with Ph.D. academic qualifications with a 13.0% representation, while respondents that are OND holders with a total of 3.1% in the distribution are the least represented.

TABLE I: DEMOGRAPHIC INFORMATION

Characteristics	Frequency	Percentage (%)
<b>Age (years)</b>		
Less than 20 years	11	4.2
20-25 years	48	18.8
26-30 years	74	29.0
31 years and above	123	48.0
Total	256	100.0
<b>Gender</b>		
Female	103	40.2
Male	153	59.8
Total	256	100.0
<b>Respondents Category</b>		
Community Health Extension Worker	8	3.1
Health Information Manager	16	6.3
Medical Laboratory Professional	26	10.2
Pharmacy Professional	43	16.7
Nurse/Midwife	105	41.0
Doctor	58	22.7
Total	256	100.0
<b>Length of Service with the Hospital</b>		
10 years and below	54	21.0
11 - 20 years	87	34.0
21 - 30 years	72	28.0
31 years and above	43	17.0
Total	256	100.0
<b>What is your current Educational Qualification</b>		
OND	8	3.1
RM/RN	105	41.0
HND/ B.Sc. / B.Tech	66	25.7
M.Sc. / M.Tech.	44	17.2
Ph.D.	33	13.0
Total	256	100.0

Source: Survey Report, 2021

TABLE II: MEANS, STANDARD DEVIATION AND RANKING OF THE CHALLENGES FACING ACCEPTANCE OF ICT

Items	N	Minimum	Maximum	Mean	Std. Deviation	Rank
CFAICT_1 High cost of acquiring ICT equipment	256	1	5	4.33	1.098	1 <sup>st</sup>
CFAICT_2 Poor electricity supply	256	1	5	4.24	1.043	2 <sup>nd</sup>
CFAICT_3 Cost of hiring skilled ICT personnel	256	1	5	4.14	1.116	3 <sup>rd</sup>
CFAICT_4 High cost of installation of ICT equipment	256	1	5	4.05	0.926	4 <sup>th</sup>
CFAICT_5 Poor technical resource management	256	1	5	4.00	0.938	5 <sup>th</sup>
CFAICT_6 Unwanted access to hospital's private information and data by hospital technical employees	256	1	5	3.91	1.077	6 <sup>th</sup>
CFAICT_7 Constant friction between hospital management and technical employees	256	1	5	3.85	0.883	7 <sup>th</sup>
CFAICT_8 Unavailability of spare parts	256	1	5	3.73	0.790	8 <sup>th</sup>
CFAICT_9 Security of the ICT equipment	256	1	5	3.67	0.638	9 <sup>th</sup>

Source: Survey Report, 2021

### A. Challenges Facing Acceptance of ICT

The challenges facing acceptance of ICT in this study represent the first study objective which was analyzed through descriptive statistics, that is, mean and standard deviation values, after which the items were ranked. As presented in Table II, the result shows a minimum and maximum value of 1 and 5 respectively. The result also showed a mean value of 4.33 for "High cost of acquiring ICT equipment", CFAICT\_1. This indicates that the respondents agreed to the challenge. The mean value for "Poor electricity supply", CFAICT\_2 is 4.24, indicating that the respondents agreed to this challenge, while that of "Cost of hiring skilled ICT personnel", CFAICT\_3 is 4.14, indicating that the respondents agreed that this is a challenge.

Similarly, the result also showed a mean value of 4.05 for CFAICT\_4 "High cost of installation of ICT equipment",

indicating that the respondents agreed to this challenge. A mean value of 4.00 was gotten for CFAICT\_5 "Poor technical resource management", indicating that the respondents agreed to this challenge. A mean value of 3.91 was gotten for CFAICT\_6 "Unwanted access to hospital's private information and data by hospital technical employees", indicating that the respondents agreed to the challenge. A mean value of 3.85 was gotten for CFAICT\_7 "Constant friction between hospital management and technical employees", indicating that the respondents agreed to the challenge. While a mean value of 3.73 was gotten for CFAICT\_8 "Unavailability of spare parts", which indicates that respondents agreed that this is a challenge while a mean value of 3.67 was gotten for CFAICT\_9 "Security of the ICT equipment", which implied that the respondents agreed to this as a challenge facing the acceptance and use of ICT in the study area.

In addition, the result in Table II also showed the standard deviation value for each of the items. The standard deviation values for CFAICT\_1, CFAICT\_2, CFAICT\_3 and CFAICT\_6 are 1.098, 1.043, 1.116 and 1.077 respectively and it shows that the opinion of the respondents is dispersed because the standard deviation values are greater than 1. While other values are .926, .938, .883, .790, and .638 for CFAICT\_4, CFAICT\_5, CFAICT\_7, CFAICT\_8 and CFAICT\_9 respectively which indicates that the respondents' responses are converged because the standard deviation values are less than 1.

This outcome is in line with the outcome of the study by Bukachi and Walsh (2012), who concluded that the transition from a paper-based to a computerized system could pose a hindrance to productivity and management of staff costs such as hiring data entry clerks, proof-reading the entered data, and hiring a system administrator to take care of the system when technical issues arise and learning new skills.

*B. Acceptance of ICT*

*1) Descriptive Analysis of the Constructs*

This section describes the constructs which were analyzed to determine the statistical minimum and maximum values, the statistical value of mean, standard deviation value, ranking, and importance of each sub-variable item. The importance is divided into three categories: low, moderate, and high, based on (1).

$$\text{Total range divided by three i.e. } \frac{5-1}{3} = 1.33 \quad (1)$$

- Low = 1 to 2.33
- Moderate = 2.34 to 3.66
- High = 3.67 to 5.0

*2) Description of Acceptance of ICT (Electronic healthcare records)*

The descriptive analysis of electronic healthcare records as an indicator of ICT acceptance in the study area is shown in

Table III which has a minimum and maximum value of 1 and 5 respectively for all items in the construct.

The result in Table III shows a mean value of 3.82 for AICT\_EHR1, indicating a strong agreement of the respondents to the item "Ensures better management of patients records electronically". The mean value for AICT\_EHR2 is 3.70 which indicated a strong agreement with the item "Provides adequate back up in cases of emergency for patients records". The mean value for AICT\_EHR3 is 3.52 which indicated a moderate agreement with the item "Facilitates sharing patients' information". The mean value for AICT\_EHR4 is also 3.49 which indicated respondents' moderate agreement with the item "Prevents loss of important patients' data".

The standard deviation values for AICT\_EHR1 and AICT\_EHR4 are 1.056 and 1.734 respectively, indicating the diverse views of all the respondents because the standard deviation value is greater than 1.0. While the standard deviation values for AICT\_EHR2 and AICT\_EHR3 are 0.889 and 0.976 respectively, indicating the converged views of the respondents because the standard deviation value is less than 1.0.

*3) Description of Acceptance of ICT (Health information systems)*

The descriptive analysis of health information systems as an indicator of ICT acceptance in the study area is shown in Table IV with a minimum and maximum value of 1 and 5 respectively for all items in the construct. The result in Table IV shows a mean value of 4.58 for AICT\_HIS1, indicating a high agreement of the respondents to the item "Simplifies gathering of information about patients".

The mean value for AICT\_HIS2 is 4.36 which indicated a high agreement with the item "Checks quality by comparing the perception of services delivered with expected standards". The mean value for AICT\_HIS3 is 4.22 which indicated a high agreement with the item "Provides adequate information on the medical condition of patients".

TABLE III: DESCRIPTION OF ACCEPTANCE OF ICT (ELECTRONIC HEALTHCARE RECORDS)

	Item	N	Minimum	Maximum	Mean	Std. Deviation	Level
AICT_EHR1	Ensures better management patients records electronically	256	1	5	3.82	1.056	High
AICT_EHR2	Provides adequate back up in cases of emergency for patients' records	256	1	5	3.70	0.889	High
AICT_EHR3	Facilitates sharing patients' information	256	1	5	3.52	0.976	Moderate
AICT_EHR4	Prevents loss of important patients' data	256	1	5	3.49	1.734	Moderate

Source: Survey Report, 2021

TABLE IV: DESCRIPTION OF ACCEPTANCE OF ICT: HEALTH INFORMATION SYSTEMS (AICT HIS)

	Item	N	Minimum	Maximum	Mean	Std. Deviation	Level
AICT_HIS1	Simplifies gathering of information about patients	256	1	5	4.58	1.021	High
AICT_HIS2	Checks quality by comparing perception of services delivered with expected standards	256	1	5	4.36	1.002	High
AICT_HIS3	Provides adequate information on the medical condition of patients	256	1	5	4.22	0.883	High
AICT_HIS4	Provides medical personnel needed information before administering treatment	256	1	5	4.15	0.852	High

Source: Survey Report, 2021

The mean value for AICT\_HIS4 is 4.15 which indicated respondents' high agreement with the item "Provides medical personnel needed information before administering treatment". The standard deviation values for AICT\_HIS1 and AICT\_HIS2, are 1.021, 1.002, respectively, indicating the diverse views of all the respondents because the standard deviation value is greater than 1.0. While the standard deviation values for AICT\_HIS3 and AICT\_HIS4 are .883 and .852 respectively, indicating the converged views of the respondents because the standard deviation value is less than 1.0.

4) *Description of Acceptance of ICT (Telemedicine)*

The descriptive analysis of telemedicine as an indicator of ICT acceptance in the study area is shown in Table V which has a minimum and maximum value of 1 and 5 respectively for all items in the construct.

The result in Table V shows a mean value of 3.65 for AICT\_TLM1, indicating a moderate agreement of the respondents to the item "Ensures smoother sharing of information between patients and healthcare provider". The mean value for AICT\_TLM2 is 3.54 which indicated a moderate agreement to the item "Provision of medical services from a distance". The mean value for AICT\_TLM3 is 3.25 which indicated a moderate agreement to the item "Facilitates easy communication with patients". And the mean value for AICT\_TLM4 is 3.12 which indicated a moderate agreement with the item "Facilitates effective knowledge sharing among medical personnel".

The standard deviation value for AICT\_TLM4 is 1.013 indicating the diverse views of the respondents because the standard deviation value is greater than 1.0. While the standard deviation value for AICT\_TLM1, AICT\_TLM2 and AICT\_TLM3 are 0.759, 0.812 and 0.823 respectively which

indicates the converged views of the respondents because the standard deviation values are less than 1.0.

5) *Description of Acceptance of ICT (Internet)*

The descriptive analysis of internet as an indicator of ICT acceptance in the study area is shown in Table VI with a minimum and maximum value of 1 and 5 respectively for all items in the construct. The result in Table VI shows a mean value of 4.58 for AICT\_ITN1, indicating a high agreement of the respondents to the item "Use of internet for research and training". The mean value for AICT\_ITN2 is 4.29 which indicated a high agreement to the item "Use of internet by patients to book medical appointment". The mean value for AICT\_ITN3 is 4.05 which indicated a high agreement to the item "Use of internet during surgery procedures". The mean value for AICT\_ITN4 is 3.98 which indicated a high agreement to the item "Use of internet by medical personnel to retrieve relevant information on a particular medical illness". The standard deviation values for AICT\_ITN4 is 1.004, indicating the diverse views of the respondents because the standard deviation value is greater than 1.0. While the standard deviation value for AICT\_ITN1, AICT\_ITN2 and AICT\_ITN3 are 0.618, 0.882 and 0.931 respectively, indicating the converged views of the respondents because the standard deviation value is less than 1.0.

6) *Effect of Acceptance of ICT on the Performance of Employees*

The results of the regression analysis were used to examine the effect of acceptance and use of ICT on the performance of employees in state specialist hospitals in the study area. Table VII presents the effect of acceptance and use of ICT on the performance of employees in state specialist hospitals in the study area.

TABLE V: DESCRIPTION OF ACCEPTANCE OF ICT: TELEMEDICINE (AICT TLM)

Item	N	Minimum	Maximum	Mean	Std. Deviation	Level
AICT_TLM1	256	1	5	3.65	0.759	moderate
AICT_TLM2	256	1	5	3.54	0.812	moderate
AICT_TLM3	256	1	5	3.25	0.823	moderate
AICT_TLM4	256	1	5	3.12	1.013	moderate

Source: Survey Report, 2021

TABLE VI: DESCRIPTION OF ACCEPTANCE OF ICT: INTERNET (AICT ITN)

Item	N	Minimum	Maximum	Mean	Std. Deviation	Level
AICT_ITN1	256	1	5	4.58	.618	High
AICT_ITN2	256	1	5	4.29	.882	High
AICT_ITN3	256	1	5	4.05	.931	High
AICT_ITN4	256	1	5	3.98	1.004	High

Source: Survey Report, 2021

TABLE VII: RESULTS OF MULTIPLE REGRESSION ANALYSIS (ANOVA): EFFECT OF ACCEPTANCE OF ICT ON PERFORMANCE OF EMPLOYEES

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	F	Sig
1	0.621	0.385	0.353	5.865	10.221	0.000

a. Dependent Variable: Employee Performance  
b. Predictors: (Constant), Acceptance of ICT

Source: Survey Report, 2021

The strength (R) of prediction of employee performance, by ICT acceptance and ICT utilisation according to the Table III is 0.621. This value implies that the explained variable; employee performance is strongly explained by ICT acceptance and ICT utilisation. The positive sign of the R value implies that the direction of the relationship between acceptance and utilization of ICT, and employee performance is positive which means that the more the workers in the study area accepts and utilizes ICT the higher their performance increases.

The R<sup>2</sup> shows the fitness of the model for multiple regressions and explains the variance of the independent variable on the dependent variable. Since R<sup>2</sup> value is 0.385, is an indication that 38.5% of the variation in employee performance is caused by the change in acceptance of ICT, since (R<sup>2</sup>=0.385, F=10.221, Sig=0.000). While other entities outside acceptance of ICT not considered in the study have higher influence of 61.5% on employee performance in the study area.

## VI. STUDY HYPOTHESIS

**H<sub>01</sub>** ICT acceptance has no significant effect on employee performance in state specialist hospitals in Ondo State ( $\alpha \leq 0.05$ )

Table VII shows that there is a significant effect of ICT acceptance on employee performance, Since (Beta=0.208, t=7.149 Sig=0.000, p<0.05). Therefore, the null hypothesis is rejected, and the alternate is accepted. Hence, ICT acceptance has a positive significant effect on employee performance in the study area. This research finding is supported by the study of Duan *et al.* (2002), Turan and Urkmez, (2010), Dyerson (2009), and Hazbo (2008) who ascertain that the use of ICT in many organizations has assisted in reducing transactional cost, overcome the constraints of distance and have cut across geographic boundaries thereby assisting to improve coordination of activities within organizational boundaries. The research findings also buttress the Technology Acceptance Model (TAM) which stipulates that even if an employee does not welcome an information system, the probability that he will use it is high if he perceives that the system will improve his performance at work. Besides, the Technology Acceptance Model hypothesizes a direct link between perceived usefulness and perceived ease of use.

## VII. CONCLUSION

The study objective one investigated the challenges facing acceptance and use of ICT by employees of state specialist hospitals in the study area. From the findings, the study concludes that, respondents agreed to all the nine (9) challenges facing acceptance and use of ICT by employees of the state specialist hospitals investigated in the study. Specifically, high cost of acquiring ICT equipment is the most prominent challenge facing the acceptance and use of ICT in the study area followed by poor electricity supply, while the cost of hiring skilled ICT personnel is the 3<sup>rd</sup> challenge followed by, high cost of installation of ICT equipment in the 4<sup>th</sup> position while poor technical resource management is the 5<sup>th</sup> challenge, while unwanted access to hospital's private

information and data by hospital technical employees, constant friction between hospital management and technical employees, unavailability of spare parts are the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> challenges respectively. While the least important challenge facing the acceptance and use of ICT in the study area is Security of the ICT equipment.

Finally, results obtained from the regression analysis to test the study hypothesis showed that ICT acceptance has a positive significant effect on employee performance in the state specialist hospitals in the study area. As such the study concludes that e-health (ICT) has a positive effect on employees' performance in all the specialist hospitals in Ondo State, Nigeria. Therefore, the study recommends that specialist hospitals should ensure constant training of its employees and embrace technology in order to overcome any possible challenge that may face the implementation and deployment of ICT resources in the hospitals.

## REFERENCES

- Armstrong, M. (2009). *Human Resource Management Practice*. London: Kogan. Pages unlimited.
- Blava, P., Wyatt, J. C., & Garvican, L. (2010). Evaluating Computerised Health Information Systems: Hard Lessons Still to be Learnt. *BMJ* 326, 860-3.
- Bukachi, F. & Pakenham-Walsh, N. (2017). Information Technology for Health In Developing Countries. *Chest*, 132, 1624-1630.
- Chandrasekar, K. (2011). Workplace Environment and its Impact on Organizational Performance in Public Sector Organizations. *International Journal of Enterprise Computing and Business Systems*, 1(1).
- Curry, P., & Finn, J. W. (2009). *Deviance and medicalization: From badness to sickness*: Temple Univ Pr.
- Davis, J. (2006) *Internet use and non-use among urban microenterprises in the developing world: An update from India*. Australia: Brisbane.
- Denis, P. (2013). The e-health agenda for developing countries. *World Hospitals and Health Services*, 41(4): 38-40.
- Duan, Y., Mullins, R., Hamblin, D., Stanek, S., Sroka, H., Mavhado, V., & Araujo, J. (2002). Addressing ICTs Skill Challenges in SMEs: Insights from three country investigations. *Journal of European Industrial Training*, 26(9), 430-441
- Dillon, A., & Morris, M. G. (1996). *User acceptance of new information technology: Theories and Models*. In Annual review of information science and technology, Medford, NJ: Information Today.
- Drury, P. (2015). The e-health agenda for developing countries. *World Hospitals and Health Services*, 38-40.
- Dyerson. R., Harindranath, G., & Barnes, D. (2009). National Survey of SMEs' Use of IT in Four Sectors. *The Electronic Journal Information Systems Evaluation*, 12(1), 39-50.
- European Commission. (2012). *What is eHealth? ICT for health, Europe's Information Society*. Retrieved from: [http://ec.europa.eu/information\\_society/activities](http://ec.europa.eu/information_society/activities) (accessed 25 August 2015).
- Garber, G. M., Anon, C. & Bukachi, F. (2010). Utilization of ICTs for accessing Health Information by Medical Professionals in Kenya: A Case Study of Kenyatta National Hospital. *Journal of Health Informatics in Developing Countries*.
- Hauseer, J. R., & Shugan, S. M. (1980). Intensity measures of consumer preference. *Operations Research*, 28(2), 278-320.
- Hazbo. S., Arnela, C., & Chun-yan, H. (2008). ICT Adoption Model of Chinese MSMEs. *International Journal of Business Research*, 44(2008) 161-165.
- Hunter, J. E. (2016). Cognitive Ability, Cognitive Aptitudes, Job Knowledge, and Job Performance. *Journal of Vocational Behavior*, 29, 340-362.
- Joaquine, R., Hardey, M., & Baton, K. (2010). "E-health": the internet and the transformation of patients into consumers and producers of health knowledge. *Information, Communication and Society*, 4(3), 388-405.
- Kuhn, K., Peacock, E., & Chin, W. W. (2014). Extending the technology acceptance model: the influence of perceived user resources. *ACM SIGMIS Database*, 32, 86-112.
- Larcker, D.F. & Lessig, V. P. (1980). Perceived Usefulness of Information: A Psychometric Examination. *Decision Sciences*, 11(1), 121-134.

- Markel, A. (2004). Information and communication technologies for the developing world. Health communication insights. *Baltimore: Health Communication Partnership based at Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs.*
- Mitchell, J., John Mitchell & Associates, Australia. Department of Communications, I. T. and the A., & Australia. National Office for the Information Economy. (1999). *From Telehealth to E-health: The Unstoppable Rise of E-health.* Department of Communications, Information Technology and the Arts.
- Mugenda, O. M. & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative Approaches.* Nairobi: African Centre for Technology Studies.
- Otley, D. (2019). Performance management: a framework for management control systems research. *Management Accounting Research*, 10, 363-382.
- Stup, R. (2013). *Control the factors that influence employee success. Managing the Hispanic workforce Conference.* Cornell University and Pennsylvania State University.
- Torrington, D., Laura, H. & Taylor, S. (2018). *Human Resources Management* (7th Edition). Pearson Education Limited: Great Britain.
- Truong, C. N. (2012). The Impact of organizational factors on employees' performance in Vietnamese Companies. University of Economics HO CHI MINH CITY.
- Turan, A. T., & Urkmez, T. (2010). Information Technology Satisfaction of Small and Medium Sized Enterprises in Turkey. *International Bulletin of Business Administration*, 9(2010), 43-55.
- WHO (2005). Health information systems in support of the Millennium Development Goals Report by the Secretariat, *SIXTIETH WORLD HEALTH ASSEMBLY A60/22.*
- Wooton, R., Craig, J., & Patterson, V. (2006). *Introduction to telemedicine.* London: The Royal Society and Medicine Press.
- World Health Organization (WHO). (2013) *E-health.* Retrieved from: <http://www.who.int/topics/ehealth/en/>. Accessed on: 10th April 2015.