

Examining ICT Efficiency and Effectiveness in the Health Sector

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ABSTRACT

Information and Communication Technologies provide vast opportunities for professionals to explore technology to complement their professional competencies. The role and contributions of ICT to the achievement of feats in different sector has been lauded. It has contributed in no small way to emerging innovation and landmark discover. It is against this backdrop that this research focuses on examining ICT efficiency and effectiveness in health sector. The research hypothesis was tested and it was discovered that ICTs have the capability to bridge gaps between patients and health officers. This was supported by the big F- value ($p < 0.05$) and the acceptance of the hypothesis that there is significant relationship between the use of ICT and efficient health care service delivery.

Keywords: Organizational Justice, Spiritual Intelligence, Trust, Workers, Commitment and Nigeria

Aims Research Journal Reference Format:

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1. INTRODUCTION

The health sector is one of the largest information consuming sectors. As a result, access to up- to- date and timely information by health professionals remains a sine qua non for proper diagnosis, prevention and treatment of diseases. Readily available information that affects the well being of patients is always critical and over the last decade, the advent of Information and Communication Technologies (ICTs) have contributed immensely to the continuous learning, sharing and dissemination of health information amongst professionals (Afolayan and Oyekunle, 2014).

The need to develop and organize new ways to provide efficient healthcare services has thus been accompanied by major technological advances, resulting in a dramatic increase in the use of ICT applications in healthcare and e-health. Information Technology therefore, can dramatically revolutionize the delivery of healthcare thereby making it safer, more efficient and more effective (Ouma et al 2009). Ruxwana et al (2010), noted that ICTs enable online communication about medical issues and diagnosis of complicated diseases by linking medical practitioners who are separated geographically. They have the potential to change the delivery of healthcare services and patient care, as well as the management of healthcare systems. Thus, ICTs are widely perceived to have the capability, if used effectively, to bridge social and economic gaps that divide rural and urban communities, improving access and providing a wider range of health services to enhance the wellbeing of underprivileged people.

The use of Information Communication Technologies (ICT) within healthcare can make significant changes in the daily operations of hospitals particularly in the developing world (Ouma, Herselman & Greunen 2009). E-Health characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking to improve healthcare locally, regionally and worldwide by using information and communication technologies.(Ruxwana et al 2010).

Integration and assimilation of e-health into the everyday life of healthcare workers is becoming a reality in developing as well as developed countries. E-health is an emerging field in the intersection of medical informatics, public health and business, with referral and information delivery enhanced through the Internet and related technologies (Ruxwana, Herselman & Conradie 2010). The developed countries have embraced the use of information communications technologies (ICT) within the hospitals and health clinics. A few examples of the use of ICT include computerization of medical records, electronic scheduling for appointments, and use of the Internet for the purposes of communication and the use of magnetic cards (Ouma et al 2009).

1.1 Statement of the Problem

Despite the enormous contribution of ICT, there are challenges that might hinder its suitability. Hence, the problem of this study is to examine ICT efficiency and effectiveness in health sector.

1.2 Purpose of the Study

The purpose of this study is to examine the use of Information and Communication Technologies in health service delivery to appraise its suitability that would make for full scale adoption.

1.3 Research Hypothesis

There is significant relationship between the use of ICT and efficient health care service delivery.

1.4 Significance of the Study

ICTs have the capability to bridge gaps that divide rural and urban communities. It is against this backdrop that this research focuses on the role of ICT in improving access and providing a wider range of health services to enhance the wellbeing of underprivileged people, such as those in core rural areas of Nigerian states.

1.5 Scope of the Study

The study focused on the Nigerian health sector with specific concentration on the community health service delivery.

2. RESEARCH METHODOLOGY

2.1 Research Design

A qualitative study was used. This was done through a multiple case study approach. Through random sampling, five rural hospitals were identified to be used in this multiple case study.

2.2 Population of Study

The population for the study comprised management, doctors, nurses and patients at selected hospitals in Oyo State.

2.3 Sample and Sampling Technique

The researcher selected a fifty sample from among the population specified above via random sampling technique. This was carried out in such a manner that certain characteristics were given prominence.

2.4 Research Instrument

The data collection instruments used is Questionnaire which was considered a veritable instrument to obtain data from primary sources.

2.5 Validity of the Instrument

The instrument was face-validated by experts in measurement and evaluation, this thus provides basis for the instrument to measure what it purports to measure.

2.6 Reliability of the Instrument

The questionnaire was pre-tested through a pilot study in order to find out it's appropriateness for the intended respondents. Cronbach Alpha test was used to measure the internal consistence the instrument. The Cronbach Alpha was found to be above 0.60 thus passing the instrument as reliable as indicated below:

Table 2: Reliability Coefficient

V	a	r	i	a	b	i	e	Cronbach alpha coefficient
A	w	a	r	e	n	e	s	0 . 6 6 0
A	c	c	e	s	s	i	b	0 . 7 4 7
P	e	r	m	e	a	b	i	0 . 6 1 1
A	f	f	o	r	d	a	b	0 . 6 0 1
A	p	p	l	i	c	a	t	0 . 7 1 0

2.7 Administration of the Instrument

The administration of the instrument was done by the researcher.

3. DATA ANALYSIS & PRESENTATION

Descriptive statistics and Fisher's ANOVA statistical techniques were used to analyze data obtained for this study.

3.1 Presentation of Result

ICT Efficiency and Effectiveness	Count	Mean	Standard Deviation	F	P
Strongly Agree	21	1.09	1.11	3.254	0.040
Agree	15	0.46	0.68		
Strongly Disagree	6	0.04	0.20		
Disagree	8	0.05	0.22		

Source : Author's computation

4. DISCUSSION

The hypothesis, there is significant relationship between the use of ICT and efficient health care service delivery was accepted with the mean in the table above.

5. CONCLUSION

The contributions of this research effort provides for understanding of suitability of instructional materials as tools that aid teacher's activities, it is an enabler for discerning factors that militate against adoption of instructional materials for teaching and learning of Physics, it provides impetus for direct mobilization of instructional materials for teaching and learning of Physics, it provides framework for critical decision making inter alia.

It is noted that emergence of ICT supported health service also known as electronic health (e-health) has show to reduce the cost of health care and increase efficiency through better data management and transfer, better management of diseases, better knowledge transfer (Oladosu et al. 2009) among many other positive effects. In view of this, international health organizations have invested in developing ICT for health service delivery and monitoring, some are for urban environment while others are for the rural communities where there is low accessibility to health services. These types of investment are meant to develop ICT solutions for health services most especially at rural community.

However, the level of technology possibilities in rural areas is very low due to non availability of basic amenities and utilities like electricity and communication facilities. Therefore there is the need to go extra mile in finding solutions that will be sustainable in such communities with lack of basic amenities, poverty ridden with low economic value. Peter observed that e-Health model that can be established in wealthy countries which have developed national and local ICT infrastructures with robust health information is different from the ones that can be implemented in developing countries with high poverty level and low infrastructure. Efforts to establish e-Health in developing countries is been faced with provision of alternatives for infrastructures as in the case of using solar panels for health information, provision of personal computers (PCs) and mini laptops with internet connections, before thinking of the information system implementation itself.

6. RECOMMENDATION

The significant role of Information and Communication Technologies (ICTs) cannot be downplayed. It has been celebrated and lauded to be allowed a pride of place. ICT has greatly facilitated access to knowledge information and in the space of time it has changed the global macroeconomic landscape and has opened new possibilities for establishing and delivering advance learning. Today ICT is being used as a tool for improving the quality of life by improved efficiency and enhanced effectiveness. The revolutionary potential of new ICTs lies in their capacities to instantaneously connect vast network of individuals and organizations across great geographic distances at very little cost. As such, ICTs have been key enablers of globalization, facilitating worldwide flows of information, capital, ideas, people and products (Adebimpe, 2012).

Sequel to this, the following recommendations can be made base on the findings of this study:

- Ensure better utilization of Information and Communication Technologies.
- health officers should be trained on ICT literacy
- adequate funding stable
- Nigerian government needs to provide a lasting solution to the problem of epileptic power supply in Nigeria.
- Nigerian Libraries and other organizations wishing to run virtual libraries must-deploy other sources of energy in addition to provision of generators
- Apart from governmental support, financial support from national and international organizations and wealthy Nigerians should be solicited.

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