THE ROLE OF INFORMATION AND COMMUNICATION POLICIES IN THE GOVERNANCE OF THE HEALTHCARE SECTOR

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Abstract

Information and communication technology (ICT) is today an indispensable tool in the development of countries and economies, driving growth in many other sectors, including the health sector. The effective governance of the health sector demands enabling ICT policies. Healthcare is a key area in the development and growth of nations. A country that neglects this sector will definitely witness a decline in socio-economic development. Application of ICT in this sector is non-negotiable and an imperative. However, with diversities in policy ICT's impact is not felt in many communities, and linking ICT and other business strategies is a big challenge. Availability of resources upon which ICT itself thrives is another factor limiting its impact upon the lives of the populations of most developing nations. Cultural diversity and technology problems seem to stand prominent among challenges impeding the impact of ICT on developing nations. Against this backdrop, this paper takes a critical look at the implementation and efficiency of ICT in healthcare delivery within the Nigerian context. The purpose is to assist those bodies responsible for ICT policy and implementation to enable the benefits of ICT to trickle through to the populace. We are also of the opinion that the adequate implementation of ICT policy in the health sector in the most populous black nation (Nigeria) will go a long way to influence its implementation in neighbouring nations.

Keywords: ICT, Healthcare, Technology, Development, Policy, Governance

1. INTRODUCTION

Information and communication technology (ICT) is increasingly taking root as a reliable tool for development in the technology, economy and social sectors (Hameed, 2007), decision making and resource control in both the public and private sectors of nations. There are now revolutionary improvements in the quantity and quality of information available to managers and administrators (Mundy, 1996) aimed at effective service delivery. Information is therefore an important commodity in the economies of nation development. When information resources are not available, this impoverishes a nation, thereby hindering development at whatever level. With the present trend, ICT policy is a driving tool towards the socio-economic growth or otherwise of any sector of a nation.

Although there has been significant improvement, unlike the developed nations, Africa remains at the lowest ebb of advancement in ICT (Ryckeghem, 1996). This, to a great extent, has resulted in the marginal socio-economic growth on the continent and in Nigeria in particular.

The International Research Development Centre is at the front line in advocating the formulation of enduring national information policy within Africa (Olatokun, 2008; Olatokun, 2009). Besides rolling out a report on information strategy for Africa, there are other global programme initiatives aimed at placing ICT policy on the international research agenda (Valantin, 1996), since this is seen as a reliable route to national development. The usefulness of ICT in other fields of human endeavour is indisputable; hence it becomes necessary to have an enabling ICT policy to control and coordinate the acquisition, usage and disposal of ICT tools (software and hardware) to enhance growth in sectors like health and education. The resultant effect would be an improvement in healthcare delivery and improved knowledge acquisition leading to socio-economic development of the nation.

2. BACKGROUND LITERATURE

ICT is a broad concept that embraces the use of machines and services to solve communication needs through technological inventions. As a heterogeneous industry ICT embraces media and broadcast, telecommunications equipment and services, network-based information services, information technology (IT) equipment and services, Internet service providers, and related specialized professional services (Marcelle, 2000). These various industries are interwoven within the broad ICT industry, and work at various levels to produce the needed services leading to growth and development. A fundamental issue involves usage of these ICT tools to promote healthcare delivery under an enabling ICT policy.

The West African sub-region is 'blessed' with diverse cultures ranging from religious influence to colonial dominance. These diversities result in

perennial inter-tribal wars within the sub-region. The overall result is a decline in the development of the region, both technologically and economically. Religious policies have to a large extent influenced growth, social interactions and development in major parts of the region. Infrastructural development is at its lowest ebb within the sub-region owing to religious bigotry, among others. Traditional beliefs have also hindered development in the sub-region.

Technology policies should aid infrastructural growth. Introduction of a viable IT policy should enhance the development of IT in the region. Nigeria, the most populous black nation, is caught in the web of the above-mentioned challenges. This informed the decision to undertake a review of recent ICT policies in terms of healthcare in Nigeria.

This paper aims to discover to what extent ICT policy attempts to break traditional/cultural and religious barriers, leading to development of the health sector. Simply put, has ICT policy influenced positive growth in Nigeria? With the recent Ebola virus disease epidemic that ravaged the West African sub-region, a study on the application of appropriate ICT policy to tackle the menace has become urgent and of the utmost importance.

Various reports indicate great disparities regarding the availability of telecommunications facilities in Africa to aid in healthcare delivery and other ICT dependencies (Olatokun, 2008). African countries (with Nigeria as a subset), as is the case in all developing countries, are dependent on the Western world for IT products. Does this mean a loss of independence (Mundy, 1996)? There is a need to develop IT policies that will see to the growth of the health sector, since all strata of society now have a dependence on IT, and to minimize dependence on the so-called developed world.

IT is believed to enhance social development and economic growth (McConnell, 1995; Marcelle, 2002; Chetley et al., 2006); if this is the case, it is certain that poverty and high death rates in the West African sub-region are significantly related to poor technological infrastructure and degree of ICT usage. Lack of availability of competent healthcare has contributed to the low level of growth in the health sector. The dismal performance of healthcare providers/personnel could also be as a result of lack of adequate knowledge and availability of ICT tools.

Globally IT is being applied in education, income development, governance and economic management, rural development, the environment and security, and health. It is therefore safe to say that job creation – either in the health or other sectors – is directly related to the level of IT knowledge and infrastructure in place. Looking at the Internet, a subset of ICT, for instance: with growth in population it is expected that the percentage of individuals accessing the Internet should increase astronomically, but the result is a far cry from this. The world-wide population of Internet users is just increasing with the development of social network sites.

A survey conducted in 1999 shows that Africa generates only 0.4% of global content, of which South Africa alone generates 0.38%; this is to say that all of the rest of Africa generates a mere 0.02% (Kenny et al., 2001). Industrial/developed countries are considered to dominate the Internet's local content. However, few educational elites are seen as the global dominators in the use of the Internet, with women having less access to ICT than men. Women are also those most hard hit with regard to health challenges, with the extra load of pregnancy and child delivery.

The population of women in urban Latin America who use the computer and Internet is 38%. In Africa, in Ethiopia, where 65% of its adult population is illiterate, about 98% of Internet users have a university degree, of whom 86% are male (Kenny and Qiang, 2003). Similarly, Senegal and Zambia have higher percentages of male than female Internet users (83% and 64% respectively) (Kenny, 2002; Pigato, 2001). In Asia Bangladesh, which had a population of 125 million as at 1998, had just over 1000 Internet users Pigato (Pigato, 2001). Stepping up of ICT usage can only be achieved through an enabling ICT policy (Bradsher, 2012). In several countries there are restrictions on the use of ICT owing to religious beliefs. At the time of undertaking this study there were no available statistics on the percentage of Nigerian women with knowledge/usage of the Internet.

Growth in IT will certainly reduce the size of urban cities as face-to-face communications are reduced (Gaspar and Glaeser, 1998); it will also enhance rapid attendance to health issues by health professionals through use of telemedicine facilities. If people can stay in the rural areas and still have access to technology facilities, the rate of socio-economic development will certainly increase; people will spend less time on the road and still have efficient patient-physician contact. As another example, if more people are able to work from home, irrespective of location, their dependence on petrol will reduce, thereby saving money for other essentials (that is, socio-economic growth). ICT policy is therefore urgently needed to facilitate the usage of ICT in the development and growth of nations (Blake and Quiros Garzon, 2010).

It is apparent that the application of an appropriate ICT policy to the health sector will enhance health delivery, leading to growth and development. The successful application of an enabling ICT policy in the health sector is an urgent need now more than ever in the face of a growing population like that of Nigeria. In the light of this, conducting an ICT policy/usage review in the health sector of the most populous black nation becomes not only necessary but urgent.

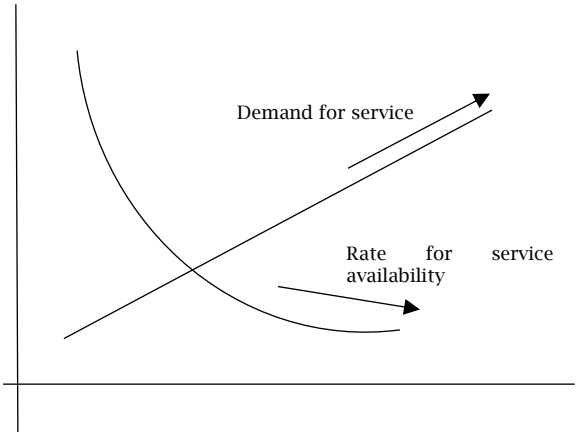
3. THE SO-CALLED 'NIGERIA FACTOR'

Progress in development hinges on the actions of policy-making bodies. Governments are more often than not at the top of decision making on national growth and development. Considering the huge benefits of ICT, the Nigeria and the West African states seem to have been short-changed as a result of erratic government policies and institutions. From available World Bank records, the West African sub-region (in fact, Africa) is among the least developed in terms of industrialization (Nulens, 2000; Pigato, 2001). The total dependence on the Western world for IT infrastructure makes the region a grossly dependent, incapacitated entity. There is no question then that Nigeria (and Africa at large) is at

the losing end. To reverse this trend, a viable policy to drive the ICT sector must be put in place.

Available data from World Bank indicators on Nigeria show that the demand for health services exceeds the rate at which the services are made available. Figure 1 gives a graphical representation of this scenario. Patients receive insufficient care owing to (1) unavailability of health professionals, who now throng overseas for greener pastures, (2) lack of medical equipment and IT infrastructure, and (3) lack of proper communication and decision-making leading, to ineffective diagnostics, among others. The resultant effect of these challenges is a high death rate[4].

Figure 1. Service availability vs demand for service



Nigeria is a multi-tribal and multi-religious nation, like most of the West African countries, as well as being the most populous in the region, and has suffered greatly from the effect of diversities in culture and religion, resulting in tribal and religious unrest. Infrastructural developments are adversely affected by such unrest. There is now a common saying among Nigerians: that if it is Nigerian, then it will never work – the 'Nigeria factor'. This is occasioned by the attitude of the political class, who see no good in the development of others outside of their own family circle.

Economic growth is nose-diving - despite the 2014 gross domestic product being the highest in Africa. Related government policies over the years have suffered either non-implementation, lack of infrastructure for sustenance, or inappropriate tariff regimens occasioned by greed and corruption. The health sector is not spared, as existing policies tend not to support the needs of the sector, even after introduction of the National Health Insurance Scheme (NHIS).

There is therefore an urgent need for proactive measures to arrest the downward trend in technological progression in this region, and to harness the potential of ICT in the health sector of the economy.

4. ICT AND THE NIGERIA STATE

Every government that emerges in any nation craves development in virtually every sector, at least as stipulated by their manifestos. The case of Nigeria is not different, but the result has not been that rosy. Although it is said that an ICT initiative started in Nigeria during the 1950s (Chiemeke and Longe, 2007), there is hardly any evidence that this ever existed. There was really no awareness of ICT's importance during the period.

Currently, there is a general awareness of the importance of ICT in national growth, development and sustainability. The result of this awareness was the organization of an ICT policy workshop in 2000 (Ajayi, 2002). Although the resultant policy was accepted for implementation in 2001, nothing has really changed with regard to the impact of ICT on a national scale with respect to its application in strategic areas of national development. Owolabi, et al (2013) establishes the importance of ICT in education. ICT is relatively new in application in the nation, and its use in revamping the state of education in the nation cannot be overemphasized (Owolabi et al., 2013).

While there is no doubt that individuals now use electronics as means of communication, its impact in national growth and development is minimal. A study conducted by Adebowale and Dare (2012) in a Niger Delta state indicates a low level of ICT policy awareness there (Adebowale and Dare, 2012). Inadequate communication network infrastructure, government ineptitude, the high cost of ICT tools and infrastructure, restlessness and insecurity, and inconsistencies in policy owing to political interests and instability, are some of the challenges impeding the growth of the ICT sector (Anao, 2002).

From available reports, to forestall a drift in policy Nigeria's Ministry of Health organised the very first national conference in 2011 to facilitate government policy in implementation of an effective health information system (HIS) (Adeleke et al., 2014). The idea of having a harmonised HIS and the formulation of an e-health strategy, conceived at the conference, is still not yet realised more than four years since. Research conducted by Adeleke et al. (2014) indicates a high level of awareness of the benefits of ICT in the health sector when fully implemented. Following on from this, it is obvious that there is a high expectation for ICT's implementation in healthcare delivery.

5. HEALTHCARE AND THE USE OF ICT

Nigeria has witnessed several administrations, all with efforts to revamp the near-dead health sector. Although the country is blessed with human and mineral resources, poor administration has led to the collapse of most sectors, including the health sector. Millions of dollars are spent yearly on overseas medical check-ups and treatments. Dreams of revamping the health sector are far from being realised. The political will to implement policies seems lacking. The effect of this is now pronounced, as the life-expectancy is dropping on a yearly basis (Odusote, 2010). A report released by the World Health Organization (WHO) in 2009 reveals that Nigeria's life-expectancy is far lower than in many other nations, especially those that depend on ICT for their socio-economic development (WHO, 2009).

[4] "This is the average annual number of deaths during a year per 1,000 population at midyear; also known as crude death rate. The death rate, while only a rough indicator of the mortality situation in a country, accurately indicates the current mortality impact on population growth" (Agency, C. I. 2009. *The CIA World Factbook 2010*. Skyhorse Publishing Inc.).

It becomes obvious that challenges with the health sector stem from lopsided policy implementation. For example, the 1999 Constitution vests healthcare in the local government authorities; however, since these are not financially autonomous, it has become difficult to access funds needed to take the health sector to the next level in development.

However, there are some rays of hope, as the research community is now conducting development/industry/people-based research in the various tertiary institutions in the nation. It is expected that with the recently launched NigerSat (Nigeria Satellite) the rate of development in the health sector will increase as the new technology is harnessed. It is hoped that this development will lead to ICT soon gaining popularity within the health sector. A study conducted by Olatokun and Adeboyejo in 2009 on the use of ICT by reproductive health workers of University College Hospital, Nigeria, showed the percentage of health workers with knowledge and usage of ICT to be greater than would have been expected. The study, conducted on 360 reproductive health staff of the hospital, indicated that there was extensive usage of ICT infrastructure in communication, which had a tremendous positive impact on rate of service delivery. Such communications enhanced their knowledge and protected the health workers, leading to effective and efficient healthcare delivery. An unfortunate reality is that there are more rural reproductive health workers than there are in the urban cities where Olatokun and Adeboyejo (2009) conducted their study. These rural health workers cannot boast even a 12-hour power supply from the national grid without having to use generators set at their health centres. It is certain that if there is no consistent power supply, the concept of use of ICT in healthcare delivery in such places is a mirage.

A study by Adebayo and Ofoegbu (2014) is the most recent on the usage of e-health applications in Nigeria, and completely negates the results of the 2009 study above. The later study found that there is still high dependence on manual patient folders, creating a huge task for health workers, who daily spend hours in the file store searching for patient folders. This has drastically reduced performance and efficiency, as many hours are spent every day manually searching for folders. Adebayo and Ofoegbu (2014) identified two key issues creating setbacks in healthcare delivery in Nigeria, which are record keeping and accessibility.

The two pictures presented by the two studies above is a clear indication that there are diverse worlds in the health sector within the nation. A portion (not too significant) of the population enjoys some benefits in relation to healthcare delivery, while others (the majority) are in dire need of healthcare owing to ICT infrastructure deficiency. The information systems in the health sector are disjointed and ineffective, as evidence of weak policy on development and ICT implementation. Adeleke et al. (2015) identified a lack of health management information system in Nigeria (Adeleke et al., 2015).. Majority of nurses and other health practitioners, besides the medical doctors, have no encouragement to go for continuing formal education, thereby contributing to weakening the health sector (Adamu et al., 2015). Health workers at the average cadre scarcely go for training. Research and training funds are not readily available to deserving researchers. A situation of this sort wil certainly impede growth within the sector. This factor, among others, has contributed to the poor record keeping and accessibility within the sector(Adebayo and Ofoegbu, 2014).

The health sector reform programme (HSRP) was established by the Nigeria Federal Ministry of Health (FMH) in 2004 with the aim of designing strategic plans towards efficient and effective healthcare delivery (FMH, 2004). The HSRP was to establish a platform upon which government, private and international partners and health institutions will interface to revamp the collapsed health sector. Objectives of the HSRP included to assess the nation's health system, design programmes to combat/control diseases, deliver knowledge on reproductive health and patients' rights, create strategies to confront the ever-growing population, develop an efficient health management information system (HMIS), and establishment of standards for monitoring and evaluating health services. The NFMH is the sole body saddled with the responsibility of establishing standards in the health sector through policies and programmes to guide the effective delivery of healthcare to the citizenry.

Facilitating health education with ICT is another angle in the war against dismal healthcare delivery. It is necessary to understand that ICT involves the use of modern scientific tools and techniques to communicate and document information, with the sole aim of enhancing development (Ogbuji, 2011). Adequate health knowledge will go a long way to assist in prevention of the spread of killer diseases and protecting patients and health workers against the spread of contagious diseases or an epidemic. This was used in the nation to combat the spread of the dreaded Ebola virus. It is important to note that although ICT facilities are relatively available, health workers across sub-Saharan Africa nations are still yet to make full use of them (Ajuwon and Rhine, 2008).

6. CONCLUSION

The need for an efficient and effective healthcare delivery is the concern of all. The application of ICT to drive this concern has commanded intensive research. However, adequate ICT policy for healthcare delivery is necessary to coordinate its application and implementation. The governance of the health sector through acceptable ICT policies will, no doubt, facilitate the availability of health information needed to manage care recipients. In fact, availability of health information and care will upsurge the state of wellness among the populace. This will be so because access to relevant information will assist in positive decision making, thus reducing the risk involved in distance journeys to healthcare centres.

Although, Nigeria, a most populous black nation, has imbibed the role and benefits of ICT, the thorough implementation of same to fast track its impact on the citizenry is still lacking. There exist policies, although not fully implemented, to drive ICT in healthcare delivery. From several studies highlighted in this paper, it is obvious that there is still a long way to go to fully implement policies meant to fast-track ICT in the health sector.

Several workshops and conferences have been organised by the ministry in charge of healthcare delivery, all with the aim of achieving optimal benefits through the use of ICT. The HMIS is still very sketchy. Few public hospitals have what is near

to an HMIS. However, private hospitals are far ahead of the public hospitals in HMIS implementation and ICT application. Because of the high cost of healthcare in these private clinics, it has become very difficult to broaden its impact on the populace.

It should be concluded that there is hope, as the government seems to demonstrate some level of concern in terms of healthcare development in Nigeria. However, the political will needed to speed-up the process is needed. The political leaders should not seek just what will enrich them, but the good of the governed.

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