Available online @ www.actasatech.com

acta SATECH **3**(1): 151 - 159 (2009)

Information and Communication Technologies: a Potential for Sustainable Development of e-Governance in Nigeria

Ibikunle F. A.

Department of Electrical and Information Engineering
Covenant University, Ota, Nigeria

*Corresponding author <faibikunle2@yahoo.co.uk>

Abstract

The explosion of digital connectivity, the significant improvements in information and communication technologies (ICTs) and the enforced global competition are revolutionizing the way business is performed and the way organizations compete. ICT is believed to be a powerful enabling tool to address some of the key barriers and challenges for entering the global economy and for future growth potential. ICTs can transform old challenges and create unprecedented possibilities for sustainable economic development, just as it has done for businesses and governance in the industrial world. It offers the potential not just to collect, store, process and diffuse enormous quantities of information at minimal cost, but also, to network, interact and communicate across the world. This paper reviews the challenges of good governance in Nigeria and then focus on the potentials of ICTs for sustainable development of e-Governance. It discusses critical issues and obstacles that will affect the adoption of ICTs for improved governance. The paper provides examples of how ICTs can be used and are being used to improve governance and its sustenance.

Keywords: e-Governance, sustainable economic development, good governance, ICT

Introduction

The last decade witnessed a revolution in Information and Communication Technologies (ICT). This revolution has not only changed the daily life of people but also the characteristics of the interaction between governments and citizens. The challenge of transformation and the increasing need to automate major tasks for governments worldwide. Globally, for effective development, information and communication technologies have been found to be necessary prerequisites. The Nigerian case therefore cannot be different. It becomes even relevant when the large population and the peculiar cultural diversity of Nigeria are put into consideration. ICT, being an important ingredient for development, requires national government initiative to fully harness its potential. Policies that will encourage result-oriented development in the sector must be put in place honestly and faithfully. It will be pertinent to now evaluate the impact of ICTs on development with regard to governance.

ICT in Government can be defined as "the use of information and communication technologies to support the act and process of governance through the provision of improved systems within and without government" (Jean-Francois, 1995). This process can be referred to simply as e-Governance.

E-Governance therefore is the use of information and communication technologies to support good governance. Good governance is the judicious and effective exercise of power for the sole purpose of improving the quality of life of the people. The key point in all these definitions is 'Information'. **ICT** is the convergence of microelectronics, computing and telecommunications. It has become a global phenomenon of great importance and concern in all spheres of human endeavor, spanning across education, governance, business, market share, labour, productivity, agriculture, trade, commerce and others.

The paper is organized as follows. Section II describes the ICT initiative in Nigeria. Section III gives the various definitions of e-Government and e-Governance. Section IV provides how ICTs can be used to improve governance and its sustenance. Section V discusses critical issues and the obstacles that will affect the adoption of ICTs for improved

governance. While section VI ends with the recommendations and conclusion.

ICT Initiative in Nigeria

Governments worldwide remain the largest repository of data on a vast array of topic and interest. It means that government must be willing to take the initiative to make data available to the citizens after putting into consideration necessary policies to regulate uses and data exchange. ICT initiative in Nigeria started in the 50s with focus on print and electronic media. No major policy or result was achieved because of government's strict control of all productive variables. The full awareness of the importance of ICTs initiative was attempted thereby leaving a large and growing opportunities gap around the main government area, which is responsible for over 80% of all the data. The print media is the only means of information dissemination that attained early and reasonable vibrancy in Nigeria. ICTs initiative in Nigeria actually started with the establishment of National Broadcasting Commission (NBC), and the Nigeria Communication Commission (NCC). Both commissions were formed in 1992, while the NBC was able to achieve some success by licensing private operators commencing in 1993, the NCC could not function as the NBC until 1997 when few wireless operators were licensed to provide telephoning services mainly to Lagos. The NCC could not function as a commission properly until the Obasanjo administration came in 1999 and was properly constituted as a commission in April 2000 (World Bank Issue Note. 2003). The successes of these private radio and television stations have helped in no small way in setting the pace for the deregulation in other sectors of the economy. It must be noted that if the sector had been left in the hands of the government alone, the poor in the society would have been left on the wrong side of an ever-widening divide, not just a digital divide of access to new technology, but a divide of information of knowledge and of governance.

A further initiative was during the Obasanjo administration, setting up the National Policy on information technology, which was released in March 2001. In recognition of the importance of ICT to the economy, the government through the Ministry of Science and Technology also established the National IT Development Agency (NITDA) to serve as a bureau for the implementation of the policy. A major focus of the policy is the development of local capacity for the production of software solution for both the private and public sector of the economy. NITDA is to collaborate with the private and public sector where necessary to ensure that these aims are achieved. NITDA is the sole mate of other national bodies such as; Singapore National Computer Board, the UK CCTA and South Africa SITA. The co-ordination of the IT in Nigeria has been ineffective when compared to these countries mentioned.

E-Government and Government Defined

E-Government

E-Government means different things for different people. Some simply define it as digital governmental information or a way of engaging in digital interactions with customers. For others e-Government simply consists of the creation of a web site where information about political and governmental issues is presented. These narrow ways of defining and conceptualizing e-Government restrict the range of opportunities it offers. One of the reasons why government initiatives fail is related to the narrow definition and poor understanding of the e-Government concept, processes and functions. E-Government is a multidimensional and complex concept, which requires a broad definition and understanding, in order to be able to design and implement a successful strategy.

The following provides the principal definitions of e-Government used in the paper.

E- Government is:

- ''the electronic interaction (transaction and information exchange) between the government, public (citizens and businesses) and employees'' (Richard Dunconbe. 1998).

- ''the government owned or operated systems of information and communication technologies that transform relations with citizens, the private and/or the government agencies so as to promote citizens empowerment, improve service delivery, strengthen accountability, increase transparency, or improve government efficiency'' (World Health Organization. 1999).

- ''the transformation of public sector, internal and external relationships through net-enabled operations, IT and communications, in order to improve: Government service delivery; Constituency participation; Society'' (Fraga, E. 2002).

- ''an Internet-worked government which links new technology with legal systems internally and in-turns links such

government information, infrastructure externally with every thing digital and with everybody, i.e., the tax payers, suppliers, business customers, voters and every other institution in the society'' (Robin & Wehn. 1998).

- ''the public sector's use of the most innovative information and communication technology, like the Internet, to deliver to all citizens improved services, reliable information and greater knowledge in order to facilitate access to the governing process and encourage the power citizens participation''(Clement Dzidonu, 2006).

The crucial element of all these definitions is the use of ICT tools to reinvent the public sector by transforming its internal and external way of doing things and its inter-relationships with customers and the business communities. The analysis of these definitions allows us to single out the main issues and components that characterize an e-Government framework, such as: transformation areas (internal, external, relational); users, customers, actors and their interrelationships (citizens, businesses, government organizations, employees); and e-Government application domains (e-services, e-democracy, e-administration).

Governance

As earlier defined that e-Governance is the use of information and communication technologies to support good governance. Governance is two sided: political and economic. The political aspect deals with the way a nation is governed. It comprises how the citizens, institutions, and businesses articulate their interests, mediate their differences, exercise their rights and obligations, and agree to relate to each other (The World Bank. 2000). In this regard, governance deals with how power is exercised, how open the political process is, how decisions are made, and how much of a voice citizens are given in decision-making and in the management of public affairs. The other aspect of governance is economic. This deals mainly with how societal resources are managed (public sector management) and the role of governments in the process of socioeconomic development. The economic aspects also provide the context in which corporate governance is practiced by setting the laws under which corporations are established and the regulatory framework for the conduct of corporate affairs. Sound corporate governance is increasingly becoming important due to its role in building a healthy and competitive corporate sector, which is fundamental for sustained and broad-based economic growth. In the developing world areas, where satisfying basic necessities of life is still a challenge, the definition of governance must be inclusive. Good governance must include effective participation in public decision-making and management by citizens, accountability, legitimacy, transparency, the rule of law, and an open and enabling environment for addressing socioeconomic problems. This requires participatory democracy and capacity by governments to respond to the demands of development. Expression of citizen demands, whether for services, accountability, or transparency, is futile without a government willing and able to listen and respond. A democracy without effective administrative capacity is an empty shell. As such, good governance is not only about providing an open and free political atmosphere; it also requires a government with the capacity to raise the standards of living and quality of life of the people.

From this description, governance in Nigeria is still far from "good" because the systems are not as open as they should be. Additionally, government is unable to satisfy the most basic needs of their people; accountability and transparency are low, and many people are unable to participate effectively in the governance process. As a result, many doubt the long-term sustainability of the current effort at instituting participatory democracy in Nigeria, as the people grow more disenchanted with the pace of progress. The slow progress, the manipulation of the process, and the resulting disenchantment has prompted experts to wonder whether participatory democracy in Nigeria will thrive or collapse in the near future. The capacity of Nigeria and leaders to respond to and address critical challenges such as: achieving sustained high economic growth and development, meeting basic needs such as food, shelter, housing, clean water and electricity, providing better access to education and health, increasing agricultural productivity, ending civil strife, and reducing poverty substantially hinges on whether Nigeria is able to institutionalize good governance. Conversely, addressing these factors will also determine whether the current wave of democratization will be sustained and become the norm in this century. The following section focus on the opportunities provided by information and communication technologies in addressing the complex situation mentioned above.

ICTs for Improved Governance

The rate of scientific and technological change has greatly increased over the last half-century. Nowhere is this more the case than in the areas of information

and communication technologies. Advances in these fields are bringing about a new economy that is global, interconnected and knowledge-based. The result is the new age of information and knowledge, which is upon us. ICTs are changing lives in ways we could have hardly imagined less than two decades ago. The convergence of computers, telephony, and communications is changing the way we live and work, and it is transforming many aspects of social and economic organization. Not only are ICTs affecting the way we do business, they have led to the creation of entirely new industries such as software, e-commerce, and e-government. ICTs have become enablers of change. ICTs on their own do not create transformation but they are best seen as facilitators of change, innovation and creativity. ICTs unleash the creative potential embodied in people. They have the potential to strengthen economic growth and are being used to create new markets, new technological applications for collaboration, and new methods and tools for scientific and technological research. Not only do ICTs facilitate information exchange, they are deepening the process, creating new modes of sharing ideas, and reducing the costs of collecting and analyzing information. ICTs are "about information flowing faster, more generously, and less expensively throughout the planet. As a result, knowledge is becoming an important factor in the economy, more important than raw materials, capital, labor, or exchange rates'' (UNPA and ASPA. 2001). For many experts, ICTs not only present the best opportunity for accelerated development, they offer a serious chance for Nigeria to catch-up with the rest of the world and even leapfrog ahead in some areas. The belief that ICTs are formidable and cost-effective tools for developing countries is widespread. Properly used they can reduce poverty; empower people; build capacities, skills and networks; inspire new governance mechanisms and reinforce popular participation at all levels. The range of applications are limitless, from electronic commerce, to the empowerment of communities, women and youth;from the promotion of good governance and decentralization, to advocacy programs, including the observance of human rights; from long-distance education to e-health and environmental monitoring (Tapscott, 1996). The potential application of ICTs to address challenges of development is wide. In fact, the opportunities to apply ICTs as an "enabler" and "facilitator" for development are almost limitless. In the remainder of this paper, however, emphasis will be focus on governance.

All over the world today, there is a new wind blowing, bringing ICTs to governance. From one advanced countries to another there are efforts at various levels to bring ICTs to bear on the way society is governed and managed. It is expected that after the e-commerce revolution the next is e-government. The reasons are simple: to improve the quality of service, increase the effectiveness of governments, and reduce costs. The key benefits come from the way in which ICTs can reduce purchasing and fulfillment cycles and lower administrative costs. Some of the big multinationals that have embraced e-commerce intensely by putting their supply chains online are saving upwards of 20%, reducing inventories by about 50% and in some cases lowering their administrative costs by up to 75% (Joe Coates. 1994). ICTs are potentially capable of transforming the way in which most public services are delivered and also the relationship between government and the citizen. The three basic change potentials for ICTs within the context of governance below were identified in Reference.

- Support: ICTs can be used to facilitate existing tasks and processes.
- Supplant: ICTs are particularly useful for automating repetitive and tedious tasks, especially when it comes to storing, processing and transmitting information.
- Innovate: ICTs can be used effectively to undertake new tasks and processes that did not exist.

Within Nigerian context, governments can deploy ICTs to meet developmental challenges and facilitate good governance. As pointed out by (Hans d'Orville. 2000) that "Governance is a highly information-intensive and expensive activity. ICTs are being seen as offering an efficient way of cutting costs associated with generating and disseminating this information". ICTs can be used to enhance the democratic process, ensure effective participation and bring government closer to the people. In addition to expanding the democratic space, ICTs can be used to address many of the developmental challenges from effective macro-economic and public sector management and promoting human capital development, to reducing poverty. The following sections give examples of how ICTs can be used to address these issues and how ICTs can be used as tools for the public good in the following areas: democratization and democratic governance; macroeconomic and public sector management; human capital development; agriculture and environmental management.

Democratization and Democratic Governance

A key characteristic of well functioning states all over the world, Nigeria inclusive, is democracy. Strong elements of democracy are people's participation in governance through regular elections and a vibrant

civil society. If the new efforts at re-democratization in Nigeria is to lead to genuine democracy there is a need to create a democratic culture, a culture that is receptive to political competition through popular participation not just in elections but also in decision making. In a democratic culture, the spirit of open and public dialogue is critical. Democratic governance requires an open government and easy access by citizens to the government. In Nigeria, especially, poor networks and infrastructure exacerbate the difficulties of communications between citizens and government. For the majority of Nigerian population in rural areas, access to government is like accessing the distant galaxies. ICTs, especially the Internet and Web, can be used to develop a democratic culture in Nigeria through revitalizing open and public debate, establishing open government, enhancing interactions between the "governors" and those being "governed", promoting equity, and strengthening the capacity of public officials.

Enhancing Participation in the Democratic Process

A key challenge facing the nascent democracy in Nigeria is to ensure effective participation by all in the democratization process and in governance. As pointed out by (Obadina. 2000), "ICTs are the most potent democratizing tool ever. The access of ordinary people to information technology "is the strongest breath of fresh air pushing political equality that we have had since the beginning of the industrial era". ICTs can be used to open the government to the public and can also provide the citizens a better ability to enhance their interaction with each other and with the government. Parliaments and government agencies can provide information on programs and pending legislation online. Citizens can be invited to send in comments and their views to government officials or parliamentarians. By so doing, their views can be taken into account before laws are passed and policies made. This will have the effect of making government more transparent, accessible, and accountable to its constituents and will likely reduce public cynicism about the political process. ICTs can enhance interactions between citizens, promote dialogue and enhance understanding of issues. In addition to expanding people's access to information, ICTs provide the means for people to let their voices be heard. ICTs can promote empowerment by enabling people to communicate with each other using electronic mail and through electronic discussion fora.

Enhancing Democratic and Parliamentary Institutions

The dynamic interactions of ideas and ICTs open up new frontiers on how to improve democracy. In Nigeria, key needs include building the capacity of those that have been left out for the longest time (especially, women, youth and minorities), strengthening transparency and accountability, and decentralization of government functions to local and regional levels. Despite the fact that women are normally more in numbers than men, their role in politics tends to be limited. All over the world, they represent a very small percentage of elected and appointed government officials. This, in addition to corruption and the lack of transparency and accountability, pose a major challenge to the deepening of the democratic process in Nigeria.

Macroeconomic and Public Sector Management

Many countries have made notable progress in reforming their economies, improving macroeconomic management, liberalizing markets and trade, opening their economies to the private sector and strengthening the policy environment. The results have been increased growth, lower budget deficits, and declining rates of inflation. The high performing countries have also been able to reduce poverty. The key challenge facing Nigeria is how to grow and develop her economies. Nigeria is lagging behind in technological know-how; and its ability to compete in the global economy is eroding. How can Nigeria increase its competitiveness, diversify its economy, and reduce aid dependence and its massive external debt? High external debt is absorbing the major part of government resources and deterring private investment (Sam, 2005). Despite the recent improvements in the policy environment and macroeconomic management, a lot remains to be done. As noted that progress in stabilizing the macroeconomic environment, strengthening the efficiency, accountability, and transparency of government can benefit a great deal from the introduction of information technology applications. Information systems which can help government design, implement, and assess policy reforms are now powerful instruments of public policy. Such information systems could increase the speed, volume, quality, transparency, and accountability of government transactions, yielding large productivity increases in government services.

Improved Decision Making and Public Administration

In the complex and complicated world of today, a key challenge facing governments is the lack of capacity

for policy making, implementation and management. Despite the call for a smaller public sector, more and more, government are called upon to play a supportive role and create an enabling environment for development, help enhance the competitiveness of national firms in the global marketplace, and nurture scientific and technological capacity. For Nigeria, the challenge is daunting, from managing the economy, servicing huge external debts to providing basic services for the population. Yet, the governments simply do not have the information that is needed to make sound policies nor the manpower to do so. To meet these challenges, governments all over the world are embracing ICTs.

Agriculture and Environmental Management

The applications of ICTs in agriculture and environmental management include multimedia public information kiosks, air and water quality monitoring, warning systems, market information, harvest management, and disease monitoring. ICTs can be used to capture and share information on advances in agricultural research and new techniques. ICTs can also facilitate agricultural extension. In the agricultural sector, ICT applications are being promoted to facilitate wide access to information, and intensive sharing of knowledge. ICTs can also be used to build the capacities of farmers through distance education and lifelong learning programs. Access to information and training will allow farmers to learn new techniques in order to raise their productivity. In addition, geographic information systems (GIS) which combine information on soils, hydro-geology, rainfall with socioeconomic data allows for early warning.

ICTs and Governance: The Challenges

ICT, in general is referred to as an "enabler", but on the other hand it should also be regarded as a challenge and a peril in itself. The organizations, public or private, which ignore the potential value and use of ICTs, may suffer pivotal competitive disadvantages. Despite arguments to the contrary, this paper believe that ICTs could play a significant role in improving governance in Nigeria by enlarging the democratic space, enhancing dialogue, facilitating inclusiveness, and by providing governments the tools to better perform their administrative and management functions. ICTs offer the enabling tools to improve the way societies are organized. In addition, the application of ICTs has the power to significantly improve and facilitate horizontal communication among people and communities of interest. The argument is that ICTs provide the ability for governments to finally monitor activities of individuals and to completely control society. The positive view and argument in this paper is that ICTs can make significant contributions to the realization of good governance in Nigeria. The optimism should be tempered, however, by the realities of the Nigeria environment. Despite the capacity of ICTs to facilitate communication and bring people together, they have also become another dividing factor. Within the country, there is emerging a major divide between the relatively "information-rich" and the abjectly "information-poor". This division is probably more pronounced as only a very few can afford to be linked to the global information highway. The reasons vary but the most important are: poverty and lack of education.

In Nigeria, despite the fall in prices and market liberalization, the cheapest Internet-ready computer today is about ₦60, 000. This is far more than the average per capita income for most Nigerians. In addition to a computer, one needs a telephone line and an Internet Service Provider (ISP) to participate in the information society. For majority of Nigerians, telephone is a luxury, which is either not affordable or not just available. Waiting time to get a telephone line could run up to months at a high cost per line. Even when the line is available, the charges are on the high side. Nigerian ISPs are also scarce, expensive and unreliable. Nigeria with population well over 100 million, only 1 out of 100,000 people is connected to the Internet. Additionally, ICTs are new technologies. They require some knowledge and expertise to use. In Nigeria, the literacy rate is low. Even when one can read, ICTs require training to be able to use them effectively. Despite novel ways of providing access through community centers and sharing of access, these factors conspire to keep the financially poor away from joining the information society. The access barrier faced by the poor in Nigeria, if not addressed, will exacerbate the division in society. It will also increase the power of the affluent relative to the poor and continue to ensure that the poor are left out. This is not good for the societies where there is a need for inclusiveness as a result of the many other divisions that already exist. Additionally, governments, unlike corporations, must provide services for all and not selected few. If ICTs are going to make meaningful impact on governance in Nigeria, many more people will have to be able to afford and use ICTs. Otherwise, governments will only be catering to the interests of the elite that can afford to use ICTs. This however should not stop governments from using ICTs to improve the policymaking process and management.

At the societal level, even if Nigerian governments are willing and able to bring the era of e-government

to life, the environment is constraining. The infrastructure necessary for the information society is pitifully inadequate while financial resources are becoming more and more limited. In addition, power supply is a major problem. In many cities where there is electricity, power supply is unreliable and in most rural areas it is simply not available. While the barriers to creating the information society in the country are high, the opportunities for connection are growing. Recent efforts to liberalize the telecommunication sector and open it to private sector competition are paying off. Digital wireless telecommunication networks have sprung up to the extent that cellular telephones have become quite common. Nigeria, at least boast of four cellular telephone companies, providing services in many parts of the country. New technologies coupled with improving the policy are allowing the country to address the risks and challenges. New technologies, donor support and local initiatives by non-governmental organizations are also helping in addressing the telecommunication challenges. New approaches such as community access centers and kiosks, pay phones managed by individual entrepreneurs are providing alternative and more affordable access for many. Donor initiatives are also easing access problems. United Nation Development Projects (UNDP) has initiated several programs, one of which is the Africa Internet Initiative that connected ten African countries to the Internet, and Nigeria is one of the beneficiaries. The program is used to help build capacity, to introduce people to ICTs and to promote sustainable human development in the developing world. Despite the progress and opportunities, a lot remains to be done with regards to cost, education, infrastructure and policy environment.

Recommendations

Notwithstanding the problems facing Nigeria, ICTs are being deployed throughout the country. To date, governments have web sites, albeit rudimentary and externally focused. These web sites can be consulted for information on the country. The most popular area of focus is tourism promotion. Tourists can obtain basic information on travel, tours, hotel accommodation and some can actually make reservations through the Internet. These applications are only the beginning. The opportunities to apply ICTs for improved governance in Nigeria are many. Increasingly Nigerians are calling for democracy, democratic institutions, more open and plural societies, more involvement in public decision-making and a more effective administration. That is, an administration that is not only willing and able to listen but must also have the capacity to design, implement and manage policies. The room for e-governments and application of ICTs to nurture the nascent democracy just evolving in Nigeria is enormous. How then should we proceed? As pointed out in the special survey of (The Economist, 2000) on Government and Internet, the way to e-government involves four distinct stages. In the first stage, government departments use the Web to post information about themselves and services for the benefits of citizens, business partners and other interested parties. This websites are only use to disseminate information about the country; in other words, to communicate in one direction. In the second stage, the web site becomes a tool for two-way communications, and citizens can communicate with their government through the Web. In the third stage, the websites allow for more interaction to take place, with web-based self-service for work previously carried out by government officials such as renewing a license, paying fines or filing tax returns. In the final stage, the websites become a portal that integrates a complete range of government services and provides access to citizens by function rather than department. The governments and societies must have to begin by integrating ICTs into the array of tools at their disposal to realize good governance and socioeconomic development. Beyond this, is the need to overcome the numerous obstacles, identified earlier, to creating the Nigeria information society. To meet the challenges, the following ideas are propose for consideration by the government to enhance the chances of success of ICT projects and minimize the risks of failure for public sector ICT projects.

Ideas for Consideration

The societies must see ICTs as tools, which they are. ICTs are to be employed and used for specific ends and should never be seen as ends in themselves but as tools that can be employed to realize the societal vision of the future. As such, the focus should never be the technology but the job at hand. The goal must not be technological sophistication but getting the job done in the most efficient and effective way. The key is to ensure that societal objectives and goals are defined first. The country must develop the strategic intent and have the determination to exploit the opportunities provided by ICTs. This will dictate the need to understand the role that ICTs can play in improving the quality of life of the average citizen and how ICTs can be used to achieve national goals. Exploiting ICTs for societal goals requires political

will and committed leadership that fully understands ICTs, and respects their applications. A high-level leader that will act as project champion must lead each ICT project. The leadership must also get the commitment of the communities of interest/stakeholders and have a strategy to overcome the barriers to change. Participation by key stakeholders in the planning, design, budget decision and implementation of ICTs projects is a strategic way to encourage ownership and enhance the chances of success. This is particularly important in environment where public servants are not very motivated.

It is crucial to start small. Everything cannot be done at once. Most successful ICT initiatives start out modestly. They go after things that are small and do not lead to major changes but can lead to noticeable benefits. Resource scarcity and the need for learning make this a crucial consideration. Policy makers must therefore implement projects in stages. Show the benefits before moving to the next stage. This is likely to engender support and carry people along. Also, sound policies and implementation approaches must be developed to increase the possibilities of benefit while minimizing the risks.

Policy Recommendations

Good governance is the judicious and effective exercise of power for the sole purpose of improving the quality of life of the people. Successful governance is influenced by several factors, which include socioeconomic and political environment, quality of leadership, character and form of government, an enlightened and engaged civil society, and government's administrative capacity. ICTs provide enormous opportunities for improving these factors, thus creating good governance.

However, ICTs as tools have two sides, and as such also present some key challenges and risks. Nigeria faces two risks: the risk of being further left behind by the rest of the world despite the promises of leapfrogging, and the risk that ICTs in governance could amplify the division in the society.

To ensure that society maximize the benefits of the ICT revolution for improved governance while minimizing the risks, we recommend actions in the following areas: vision and strategic agenda, democratizing access, building the infrastructure, capacity and institution building, demonstration projects and experimentation, and building the right regulatory and policy environment as explain below. Before seeking ICT solutions to problems of governance, Nigerian and their leaders must first of all decide to have good governance. Without a commitment by Nigerians to create well-governed societies, no technology will ever be useful. In a climate in which leaders continue to usurp power, organize coup d'états and violate fundamental human rights with the acquiescence of the populace, ICTs will only become another tool for oppression. Additionally, decision-makers at all levels must acquire knowledge about the new telecommunication technologies.

Conclusion

The information and knowledge age is upon us due to rapid advances in information and communication technologies (ICTs). These new technologies are changing the way we live and work, and they are transforming many aspects of social and economic organization in ways we could have hardly imagined less than two decades ago. ICTs offer Nigeria formidable and cost-effective tools for accelerated development. This paper has assessed the role that ICTs can play in Nigeria development with special emphasis on governance. The paper summarizes the uses of ICTs in governance and discusses possible risks. It also attempts to offer ideas that should be considered in employing ICTs for governance. The paper stresses the importance of the human factor in realizing good governance, given that ICTs are only tools.

References

Bhavya Lal and Gary Gaumer. 1999. Information and Communication Technologies for Improved Governance in Africa. *E/ECA/ADF/99/6. Theme paper for ADF* (Addis Ababa, United Nations Economic Commission for Africa).

Clement Dzidonu, T. Rodrigues and R. Okot-Uma. 2006. The Emerging Messaging and Networking Technologies: An analysis of their Potential Development Impact in Africa. *Africa Development Review,* Volume 10, Number 1.

Fraga, E. 2002. Trends in e-Government: How to Plan, Design, Secure, and Measure e-Government. *Government Management Information Sciences (GMIS) Conference*, Santa Fe, New Mexico.

Hans d'Orville. 2000. Knowledge and Information: New Levers for Development and Prosperity. *United Nations Development Program.*

Jean-Francois Rischard. 1995. Forces Reshaping the World Economy. *in National Research Council and The World Bank, Marshaling Technology for Development" Proceedings of a Symposium,* Washington DC, National Academy Press.

Joe Coates. 1994. The Deadening Power of Dilemmas. *Futures*. Volume 26, Number 10 London, Butterworth-Heinemann Press.

Richard Dunconbe. 1998. ICT's and small enterprise. *Findings from Botswana*.

Robin Mansell and U. Wehn (editors). 1998. *Knowledge Societies: Information Technology for Sustainable Development.* London, Oxford University Press, page 77.

Sam Pitroda. 2005. Democracy and the Village Telephone. *Harvard Business Review,* Dec

Tapscott, D. 1996. *The Digital Economy.* McGraw Hill Press, New York.

The Economist. June 24, 2000. A Survey of Government and the Internet," London.

The World Bank. 2000. *Can Africa Claim the 21st Century*. Washington, D.C. The World Bank. pp 9,

Tunde Obadina. 2000. Africa's Crisis of Governance. *Africa Economic Analysis.* http://www.afbis.com/analysis/ crisis.htm

UNPA and ASPA. 2001. Benchmarking e-Government: A Global Perspective. http://unpan1.un.org/intradoc/groups/public/documents/un/unpan003984.pdf,

World Bank Issue Note. 2003. E-Government and the World Bank. November 5.

World Health Organization. 1999. Making A Difference. Geneva, *World Health Report*.