The E-government in Africa-challenges and implementation barriers:The case of Algeria

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Summry:

The United Nations General Assembly during its special session devoted to "Public Administration and Development" stressed that the quickly globalising world needs efficient, effective, responsive, transparent and accountable governments that derive their legitimacy from the consensus of well-informed citizens. Only such governments can lead societies through the complex time of change and transition. scholars see the great positive impact that application of Information and Communication Technologies ICTs in government operations (E-government) can have for enhancing the capacities of governments to live up to this challenge and help to achieve the broader development goals that the international community has set.

In most African countries, compared to any other part of the world, the use of ICTs such as those necessary to provide E-government services is minimal, the contributing factors, among others, are lack of infrastructure, low literacy rates, low economic development, and a variety of cultural factors. Despite these obstacles, many African countries have made noticeable progress during the last couple of decades .

The main objective of the study is to provide an overview of the deployment and adoption of Information and Communication Technologies in Africa, and to review the issues facing these countries in adopting information and communication technologies. This study examines the current situation in Algeria to determine the causes of the noted slowdown in ITC developement and implementation and make further recommendations for the further development of E-government and the revival of ITC sector.

Key Words :

Public administration, Government, ITCs, E-government , Africa,Algeria.

ملخص:

اكدت الجمعية العامة للأمم المتحدة فيدورتها الاستثنائية حول الادارة العامة والتنمية ان العالم المعولم اليوم بحاجة الى حكومات اكثر فعالية، كفاءة، استجابة، شفافية ومساءلة، حكومات تستمد شرعيتها من المواطن المستنير المطلع على المعلومة، وخلصت الى انه فقط مثل هذه الحكومات تستطيع قيادة المجتمعات في خضم التعقيدات والتغيرات والتحولات التي يعرفها العصر.

يستطيع الاثر الايجابي الملموس لاستخدام تطبيقات تكنولوجيا المعلومات والاتصالات في العمليات والنشاطات الحكومية "الحكومة الالكترونية"، المساهمة في تعزيز قدرة الحكومات وترقيتها لمجابهة هذه التحدياتوتحقيق الاهدافالانمائية الواسعةالتي صاغها المجتمع الدولي في هذه الالفية.

وفي هذا الصدد ومقارنة بمختلف مناطق العالم، نجد استخدام معظم البلدان الافريقية لتكنولوجيا المعلومات والاتصالات في مبادرات اقامة "الحكومة الالكترونية" لا تزال في الحدود الدنيا وهذا راجع لعوامل عديدة كغياب البنى التحتية، ارتفاع نسبة الامية، ضعف التنمية الاقتصادية بالإضافة الى مجموعة متنوعة من العوامل الثقافية. وبالرغم من كل ذلكفان العديد من الدول الافريقية حققت تقدما ملحوظا في هذا المجال خلال العشريتين الاخيرتين.

تهدف الدراسة الى تسليط الضوء على تبني الحكومات الافريقية لتكنولوجيا المعلومات والاتصالات واعتمادها في انشطتها ومعاملاتها اضافة الى العوامل التي تعوق ذلك، كما ستتناول هذه الورقة الوضع الحالي للجزائر في مجال تطبيق مشروع الحكومة الالكترونية خاصة مع التباطؤ الملحوظ الذي تعرفه بلادنا في هذا المجال وسنحاول معرفة اسباب هذا التأخر وتقديم توصيات للإرساء الناجح لمشروع الحكومة الالكترونية في الجزائر وتطوير قطاع تكنولوجيا المعلومات والاتصالات في بلادنا.

الكلمات الدالة:

الادارة العامـة، الحكومـة، تكنولوجيـا المعلومـات والاتصـالات، الحكومـة الالكترونيـة،افريقيا، الجزائر.

Résumé:

L'Assemblée générale des Nations Unies a souligné, lors de sa session extraordinaire consacrée à « l'administration publique et le développement », que le monde globalisé a besoin de gouvernements efficaces, flexibles, transparents et responsables, qui tirent leur légitimité du consensus des citoyens bien informés. Seulement ces gouvernements peuvent conduire les sociétés à travers le temps complexe de changement et de transition. les chercheurs soulignent l'impact positif de l'application de l'information et de la communication (TIC) dans le fonctionnement du gouvernement (gouvernement électronique) pour renforcer les capacités des gouvernements à relever ce défi et aider à atteindre les objectifs de développement que la communauté internationale a mis en place.

Dans la plupart des pays africains, et par rapport à tout autre partie du monde, l'utilisation des TIC telles que celles nécessaires pour fournir des services publics électroniques est minime, les facteurs contributifs sont généralement le manque d'infrastructures, le faible taux d'alphabétisation, le faible développement économique, et des facteurs culturels. En dépit de ces obstacles, de nombreux pays africains ont fait des progrès notables au cours des deux dernières décennies.

L'objectif principal de cette contribution est de fournir un aperçu sur le déploiement et l'adoption des technologies de l'information et de la communication en Afrique et d'examiner les problèmes auxquels son t confrontés ces pays pour exploiter ces technologies.

Est examinée aussi la situation actuelle en Algérie pour déterminer les causes du ralentissement constaté dans le développement de ces technologies et leur mise en œuvre et de réfléchir sur quelques pistes et solutions à même d'aller vers le gouvernement électronique et à relancer le secteur des TIC.

Mots Clefs:

Administration publique, Gouvernement, ITC, E-gouvernement, Afrique, Algérie.

Introduction

In the past few decades, the the increasing use of Information and Communication Technologies (ICT) in public administration commonly referred to as electronic government, has attracted ever more attention across the globe.Today, most of developed and developing countries have formulated local e-Government strategies in order to improve the ease and efficiency in the public administration as well as to advance public sector capabilities in meeting the aspirations of citizens who are placing new requirements and demands on their governments.

Government is committed to provide the best possible services to the community, however, the government leaders around the world face a common set of challenges if their services are to meet the increased expectations of both citizens and businesses.The success of the public sector leaders is seen through the advantages they are creating for its "clients" named : the private sector, citizens and communities, who demand top performance and efficiency, proper accountability, public trust and a better delivery of the governmental services and outcomes[1].

E-Government has already used by most African governments bodies, it has brought opportunities for more efficient and transparent administrative work, and better public service level, for this reason,these countries have recognised the importance of investing efforts in the development of e-Government projects which have significant role to play in Africa's current and future development. The issue for African nations, therefore, is not 'if e-Government' but 'how e-Government'[2].

The African e-Governance faces many obstacles such as[3] :

- Limited and unequal access to ICTs
- The lack of ICT infrastructure and mass connectivity to the internet
- The absence of or inadequate legal framework

[1]Mircea-RaduGeorgescu and Iuliana GEORGESCU , Do We Need a Powerful E-Government?, the International Business Information Management Association IBMA, Vol 5,2008,p242.

[2]HeeksRichard,E-government in Africa: Promise and Practice, iGovernment Working Paper Series, Paper no. 13. Institute for Development Policy and Management University of Manchester,2002, P18.

[3]Olusoyi Richard Ashaye and ZahirIrani, E-Government Implementation Benefits, Risks and Barriers in Developing Countries: Evidence from of Nigeria, International Journal of Information Technology & Computer Science, Vol 12, 2013, p95.

- The existence of post-colonial administrative cultures
- Limited or lack of funding and financial resource
- Unaccountablebureaucracies
- Technical know-how
- Lack of acceptance in both staff and citizens(resistance to change)
- Socio-economic and cultural constraints

However, these barriers do not provide grounds for giving up on E-governement initiatives in Africa; on the contrary, they indicate the particular needs of African countries for modernised systems of governance, aided by the new technologies

I. Definition of basic concepts

Before fully entering into the subject, it would be helpful to clarify fewconcepts:

- **Information and communication technologiesICTs**

-ICTsare technologies that support activities involving information.Such activities include gathering, processing, storing and presenting data. They refer also to technologies that provide access to information through telecommunications. This includes the Internet, wireless networks, cell phones, and other communication mediums[1].

ICT as a new instrument for policy makers :

Technological and scientific advances have significantly changed the way that information is gathered, stored, processed and disseminated[2]. ICTs enables a better use of information, more accurate and timely information, which has positive impact on decisionmaking and the implementation of good public policies. ICTs can be used intaxation, fiscal policy implementation and procurement. Information helps to verify the quality, monitor and enforce performance of policy makers, implying an improvement in the accountability of these latter[3].

[1]T.Manichander, **Fundamentals of ICTs in Education**, ICT and Education,lulu Publication,India,2016,p01.

[2]Mircea-Radu and GeorgescuulianaGEORGESCU,Op.Cit, p242.

[3]Nasser Saidi&HalaYared, **e-Government:Technology for Good Governance, Development and Democracy in the MENA countries**, Mediterranean Development Forum IV, Amman,2002,p17

- **Governement and E-governement**

1.Government

Etymologically the word government originates from the word "govern" which originates from Old French "governer", or from Latin "gubernare" meaning "to steer or rule", and from the Greek word "kubernan" meaning "to steer", steeped in controlling, or at least having a large role in multiple facets of citizens' live

The New Oxford English dictionary defines government as[1] :

-The system by which a state or community is governed or the action or manner ofcontrolling or regulating a state, organisation, or people .

-The group of people with the authority to govern a country or state; a particular ministry in office

Governement can also be defined as the exercise of political authority over the actions or affairs ofa political unit, people, etc, as well as the performance of certain functions for thisunit or body.

2.E-governement

E-government is known by different terms such as Electronic Government, Electronic Governance,Digital Government, Online Government, E-Gov...etc[2].

There are many definitions of E-government; the following are representatives:

-E-Government can be referred to as the use and application of information technologies in public administration to streamline and integrate workflows and processes, to effectively manage data and information, enhance public service delivery, as well as expand communication channels for engagement and empowerment of people[3].

- The World Bank, (2012) defines E-Government as « The use by government agencies of information technologies (such as Wide AreaNetworks, the Internet, and mobile computing) that have the ability to transformrelations with citizens,

[1] https://en.oxforddictionaries.com

[2] ÅkeGrönlund, **Introducing e-Gov: History, Definitions, and Issues**, Communications of the Association for Information Systems,Vol15, 2005, p713.

[3] United Nation E-Government Survey, **E-government for the future we want**, Economic and Social Affairs, 2014, p02.

businesses, and other arms of government. Thesetechnologies can serve a variety of different ends: better delivery of governmentservices to citizens, improved interactions with business and industry, citizenempowerment through access to information, or more efficient governmentmanagement. The resulting benefits can be less corruption, increasedtransparency, greater convenience, revenue growth, and/or cost reductions ».

- E-government is defined as a capacity to transform public administration through the use of ICTs or indeed is used to describe a new form of government built around ICTs. This aspect is usually linked to Internet use[1]

In simple terms, E-government is the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees. It is the use of information technology to support government operations, engage citizens, and provide public services in a more efficient and transparent manner[2].

3.E-governement types

There are different types of E-government based on using ICT to facilitate relationships between government and other key stakeholders[3] :

- Government-to- Citizen (G2C)
- Government-to-Business (G2B)
- Government-to-Government (G2G)
- Government-to- Employee (G2E)

- **E -GovernementStakeholders**

The adoption ofe-Government in any Country shall involve the active participation andcontribution of a number of key players and stakeholders in the entire process.

According to UNESCO and the National Informatics Centre NICof India, Some of theimportant stakeholders shall include [1]:

[1] OECD e-Government studies, **The e-Government Imperative** , OECD publications service,2003,p23.

[2]GetrudeNtulo And JaphetOtike**, E- Government: Its Role, Importance and Challenges**, School of Information Science, Kenya, p03.

[3]NdouValentina, E-government for developing countries: opportunities and challenges. The Electronic Journal on Information Systems in Developing Countries EJISDC, 2004, p05.

Political Leaders :No E-government initiative, no matter how well strategized can bear fruit unless there is a will to do so by the political leadership in the Country. This stands true for almost all nations and it is imperative that the top leadership in the Country is sensitized enough towards the need for electronic governance.

Government Departments/Agencies :The Government departments at all levels in a Country need to ensure a perfect backend integration of systems and processes to ensure a smooth and seamless transformation of the government to a digital governement. The E-awareness amongst the government employees and their willingness to embrace change shall play a key role in the whole process.

Legislative Bodies :Formulation and enactment of well crafted IT laws and policies is a pre-requisite for the success of an E-government venture and the role of law making bodies assumes paramount importance in this regard.

Citizens :Being the key beneficiaries of the entire process, the citizens play a crucial role as they are the ones to expect a fast and convenient delivery of online information and services from the government and would also contribute effectively to the process of policy making by voicing their opinion and views electronically.

Private Sector :A healthy collaboration and partnership between the government and the private sector entities shall lead to an easy fulfillment of E-government goals as both the parties can draw benefit out of the ventures. The private sector can be an investor for E-government initiatives and can also add value to the E-government initiatives through deployment of advanced technology and global expertise.

International Organisations and NGOs :These can play an important role by being facilitators and motivators for the projects. Through an effective promotion of the E-government initiatives, these agencies can raise awareness amongst the common citizens and can also contribute by carrying out research in the area and exchanging best practices with countries that have already proved successful in some areas of E-government.

[1] National Informatics Centre (NIC) of Idia and UNESCO, E-Government Toolkit for developing countries,2005, p15.

- **Why e-Government**

Now dayspolicymakers and managers are looking to adopt e-Government in countries around the world - ranging from the most developed to the least developed, it has been put on policy agendas around the world and most countries actively pursuing e-government local strategies, but why ?

If implemented properly, e-Government could help to[1] :

- Give opportunity to citizen to get involved in making decision process[2]

- Improve quality ofgovernment service delivery and provide citizens withthe fatest, easiest and more convenient way for getting them

-Facilitate the accessibility of government servicesand allow greater public(stakeholders)access to information[3].

- Reduce the overall costs of the organisation

- Reduce data collection, process and storage costs

- Speed the process and decision-making

- Make institutions and markets more productive

-Enhance skills and learning

-Reduce corruption

-Attract foreign investments

-Reduce waste of resources

- Open Government Data helps public administration institutions anticipate future scenarios[4]

- Improve governance at all levelsand promote more efficient and effective government

[1]Olusoyi Richard Ashaye and ZahirIrani, Op.Cit, pp93--98.

[2]Ishratliaquat Ali and VegiVenkatSunitha ,**E government in Deve loping Countries- Opportunities and implementation barriers**,Lulea University of thechnology,2007,p04.

[3]Nancy J. Hafkin**,E-government in Africa: An Overview of Progress Made and Challenges Ahead**. Prepared for the UNDESA/UNPAN workshop on electronic/mobile government in Africa,2009, p03.

[4] United Nation E-Government Survey2016, **E-Government in Support of Sustainable Development,** United Nations Department of Economic and Social Affairs,2016, p21.

- E-Government initiatives provide check balance on a country's politicalinstability through efficiency, accountability and transparency

- E-government can provide significant opportunities totransform public administration into an instrument of sustainable development[1]

It is no wonder then that countries of the world are utilizing e-Government as a strategic tool for innovations in government and in services to the stakeholders.

- **E-Governmentrisks**

Many scholars illustrate risks identified with implementing e-Government systems such as[2] :

- Accessibility of info by other agencies
- Information security and privacy
- Reducing full control over information
- Misinterpretation/ misuse of e-Gov services
- Increase criticisms by other agencies and citizens
- Reduction in manpower
- Increase in unemployment
- Unstable power supply
- Dependence on foreign technical know-how

- **Enabling Good Governance through the Use of ICTs**

According to the World Bank, good governance entails sound public sector management (efficiency, effectiveness and economy), accountability, exchange and free flow of information (transparency), and a legal framework for development (justice, respect for human rights and liberties).

The international call for governments to respond to standards of accountability, transparency and participatory governance as critical elements for democracy and State legitimacy has become stronger. The recent debate at

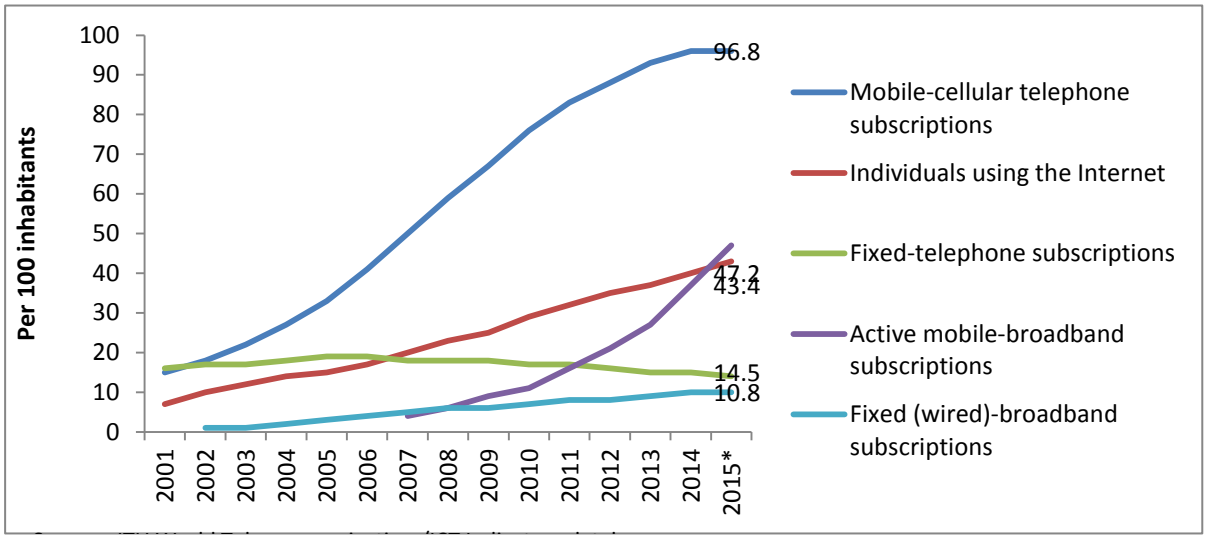
[1] United Nation E-Government Survey2016, Op.Cit, p22.
[2]Olusoyi Richard Ashaye and Zahir IraniOp.Cit,p100.

the international level has highlighted the importance of 'good governance' as an essential ingredient and engine for sustainable development and growth.

An appropriate E-government initiatives can lead to strengthened conditions for good governance,it can transform the existing government system through digital means that is capable of exercising its powers and functions efficiently and effectively[1]

The graph (Fig01) data presents the considerable revolution in information and communications technologies (ICTs) which occurring around the world. The Internet, the personal computer, and the mobile phone have known a huge progress from 2001 to 2015.

Figure (01) : Global ICTsdevelopment 2001-2015



Source :ITU[2] World telecommunication/ICT Indicator databse

http://www.itu.int

[1] Plan of Action -E-Government for Development, Government of Italy -Ministry for Innovation and Technologies, United Nations -Department of Economic and Social Affairs,2002,p07.

[2].ITU is the United Nations specialized agency for information and communication technologies – ICTs.

Table(01): Key ICT indicators 2015

Per 100 inhabitants

	Mobile-cellular telephone subscriptions	Fixed-telephone subscriptions	Individuals using the Internet	Active mobile-broadband subscriptions	Fixed broadband subscriptions
Developed	120.6	39,0	82,2	86,7	29,0
Developing	91.8	9,4	35,3	39,1	7,1
World	96.8	14,5	43,4	47,2	10,8
Regions					
Africa	73,5	1.2	20,7	73,5	1,2
Arab States	108,2	7.3	37,0	108,2	7,3
Asia& Pacific	91,6	11.3	36,9	91,6	11,3
CIS	138,1	23.1	59,9	138,1	23,1
Europe	120,6	37.3	77,6	120,6	37,3
Americas	108,1	25.4	66,0	108,1	25,4

Source : http://www.itu.int

The table(01) shows :

- 43.4% of the world's population used the Internet in 2015 :

- In the developing world, 35.3% of the population is online, compared with 82.2% in the developed world.

- Europe is the region with the highest Internet use rate in the world (77.6%), followed by the Americas (66%).

- In Africa, only 20.7% of people are using the Internet

- The rate of mobile-cellular telephone subscriptions is now over 96.8%, while the rate of Fixed-telephone subscriptions is only 14.5%

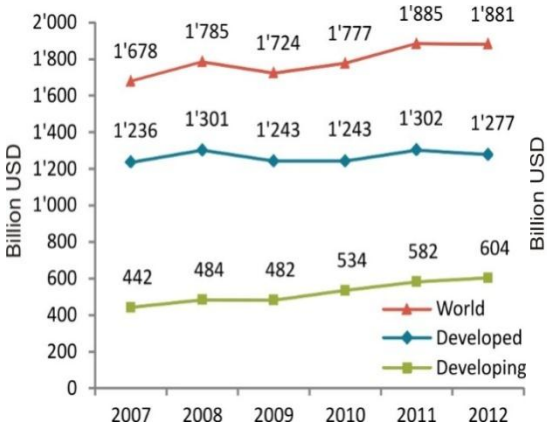
-Developing countries still lag behind developed countries in access to ICTs, and least developed countries (LDCs) are particularly disadvantaged. Access to ICTs and the Internet is also much lower in some regions than others, with penetration rates in Africa lagging behind those elsewhere.

- **ICTs investment and revenue trends**

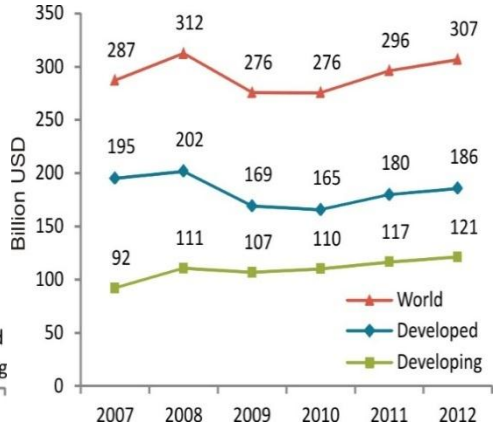
According to MIS (Measuring the Information Society Report 2014) which is an annual report presents a global overview of the latest developments in information and communication technologies ICTs (Figure 02 and 03):

- Total telecommunication revenues have stagnated at USD 1.88 trillion, 2.7% of world GDP

- The sector returned to negative growth in developed countries, whereas revenues in developing countries increased by 4% in 2012
- Global investment in telecommunications grew by 4% to reach USD 307 billion in 2012
-The developing countries' share in total investment reached almost 40% and an all-time high value of USD 121 billion



Fig(02)Telecommunication revenues bytelecommunication operators



Fig(03)Investment

Source: ITU, MIS Report 2014

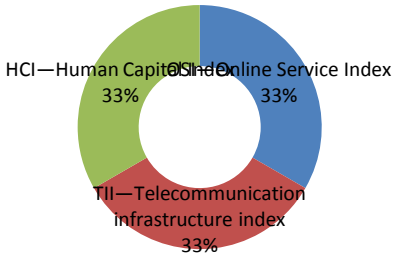
II. An overview of the 2016 and 2014 United Nations E-government Surveys

The United Nations E-government Survey is produced every two years by theDepartment of Economic and Social Affairs. It is the only report in the worldthat assesses the E-government development status of the 193 United NationsMember States. It serves as a tool for decision-makers to identify their areas ofstrength and challenges inE-government and to guide E-government policiesand strategies.

- **The E-government Development Index EGDI**

According to United Nation E-Government Survey 2014, the E-government Development Index EGDI is a composite measureof three important dimensions of E-government, namely:« Provision of online services, telecommunication connectivityand human capacity »and each one of these sets of indices is in itself a compositemeasure that can be extracted and analyzed independently (Figure04)

Figure 04.The three components of the E-Government Development Index (EGDI)

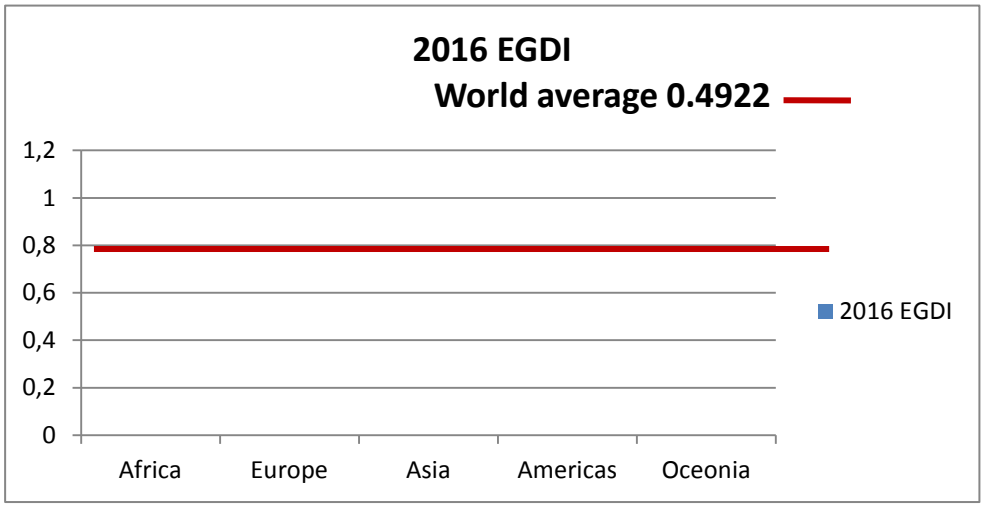


Source: United Nations e-Government Survey 2014

- **Highlights of 2016 E-Governmentrankings**

Due to a number of factors, there are wide disparities among regions and countries in their state of E-government development as observed throughout the United Nation E-Government2016 Survey.

Figure05:2016 regional everages of e-Government developement



Prepared by the researcherbased on theUnited Nation E-Government Survey 2016,page112

Figure(05) illustrates the regional averages as compared to the world median of 0.4922 in 2016.Africa continues to lag globally with a low average at 0.2882 Europe (0.7241) continues to lead with the highest regional EGDIas shown in Figure 5. Oceania countries, with an average EGDI of 0.4154, also perform lower than the global average of 0.4922. Asia and the Americas are very close at 0.5132 and 0.5245 respectively.

Table (02) : World E-government leaders top15 in 2016

Country	Continent	2016 EGDI	2016 Rank	2014 Rank
United Kingdom	Europe	0.9193	1	8
Australia	Oceania	0.9143	2	2
Republic of Korea	Asia	0.8915	3	1
Singapore	Asia	0.8828	4	3
Finland	Europe	0.8817	5	10
Sweden	Europe	0.8704	6	14
Netherlands	Europe	0.8659	7	5
New Zealand	Oceania	0.8653	8	9
Denmark	Europe	0.8510	9	16
France	Europe	0.8456	10	4
Japan	Asia	0.8440	11	6
UStates of America	Americas	0.8420	12	7
Estonia	Europe	0.8334	13	15
Canada	Americas	0.8285	14	11
Germany	Europe	0.8210	15	21
World average 0.4922				

Source: United Nation E-Government Survey 2014page14, and 2016, page111.

Thetable(02) shows a list of countries leading in e-Government development,the top ranking goes to the United Kingdom followd byAustralia

which retains its second position while the Republic of Korea, ranked first in the 2014 Survey, falls to the third position.

The United Nation E-Government Survey 2016illustrates the gaps that have persisted in e-Government development among regions during the period 2014-2016. A majority of countries in the very-high-EGDI group are from Europe, which comprises 19 out of 29 countries (66 %) in 2016, as compared to 16 out of 25 countries (64 %) in 2014.The low-EGDI group mainly consists of African countrieswith 26 countries from Africa (81.2 %), 3 from Asia (9.4 %), 2 from Oceania (6.3 %) and 1 from the Americas (3.1%)[1].

III. E- governement in Africa

Africa is the second largest continent with about a fifth of the world's total land area and the second most populous continent with one seventh of the world's population. This continent is lagging far behind Europe, North America and Asia in E-government, it was once labeled a "technological desert."

[1] United Nation E-Government Survey2016, **E-GOVERNMENT IN SUPPORT OF SUSTAINABLE DEVELOPMENT,** United Nations Department of Economic and Social Affairs,2016, p112.

Table (03) : Top 20 countries in Africa region based on E-government Development 2016

Country	EGDI	EGDI Level	2016 Rank
Mauritius	0.6231	High	58
Tunisia	0.5682	High	72
South Africa	0.5546	High	76
Morocco	0.5186	High	85
Seychelles	0.5181	High	86
Cape Verde	0.4742	Medium	103
Egypt	0.4594	Medium	108
Botswana	0.4531	Medium	113
Libyan Arab Jamahiriya	0.4322	Medium	118
Kenya	0.4186	Medium	119
RegionalAverage0.2882		World Average0.4922	

Source: United Nation E-Government Survey 2016, page113

As shown in the table(03) The regional EGDI average in Africa is 0.2886,only five countries (Mauritus,Tunisia,SouthAfrica,Morocco,Seychelles) have EGDI values above the world average of 0.4922(placing them among the top 50 percent of the world), all other African countries are in the lower two tiers of e-Government development (the low-EGDI and middle-EGDI groups) For instance : Somalia (ranked 193rd), Chad (ranked 188th), South Sudan (ranked 183rd), and the Democratic Republic of Congo (ranked 180th)[1].

ICTs challenges in African countries

African countries are now aware of the advantages derived through adoption and use of ICTs, and despite progress in expanding the reach of basic and new

[1] United Nation E-Government Survey2016, Op.Cit, p113.

ICT services and applications in African countries, the majority of the population still does not have access to these services .ICTsdevelopment in Africa facesmanyconstraintssuch as[1]:

- Inadequate communications and power infrastructure
- Shortage of ICTs facilities and ICTs skills
- Inadequateinstitutional arrangements
- Limited financialresources
- Degitaldivide[2]
- Lack of Qualified Personnel and Training[3]
- Weakpoliticalwill
- Security and privacy issues
- Inadequate public privatepartnership
- Limited data management capacity
- Inadequate horizontal and vertical communication
- Inadequate bandwidth nationally and on the Gateway

Critiques of African E-government implementation

The most generally known critique of E-government practices in Africa is that of Richard Heeks (2002).Heeks estimates that 85% ofE-government projects in developing countries end in either partial or total failure, that's due largely to the "If it works for us, it'll work for you" mentality, in other words its a result of the large gaps that often exist between project design and African public sector reality arising from a Western supply-driven animus that fails to take into account African realities (imported design) [4].

[1] Eng. S M Kundishora and others,**The Role of Information and Communication Technology ICT in enhancing Local Economic Development and Poverty Reduction**, Zimbabwe Academic and Research Network , p06.

[2]GetrudeNtuloAndJaphetOtike**,** Op.Cit, p10.

[3]Ibidem

[4]Nancy J. Hafkin, Op.Cit, p10.

According to Nancy J. Hafkin(2009) there aremany other reasons for failure that Heeks and otherspoint to such as[1] :

-Project goals being too ambitious given production capacity

-Efforts directed at supporting instead of redesigning dysfunctional processes

-E-government agendas diverging from other sector government agendas

-Ignoring cultural elements in project delivery strategies

-Ignoring poor infrastructure and inequitable diffusion of technology.

Heeks offers six questions that governments should pose to themselves when embarking on E-Government projects, he claimes that Lack of e-readiness contributes to both lack of and failure of e-Governance initiatives.

These six key questions are[2] :

- Is the data systems infrastructure ready ?
- Is the legal infrastructure ready?
- Is the institutional infrastructure ready?
- Is the human infrastructure ready?
- Is the technological infrastructure ready ?
- Is the leadership and strategic thinking ready?

Participants at the UNPAN E-governance workshop held in Addis Ababa in February2009 also reacted to Heeks' criticism, feeling that it was out of date and that e-government efforts in Africa needed to be evaluated by African scholars in the context ofthe African milieu and not in direct comparison with more developed and wealthiercountries. Since Heeks' critique, several African scholars, including Chango, Ngulube and Mutula, have undertaken analytic approaches to E-government in Africa .

However, African government leaders on several occasions have rejected Heeks' view of the irrelevance and unsuitability of E-governanceto Africa.

[1]Nancy J. Hafkin, Op.Cit, p10.

[2]Richard Heeks, Understanding e-Governance for Development, Institute for Development Policy and Management,2001 ,p.p17-18.

IV. E- governement in Algeria

Like most African countries , Algeria is suffering from poor administration management , the sector of public services account more than 1600000 employees , however the performance of the public institutions is not up to the aspiration of the Algerian people[1].

- **The dilemma of the public administration in Algeria**

In his study « Public Administration in Africa-the case of Algeria », Professor AmmarBouhouchclaims that[2] :

- The Algerian public administration is overstaffed

- Our public administration is crripled by bureaucracyand corruption

- The Algerian state's laws have been inherited from colonial administrationand the regulations are also out of date.

- Costly materials and technologies is one of problems of the algerian public administration

- Our public administration has known a problem of mismanagement which comes from the short sight of policy makers,the bad information flow, the absence of accountability and punichment and the lack of coordination between policy makers(on the ministrial level) andpublic managers on the implementation level

- The Algerian governement is doing its best to allocate financial resources to departements of Public administration but it seems clearly that the availability of money does not the dilemma of the public administration.

-The functionaries of the state are familiars with the mentioned problems and any change or modernization is considered to be a threat to office holders

-The public administration in Algeria suffers from the absences of mechanisms to make reforms effective a, promises and declarations turn out to be useless.

[1]AmmarBouhouche, **Public Administration in Africa-the case of Algeria**, Algerian magazine for Strategic Studies, N03, ENSSP,2014,p05.

[2]AmmarBouhouche,**Op.Cit**,p.04.

- **ICTs sector in Algeria**

Algerian governement is conscious of the role of ICTs in improving the governance process, despite efforts in recent years, the delay of Algeria on ICTs is generally acceptedand recognized[1].

According to Belmir Mohamed nabil and BensaoulaAbdelhakim (2014), the level of ICTs integration is still ongoing and at an early stage,Algeria presently ranks far behind its closest neighbors (Tunisia and Morocco), it needs to catch up in the field of ICTs.

This delay is due to several constraints: poor infrastructures, research/development undeveloped, training not sufficiently directed towards research, innovations not limited, brain drain.Algeria occupied the 120 th place among 148 country in the Networked Readiness Index 2015 (The Global Information Technology Report 2015).

- **Algerian E-governmentstrategy**

The E-Algeria 2013 strategy adopted by the Government is an emerging vision of the Algerian knowledge society, taking into account major and rapid changes that the world knows.

A multisectoral plan called "E-Algeria Strategy 'was developed to facilitate Algeria's entry into the information society, the following national ICT initiatives have been designed [2]:

-A project by the Ministry of Education to equip all schools with computers by 2005;

-A distance education project;

-A virtual university project;

-A research network to be put in place by the Ministry of Higher Education and Scientific Research;

-A health network developed and maintained by the National Health Development Agency (ANDS) (Belmir Mohamed nabil ,BensaoulaAbdelhakim) :

[1]Belmir Mohamed nabil, BensaoulaAbdelhakim , **The success factors of E-governement strategy in North Africa-A comparative study between Agerian and Tunisian digital strategy**, LSPS,2014,p02 .

[2]Belmir Mohamed nabil, Bensaoula Abdelhakim,Op.cit,p04

- OUSRATIC and OUSRATIC2 programs which aimed to equip every Algerian home with a computer terminal.

The Algerian action plan is organized around thirteen major axes, for each axis a portfolio was developed followed by a definition of specific and key objectives list to achieve by the year 2013 in this section we will present the axes briefly basing on the e-commission report[1]:

1. The acceleration of the use of ICTs in public administration
2. The acceleration of the use of ICTs in enterprises
3. The development of mechanisms and encouragement measures for citizens' access to equipment and ICTs networks
4. Boosting the development of the digital economy based on knowledge
5. Strengthening of the telecommunications infrastructure in high and very high speed
6. The improvement of humanskills
7. The reinforcement of research development and innovation
8. starting up a national legal frame
9. The developing of information and communication
10. The valorisation of international cooperation
11. Providing mechanisms of evaluation and monitoring mechanisms
12. Implementation of new organizationalmeasures
13. Strengtheningfinancial and planning means

The process was aspected to result hundred of online services to the benifit of all stackholders, but unfortunately, many of set goals haven't achieved mainly , our country seems to have taken a backwards approach « create of tools then create of needs »,experts claim that Algeria has opted for a highly centralisedand closed structure with many players without much coordination,

[1]DjilaliIdoughi, **Towords an Algerian E-government strategy and acheivements**, INTERNATIONAL JOURNAL OF eBUSINESS AND eGOVERNMENT STUDIES, Vol5, N01, 2013, pp90-91.

which has led to the public perception of disorganised ICTSsector , andas a result many private investors has quitICT[1].

The first UN report on EGDI (2003) put Algeria (91st) ahead of Maurutius (108th) . Since then,Maurutius has achieved tremendous improvement as shown on 2016 report, it has retained the leadership on EGDI in Africa.

Table (04) : Algeria E-govRanking

Year	2003	2004	2005	2008	2010	2012	2014	2016
Algeria	91	118	123	121	131	132	136	150

Source : https://publicadministration.un.org

In 2003, Algeria was ranked 91th in the world E-gov ranking, down to 118 th,123 rd place in 2004 and 2005 respectively .Algeria occupied the 131st place in 2010, it slips to 136th position among 193 countries in 2014, and to 150 th place in 2016.

EventhoughAlgeria investment in ICTs has increased dramatically during the last decade, nevertheless, Algeria which before 2004 was regarded as a model country in Africa (the ICTs usage and infrastructure), is experiencing a remarkable ranking decline Among Maghreb and African countries

Table(05) : Mobile-cellular telephonesubscriptions per 100 inhabitants in Algeria

year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Algeria	**0,27**	**0,31**	**1,38**	**4,38**	**14,59**	**40,23**	**60,85**	**78,53**	**75,66**	**89,96**	**88,44**	**94,31**	**97,52**	**100,79**	**92,95**

Source : 2014 -ITU Report

We observe great progressin the Algerian Mobile-cellular telephone subscriptions from 0.27% to 92.95% over the periode 2000-2015

[1]Belmir Mohamed nabil, Bensaoula Abdelhakim , Op.Cit,p02 .

Table (06) :Percentage of Individuals using the Internet in Algeria

year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Algeria	**0,49**	**0,65**	**1,59**	**2,20**	**4,63**	**5,84**	**7,38**	**9,45**	**10,18**	**11,23**	**12,50**	**14,00**	**15,23**	**16,50**	**18,09**

Source : 2014 -ITU Report

Table(07) :Fixed-telephone subscriptions per 100 inhabitants in Algeria

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Algeria	**5,55**	**5,85**	**5,99**	**6,30**	**7,43**	**7,57**	**8,23**	**8,74**	**8,59**	**7,08**	**7,89**	**8,10**	**8,55**	**7,99**	**7,76**

Source : 2014 -ITU Report

Table (08) :Fixed-broadband subscriptions per 100 inhabitants

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Algeria	**0,05**	**0,11**	**0,40**	**0,49**	**0,82**	**1,36**	**2,25**	**2,43**	**2,60**	**3,00**	**3,26**	**4,01**

Source : 2014 -ITU Report

We note through tables (06) (07) (08) that the percentage of the algerian using the ICTs (Internet, Fixed-telephone and Fixed-broadband) remains low with a little progress over the periode(2000-2014). We mention that Algeria's broadband market remains dominated by ADSL.

- The ITU Report (2014) shows that the percentage of Individuals using the Internet in Algeria is still low at 18.09% (table06), according to Samira Chaabna & Hu Wang, this low penetration rate is due to the high cost of computers and Internet connection and a lack of interesting web content, they note also that the establishment of thousands of cybercafes and public telecentres throughout the

major cities and towns has had a positive impact on Internet use and awareness, the number of Algerian Internet users has increased more than 100 times, from 50,000 users in 2000 to approximately 6.7 million users in June 2014[1] .

-The Algerian Ministry of Posts and Telecommunications MPICT had a monopoly on all telecoms services until August 2000[2] when the Algerian government began a postal and telecommunications sector reforms such as[3]:

-The adoption of a pro-liberal telecommunications policy statement

- Enactment of a new Post and Telecommunications Law (law No.2000-03)

- Establishment of an independent regulatory body (ARPT)

- corporatization of Algerie Telecom (AT) and Algerie Poste (AP)

Under several plans, Algeria is tackling the integrated problems of ICT infrastructure, availability and usage, the country's relatively developed infrastructure.The growth of broadband and an increased role for private enterprise have enabled the ITC sector to rapidly expand in the past five years[4]

Concerning the incubation which remains an essential process in ICT development, the Technological Park of SidiAbdellah has an incubator and others are being established in Parks of Oran, Ouargla and Annaba.

According to Samira Chaabna& Hu Wang, though the Algerian government has put great effort into infrastructure construction (significant infrastructure investments during Algeria's boom years), an imbalance in infrastructure construction in various areas exists, most infrastructure is concentrated in the North area of the country, besides that it's clear that Internet access (including its speed and cost) is still a severe constraint for e-commerce development[5].

Summary and initial conclusions

The researcher has reviewed the benefits and barriers to e-Government implementation by carrying out a case study research in the context of Algerian public sector organization.it is clear now that New technologies have been

[1] Samira Chaabna& Hu Wang , **Analysis of the State of E-commerce in Algeria**, International Journal of Marketing Studies; Vol. 7, No. 2, Canadian Center of Science and Education,2015, p48.

[2]Ibidem

[3]Foundations for the Development of Information and Communication Technologies in Algeria, The World Bank Preliminary Report , April 2003,p.06.

[4]www.ambalg-sofia.org

[5]Samira Chaabna& Hu Wang , **Op.Cit**, p48

helping countries respond to international calls for higher standards of accountability, transparency, and participatory governance as critical elements of democracy and State legitimacy.

E-Government is not an end in itself and not primarily about automation of existing procedures, but about changing the way in which government conducts business and delivers service and help it to meet good governance, development and democracy goals.E-Government is more about the « Government » than about the « e », its real impact is better government by enabling many key outputs such as: better policy outcome, higher quality services, greater engagement with citizens...

A number of lessons learned on the building E-governmentinAlgeriaas an africancountrycan be summarized as follows:

- E-Government is an imported concept based on imported designs
- « think locally » is a crucial element, local conditions must be taken into account(imported models does not work)
- Engage stakholders is an important element also ,they should participate in elaborating policies and makin decision.
- Algerian e-Governance should be developed in partnershipwith private sector.
- Developing human skills andcapacities to manage are importatant elements for a successful e-Governement project
- Developing mechanisms to give citizens access to ICT equipment and networks
- Strengthening thetelecommunication infrastructure;
- Strengthening research, development and innovation;
- Updating the national legal framework;
- Recognizing the value of international cooperation;
- Establishingevaluationmesures
- high level of ICTs investment is an requiredl factor needed for a successfulimplementation