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Information technology revolution, libraries and cultural values: issues, impacts and inevitable challenges for Africa

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ABSTRACT

The paper contends that information technology provides Africa a new threshold for greater economic, social, intellectual and cultural renaissance. With IT impact, the emerging issues include globalization, digitization, localization, migration into electronic forms preservation, miniaturization of information, and instant access the global information. A web research indicates that African culture has migrated into the Internet. It highlights how the Internet and information technology can negatively affect established and evolving Africa culture. The result of a survey of 42 information professionals in Lagos and Ibadan is presented. Five-point recommendation that will make Africa active participant in the digital revolution is discussed

Key words: Africa culture, Challenge, Information, Revolution, Technology.

1.0 INTRODUCTION

Africa stands at the crossroad and threshold of one the greatest revolutions of the world - the information revolution. A crossroad because failure to be part of the ongoing information technology revolution will leave the continent in the doldrums of underdevelopment. A threshold because the changing world information environment provides the platform to launch African into greater prospects of economic, intellectual, social and cultural developments. Jimba (1998)

writes that based on the principle of dialectical historicism, the world can be said to have undergone three revolutions – the printing, agrarian and industrial revolutions. According to him:

Each of these revolutions has, at the time of their occurrence, produced profound changes to the character of human civilization. Each of them occurring at a different epoch in history, pushed forward in a positive direction, the manner of human relationship with the environment. The printing revolution provided man with recorded and written information in great mass; the agrarian revolution provided food for mankind: it also allowed the existence of surpluses and created a new class of landed gentry, while the industrial revolution, driven by the surpluses of landed gentry, created international capitalist through monopolies through the profits made from sale to good and machinery.

Jimba then adds:

At the end of the twentieth century and the dawn of the twenty-first century, a new revolution has just begun to shape the context of human civilization. It is called the information revolution. Basically propelled by the gains of the industrial revolution and advances in technology, the information revolution is the result of a convergence between information and communication technologies.

Understandably, revolutions impact on all facets of human lifestyles and experiences, Libraries and cultural value systems are by no means exceptions. The cataclysmic impact of the current changing information world on libraries and cultural values systems must be understood in the context of the relational linkage between information, libraries and cultural value systems. The relationship can best be described as symbiotic. Information is the vehicle with which culture is transmitted from one generation to another. The library is the garage where that vehicle (information) with its luggage (culture) is safely kept in custody. Libraries and librarians as custodians and providers of information on all aspects of human civilization, including cultural heritage must redefine their roles and professional responsibilities to meet the challenges that the changing information world has brought about. The School of Information Studies at Syracuse University (2002) has rightly observed that::

At the start of the 21st century, libraries find their work situated at the forward of cultural and social transformation. Technological advances have redefined the information environment in ways that pose technical, intellectual and ethical challenge to the library profession, including the nature of preservation and archiving, issues of information access, intellectual property and fair use. The library profession is evolving, redefining itself to meet the challenges of the changing environment. In an era in which increasing sectors of the economy are devolved to information management, the librarians' task will be to translate the profession's traditional values and expertise to meet the demand of the new environment.

The points here are very clear. First of all, the changing information environment is impacting libraries themselves. Secondly, cultural values are undergoing transformation as a result of advances in information technology. Thirdly, changes in the way information is handled dictates that the librarian cannot sit on the fence of professional spectatorship if he/she is to meet the challenges of the changing environment. Fourthly, the librarian must understand the changing

information environment in its cultural, technical and professional relativities. This will include an understanding of how the Internet as the fastest growing information technology system impacts on established and evolving cultural values, information access, dissemination.

2.0 INFORMATION, KNOWLEDGE, CULTURE AND LIBRARIES: THE FUNCTIONAL LINK

What is information? While a universally acceptable definition may still be debatable. Dretske (1983) recommends the preservation of enough of the common understanding of information so as to maintain a link with the majority of the ideas about information present in our culture. Kedem (1993) views information as knowledge communicated and/or recorded in relation to a particular subject. From the cognitive school, information is seen as that which affects or changes the state of a mind. It is therefore an intangible that depends on conceptualization and the understanding of a human being. This means that records contain not only words or pictures which are tangible but also information relative only to the user. Information is therefore connected to the transaction that goes on between text and the reader, between record and its user (Tague and Sutcliff, 1995) On the other hand, Sarucervic and Kantor (1995a) argue that information in the broadest sense is not only related to cognitive structure but also to motivation and internationality. It is therefore related to the expansive social horizon such as culture, work or problem-at-hand. Loose (1997) however argues that while attempting to capture the nature of the information phenomenon in its various contexts, and draw similarities between information and such concepts as knowledge, meaning and certainly, attempts should also be made to point out their differences. For instance, while many definition view information as knowledge derived from reading, and instruction, others see information as knowledge communicated or reserved. Drucker further articulates that knowledge is the systematic organization of information and concepts. Accordingly, Aiyepku (1991) defines information as mankind's accumulated knowledge derived from all subjects that could help its users to reduce their levels of uncertainty. But there exists probably a thin line of difference between information and knowledge. Aiyepku delineation of both concept is instructive: Information once assimilated by individuals becomes personal knowledge and personal knowledge once incorporated into books, files, software, oral messages, etc serves as potential information to others. Drucker (1987) differentiates of both concepts in intellectual and knowledge economy contexts:

For the intellectual knowledge is what is in a book. But as long as it is in a book, it is only information, if not mere data. Only when a man applies the information do something does it become knowledge. Knowledge like electricity or money is a form of energy that exists only when doing work. The emergence of the knowledge economy is not in other words, part of intellectual history as it is normally conceived. It is part of the history of technology that recounts how man puts tools to work. When the intellectual says "knowledge", he thinks of something new. But what matters in the knowledge economy, is that knowledge, whether old or new is applicable.

The use of information and applicability of knowledge must exist in the context of the society, how both are instrumental to the development of social structures, relationships building and cultural value systems. The concepts of culture and social structure need further clarification. Kroeber and Klunckhohn (1952) all time definition of culture is still relevant today;

Culture consists of patterns, explicit and implicit, of and for behaviours acquired and transmitted by symbols, and consisting the distinctive achievements of human groups, including their embodiments in artifacts, the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values, culture systems may on the other hand be considered as products of action, on the other as conditioning elements of further actions.

Culture may be explicitly expressed; it may on the other hand be implicit. Cultural patterns gel into specific or distinct behaviors. Culture can be acquired or transmitted. Symbols or information constitute the means of cultural acquisition or transmission. Acquired culture therefore becomes personal knowledge of one's or other people's culture and value systems. Attached values to actions become the standard for evaluation of what is culturally acceptable or reprehensible to a people. Cultural identity describes those attributes, behavioural patterns, lifestyles, social structures and norms that distinguish a people from other peoples. Information, knowledge and libraries are mutually dependent. People learn about their culture or other people's culture through information dissemination and assimilation. The information dissemination and assimilation processes may be verbally or non-verbally communicated. The Kenyan boy learns Swahili through observation, imitation, demonstration and repetition. He grows up expressing himself in that language which he has acquired. Swahili as a medium of expression becomes his personal knowledge. But the expression itself is an information process. If he goes to a Library School and learns how to use text, audio, and video facilities to document his cultural heritage, he preserves his cultural heritage in a place called the library. The library becomes an institution for cultural preservation, and dissemination. Okeleru (2002) advises that public libraries should provide resources to meet the educational needs that will make members of the community acquire skills, attitudes, and insights from the rich cultural heritage of our country. Public libraries she urges "should also embark on community information services. Gregorian, (1998) as the President of Carnegie Corporation has rightly captured the relevance of libraries in the preservation of a people's culture:

Libraries contain the heritage of humanity; the record of its triumphs and failures its intellectual, scientific and artistic achievements and its collective memory. It would be a true tragedy if that record did not serve and include African countries at the highest level possible.

Gregorian (2000) again restated Carnegie's understanding of libraries as the primary institution for the cultivation of the mind.

The Library symbolized the unity and summit of knowledge, the bones, the binding sinews, the flesh and the heart of any society that could call itself strong. No city or country could sustain progress without a great public library as a creation for and of the people, free and accessible to all...the public library outranks any other one thing that a community can do to help its people.

If libraries contain the heritage of humanity and symbolize the unity and submit of knowledge, how do changes in the information environment impact on libraries and cultural value systems?

3.0 IMPACTS OF THE IT REVOLUTION ON LIBRARIES

Omekwu (2002) discusses the challenges of information systems in modern libraries and observe that hi-tech information systems have perversely influenced all spheres of human endeavour. They are used in high-speed supersonic jets, warplanes, industrial machine, weather forecasting, medical research, food processing, warehouse control, space travel and military reconnaissance and network coordination. A major scientific breakthrough, of the last millennium, hi-tech information systems seems to control the present and will definitely shape the future. And certainly their impact on library and documentation centers can no longer be ignored.

The reasons why the impact of the changing information can not be ignored need to be encapsulated in a functional understanding of the dominant features of the new generation of tools and techniques for automated and intelligent processing of large data. "Fjailbrant (1990) has outlined the main features of these tools and techniques to include:

- Increased computer power leading to speedier and cheaper computer processing
- Cheaper data storage- for example, optical storage media
- Digitalization of information –text, graphics, photographs speed, sound video, etc
- Better data transfer between different systems and media
- Improved telecommunication, such as ISDN with greatly increased capacity for data transmission
- Decreased size of equipment
- Increasing reliability of hardware and software.

Additionally, the new information environment provides libraries of all types and achieves institutions with limitless access to global information at the pressing of the keyboard

- Incredible platforms (e.g. CD-ROM) for storage large data.
- Easy integration of various activities.
- Cooperation and formation of network systems.
- Elimination of uninteresting and repetitive routines.
- Opportunities for information marketing.
- Means of income generation.
- Increased efficiency.
- Contact, cooperation and communication as the hallmark of professionalism
- Strategic connecting of local network to global network thus making the world a global village.

The scenario points more towards an electronic information environment. Omekwu (2002) insists that as more and more information migrate to electronic format, libraries of the future cannot be made up of books only. King (1993) indicates that the emerging electronic information environment will be without walls

Seamless, transparent, a virtual reality: global network or matrix of digital data, information and knowledge banks warehouses, refineries, archives and repositories; broadband expressway for transporting multimedia in bit and bytes to end users in distributed environments; artificial intelligence, expert systems, hyper text, gophers, client servers, WAIS servers, knot bots to navigate cyber space in time delivery to universal

scholarly workstation: independent from time and space constraints; gateways, doorways, windows and intelligent switches and links

The ultimate goal of the emerging information environment is appropriately captured by Matheson (1988)

The emerging goal is a seamless electronic environment in which individuals may access a variety of information and knowledge sources in a manner that is simple and easy, and independent of time and place and subject discipline for the purpose ranging from augmenting and refreshing memory, to learning, decision-making and creating or uncovering new knowledge.

In developed countries the concept of “easy and simple access to a variety of information independent of time and place and subject disciplines “ is already a practical reality. It is possible for school libraries resource centers to provide students with tools to access online database from home. Academic libraries service approaches has been reconstructed on strong information technology foundation Public libraries provide the client with platforms to access information above and beyond what is contained with in the libraries walls. Special and research libraries are able to form a resource sharing consortium across countries and continents. For example the Consultative Group of International Agricultural Research of the World Bank has been able to put several years of agricultural research findings into about 19 compact disks.

4.0 IMPACTS OF THE IT REVOLUTION ON CULTURAL VALUE SYSTEM.

The impact of the new electronic information environment on cultural value system must be viewed from perspectives of the opportunities that it offers for cultural diffusion, assimilation and adaptation. Cultural value systems themselves are not static, stagnant or rigid but rather dynamic, flexible and alterable. As people come into contact with new cultural elements, they affect the culture and are affected by these new elements. Hale (2002) writes on cultural change and the Internet and shows how modern communication technology in general and the Internet in particular, affects the rate of cultural change in the United States and in the World. Using Coca-Cola powerful advertising machine as an example, he proves how the company’s use of a variety of information technology tools exports the American culture:

...Coca-cola company does not sell soft drinks; it sells refreshment. Coca-cola carefully manages its image, seeking tie-ins to the 1996 Summer Olympic Games, Soccer’s World Cup, popular movies, concert and more. With vast resources at its disposal, Coca-Cola has the means not just to sell its products, but to embed it in the culture of America. And Coke understands the importance of its link between the product and American culture. As one Coke executive pointed out, American culture broadly defined music, film, fashion, and food – has become the culture worldwide.

It is clear that beyond image building and product marketing, multinational companies like Coca-Cola, Ford Motors, Marlboro, Mercedes Benz, Nike, Cable Network News can use global information networks to affect or alter the cultures of the world. In fact there is the fear that the new information technology can lead to a new kind of cultural imperialism and imposition. Tucker, Younis and Shalaby (2000) warns

The Internet is one key developments in the growth of globalization in the 20th and 21st Centuries. Globalization has changed the nature of national governments, imposing national and international culture on local culture and promising to regulate economies. However, it has also widened the gap between many nations and alienated those that do not abide by the new order. Furthermore, high-tech multi-media and virtual reality has arrived compelling economists, politicians, lawyers, bankers, engineers, and scientists to rethink and re-engineer work methods policies, laws, and standards

The Internet certainly offers the greatest opportunity for cultural exchange: the House of World Cultures, Berlin sets up Net forum to discuss opportunities and strategies of cultural exchange via Internet. Besser (1995) discussion center on the social and cultural impact of the information superhighway. He argues that as more and more books, journals and other reference and paper-based information media are migrating to electronic format, so also are cultural materials and artifacts. Baser argues that:

As more as more people rely on online access to culture this shift is also likely to have a great effect on how people view culture, as well as on perception and internal workings of our cultural repositories (such as museum and libraries)

How will these affect cultural institutions? Besser continues;

As it becomes more and more convenient to view high quality representations of cultural objects (an accompanying explanatory information) on home computer, people are likely to visit museums less frequently. As more and more people access representation of museum objects without entering the edifice, the authority of the museum (and its personnel) will rapidly erode.... And as people gain the ability to seek information without the direct help of museum and library personnel, we are seeing a great diminishment in their roles as intermediaries.

But then a confused state of cultural affair arises as people mistake the representation for the real object leading further to the elimination of “richness and depth of experience” which actual contact with real objects offers.

5.0 INFORMATION TECHNOLOGY REVOLUTION: EMERGING ISSUES

From the forgoing, cultural value systems and libraries in the information age, as characterized by new tools and techniques, can be analyzed from seven dominant perspectives or emerging issues.

(a) Globalization: The globalization of human activities leads increasingly to interaction across continents, countries and cultures. The Internet communication platforms like e-mails and websites/pages lead to the evolution of what has been rightly called the virtual community or global village. An African boy can walk into the popular cyber café and access Tyson boxing duel in faraway Las Vegas, USA. The next day he walks into the market to buy a Tyson –T-shirt and the barber’s shop to wear a Tyson haircut. The Internet is laden with sites that expose young people to the cultures of crime- gambling, witchcraft, prostitution, fraud, and pornography. It can then be understood why many Islamic cultures are still cautious about full-scale adoption and provision of Internet.

(b) Localization: The other side of globalization is localization. Cultures accessed via the Internet can be localized. Religious fundamentalism communicated through a variety of information technology tools like the Internet. Satellite TV systems, Global mobile communication systems (GSM) handset and CDs can find expression in the streets of Kaduna or Mombassa.

(c) Digitization: The globalization and localization of information and cultural values are basically predicated on digital technology. The intervention of RAM (Random Access Memory) and its first use in digital computing in 1948 at the University of Manchester has been describe by Richards (1998) as the first digital revolution. The invention of e-mail and the World Wide Web leading to digital transmission is the certainly the second digital revolution. Digital scanners and cameras can now be used to capture digital images for importation into computer systems. Today, using Advance Photo Systems (APS) a trained digital photographer can document the entire history, culture, music, art , songs, music, dance and store the same on digital disc. These can be transferred directly to either a computer or an image-printing devise. Advances in digital technology has reached a stage where domestic and industrial electricity cables is used for digital transformation thereby bypassing dependence in telephone lines .In the current information revolution, almost everything is digital-TV, radio, air-conditioned, cars, aero plane, refrigerators, industrial plants and telecommunication systems. Also, every form or channel of information communication – audio, video, text, and graphic can be processed into digital systems. In the mid -1900s, the concern was on what happens “ when the virtual becomes the real”. Today, the virtual has not only become real but also created virtual realities. There are now virtual libraries, communities, cyber villages and cyber-cultures. It is now possible to enter into the popular cyber café and view the entire civilization of a country or community and the good news is that the pace of digital information development is on a fast lane.

(d) The Great Migration: Electronic books (e-books), electronic journals, electronic university, electronic learning, electronic publishing, electronic commerce, electronic banking and electronic libraries are all systems that represent the great migration from conventional and familiar systems to electronic formats. How does a predominantly electronic library or books affect any evolving reading culture in a not-so-literate community? How does a digital library affect the provision of reference service? How does electronic publishing impact on academic scholarship? These are the emerging issues for professional debates, discussion and deliberations

(e) Preservation: It has been earlier emphasized that one of the outstanding features of the digital revolution is the ability to converts textual, audio, video, sound, photographic and graphics to digital computer- readable and storable formats. Archival and cultural artifacts of several centuries that are already at brittle and decay stages can be digitally preserved and transmitted. While they may never be physically the same as the original, they nevertheless can be digitally, authentic representations of the original for the benefit of posterity.

(f) Miniaturization of information systems: From the mainframe computer systems of the 1950's to the mini frame of the 1960's and 1970's, the computer technology has moved to the personal computer (desktops, laptops, notebook and palmtops) systems. The miniaturization process has come with higher processing speed, bigger storage capacity and multi-functional application soft wares. Storage devices have moved from heavy magnetic types to floppy disk;

zip systems and compact disk (CDs). Information technology has made it possible to document the entire culture of a community and country and store everything including sounds, graphics, and text in a few CDs. It is now quite possible to carry the cultural life of Kenya, Egypt, Nigeria, etc in a few CDs and play such in international meetings- seminars, conferences, and workshops.

(g) Instant Access and Diverse Navigational Strategies: Globalization, localization, digitization and all other features and techniques of new IT systems evolve into a dynamic and complex platform that enables instant access to global-information, literature and cultural heritages. At the click of the mouse or tap of the keyboard, an anthropologist can have at this desktop or laptop, an avalanche of information about centuries of the rich culture-art, carvings, music, dance of Egypt with links to related websites and information.

6.0 AFRICA ONLINE

African online is used in the context of this paper to describe African perspectives in the digital information revolution. It reviews web presence of the continent, and Africa's Internet connectivity. It critically examines "the good, the bad and the ugly" influences of the Internet as the fastest growing IT system and network on evolving and established African culture.

AFRICA AND THE DIGITAL REVOLUTION

Elsewhere Omekwu (2001) has discussed the profound growth and impact of the digital revolution on the economic, social, cultural and developmental transformation of individual institutions, nations and the international community. A citation (Banigo, 2001) in that discussion which describes the phenomenal impact of ICI systems is relevant here:

It is on record that it took 38 years of radio to reach 50 million people and 13 years of television to achieve the same result. Empirical evidence has shown that the same number of people adopted the Internet in just four years... There were 50 pages on the World Wide Web in 1993 but today the pages of the World Wide Web has increased to 1.5 billion with almost two million pages being added each day. About 143 million people logged on to the Internet in 1998. In March 2000, an estimated 276 million Worldwide were Internet users, with a growth rate of 150,000 per day. By the end of this year (i.e. 2001) the number of users will climb to 700 million.

However, the rapid growth in Internet application and usage appears to be largely in favour of developed countries thereby creating a digital divide. According to the United Nations Secretary General, Annan (2001)

Today, there are almost as many hosts in France as in all of Latin America and Caribbean and there are more hosts in Australia, Japan and New Zealand than in all other countries in the Asian Pacific region combined. Perhaps, most telling, there are more hosts in New York than in all of Africa.

Towards the end of the nineties, various evidences confirm Africa's slow Internet connectivity Jensen (1998) indicates that in spite of increase in Internet usage from the previous year, the ratio was not better than 1:5000 people. South African tops the list of users with over 600,000.

At the turn of the millennium the problem of institutional connectivity seems to be on the decline as a result of the commercialization of Net Services by Internet Service Providers (ISPs) and Cyber Café. Consequently, more individuals and institutions enjoy Internet connectivity using either dial-up or wireless access.

6.2 THE INTERNET: THE GOOD, THE BAD AND THE UGLY

In Africa, as well as in other continent, country, or culture, the Internet can be compared to a two-edged sword. It can keep or kill. The potential of the Internet for good is evident in its capability for information documentation and dissemination.

6.2.1 DIGITAL REVOLUTION: THE GOOD

Although individual Internet usage and institutional connectivity may be slow, or low, that cannot be said of the Web presence of African culture. Anthropologists, artists, computer and information technology specialists from within and outside Africa, have exploited the powerful and pervasive potential of the Internet to show case African rich culture. African arts, paintings, sculpture, dance, music, song, politics, and theatre command a significant presence on the Web. Tables 1 – 6 reflect the results of the Google search for the Web presence of the culture of each country in Africa. The strategy was to use a Boolean search term of the country and culture, for example, Egypt + culture or Egypt: culture. This was carried out in March 2003. For Egypt, the total of 1,070,000 records were retrieved in a record 0.13 seconds.

Specific access of highlighted records indicates that cultural artifacts dating centuries back have been digitized and posted on the Web. One can now sit behind his Internet-linked personal computer and visit Egyptian museum and download pictures of important cultural heritage.

- In Table 1, Egypt recorded the highest Web cultural presence, followed by Morocco (450,000) with Libya registering the least cultural Web presence.
- According to Table 2, Nigeria tops the list followed by Guinea and Republic of Benin coming last.
- Table 3 indicates that Central African Republic leads in that sub region followed by Rwanda with Cabinda as the least.
- In the Southern African sub region, South Africa's cultural Web presence is the highest followed by Zimbabwe and lastly, Lesotho (see Table 4).
- The East African result indicates that Kenya has the most visible cultural Web presence followed by Tanzania and Eritrea at the bottom (Table 5).
- African countries in the Indian and Atlantic Oceans also registered cultural Web presence with Sao Tome and Principe Madagascar and Seychelles as first, second and third and Pemba with the least presence as reflected in Table 6.

Table 1: Result of Search for Web-Based Information on North African Culture

S/N	Country	Retrieval Result	Time (Seconds)
1.	Egypt	1,070,000	0.13
2.	Morocco	450,000	0.22
3.	Sudan	365,000	0.26
4.	Mali	362,000	0.12
5.	Tunisia	263,000	0.16
6.	Niger	217,000	0.14
7.	Chad	213,000	0.16
8.	Mauritania	110,000	0.3
9.	Algeria	17,000	0.13
10.	Libya	3,400	0.13

Table 2: Result of Google Search for Web-Based Information of West African Culture

S/N	Country	Retrieval Result	Time (Seconds)
1.	Nigeria*	530,000	0.15
3.	Guinea	434,000	0.17
4.	Ghana	424,000	0.21
5.	Sierra-Leone	308,000	0.20
6.	Senegal	298,000	0.16
7.	Liberia*	239,000	0.15
8.	Burkina Faso	265,000	0.37
9.	Togo	262,000	0.21
10.	Gambia	159,000	0.16
	Cote d Ivoire*	123,000	0.26
11.	Benin Republic	97,000	0.27

Google search on 30 May, 2003

Table 3: Result of Google Search for Web-Based Information on Central African Culture

S/N	Country	Retrieval Result	Time (Seconds)
1.	Central African Republic	343,000	0.23
2.	Rwanda	319,000	0.34
3.	Burundi	252,000	0.30
4.	Gabon	208,000	0.06
5.	Cameroon	194,000	0.17
6.	Democratic Republic Congo	107,000	0.24
7.	Congo Brazzaville	89,000	0.22
8.	Equatorial Guinea	57,700	0.16
9.	Cabinda	3,640	0.33

Table 4: Result of Google Search for Web-Based Information on Southern African Culture

S/N	Country	Retrieval Result	Time (Seconds)
1.	South Africa	584,000	0.28
2.	Zimbabwe	485,000	0.13
3.	Mozambique	333,000	0.17
4.	Angola	318,000	0.10
5.	Botswana	316,000	0.13
6.	Malawi	291,000	0.13
7.	Namibia	269,000	0.15
8.	Zambia	262,000	0.13
9.	Swaziland	252,000	0.18
10.	Lesotho	240,000	

Table 5: Result of Google Search for Web-Based Information on Eastern African Culture

S/N	Country	Retrieval Result	Time (Seconds)
1.	Kenya	569,000	0.16
2.	Tanzania	352,000	0.13
3.	Uganda	333,000	0.24
4.	Ethiopia	325,000	0.14
5.	Somalia	236,000	0.15
6.	Djibouti	203,000	0.14
7.	Eritrea	143,000	0.14

Table 6: Result of Google Search for Web-Based Information on Oceanic African Culture

S/N	Country	Retrieval Result	Time (Seconds)
	Principe*	449,000	0.20
1.	Madagascar	289,000	0.25
2.	Seychelles	233,000	0.20
3.	Cape Verde	130,000	0.27
4.	ICE Maurice	122,000	0.17
5.	Comoros	72,000	0.34
6.	Sao Tome and Principe*	63,000	0.20
7.	Zanzibar	62,000	0.37
8.	Canary Islands	57,800	0.46
9.	Mayetta	40,200	0.13
10.	Sao Tome	39,300	0.20
11.	Pemba	4,140	0.19

*Google search on 30 May, 2003

Table 8: Internet Resources on African arts, culture and service

S/N	Sources	Coverage
1	Africa – Related music, dance and cultural resources	Music and culture
2	African colour.com	African Artists/African art outside of African
3	Afric Music	Source to buy African music and videos
4	Baobab Books	Fiction, non-fiction – international prize winners and much mine
5	Dance mutande. A resource for Zimbabwean music	Includes link to all types of African music
6	IBF Bibliography Africa	Hundreds of books sorted out by region and categorized by topics
7	Science in Africa	Agronomy to zoology

6.2.2 Web Resources and Links on African Culture

As has been demonstrated in Tables 1 – 6, an avalanche of web information exists on African culture. African culture can be accessed online. Texts, video graphics and other media of cultural communication are posted in large number on the Web. Beyond this, there are specific websites with specific information on Africa and African culture. Table 7 reflects some of these sources/resources and sites dealing specifically with African news and background. For example All Africa.com News Online is a comprehension site for news about Africa, with country-by-country coverage. African Trades Centre on the Internet is an online directory on African

business sorted by topics while Africa Online provides information and links on a wide range of topic including some current news. Africa Point. Africa Travel provides tourism information for online booking for Safari, tours, vacation and hotels. It covers Kenya, South Africa, Tanzania, Seychelles, Egypt, Uganda and Zimbabwe.

Table 8 shows Internet resources on African arts, culture, music, and science. Afric Music for example is a vital source of information to buy African music and video. IBF Bibliography: Africa provides information on hundreds of books on Africa sorted out by topics. African Artist and African Artists outside of Africa can be accessed at African colour.com

Table 7: Internet Sources/Links Current News on Africa

S/N	Source/Site
1.	All Africa.com News Online
2.	BBC.African Service
3.	Channel Africa
4.	IRIN-Integrated Information Network
5.	Legacy
6.	US Africa Online
7.	Your Dot Com for Africa
8.	Africast.Com
9.	AJR Newslines
10.	IBF Guide to Travel in Africa
11.	Africa Guide
12.	Africa Intelligence
13.	Africa Net Country
14.	Africa Net Links
15.	Africa. Trade Centre on the Internet
16.	Africa online;
17.	Africa Point-Africa Travel
18.	Index on Africa
19.	Getaway to Africa
20.	Mother Africa.Information on Yoruba, Voodoo, Santeria and African Women/Goddess/Queens.

6.2.3 Analysis of African online Website

Africa's rich cultural heritage has been effectively show cased using the potentials of the Web. The homepage has background with text information embodying a gallery, dance, music, painting, theatre, literature, artist, weaving, and sculpture. Africa-North, West, East, Horn of Africa, Central, Southern, Indian Ocean and Beyond Africa are all gateway links to these sub-regions. Africa can be explored country-by-country by clicking the country in the map on the right or filing it in the box close to the map. Search can also be executed by topics: sports, entertainment, business travel, education, NGOs, arts and culture, etc. By clicking East and selecting arts and culture, the website opens to East Africa's literature, culture, arts and music scene. A search on January 28, 2003, highlighted the following information on East Africa's art and culture.

- Meet one of Kenya's tap bands with a unique mixture and fusion of African rhythms.
- Painting from Kenya.
- An online art gallery from Uganda-check out Uganda's leading painters
- Links to sites dedicated to Kenyan tribes
- A list of languages spoken in Uganda

- Kenya's coastal culture
- National Museum of Kenya – Details of exhibition at Nairobi. Museum and details of regional museum. Resources for researchers
- Kalamashaka – Meet one of Kenya's top Swahili rap groups.
- Uganda literature links
- Tanzania music and dance
- Theatrical Activity in Uganda – A guide to theatre companies, mass of performance and theatrical organization in Uganda.
- The Buganda – The history, language and culture of the people of Bugenda, occupying the South Central region of Uganda.
- History and Historical sites about the peoples and tribes of Uganda.
- Kiswahili
- Language of Burundi
- An online art gallery of Somalia: and
- Music from Somali, etc.

From the presentation and discussions of results in Table 1- 8, the African libraries and culture have a lot of good opportunities for information. These include

- **Global access:** Properly harnessed the Internet offers platform for unfettered global access to African culture and information. With proper connectivity, African libraries as cultural custodians can easily become access point information institutions for maximized information service to their users.
- **Incredible speed of information retrieval:** Consider about 1,070,000 items on Egypt's culture retrieved in about 13 seconds.
- **Diversity of media:** Information postings on the Web accommodations audio, video, texts tables, maps and graphics.
- **Information transfer:** In the past the major discussions centred on trans-border data flow and when the virtual becomes real. Now the barriers are broken and the virtual has not only become real but the real has become virtual. Information access to cultural systems and institutions goes on beyond the limiting walls and resources of libraries and related institutions.
- **Service tools and techniques:** Before the advent of the Internet, librarians find it difficult to provide information that they do not have within their resources. Budget constraints are major limiting factors to meet the information needs of the clientele system. One of the traditional ways of getting around this problem has always been through interlibrary loan and cooperation. Distance, time and often unworkable and deficient partnership arrangement often, compound the problem. Internet access bypasses these limitations and provides tools, techniques, links, and resources for more efficient information services to the clientele system.
- **Africa online:** It seems that the continent is being fast-forwarded into the digital revolution. The extent of the continent's cultural Web presence is not only encouraging but also evidently staggering.

6.3 DIGITAL REVOLUTION: THE BAD AND THE UGLY.

It is critical for information professionals as custodians of cultural heritage to know the destructive potentials of the digital revolution. The Internet in particular has unimaginable bad

and outrightly ugly potentials for misinformation, disinformation, cultural adulteration and complete pollution.

6.3.1 The Bad

(a) Fraud. Lloyd (1997) says that computers have been used for fraud since “application began to spread into the commercial and industrial sectors in the 1960s.” Digitization makes it possible to input, alter, erase suppress, or compress objects. Any such activities (unauthorized) executed for economic advantage is fraudulent.

(b) Hacking. Hacking is a malicious meddling into programmes, data, and files in order to discover and possibly tamper with sensitive information. Lloyd (1997) illustration with a case in the USA is relevant here.

When, for example, the Communication Decency Act, which sought to impose controls over content on Internet sites, was being debated in the United States’ legislature, hackers secured access to the Department of Justice’s WWW pages and replaced the Department’s logo with a pornographic picture.

It can be rightly argued that wholesale migration of a nation’s cultural heritage into electronic format can be hacked and therefore adulterated or damaged.

(c) Access Right Violation/Theft of Information: It is conventional for one to have ownership right to the information he/she creates. The creator should determine the nature and extent of access to it. Even where there are justifiable reasons for access restriction, this can be violated. Cultural artifacts and records because of their historical and cultural values, are often most vulnerable to access violation and theft.

(d) Spam or Unsolicited Commercial Email. A Spam is an electronic mail that is unwarranted but sent for the purpose of selling the receiver goods, services, and products. Main culprits of spans are multi-level marketers, get-rich-quick operators, work-at-home organizations or outrightly questionable businesses and pornography. These often-offensive mails do offend ones morality and belief systems.

(e) Computer Viruses: These are computer programmes that have been written to attach themselves to other files such as programmes and to replicate themselves when those programmes are activated. One can easily download a virus by opening an attachment to that mail. A whole electronic database of a nation’s cultural heritage can be, damaged in the process. Thames Valley Police reports that malicious viruses can cause harm and inconvenience in a number of ways including.:

- Displaying offensive message or screen
- Destroying data
- Sending confidential materials to random recipients
- Viruses can activate immediately or sit on the user’s system waiting for a particular circumstance to activate them. Some viruses, known as Trojan Horses or Trojans will open a back door to your system and notify the sender. They can then access your computer over the

Internet without your permission or knowledge. They can save open, delete or copy your files without your knowing it.

6.3.2 THE UGLY

The more dangerous dimensions of the digital revolution include pornography, money laundering cultism, international terrorism, child abuse which all constitute a treat to African cultural heritage. It is extremely difficult for African countries with strong Islamic or Christian cultures to tolerate the level of pornographic activities that go on the Internet. In traditional African culture, nudity is still not a virtue. In many African universities and urban centers, nudity has become fashionable and African rich and elegant dress styles are becoming outdated.

The Internet has become one huge superhighway for the exportation of alien cultures and Hollywood lifestyles. The influences of these cultures and lifestyles are so pervasive that no country in African can claim to be unaffected. The rich and almost ceremonious African greeting is giving way to 'hi' and African's process of marriage introduction is being eroded by Internet friendship and marriage online. For example the LuvBaudit website is a matchmaking website for singles. As at 26 May 2003, that website has over 1,468,534 names and sometimes pictures of singles aged between 18 and 98 Seeking partners. The motto of LuvBandit is: *steal someone's heart*. Purely African music, song, dance and drama seem to be rare. It is popular to hear of African rap, reggae, pop or song. Even in the countryside, moonlight story telling is giving way to the watching of crime, war and romance videos.

They children of the rich and middle class are particularly vulnerable. Contact with digital television, video, dial-up Internet connectivity at home and wireless excess at popular cyber café expose them to greater contact with western culture. Many can speak better American English than their mother language. Even developed countries are not comfortable with the culture of crime, pornography, child abuse, cultism and obscenity that are promoted by digital systems. For instance, the Internet Watch Foundation in the United Kingdom investigates cases of:

- 1) Child pornography anywhere in the world;
- 2) Adult materials in breach of the obscene publication, as long as the offending site or service is hosted or service is hosted or registered in the UK; and
- 3) Any criminally racist material hosted in the UK.

How knowledgeable are the information professionals about these developments? Are they positioned to meet their cultural custodian, and information service roles in, these contexts?

A survey of 42 librarians in the cities of Lagos and Ibadan was carried out to determine:

- (1) Librarians' extent of agreement on the role of Information Technology on cultural documentation and dissemination
- (2) Librarians' knowledge of how IT, especially the Internet can affect African culture
- (3) Librarians level of Internet literacy
- (4) Librarians' assessment of the readiness of library institutions to move with the times in terms of information technology revolution

6.4 SUMMARY OF FINDINGS

(1) Role of IT on Cultural Documentation and Dissemination (Table 9)

Majority of the respondents agreed that IT systems serve as a medium for cultural documentation. The IT systems assessed include still and video camera, CD-ROM and audiotapes. Over 90% agreed that local cultures could be globalized via the Internet. Eighty-four (84%) were aware that a lot of cultural interactions go on via the Internet. Majority (83%) agreed that cultural networks exist on the Internet and 62% were affirmative that cultural websites are available on the Internet. However only 54% indicated that the Internet could alter existing and established value systems, while 66% agreed that African's rich culture is exportable using the Internet platforms Librarians (59%) were also in agreement that African cultural heritage is under the threat of the dominating influence of alien culture.

African library schools were scored average (57%) in the provision of training on cultural documentation. Conclusively, African Library and Information professional could be said to be aware of the immense contribution of IT systems to cultural documentation and dissemination.

2) Assessment of the Influence of the Internet on Specific Cultural Values (Table 10)

On the five-point scale of very positively, positive, both and negatively, negatively and very negatively, majority of the respondents viewed the Internet as capable of influencing most of the culture values items both positive and negatively except for architecture, politics, painting, sculpture.

Conclusively therefore, in terms of cultural interaction, diffusion or dissemination, the Internet offers a positive platform for African song/music, dance, dress style, language. In terms of cultural assimilation, the Internet can indeed influence these cultural attributes negatively.

3) Internet Literary Level of Information Professionals (Table 11)

Results in Table 11 indicate the Internet Literacy level of the surveyed information professionals and how relevant they could be in the digital revolution. The Table reveals that a high percentage of the professional had a low to none familiarity with the Internet environment. In fact this is the case with other 19 Internet skill indices on the measurement instrument. For instance, if only about 31% of the respondents could competently visit website, it means that close to 70% of them could not explore the abundant cultural information on the web. Item 13 on the Table indicates that only 14% of the respondents could confidently assist user to find information on the web. Again only 36% are skilled users of search engines. Only 18% said they had high/very high skill in exploring other culture on the web. Only 1 respondent indicated very high ability for web-based cultural export. It can therefore be concluded that although many professionals are aware of the vital role of IT and the Internet could play in cultural documentation, dissemination and destabilization, they do not possess the appropriate skills to assist users in exploiting web-based information. Librarians have not move with the times. They have not repositioned themselves to make a significant difference in the digital age.

Table 9: Assessment of the Role of Information Technology Items on Cultural Documentation and Dissemination

S/N	ITEM	Strongly agree F (%)	Agree F (%)	Don't know F (%)	Disagree F (%)	Strongly Disagree F (%)
1	IT Systems provide medium for documentation. (Still Camera)	18 (45.0)	19 (47.5)	3 (7.1)	1 (2.5)	-
2	IT System (video camera) provide medium for documentation and preservation of cultural heritage	14 (35.0)	23 (57.5)	5 (7.5)	-	-
3	IT System (CD Rom) provide medium for documentation	17 (43.6)	19 (48.7)	5 (5.1)	-	1 (2.6)
4	IT System (audio tapes) provide medium for documentation	11 (26.2)	23 (54.8)	6 (14.3)	1 (2.4)	1 (2.4)
5	Local community culture can be globalized via the internet	15 (40.5)	19 (51.4)	6 (14.3)	1 (2.7)	-
6	A lot of cultural interaction to on via this internet	10 (27.0)	21 (56.8)	9 (10.8)	1 (2.9)	1 (2.7)
7	Cultural networks exist on the internet	8 (19.0)	27 (64.3)	7 (16.7)	-	-
8	Cultural website are available via the internet	5 (11.9)	21 (50.0)	14 (33.3)	2 (4.8)	-
9	The internet can change evolving cultural value systems.	5 (11.9)	18 (42.9)	14 (33.3)	5 (11.9)	-
10	The Internet can affect established cultural value system	8 (19.0)	15 (35.7)	12 (28.5)	6 (14.3)	1 (2.4)
11	African rich culture heritage is exportable via the internet	10 (23.8)	18 (42.9)	13 (30.0)	1 (2.4)	-
12	African rich cultural heritage is under the threat of dominating influence of alien culture	11 (26.2)	14 (33.3)	14 (33.3)	3 (7.1)	-
13	African library school do not provide sufficient training on cultural documentation	13 (31.0)	11 (26.2)	11 (26.2)	6 (14.3)	1 (2.4)

Table 10: Assessment of the Influence of the Internet on African Cultural Value Systems.

S/ N	ITEM	Very Positively F (%)	Positively F (%)	Both Positively & Negative F (%)	Negatively F (%)	Very Negative F (%)
1	Song/Music	13 (31.0)	10 (23.3)	14 (33.3)	5 (1.9)	-
2	Dance	6 (19.0)	13 (31.0)	16 (38.1)	7 (11.9)	-
3	Theatre / Drama	6 (14.3)	16 (38.1)	18 (42.9)	2 (4.8)	-
4	Dress	6 (14.3)	12 (28.6)	15 (35.7)	8 (19.0)	1 (2.4)
5	Language	6 (14.3)	14 (33.3)	17 (40.5)	4 (9.5)	1 (2.4)
6	Arts: Painting	5 (11.9)	17 (40.5)	16 (38.1)	4 (9.5)	-
7	Arts: Sculpture	6 (14.3)	19 (45.2)	14 (33.4)	2 (4.8)	1 (2.4)
8	Housing; Architecture	6 (14.3)	23 (54.8)	8 (19.0)	4 (9.5)	1 (2.4)
9	Politics	10 (23.8)	14 (33.3)	13 (30.9)	3 (7.1)	2 (4.8)
10	Personal profile behaviour	8 (19.0)	13 (31.0)	17 (40.1)	2 (4.8)	2 (4.8)

Table 11: Internet Literary Level of Information Professionals

S/ N	ITEM	Very High F(%)	High F(%)	Low F(%)	Very low F(%)	None F(%)
1	Familiarity with the Internet Environment	4 (10)	12 (30)	12 (30)	2 (5)	12 (2)
2	Opening email box unaided	7 (18.9)	8 (21.6)	14 (37.8)	3 (8.1)	10 (13.5)
3	Send and receive mail unaided	5 (13.9)	8 (22.2)	14 (33.9)	3 (8.3)	12 (16.7)
4	Browse the net on my own	4 (11.1)	6 (16.7)	9 (25.0)	7 (19.4)	16 (27.8)
5	Skilled user of search engines	4 (11.8)	8 (23.5)	8 (23.5)	5 (14.7)	17 (26.5)
6	Visit of Website	5 (14.3)	6 (17.1)	9 (25.7)	6 (17.1)	16 (25.7)
7	Design of search strategy	2 (6.1)	6 (18.2)	10 (30.3)	(9.1)	21 (36.4)
8	Literature preview	2 (5.6)	8 (22.2)	12 (33.3)	3 (8.3)	17 (30.6)
9	Saving search results on hard disks	4 (11.7)	7 (19.4)	9 (25.0)	5 (13.9)	17 (30.6)
10	Saving search on diskette	4 (12.1)	-	10 (30.3)	5 (15.2)	23 (42.4)
11	Sending document/conference paper via the net	5 (13.9)	3 (8.3)	9 (25.0)	3 (8.3)	22 (19.4)
12	Finding conference participation for via the net	5 (13.9)	5 (13.9)	8 (22.2)	5 (13.9)	19 (36.1)
13	Assist uses find information on the net	3 (8.6)	2 (5.7)	12 (34.3)	4 (11.4)	2 (40.0)
14	Find employment on the net	2 (5.9)	4 (11.4)	9 (25.7)	3 (8.6)	24 (48.6)
15	Find scholarship and grant	4 (11.4)	-	10 (28.6)	5 (14.3)	23 (45.7)
16	Find business partnership	2 (5.6)	4 (11.1)	10 (27.8)	3 (8.3)	23 (47.37)
17	Explore other culture on the net	2 (5.9)	4 (11.8)	7 (20.6)	4 (11.8)	25 (50.0)

18	Find educational information	3 (8.8)	1 (2.9)	8 (23.5)	5 (14.7)	25 (50.0)
19	Design of Website	1 (3.0)	1 (3.0)	8 (24.2)	6 (18.2)	26 (51.5)
20	Cultural export	1 (3.2)	-	9 (29.0)	4 (12.9)	28 (54.8)

4 Readiness of African to meeting the Challenges of the Digital Revolution (Table 12).

According to the results the Table 12, majority of the respondents were assertive that:

- (a) African libraries are not positioned to meet the challenges of the new information order
- (b) African public libraries as the custodians of the culture of the people are not well-equipped to meet the challenges of a globalized world
- (c) African national libraries as custodians of the national cultural heritage are not developed, to meet the challenges of the changing information world

Furthermore, majority of the respondents were affirmative that

- (a) African libraries schools have not really been helpful in producing information-industry compliant professionals.
- (b) African librarians were not developing themselves enough to play a leading role in the fast evolving information society
- (c) Libraries that fail to move with the changing information would will become irrelevant in the future

Finally, majority of the respondents affirmed that:

- (a) African countries were not moving with the times as far as advances in information technology were concerned.
- (b) Information Communication Technology infrastructure in most African countries was not adequate to cope with a global information network
- (c) Information will be the critical factor of production in all areas of human endeavour
- (d) All hands must be on deck to preserve African libraries and culture as enduring legacy for future generation.

s/n	Item	Very Correct	Correct	Don't Know	Incorrect	Very Incorrect
1.	African libraries are not positioned to meet the Challenges of the new high technology information society	21(50.0)	7 (16.7)	9 (21.5)	4 (9.5)	1 (2.4)
2.	African Public Libraries as the main custodian of the People's culture are not well equipped to meet the challenges of the globalized world	24(57.1)	8 (19.0)	7 (16.7)	1 (2.4)	2 (4.8)
3.	African National Libraries as the custodian of the national cultural heritage are not well developed to meet the challenges of a changing information world	20 (47.6)	11(26.2)	9 (21.5)	1 (2.4)	1 (2.4)
4.	African Library schools produce professionals who are sot equipped to meet the challenges of a high technology information society	16(38.1)	12(28.6)	8(19.0)	5(11.9)	1(2.9)
5.	African Librarians are not developing themselves enough to play a leading role in the fast-evolving information society	10 (23.8)	13(31.0)	8 (19.0)	8 (19.0)	3 (7.1)
6.	African countries are not moving with the times as far as advances in information technology are concerned	14(33.3)	12(28.6)	7 (16.7)	8 (19.0)	1 (2.4)
7.	Information Communication technology infrastructure in most African countries is not adequate to cope with demands of a global information network	19(45.2)	10(23.8)	12(28.6)	1 (2.4)	-

8.	Libraries that fail to move with the changing information will become irrelevant in the future	21(50.0)	8 (19.0)	10(23.8)	3 (7.1)	-
9.	Information will be the critical factor of production in all areas of human endeavour	21(50.0)	9 (21.4)	11(26.2)	1 (2.4)	-
10.	All hands must be on deck to preserve African Libraries and culture as enduring legacies for future generation	24 57.1)	9 (21.4)	8 (19.0)	1 (2.4)	-
11.	African rich cultural heritage is under the threat of dominating influence of alien culture	1 (26.2)	14(33.3)	14(33.3)	3 (7.1)	-
12.	African Library school do not provide sufficient training on cultural documentation	13(31.0)	11(26.2)	1 (26.2)	6 (14.3)	1 (2.4)

7.0 INEVITABLE CHALLENGES AND RECOMMENDATION FOR AFRICA

In view of the pervading impact of the digital revolution and the issues raised and discussed in the preceding sections, a number of inevitable challenges must be addressed for Africa to be an active participant rather than a speculative spectator in the challenging information world. While it is evident that African culture has migrated into electronic formats, it is clear that the custodians of the culture themselves are not familiar with the unfolding environment. They cannot be at the cutting edge of the new information order. From professional institutional, national international and educational perspectives, Africa must address the following!:

1) Professional Repositioning

African library and information professionals face the serious challenge of becoming irrelevant in the unfolding information order. The usual or traditional way of information handling management and service orientations are being radically challenged and in some cases bypassed. Information professionals must improve on their computer/information technology and Internet literacy profiles as repositioning imperatives in the changing information environment.

2) Institutional Imperatives

Library and information institutions in Africa need to harness to the global network and become access point institution offering the clientele system unlimited platforms for information and cultural exchange in a multimedia context. The availability of cultural information retrievable in a matter of seconds (as indicated in Table 1-6) proves beyond and shadow of controversy that libraries without Internet access are losing out in the new information order. It is questionable how African libraries could hope to fully discharge their information support services not for learning, research, development and recreation without strong IT foundation and Internet connectivity. For of types and sizes of library and information institutions, a link to the superhighway is more than a necessity. It is an imperative.

3) National Mandates

When will African national governments address the problem of lack of basic IT support systems and infrastructure like power supply and telecommunication systems? Individual nations must demonstrate strong political will to put in place an IT –driven work culture and society. This political will should translate into appropriate information technology policy and legislation. A good starting point for is for very African could to articulate an information and informatics policy. Additionally there is the need to develop a core national computer and information technology manpower in order to cut down the high cost of expatriate staffing of IT projects in Africa.

4) International Cooperation

The evolving information environment is global in focus and international in coverage. Common problems like cyber crimes require international cooperation and assistance. African critical point for international aid is more than food for the hungry or house for the victims of war. Africa needs information technology empowerment from Friends of Africa. It is not just enough to give African fish; it is better to teach her how to catch fish. Africa has the potentials for developing home grown technology systems for the information sector. Would developed countries ever reveal the secrets to Africa?

5) Educational Programme Redesign

It is evidently clear that the current curricula of African Library and Information School need a fundamental redesign in order to produce professionals who could functionally adapt to the changing information work environment. To produce librarians that could not use computer and Internet facilities is to ignore the pervading impact of the current revolution. Courses such as Cataloging of Internet Resources; Web Master for Librarians; IT Systems in Libraries; Internet Research Methodology are only but a dew areas of redesign interventions.

8.0 CONCLUSION

The best of Africa may not have been in the past revolution-agrarian, printing or industrials. The past may have been bleak but the future is bright with Africa becoming an active participant in the information revolution. It is often easier to be pessimistic, when African is compared with the developed world. But when it comes to culture and tourism, Africa remains the place to visit. It is encouraging that this heritage has not been left out in the digital age. Africa may not have gotten to where others have reached, but we have started the journey. African has accepted the challenge of changes; it will not remain in chain. The journey may be a hundred mile away. Africa has taken the vital step in that journey. With professional courage and consistency ladies and gentlemen of the noble information profession holds the ace to the lead Africa into the digital revolution. Ladies and gentlemen, it is not yet over for Africa until it is all over with this digital wonder!.

Thank you very much.

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