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Impediments to promoting access to global knowledge in sub-Saharan Africa

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# Impediments to promoting access to global knowledge in sub-Saharan Africa

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## Keywords

Knowledge management, Knowledge organizations, Information exchange, Human capital, Competitive advantage, Africa

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## Abstract

Knowledge-based societies have come to be identified with the advanced economies. Knowledge is now looked on as a new source of competitive advantage. Those economies where knowledge is created and used in large quantities may be said to enjoy a competitive advantage over those that do not create and use knowledge in large quantities. Sub-Saharan Africa is one region which needs to have access to global knowledge for its economic development. However, there are several impediments to promoting access to global knowledge in sub-Saharan Africa. The impediments are identified in the study and solutions to the impediments proposed. Research methods used are highlighted.

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## 1.0. Introduction

From the 1970s through the 1990s, it was very fashionable talking about the “information society” or the “information age”. There has not been a universally acceptable definition of the “information society” or “information age”. The definitions given were a little vague and confusing and they only dwelt on the characteristics of the information society. A lot of literature was published on information user studies, information-seeking behavior, information management, information society, information resources etc. The tune has now changed to the “knowledge society” although not much is said about the “knowledge age” in the literature.

There is now a lot in the literature on managing knowledge, tools of managing knowledge, access to knowledge, organizational knowledge and knowledge as a new source of competitive advantage. Drucker (1968), Bell (1973) and most recently Toffler (1990) allude to the world turning fast into a knowledge society. The virtues of knowledge as a new source of competitive advantage were for a long time attributed to information. If today there was an association of members of a “knowledge society,” many sub-Saharan African countries could not qualify for membership because of their little contribution towards the creation of new knowledge. When it comes to the sharing of the global knowledge, sub-Saharan Africa does not get a very big share. The consumption of global knowledge in sub-Saharan Africa is a little limited and it is not for nothing.

There has been talk of knowledge-based economies, and to a large extent, economies of sub-Saharan Africa may not be considered knowledge-based economies in the broad sense of the phrase. A knowledge-based economy is an economy in which the production, distribution and use of knowledge are the main drivers of growth, wealth creation, and employment across all industries. The distinguishing feature of modern knowledge-based societies is the extent and pace of growth and disruption in the accumulation and transmission of knowledge, much of which is new or is deployed in contexts distant from those of its creation (Steinmueller, 2002). The digital divide that exists between the sub-Saharan African region and the knowledge-based economies is wide.

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### 1.1. Sub-Saharan Africa

Sub-Saharan Africa groups together some 46 African countries south of the Sahara. These countries are:

- (1) Angola;
- (2) Benin;
- (3) Botswana;
- (4) Burkina Faso;
- (5) Burundi;
- (6) Cameroon;
- (7) Cape Verde;
- (8) Central African Republic;
- (9) Chad;
- (10) Comoros;
- (11) Congo, Democratic Republic of;
- (12) Congo, Republic of;
- (13) Cote d'Ivoire;
- (14) Djibouti;
- (15) Equatorial Guinea;
- (16) Eritrea;
- (17) Ethiopia;
- (18) Gabon;
- (19) Gambia, The;
- (20) Ghana;
- (21) Kenya;
- (22) Lesotho;
- (23) Liberia;
- (24) Madagascar;
- (25) Malawi;
- (26) Mali;
- (27) Mauritania;
- (28) Mauritius;
- (29) Mozambique;
- (30) Namibia;
- (31) Niger;
- (32) Nigeria;
- (33) Rwanda;
- (34) Sao Tome and Principe;
- (35) Senegal;
- (36) Seychelles;
- (37) Sierra Leone;
- (38) Somalia;
- (39) South Africa;
- (40) Sudan;
- (41) Swaziland;
- (42) Tanzania;
- (43) Togo;
- (44) Uganda;
- (45) Zambia; and
- (46) Zimbabwe.

All of the sub-Saharan African countries are developing countries and a number of countries in the region are in the least developed countries' category. South Africa is one of the countries in the sub-Saharan region, but in some quarters, it is considered a developed country in the midst of developing countries. Even for South Africa, some

areas, particularly the rural areas, are equally undeveloped. However, the amount of knowledge created and consumed in South Africa is much higher than in other sub-Saharan African countries. One would also say that access to global knowledge within South Africa is definitely much higher than other sub-Saharan African countries.

The era of the industrial society and the era of the information society have both passed sub-Saharan Africa. There is no question about that and the question one should ask is whether the era of the knowledge society will pass sub-Saharan Africa too. Knowledge is now being seen as a new source of competitive advantage for corporations, countries and regions. As a new source of competitive advantage, knowledge does not just happen. Some conditions must exist for knowledge to be created, effectively managed and shared. A region or a country must have in place the appropriate tools for transferring knowledge and for managing it. Such conditions are scanty in sub-Saharan Africa. Most countries in sub-Saharan Africa have not as yet embraced knowledge as a new source of competitive advantage. As such, conditions for effectively creating and sharing of knowledge in the region are wanting.

All the sub-Saharan African countries were at one point colonised by European powers. Most of them were colonies of Britain and France. It is from the early 1960s that the sub-Saharan African countries started winning their independence from the colonial powers. Up to this day, the former colonies have strong ties with their former colonisers. The former colonial powers never cut the ties with their former colonies and they have always assisted them. One would expect that the financial assistance, which has always flown to the sub-Saharan countries, should now be replaced by knowledge flow from the donor countries and organizations. But this is not forthcoming easily.

Knowledge can easily flow to a country or a region that has appropriate technology to transfer it, process it, preserve it and disseminate it without many hitches. The technologies are in short supply in sub-Saharan Africa.

### 2.0. Aims and objectives

This study was conducted with the aim of addressing the following issues in regard to promoting access to global knowledge in sub-Saharan Africa:

- to underscore the importance of knowledge and information to developing regions such as sub-Saharan Africa;

- to identify hurdles to accessing global knowledge in sub-Saharan Africa; and
- to demonstrate to policy makers in the sub-Saharan countries the importance of instilling knowledge in people who are the key to development.

### 2.1. Research methodology

The idea of this study was touted in June 2001. The author started the study at a slow base and initially wanted to confine it to Kenya only. However, in late 2002, the author received some funds from the Moi University Committee of Deans for the study. That is when he decided to expand the study to cover the whole of sub-Saharan Africa. The funds were modest, but they really helped in a number of ways.

The principal method used to collect data for the study was a survey. A questionnaire was prepared, several copies made and posted to respondents in all the 46 sub-Saharan countries. Ten questionnaires were mailed to respondents in every country in the sub-Saharan region. There were initially 460 questionnaires. The author thought of making the questionnaires 500. In that regard, 40 more questionnaires were later mailed, but all of them to respondents in Kenya only. This was because of convenience to the author and the relatively lower cost of postage within Kenya. Out of a total of 500 questionnaires mailed to respondents, 50 were mailed to respondents based in Kenya. The cost of posting the questionnaires was prohibitive, but that was the best alternative available to the author. The e-mail addresses of the respondents were not readily available to the author. In any case, many people in sub-Saharan Africa hardly respond to questionnaires mailed to them via e-mail. It is expensive accessing e-mail and people would wish to spend the least amount of time online. The author would have wished to mail more questionnaires out to more respondents but the prohibitive postage costs could not allow this. All questionnaires mailed to respondents in Kenya were accompanied with a return stamped envelope. Not so for the questionnaires mailed to other countries.

The questionnaires were mailed out to various institutions, major non-governmental organizations and government departments. The questionnaires were mailed out in June 2002 and the respondents were asked to return the completed questionnaires within three months. The author received the first filled up questionnaire after four weeks. Respondents returned the completed questionnaires from most countries. The author did not, however, receive any questionnaire at all from two countries. The lowest number of questionnaires received from a country was two – which represented a 20 percent

response. The highest response from a country was 40 percent. Response from Kenya was 50 percent. The author attributed this to the fact that he made a few follow-ups and wrote reminders to the respondents in Kenya. He made a few telephone calls to remind the respondents to return the questionnaires. Over all, the author received a total of 165 completed questionnaires, which was a response of 33 percent. Three more questionnaires were received after the analysis had been done and they were not included in the analysis. Some more questionnaires may come in even as late as 2004. Postal services are not very good in the sub-Saharan region. Some respondents also take forever to complete questionnaires.

In sub-Saharan Africa, most countries use either English or French as their official language. Angola and Mozambique use Portuguese as their official language. There are a few other widely regional spoken languages. Kiswahili, for example, is widely spoken in the whole of eastern Africa, parts of southern Africa and central Africa. Some remarks on the questionnaires were in French and the author had to look for an interpreter because of his poor skills in the French language. The questions represented a mix of structured, semi-structured and structured questions. The author found some remarks on the questionnaires rather sensational. The most interesting remark to the author was “there is no knowledge factory in my country”. Another remark that the author found interesting was “why bother with knowledge instead of advocating for technology in sub-Saharan Africa?” Some remarks made in the questionnaires were good and clearly identified impediments to accessing global knowledge and information in sub-Saharan Africa.

In addition to the survey method for collecting data, the author carried out an extensive literature review of printed documents. Several printed documents were reviewed. The documents reviewed included daily newspapers, papers presented in workshops and seminars on a range of topics touching on knowledge and information, country reports by international organizations such as the United Nations, World Bank, UNESCO, International Telephone Union, United Nations Development Programme and documents from non-governmental organizations. Also reviewed were documents from the Computer Society of Kenya. Several documents in various government departments in Kenya were also reviewed. The information from the documents reviewed was believed to be accurate. Some information tallied with the information given by questionnaire respondents.



### 3.0. Findings of the study

The findings reported here are based on the responses to the questionnaire mailed to respondents in different countries in sub-Saharan Africa (see the Appendix) and the literature reviewed. The questionnaire was divided into sections A, B, C and D. Section A of the questionnaire was basically a background information section. It asked the respondents to give the name of their organizations, the type of organization – whether governmental, semi-governmental or private/nongovernmental. Of those who responded, 45 percent indicated they worked for government, 15 percent indicated they worked for government-owned corporations and 40 percent indicated they worked for private/nongovernmental corporations. The third question in section A asked the respondents to briefly state the activities of their organization. The fourth question in section A asked the respondents if their organization collaborates with other organizations in knowledge creation and sharing. There were three answers for this question ranging from always to rarely. Of the respondents, 5 percent said their organizations always collaborated with other organizations or institutions in knowledge creation and sharing, 35 percent said rarely while 60 percent said their organizations never collaborated with organizations in knowledge creation and sharing.

The study found out that there are numerous impediments to promoting access to global knowledge in sub-Saharan Africa. Some impediments are obvious, yet some other impediments are not so obvious, although they are serious.

#### 3.1. Lack of goodwill

Lack of governmental/political goodwill was the broad title of section B of the questionnaire that was mailed out to the respondents. It is sometimes said that goodwill alone may not amount to much, but without it, there is very little one might be able to do. This is particularly true when it comes to political goodwill. Political leaders in sub-Saharan Africa might appear that they are doing something about promoting access to global knowledge in their countries, but the truth is that they are least interested in anything that does not promise to prolong their stay in political leadership of their countries.

There were four questions in this section. One question was whether the respondents thought the governments in their countries were doing enough to enable citizens to access global knowledge and information. Three multiple-choice answers of yes, no and no idea were provided. Only 5 percent

of the respondents gave a yes response, 85 percent a no response and 10 percent gave a no idea response. The second question in this section asked respondents whether there were times when governments in their countries deliberately blocked citizens from accessing global knowledge and information. Respondents were provided with four answers to choose from – 65 percent of the respondents said yes, 5 percent said no, 15 percent said always, and another 15 percent said sometimes. The third question in this section was about the cost of accessing global knowledge in the respondents' respective countries. Respondents were given four answers to choose from. The answers ranged from too costly to low – 90 percent of the respondents said the cost of accessing global knowledge in their countries was too high, 5 percent said it was costly; another 5 percent said it was moderate while nobody or 0 percent said the cost was low. The fourth question in this section was about the respondents' opinion about the level of freedom of the press in their respective countries. The respondents were given only two answers to choose from. They asked either to say yes or no and 95.5 percent of the respondents said yes while 4.5 percent said no.

A number of respondents hinted that political leaders in sub-Saharan Africa are very scared of knowledgeable citizens and they would do everything to block access to knowledge that might be considered dangerous to their political survival. Knowledgeable people actually know their rights, they can question wrongs committed by those in government and they are likely to expose ills committed by those in government. Political leaders would want to do everything in sub-Saharan Africa to block their people from accessing knowledge and information whether it is useful or not. Such political leaders, who incidentally happen to be policy makers, would use every excuse to make sure good knowledge systems are not available in their countries. They may do so by making access to information and knowledge too costly for the ordinary citizens.

In sub-Saharan Africa, those in authority would want to have a very strong grip on the media – both electronic and print. Many television and radio stations in sub-Saharan Africa are government-owned and they only air what is favorable to the government of the day. Foreign TV and radio programs are highly censored before they are aired, in case such programs carry contents critical of the government. This is all done in the name of upholding high moral standards. Daily newspapers in Kenya, for example, have had a long history of clashing with high-ranking government officials. High-ranking government officers and powerful politicians have

sued every major daily in Kenya for libel. This has been seen in Zimbabwe and in most of the sub-Saharan countries. Such officials have been awarded millions by courts in the past and one wonders what the future is like for the dailies. The print and electronic media can transmit knowledge and information for the people of sub-Saharan Africa, but both are not well developed and they face insurmountable problems. They operate in environments which are very unfriendly, to say the least.

### 3.1.2. Literacy levels

Literacy is defined as the ability to read and write. This definition does not take into account the language in which a person is able to read and write. Levels of literacy in the sub-Saharan countries have improved in recent years, but there is more to accessing global knowledge and information than just the ability to read and write. Generally speaking, the levels of literacy in sub-Saharan Africa are low and even so, the levels of literacy recorded take into account the ability to read and write in local languages. A lot of global knowledge is packaged in the major internationally spoken languages such as English and French. Countries may report average national literacy levels as high as 80 percent, but you would find that such literacy levels do not apply to all regions of a country. Some regions of a country may have literacy rates as low as 20 percent or even lower. On average, urban regions tend to have higher literacy rates in sub-Saharan Africa.

Section C of the questionnaire had four questions on literacy levels in sub-Saharan countries. The first question in this section asked respondents to just state the literacy average levels in their respective countries. The lowest rate given of a country was given by one respondent as 15 percent and the highest rate was given as 92.5 percent. Some rates given by respondents tallied with the World Bank literacy rates. The next question in this section was a question on the respondents' opinion on whether the literacy levels in their countries were adequate to enable citizens to access global knowledge and information. There were two answers to choose from. The answers were yes and no, and 7.5 percent of the respondents said yes while 92.5 percent of the respondents said no. The third question in this section required the respondent to give the average high school completion in their countries. This question was semi-structured and the lowest percentage given was 25 percent and the highest was 90 percent. The last question in this section asked respondents whether they thought governments in their countries were doing enough to promote literacy levels. An overwhelming

majority of 75 percent said no as opposed to 25 percent who said yes.

Literacy rates in the sub-Saharan African countries are low on average. Some countries have literacy rates much higher than the world average literacy rates, but that should not mean that such countries' citizens do not have problems accessing global knowledge and information. Niger is reported to have the lowest literacy rate at 17.6 for the total population. Angola, Burkina Faso, Ethiopia and Guinea, all have less than 50 percent literacy rates, meaning more than half the populations in these countries cannot read or write even in the local languages. Equatorial Guinea, South Africa, Kenya and Mauritius, have literacy rates of 85 percent plus. However, high literacy rates alone may not mean so much when it comes to accessing global knowledge and information (see Table I).

### 3.2. Information and communication technologies (ICTs)

Any knowledge-based economy would normally boast of well-developed ICTs. These are electronic ICTs used for the transfer, processing, preserving and dissemination of knowledge and information. Computers, telephone systems, radios and televisions are all part of ICTs. It should not be taken to mean that without ICTs, knowledge or information may not be transmitted or disseminated. The issue about ICTs is speed and accuracy with which they transfer knowledge and information. Large capacity of storage is another positive thing about ICTs. In order to facilitate sharing of knowledge, an IT infrastructure must be in place. In order for IT to be applied, knowledge and expertise must be readily accessible, understandable and retrievable. Tobin (1996) suggests that in a knowledge-based economy, an IT knowledge network should be built with components such as knowledge depository, directory of knowledge sources, directory of learning sources and groupware. In sub-Saharan Africa, ICTs are still much undeveloped. It would be unrealistic to imagine that citizens of the sub-Saharan region can access global knowledge via ICTs.

Section D of the questionnaire was titled "Information and communication technologies (ICTs)". Questions in this section were meant to find out from the respondents what they think about the state of ICTs in their countries and the extent to which the technologies have been developed to support access to global knowledge and information. The first question in this section asked respondents how well developed ICTs are developed in their respective countries. Four answers were provided ranging from very well

Table I Literacy rates of sub-Saharan African countries

Country	Total population literacy level average % (Age 15 and over)	Male	Female
Angola	36.0	51.0	21.0
Benin	40.9	56.2	26.5
Botswana	79.8	76.9	82.4
Burkina Faso	26.6	36.9	16.6
Burundi	51.6	58.5	45.2
Cameroon	79.0	84.7	73.4
Cape Verde	76.6	85.8	69.2
Central African Republic	51.0	63.3	39.9
Chad	47.5	56.0	39.3
Comoros	56.5	63.6	49.3
Congo, Democratic Rep.of	65.5	76.2	55.1
Congo, Republic of	83.8	89.6	78.4
Cote d'Ivoire	50.9	57.9	43.6
Djibouti	67.9	78.0	58.4
Equatorial Guinea	85.7	93.3	78.4
Eritrea	58.6	69.9	47.6
Ethiopia	42.7	50.3	35.1
Gabon	63.2	73.7	53.3
Gambia, The	40.1	47.8	32.8
Ghana	74.8	82.7	67.1
Guinea	35.9	49.9	21.9
Guinea-Bissau	42.4	58.1	27.4
Kenya	85.1	90.6	79.7
Lesotho	84.8	74.5	94.5
Liberia	57.5	73.3	41.6
Madagascar	68.9	75.5	62.5
Malawi	62.7	76.1	49.8
Mali	46.8	53.5	39.6
Mauritania	41.7	51.8	31.9
Mauritius	85.6	86.6	82.7
Mozambique	47.8	63.5	32.7
Namibia	84.0	84.4	83.7
Niger	17.6	25.8	9.7
Nigeria	68.0	75.7	60.6
Rwanda	70.4	67.3	64.7
Sao Tome and Principe	79.3	85.0	62.0
Senegal	40.2	50.0	30.7
Seychelles	58.0	56.0	60.0
Sierra Leone	31.4	45.8	18.2
Somalia	37.8	49.7	25.8
South Africa	86.4	87.0	85.7
Sudan	61.1	71.8	50.5
Swaziland	81.6	82.6	80.8
Tanzania	78.2	85.9	70.7
Togo	60.9	75.4	46.9
Uganda	69.9	79.5	60.4
Zambia	80.6	86.8	74.8
Zimbabwe	90.7	94.2	87.2
World	77.0	83.0	71.0

Source: Central Intelligence Agency (2003)

developed to very poorly developed. As it turned out, only 5 percent of the respondents chose the answer very well developed, 15 percent chose well developed, 65 percent chose poorly developed and 10 percent chose very poorly developed. The next question in this section asked respondents whether there were enough computers in their countries to facilitate access to global knowledge and information. There were only two answers to choose from and 5 percent of the respondents said yes with 95 percent saying no. The third question in this section asked respondents whether they thought computer literacy levels in their countries were high enough to support access to global knowledge and information. Only two answers were provided to choose from and 1.5 percent said yes while 98.5 percent said no. However, not very many countries in sub-Saharan Africa have ready statistics on levels of computer literacy. The fourth question in this section of the questionnaire asked respondents to give their opinion on the cost of computers and related technologies in their countries. Four answers ranging from too high to low were provided for the respondent to choose from. Too high was the answer given by 80 percent of the respondents, 15 percent chose high, 5 percent chose moderate while 0 percent of the respondents chose low.

Considering that computers and related technologies are imported by all sub-Saharan African countries, the author wanted to find out what respondents thought about government duties levied on imported computers and related technologies. So the respondents were asked the question of whether they thought their governments should completely abolish all duties imposed on computers and related technologies. Only two answers were provided and 98 percent of the respondents said the duties should be completely abolished. Of the respondents, 2 percent said no to the question. The sixth question in this section was whether the respondents thought electricity supply in their countries was reliable or not. Four answers ranging from very reliable to very unreliable were provided. It may not be very surprising, but some 2.5 percent of the respondents said that electricity supply in their countries was very reliable, 25.5 percent said it was reliable, 65 percent said it was unreliable and 7 percent said it was very unreliable. The seventh question on this section was on supplies of electricity in the respondents' countries. The question asked the respondents whether the government was the sole supplier of electricity in their respective countries. Only two answers were provided for this question and 65 percent of the respondents said yes while 35 percent said no.

Telephone lines go hand in hand with computers in communication and the eighth question in this section was whether the respondents thought there were enough telephone lines to facilitate access to global knowledge and information in their countries. There were two answers to choose from and 85 percent of the respondents said no while 15 percent said yes.

The ninth and tenth questions of section D of the questionnaire were not structured and the respondents were given a chance of expressing their opinions on two major issues. One was the issue of what the respondents thought were the major impediments to promoting access to global knowledge and information in their respective countries, and the other issue was what the respondents thought should be done to promote access to global knowledge and information in their countries and in the wider sub-Saharan region. Regarding impediments to accessing global knowledge and information in sub-Saharan Africa, the respondents gave different and varying reasons. Examples of reasons given were the high costs of technology, poor government planning, lack of expertise, lack of information policy and governments in sub-Saharan Africa having their priorities upside-down.

The final question on the questionnaire asked the respondents what they thought should be done to improve access to global knowledge and information in sub-Saharan Africa. A few examples of the suggestions given here included abolishing of duty on imported ICTs, free computer literacy programmes, free compulsory primary and secondary education and change of culture. However, these suggestions were not elaborated and the author could not give detailed interpretations of the comments.

Computers and telephone lines, which make communication possible and easy, are in short supply in the sub-Saharan African region. Very few people own computers and telephone lines in sub-Saharan Africa. Computer illiteracy is another major handicap in the sub-Saharan Africa region. Computer literacy is defined as the ability to use computers well. This kind of literacy is very low in sub-Saharan Africa. In many rural areas, many people have not seen a computer, leave alone using it. For one, computers are expensive and they cannot be operated where there is no electrical power supply or where it is unreliable most of the time. Electrical power supply in many sub-Saharan countries is low and rather unreliable.

Electricity and telecommunication services in most sub-Saharan Africa have for long been services rendered by governments. The argument behind government-ownership of telephone and electricity companies has been that such services are essential

and may not be effectively rendered by private companies. These services have not been expanding and they have been very inefficient and unreliable in most cases. A business approach has been lacking as competition has not been there. However, things are changing now. Most governments in sub-Saharan Africa have lately been pressurised by donor countries to privatize government-owned businesses including telecommunication and power supply. Privatization, just like democratization, has not been easy, nor has it been a smooth operation. Those in authority see privatization as an opportunity to make money. They would want to buy government-owned companies at very low prices. They incorporate companies out of their countries, which might appear like foreign companies through which they buy government-owned corporations. Once they buy such companies, they start charging very highly for services.

Fixed telephone lines, cellular phones, television sets and radios may have a direct bearing on access to global knowledge. In sub-Saharan Africa, the ownership of these devices is very limited. Teledensity, for example, is very low in the sub-Saharan region. Teledensity is defined as the number of telephone lines per 100 persons in a country. The average number of telephone lines in sub-Saharan Africa per 1,000 persons is 29. In some countries like Chad, the Republic of Congo and the Democratic Republic of Congo, the range is like one telephone line per 1,000 people. South Africa, which has the highest teledensity in the region, has 107 lines per 1,000 people. An average of one telephone line per 100 people is what is considered standard teledensity for basic access to telecommunications.

The low teledensity in sub-Saharan Africa is a major impediment to promoting access to global knowledge. The African region is considered to have the lowest teledensity in the world. About 12 percent of the world's population lives in Africa, but the region has only 2 percent of the world's telephone lines. The sub-Saharan region is approximated to have a low teledensity of 0.5 and majority of the lines are in urban areas where only about 20 percent of the population live. The low teledensity in sub-Saharan Africa tremendously limits access to global knowledge for the majority of the people there. Television sets, radios and telephone lines can boost access to global knowledge but the devices are very few in sub-Saharan Africa, meaning they limit access to global knowledge for the people of the region (see Table II).



Table II Telephone, radio and television availability, 1995-2000

Country	Main lines (per 1,000 people)	Waiting list (thousands)	Average cost of call (US\$ per three minutes)	Mobile phones (per 1,000 persons)	Radio sets (per 1,000 persons)	TV sets (per 1,000 persons)
Angola	5	21	0.05	2	74	19
Benin	8	23	0.09	9	439	45
Botswana	93	12	0.02	123	15	25
Burkina Faso	4	12	0.08	2	35	12
Burundi	3	10	0.02	2	220	30
Cameroon	6	50	0.05	10	163	34
Cape Verde	126	4	0.03	45	182	5
C. Africa Rep.	3	2	0.48	1	80	6
Chad	1	1	0.16	1	236	1
Comoros	10	3	0.14	0	174	4
Congo, DRC	0	6	–	0	386	2
Congo, Rep of	7	–	–	24	123	13
Cote d'Ivoire	18	32	0.05	30	137	60
Djibouti	15	0	0.19	0	87	71
Equat. Guinea	13	2	0.05	11	427	116
Eritrea	8	20	0.02	0	444	26
Ethiopia	4	197	0.02	0	189	6
Gabon	32	10	0.15	98	501	326
Gambia, The	26	17	0.30	4	396	3
Ghana	12	28	0.03	6	710	118
Guinea	8	2	0.10	5	52	44
Guinea-Bissau	9	5	0.14	0	44	–
Kenya	10	134	0.04	4	223	25
Lesotho	10	19	0.01	10	53	16
Liberia	2	2	–	0	274	25
Madagascar	3	0	0.08	4	216	24
Malawi	4	25	0.03	5	499	3
Mali	3	–	0.07	1	56	14
Mauritania	7	48	0.08	3	149	96
Mauritius	235	19	0.03	151	379	268
Mozambique	4	21	0.06	3	44	5
Namibia	63	2	0.05	47	141	38
Niger	2	1	0.10	0	121	37
Nigeria	4	42	–	0	200	68
Rwanda	2	8	0.03	5	76	0
Sao Tome and Principe	31	1	0.05	0	318	228
Senegal	22	25	0.10	26	141	40
Seychelles	235	2	0.14	320	543	203
Sierra Leone	4	25	0.03	2	259	13
Somalia	2	–	–	0	60	14
South Africa	114	116	0.09	190	338	127
Sudan	12	12	0.23	1	464	273
Swaziland	32	32	0.04	33	162	119
Tanzania	5	5	0.08	5	281	20
Togo	9	9	0.09	11	265	32
Uganda	3	3	0.13	8	127	27
Zambia	8	8	0.06	9	145	134
Zimbabwe	18	18	0.04	23	362	30

Source: International Bank for Reconstruction and Development/The World Bank (2003)

### 3.2.1. Computer and Internet usage

Computers make Internet connectivity possible, meaning without computers, one cannot get the Internet connection. The Internet and related technologies make it possible for people in any region of the world to have access to global knowledge. For sub-Saharan Africa, the story is different. Very few people have access to computers and subsequently to the Internet. Our respondents from various countries in sub-Saharan Africa indicated that those who have access to computers and the Internet are those who work in:

- government departments;
- NGOs;
- international organizations like the United Nations; and
- large private companies.

Darley (2003) estimates that there are a little over 1 million subscribers in Africa. This author thinks this is a bit of an underestimation because South Africa alone has close to 2 million subscribers. A lot of people, however, do not consider South Africa to be part of Africa.

It is estimated that the world average Internet use is one user for every 35 people. The averages in sub-Saharan Africa are very low compared to other regions of the world. North America and Western Europe, which lead, are estimated to have one user for every four people. Latin America and the Caribbean are estimated to have one user in every 125 people. South East Asia and Pacific are estimated to have one user for every 200 users. In the Far East Asia, it is estimated that there is one user for every 250 people. There is one user for every 500 people in the Arab world and one user for every 2,500 people in South Asia (see Table III).

One other major handicap to accessing global knowledge is the general low levels of computer literacy. Literacy levels statistics do not include computer literacy levels. In sub-Saharan Africa, computer literacy levels are quite low and this means low access to computers and the Internet. From all our respondents from various sub-Saharan African countries, nobody indicated that there is a compulsory secondary school computer literacy programme in their country. Even college graduates have low computer literacy skills.

## 4.0. Discussion

Knowledge continues to burgeon in importance and it seems like it is going to be a long-term strategic resource for countries, regions and organizations. One should not by any means assume that knowledge does not flow in the sub-Saharan African region. Knowledge does flow in

**Table III** Personal computers, Internet hosts and Internet users in sub-Saharan Africa.

Country	Personal computers (per 1,000 people)		Internet hosts (per 10,000 people)		Internet users (thousands)	
	1999	2000	1999	2000	1999	2000
Angola	1.0	1.14	0.0	0.01	10	30
Benin	1.5	1.64	0.04	0.04	10	15
Botswana	31.0	36.99	5.79	13.99	12	15
Burkina Faso	1.0	1.26	0.19	0.19	7	10
Burundi	–	–	0.0	0.00	3	3
Cameroon	2.7	3.31	0.0	0.01	20	40
Cape Verde	–	–	0.02	0.05	4	8
Central African Republic	1.4	1.66	0.0	0.02	1	2
Chad	1.3	–	0.0	0.01	2	3
Comoros	2.0	4.32	0.57	0.72	1	2
Congo, Dem. Rep. of	–	–	0.0	0.00	2	–
Congo, Rep of	3.5	–	0.0	0.01	1	–
Cote d'Ivoire	5.5	6.09	0.24	0.37	20	40
Djibouti	9.5	10.19	0.0	0.65	2	1
Equatorial Guinea	2.3	–	0.0	0.00	1	–
Eritrea	1.4	1.61	0.01	0.02	1	5
Ethiopia	0.7	0.95	0.01	0.01	8	10
Gabon	8.4	9.79	0.02	0.21	2	15
Gambia, The	7.9	11.51	0.02	0.12	3	4
Ghana	2.4	2.97	0.05	0.06	20	30
Guinea	3.4	3.67	0.0	0.00	4	8
Guinea-Bissau	–	–	0.13	0.11	3	3
Kenya	4.2	4.89	0.19	0.32	34	200
Lesotho	–	–	0.08	0.42	1	4
Liberia	–	–	0.0	0.00	0	1
Madagascar	1.9	2.20	0.12	0.36	25	30
Malawi	1.0	1.16	0.0	0.00	10	15
Mali	1.0	1.16	0.01	0.05	7	19
Mauritania	7.8	9.43	0.0	0.20	3	5
Mauritius	93.7	100.54	4.55	27.68	55	87
Mozambique	2.5	3.05	0.09	0.10	15	30
Namibia	29.5	34.16	11.61	19.57	6	30
Niger	0.4	0.47	0.03	0.12	3	5
Nigeria	6.4	6.59	0.0	0.01	100	200
Rwanda	–	–	0.0	0.42	5	5
Sao Tome and Principe	–	–	17.32	45.00	1	7
Senegal	15.1	16.80	0.28	0.51	30	40
Seychelles	124.4	135.58	0.12	0.49	5	6
Sierra Leone	–	–	0.13	0.16	2	5
Somalia	–	–	0.0	0.00	0	–
South Africa	55.7	61.81	33.36	43.12	1,820	2,400
Sudan	2.8	3.22	0.0	0.00	5	30
Swaziland	–	–	6.28	7.07	5	10
Tanzania	2.4	2.85	0.04	0.16	25	115
Togo	11.1	21.60	0.18	0.35	15	100
Uganda	2.5	2.70	0.05	0.07	25	40
Zambia	7.2	6.72	0.48	0.86	15	20
Zimbabwe	13.0	11.87	1.14	2.50	20	50

Source: International Bank for Reconstruction and Development/The World Bank (2003)

the region, only that the knowledge is not well captured and the inhabitants of the region do not have reasonable access to knowledge that is generated within the region and that which is generated in other regions of the globe. That there are several impediments to promoting access to global knowledge in sub-Saharan Africa is no doubt. Access to global knowledge in sub-Saharan Africa should be promoted and the big question is how it will be done.

#### 4.1. Transparency

Transparency may be tricky in a region where the other name for government is “top secret”. The Swahili name for government is *serikali*, which roughly translates to “top secret.” Swahili is a language widely spoken in the whole of Eastern Africa, parts of Central Africa and Southern Africa. In the whole of sub-Saharan Africa, transparency is lacking and governments do things without involving the citizens. A lot of government information is not easily accessible to the general populace and citizens of the sub-Saharan countries have come to know that government information is top secret all the time. If access to global knowledge is to be promoted in the sub-Saharan African region, governments must learn to first promote transparency, unless it matters to do with security of the state.

It is a pity that many people in sub-Saharan Africa are not allowed access even to information about their basic rights as citizens. The citizens of the countries in sub-Saharan Africa are not made aware of where to find what kind of government services and where to find government information. In the rural areas of the sub-Saharan countries, for instance, inhabitants think it is a privilege and not a right to access government services freely. They do not know that they have a right to government services and they can demand the services.

Government officials in the rural areas are perceived as special people whose demands must be met by the people. There are no laws which may compel a government to disclose information to a citizen who may require it for one reason or the other. Such laws need to be enacted in the sub-Saharan countries. Our respondents from all the countries indicated there are no such laws in their countries and even if there are, they are conveniently disregarded by government officials.

#### 4.2. Knowledge assessment

There are certain indicators which are used for knowledge assessment. The indicators show how knowledge is generated in a particular country, how it is managed, how it is shared and the extent

to which citizens of a country have access to knowledge in general. According to Liebowitz and Wright (1999), the World Bank country knowledge assessment is based on the following indicators:

- public expenditure on education relative to gross national product;
- public expenditure on education, absolute;
- gross enrolment rate;
- secondary education;
- tertiary education;
- literacy – newspaper readership;
- adult literacy rates; and
- mean years of schooling.

It follows that when these indicators are high in any country, then chances are that knowledge creation and knowledge assimilation in that country are also high. However, these indicators are low in most sub-Saharan countries. To promote access to global knowledge in the region, the governments in the region need to improve on these indicators. Most sub-Saharan countries have low literacy rates, low adult literacy rates and public expenditure on education may not be very high.

#### 4.3. Human capital

The human capital of a country may be defined as the knowledge, skills, and competencies of people in that country (Van Buren, 1999). The notion that a trained and skilled workforce provides a strategic advantage to a country, to a region, or to an organization is nothing new. Sub-Saharan African countries need to invest in the development of their human capital as much as they can. The region should invest in training people who not only understand technology, but who can also develop it and apply it across contingencies. Evaluation models should be developed to capture costs related to acquiring and maintaining quality human resources.

The sub-Saharan African countries also need to find ways of developing and maintaining their human capital. It is ironic that the region can develop but cannot preserve local intellectual capital. Emigration of trained personnel from the sub-Saharan African region is not something new. This is also referred to as brain drain and it has had a negative impact on the sub-Saharan region. For a long time, the region has been losing trained personnel to the developed countries of Western Europe and North America. Some are now emigrating to Australia and New Zealand.

Brain drain from sub-Saharan Africa is a major impediment to promoting access to global knowledge. Reasons for brain drain from sub-Saharan countries include economic, political,

security, and many others which may not appear very obvious.

#### 4.4. Education and training

When discussing promotion of access to global knowledge or even local knowledge, one cannot avoid talking of education in general, education systems and the strengths and weaknesses of such systems. Some education systems promote access to knowledge in the larger populations, while others promote access to knowledge among very few people in the general populace. National education and training systems vary according to the relative importance they attach to different types of knowledge (e.g. formal academic knowledge versus practical skills), and the distribution of competence among the entire workforce (Lam, 2002).

Some education and training systems are narrow and élitist in nature while others are broad-based and cater for education and training needs of most people in the general populace. If access to global knowledge has to be promoted in sub-Saharan Africa, the governments in the region should put a lot of emphasis on broad-based education and training systems. Narrow and élitist education and training systems tend to emphasize formal academic knowledge and a highly uneven two-tier distribution of competence: a well developed higher education system for the élite while the majority of the populace are poorly trained and are locked out of the education and training systems.

On the other hand, a broad-based education and training system recognizes the value of both academic education and vocational training. The system is characterized by a widespread and rigorous general and vocational education for a wide spectrum of the workforce. Governments in sub-Saharan Africa should recognize practical experience as a source of competence and qualifications. Governments in the region should increase investment in vocational training. However, the tendency in most sub-Saharan countries is that of leaning more on the élitist narrow education and training national systems. In Kenya, for example, middle level colleges, which used to offer vocational training, have been converted to universities and vocational training is no longer a priority like it was in the early days of independence.

Different countries have different levels of basic education. In some countries, a first degree may be considered basic education. In other countries, primary education may be considered basic education, while other countries consider high school education to be basic education. Basic education is essential for a skills base to the

promotion of access to global knowledge in any country or region. It is conservatively estimated that 100 million school going age children in sub-Saharan Africa are out of school. It is further estimated that the region has a shortage of 3 million schoolteachers. These are very conservative figures and it is possible the children out of school in the sub-Saharan region may be more. Reasons range from lack of money to pay fees to lack of schools within easy reach. As for teachers, it is amazing, because there are reports that a number of qualified schoolteachers from the sub-Saharan region are teaching in countries like the UK, the USA, Canada, Australia and New Zealand among others. Even within sub-Saharan Africa itself, quite a number of those who are trained as teachers take up different jobs other than teaching.

The situation is no better in universities in Sub-Saharan Africa. A number of qualified university lecturers in sub-Saharan Africa leave university teaching to join politics, take up administrative jobs locally or take up university teaching jobs in developed countries. It pays a whole lot more to be an administrator or to join politics locally than to be in academics. In Kenya, for example, a Member of Parliament who may not even be a high school graduate earns a basic salary ten times more than a full professor in a public university. There are several other fringe benefits that a Member Parliament enjoys that a university don may only dream of.

#### 4.5. Development of information infrastructure

A strong information infrastructure, which may enable people of any region or country to access global knowledge, is lacking in the whole of sub-Saharan Africa. South Africa may have a stronger information infrastructure than most other sub-Saharan countries, but you may find that it only allows a few people there to access global knowledge. The information infrastructure in that country may not be allowing the majority of the people there to easily access global knowledge. The Leland initiative of USAID (1998) identifies several barriers to Internet access and use in the sub-Saharan African region. Such barriers must be addressed urgently so as to pave the way for the promotion of access to global knowledge in sub-Saharan Africa. The barriers to Internet access and use in sub-Saharan Africa identified by the Leland initiative include:

- lack of effective national telecommunications policies;
- inadequate telecommunications infrastructure;



- lack of or outdated computers and computer-related technologies;
- lack of adequately trained technicians and lack of good quality technical and Internet training;
- absence of a competitive Internet service provider industry; and
- high cost and poor quality of Internet service provider services.

Some of these may be looked at as barriers to Internet access and use, but they are also sensitive political issues. For instance one cannot say that national telecommunication policies are totally lacking in sub-Saharan Africa. The policies are there, only they serve the interests of those who are political offices bearers. The governments in the sub-Saharan region can address these issues jointly. It may not be far fetched for the governments in the region to agree to formulate common telecommunications policies. Such policies may enable the governments in the region to pool financial, human and technical resources to develop a basic telecommunications infrastructure. The governments in the region may also jointly develop technical and Internet training programs (Ondari-Okemwa, 2002).

Darley (2003), from a commercial point of view, proposes that to enhance information and facilitate Internet commerce in sub-Saharan Africa, the national governments and policy makers of the region must address the impediments to the introduction of information technology in the region. Darley further suggests that creating an enabling environment will require the dismantling of state controls in key industries as well as the introduction of tax regimes for information and information technology products and services. Tax collection is normally poor in most sub-Saharan countries and expecting tax regimes, which are friendly to information technology industry products, and services might be expecting too much.

In the 2003/2004 budget speech, Kenya's Minister for Finance abolished taxes on imported information technology products but not on information technology services. The move came after Uganda and Tanzania had removed import taxes on imported information technology products. Nobody knows for how long the taxes will be abolished before re-introducing them again. But that was a sign of a good gesture from the government of a country which needs to develop a strong information infrastructure.

Changes in legislation and the dismantling of state controls in key industries for information and information products and services may take time in sub-Saharan Africa. Policy makers in the region

need to be educated on the importance of creating enabling environments for promoting access to global knowledge in the region.

#### 4.6. Change of culture

Changing people's culture may not be easy, because culture is intangible. There is this culture of not sharing knowledge and information in most sub-Saharan countries. People in the region believe that what you know belongs to you and you alone. People in the region stay with important knowledge and die with it without bothering to pass it to the younger generations. With this kind of beliefs, promoting access to global knowledge may not be easy. Not unless people are educated to abandon the old beliefs of keeping knowledge to themselves until they die.

#### 4.7. Recent developments

Recent developments positively indicate that the digital divide between sub-Saharan Africa and the developed world is being addressed. A good example is the African Digital Library (ADL). This is a purely digital library available at <http://www.africandl.org.za> which has a reasonable collection of 8,000 e-books exclusively for residents on the continent of Africa. The library allows users to browse and borrow books electronically. Once a user finds a book he/she needs, the ADL allows him/her a maximum of two hours exclusive use. The library also provides an online dictionary for users.

One may not access or be registered as a member of the ADL if one is not a resident on the continent of Africa. Applications for membership registration are made online and the ADL has a way of verifying an applicant's residence status. An applicant has to provide some kind of evidence that he/she resides in Africa and the ADL has a way verifying the information.

The ADL was started in November 1999 in the spirit of African Renaissance. It has a mission statement which it states thus:

To provide digitised full text resources to learners in Africa via the Internet, thereby contributing to the revitalization of education and alleviation of the digital divide between First and Third world countries.

The major objective of the ADL is to develop a digital library that is available free-of-charge to residents and institutions of Africa, for academic and business use. The ADL project aims to facilitate access to library resources without the expense of developing and maintaining a physical infrastructure, by establishing a digital library for people living and working on the African continent.

The ADL is a big step forward in addressing the digital divide between sub-Saharan Africa and the First World countries. However, it may not remove all the impediments to accessing global knowledge and information in sub-Saharan Africa. It is Internet-based and even if it is available free to registered members, one needs to have access to the Internet. Access to the Internet in sub-Saharan Africa is still out of reach for many residents of the region.

## 5.0. Conclusion

Knowledge has become the modern day source competitive advantage to regions, countries and organizations. Advanced economies of the industrialized countries are being referred to as knowledge societies because of their generation and mass consumption of knowledge. In comparison, developing countries like those in sub-Saharan Africa may be referred to as traditional societies. This is because knowledge generation and use in these countries is very low. However, Steinmueller (2002) thinks all societies are knowledge-based in their dependence on a collection of physical artefacts and cultural institutions whose production and articulation requires knowledge.

Sub-Saharan African countries lag behind in creating, accumulating and accessing knowledge. A lot of knowledge is created all over the world and for any region to access such knowledge, there must exist favorable conditions in such a region. The conditions do not exist in sub-Saharan Africa and governments in the region should do everything possible to create such conditions. There is need to acquire and sustain competitive advantage in sub-Saharan Africa. This may not be realized if access to global knowledge is limited. The situation needs to be corrected by all means.

## References

- Bell, D. (1973), *The Coming of Post-industrial Society: Guidelines to our Changing Society*, Basic Books, New York, NY.
- Central Intelligence Agency (2003), *World Factbook: Field-listing Literacy*, available at: [www.odcigov/cia/publications/factbook/fields/2003.html](http://www.odcigov/cia/publications/factbook/fields/2003.html), CIA, Washington DC..
- Darley, W. (2003), "Public policy, challenges and implications of the Internet and the e-commerce for sub-Saharan Africa: a business perspective", *Information Technology for Development*, Vol. 10 No. 2, pp. 1-12.
- Drucker, P. (1968), *The Age of Discontinuity: Guidelines to our Changing Society*, Basic Books, New York, NY.

- International Bank for Reconstruction and Development/The World Bank (2003), *African Development Indicators*, The World Bank, Washington, DC.
- Lam, A. (2002), "Alternative societal models for learning innovation in the knowledge economy", *International Social Science Journal*, Vol. 54 No. 171, pp. 67-81.
- Liebowitz, J. and Wright, K. (1999), "A look toward valuating human capital", in Liebowitz, J. (Ed.), *Knowledge Management Handbook*, CRC Press, New York, NY.
- Ondari-Okemwa, E. (2002), "Challenges of harnessing virtual information resources in Kenya: the case of the African Virtual University", *Journal of Information Science*, Vol. 28 No. 4, pp. 321-9.
- Steinmueller, W.E. (2002), "Knowledge-based economies and information and communication technologies", *International Social Science Journal*, Vol. 54 No. 171, pp. 141-53.
- Tobin, D. (1996), *Transformational Learning: Renewing your Company Through Knowledge and Skills*, Wiley, Chichester.
- Toffler, A. (1990), *Power Shifts: Knowledge, Wealth and Violence at the Edge of the 21st Century*, Bantam Books, New York, NY.
- USAID (1998), *Making the Internet Connection Count: Effective use of the Internet in Seven Steps*, Leleand Initiative, Research and Reference Services Projects. USAID, Washington, DC.
- Van Buren, M.E. (1999), "A yardstick for knowledge management", *Training and Development*, Vol. 53 No. 5, pp. 71-7.

## Further reading

- Adam, L. (1996), "Electronic communications technology and development on Internet in Africa", *Information Technology for Development*, Vol. 7 No. 3, pp. 133-44.
- Bainbridge, D. (2003), "Trademark infringement, the Internet and jurisdiction", *Journal of Information, Law and Technology*, available: <http://elj.warwick.ac.uk/jilt/03-1/bainbridge.html>
- Gottschalk, P. (2001), "Benefits from information and communication technology facilitating inter-organizational knowledge networks: the case of Eurojuris law firms in Norway", *The Journal of Information, Law and Technology*, available at: <http://elj.warwick.ac.uk/jilt01-2/gottschalk.html>
- Hannemyr, G. (2003), "The Internet as hyperbole: a critical examination of adoption rates", *The Information Society*, Vol. 19 No. 2, pp. 111-21.
- Liebowitz, J. (Ed.) (1999), *Knowledge Management Handbook*, CRC Press, New York, NY.
- Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation", *Organization Science*, Vol. 5 No. 1, pp. 14-37.
- Skyrme, D.J. (1999), *Knowledge Networking: Creating the Collaborative Enterprise*, Butterworth-Heinemann, Oxford.
- Wiggins, R. and Rueffli, T. (2002), "Sustained competitive advantage: temporal dynamics and incidence and persistence of superior performance", *Organization Science*, Vol. 13 No. 1, pp. 82-105.
- Wiig, K.M. (1999), "Introducing knowledge management into enterprise", in Liebowitz, J. (Ed.), *Knowledge Management Handbook*, CRC Press, New York, NY.

## Appendix

Figure A1

### Impediments to promoting access to global knowledge in sub-Saharan Africa

“Knowledge has become the key economic resource and the dominant – and perhaps the only – source of comparative advantage” – Peter Drucker

#### Purpose

The purpose of this survey is to identify the major impediments to promoting access to global knowledge and information in the sub-Saharan African countries. The research findings will be used for academic and professional education. The findings may also result in a journal article publication in a scholarly journal. It is expected that the survey will come up with factors impeding the promotion of access to global knowledge and information in the sub-Saharan region and suggestions of how to overcome the impediments. Please, answer the questions as accurately as you can.

#### SECTION A: BACKGROUND INFORMATION

1. Name of your organization -----
2. Category of your organization (please choose one only)
  - governmental
  - semi-governmental
  - private/non-governmental
3. Please, briefly state major activities of your organization/department/institution
  - i. -----
  - ii. -----
  - iii. -----
  - iv. -----
4. Does your organization/department/institution have a knowledge management Programme?
  - yes
  - no
5. Skip this number if your answer is no to number 4 above. If your answer to number 4 above is yes, does your organization collaborate with other organizations/departments/institutions in knowledge creation and exchange?
  - yes
  - no

#### SECTION B: GOVERNMENT/POLITICAL GOODWILL

6. Do you think the government in your country is doing enough to enable citizens to access both global and local knowledge and information?
  - yes
  - no
7. Are there times when government agents in your country deliberately block citizens from accessing knowledge and information from other regions of the world?
  - always
  - sometimes
  - rarely
  - never
8. What is your opinion on the cost of accessing global knowledge and information in your country?
  - too costly
  - costly
  - moderate
  - low
9. Do you think the government in your country has allowed adequate freedom of the press in your country?
  - yes
  - no

#### SECTION C: LITERACY LEVELS

10. What is the average national literacy level in your country? -----%
11. Do you think the literacy level in your country is adequate to allow citizens to easily access global knowledge and information?
  - yes
  - no

(continued)

**Figure A1**

12. What is the average percentage of high school completion in your country? ----%

13. Do you think the government in your country is doing enough to increase literacy levels in your country?

- yes
- no

**SECTION D: INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS)**

14. How well developed are information and communication technologies in your country?

- very well developed
- well developed
- poor
- very poor

15. In your opinion, are there enough computers in your country to facilitate access to global knowledge and information?

- yes
- no

16. What is your opinion on the cost of computers and related technologies in your country?

- too high
- moderate
- low

17. Should the government in your country abolish all duties paid on computers and related technologies?

- yes
- no

18. Do you think computer literacy levels in your country are high enough to enable citizens access global knowledge and information?

- yes
- no

19. Is the government in your country wholly responsible for the supply of electricity?

- yes
- no

20. How reliable is electric supply in your country?

- very reliable
- reliable enough
- unreliable
- very unreliable

21. In your opinion, are there enough telephone lines in your country to facilitate access to global knowledge and information?

- yes
- no

22. What do you think are the major impediments to accessing global knowledge and information in your country? (Please list as many as may apply)

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_

23. What do you think should be done to improve access to global knowledge and information in your country? (please name as many as may apply)

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_

Thank you for your response.

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2. Peterson Dewah, Stephen M Mutula. 2016. Knowledge retention strategies in public sector organizations. *Information Development* 32:3, 362-376. [[Crossref](#)]
3. Oliver Jan Mbhalati. 2014. Reinventing the public sector in Africa through knowledge management. *Knowledge Management Research & Practice* 12:1, 114-121. [[Crossref](#)]
4. Chris Watts, Ijeoma Ibegbulam. 2006. Access to Electronic Healthcare Information Resources in Developing Countries: experiences from the Medical Library, College of Medicine, University of Nigeria. *IFLA Journal* 32:1, 54-61. [[Crossref](#)]
5. Ezra Ondari-Okemwa. 2006. Knowledge Management in a Research Organisation: International Livestock Research Institute (ILRI). *Libri* 56:1. . [[Crossref](#)]