Strategic Significance of Information Technology: The Gambia, West Africa

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Abstract

The Gambia, a small West African country with limited resources has began to experience the diffusion of information technology. The dawn of the digital economy in this small West African country has already begun. In order for the Gambia to reap the benefits of this new info-economy, the government needs to identify information technology (IT) as a strategic tool. This paper attempts to discuss the country’s experience with IT, significance of IT in this small West African economy, and the potential role of IT. Furthermore, the paper also highlights some of the issues, challenges, opportunities and questions faced as the Gambia slowly and quietly builds her information economy. The paper concludes by examining the challenges faced in building and information infrastructure an info-economy in The Gambia and the strategic significance of IT in the economic growth, development and improvement of quality of life in the Gambia.

I. Introduction

The growth of information technology use in The Gambia, West Africa will depend on a number of factors, such as effective economic policies, increased IT human capital stock, and an adequate telecommunications infrastructure. However, it is difficult to say which elements will play the most significant role. The definition of a new economic sector has emerged (the information or the knowledge sector/economy) as economies of the world witness the growth of the information industry. The fading of the industrial revolution and the dawn of the information revolution have transformed the world economy into a truly global one. However, the emergence of this new sector has started to create a wider gap between the information-rich and the information-poor, thus creating a wider gap between and within developing economies and the more developed economies.

The strategic integration of Information Technology planning and strategy with the sectors of the governments and businesses in The Gambia, and the strategic use of information systems will be the key to economic efficiency and development. Most business processes and economic activity are performed mainly by government agencies or the public enterprise as it is often called, organized in the form of Ministries. For example, Ministry of Education, Ministry of Trade and Economic Planning, Ministry of Finance etc. Each of the Ministries consists of departments, divisions and agencies that conduct the economic activities of the country. No two Ministries are inter-connected causing duplication of efforts and redundancies contributing to inefficiencies.

However, this situation is changing slowly with the diffusion of information technology and the Internet in ministries and other government agencies in The Gambia. The issue faced here is not an issue of availability of information technology infrastructure, rather, its appropriate and strategic use within organizations in The Gambia, coupled with insufficient pool of skilled IT professionals in both the public and private sector. Further, the strategic fit of information technology in these organizations/ government agencies "needs", which are neither static nor uniform across government agencies or businesses in The Gambia, is often mis-aligned, resulting in under usage of the existing information technology infrastructure.

The convergence of computers and communications technologies, and the more wide spread use of databases, networks and enterprise resource systems could help alleviate these issues if effective planning and information technology strategy is implemented. These must include strategies to increase the pool of skilled IT human resources in the country, adequately supporting and creating a viable private sector in The Gambia.

Given the improving telecommunication infrastructure in The Gambia, and the increasing use of the Internet in this country, innovative "webeducation" could be implemented through strategic partnerships with firms offering these services in developed countries and those in the private sector in the country. This will be very cost effective and would help increase the IT human stock in The Gambia, needed for strategic use, planning and implementation of appropriate information technology. African economies have become more detached from the global economy, largely due to lack of a sustainable and appropriate Information technology strategy and poor telecommunications infrastructures, low skilled IT labor, resulting in inadequate information technology resources.

While the information technology sector could be viewed as a source of productivity growth in all sectors of the economy, this is a significant infrastructure and an industry in its own right. Governments in The Gambia and other West African countries can play a catalytic role in developing this infrastructure and in piloting and demonstrating various services to utilize it and to
stimulate the effective use of these services in support of economy-wide competitiveness.

The value of information resource and its intimate connection with strategy and structure were recognized in the 1970s (Mason 1984). Most business strategic planning in the developed world then, did not take into consideration the importance of information technology; it was merely an exercise in resource allocation generated from the lower levels of the organization. It was not fitted to the overall business strategy or business "needs" (Ward et al. 1990; Remenyi 1991).

This, however, changed in 1980s' following Porter's (1980, 1985) analysis of industry competition. Porter and others used the forces of industry competition, generic strategies (Parsons 1983; McFarlan 1984; Cash and Konsynski 1985), the value chain, and industry variations in information intensity (Porter and Millar 1985) to shed light to the connections between IT and business strategy. McFarlan suggested the strategic grid, in which the implications for investment, management control and structure, attitude to risk, and corporate strategy were shown to vary according to the role that information systems played in firms (Gerstein 1987; Synnott 1987; Atkins 1994).

In the late 80's and beyond, organizations used information systems strategically. In light of these studies, the following strategic applications are suggested for adoption in The Gambia: (a) linking government Ministries and agencies via technology-based systems to its consumers and suppliers; (b) improved integration of internal value-adding processes in these government Ministries and agencies; (c) enabling the government Ministries and agencies to develop, produce, market and deliver new or enhanced products or services based on information; (d) top management support (i.e. Office of the President, the Ministers, Permanent Secretaries, Managing Directors etc.; ). Whether information technology can be a catalyst to economic development in The Gambia remains to be seen but all indications and developments suggest a very positive view.

However, in many of the African economies it is a moot point, especially, where the telecommunication infrastructure is extremely poor or not widely available, and where computers are a rarity. Plagued by barriers of poverty, poor health, low life expectancy, military governments, civil unrest, illiteracy, and little access to tertiary education, the fact remains that, this status quo cannot continue or be afforded if Africa is to achieve more economic development.

African economies must not only exist at an improving state but must conduct its affairs and business with the more advanced countries that are already conducting its state of affairs electronically with intensive and strategic use of information and technology. These developed economies are shifting to a state where all transactions are electronic and those without access to it or knowledge of will not only be left behind but will be worse of than they ever were. Making it increasingly difficult to conduct business with constituents or economies that are in the developing world such as Africa with little use or stock of IT. Thus, the advent of the digital economy could further widen the gap between and within economies faster and wider than it has ever been. The significance of information technology to economies such as The Gambia cannot be underestimated, for efficiency, and productivity depends on its strategic integration and use within all sectors.

So just what does the information revolution mean to these economies? Economic growth in these economies has stagnated or has been increasing very slowly. The gap between these economies and that of the developed counties continue to widen yearly. Can they ever take advantage of the economic benefits that the information revolution could bring to them? Well, most policy makers in The Gambia are renewing their attitudes, strategies, and perception towards the role of telecommunications and information technology in economic growth and development.

The role of IT in The Gambia is already significant, but among the many issues that restrict the further diffusion of IT are low educational attainment, access, low income and lack of awareness of the potential of IT. One must focus on the low literacy, which is at about 40 percent of the population. Among those who are literate, information for problem solving or decision-making is scarce. Consequently, for IT to be of significance to the economic well being of The Gambia, aggressive educational activities are required.

This paper argues that IT education is the main solution for building indigenous capacity in The Gambia, and that the government has a major role to play in the diffusion of information technology into the entire educational sector. Appropriate use of the existing Internet Gateway is crucial. The existence and growth of Internet connectivity in The Gambia, gives Gambians a tantalizing glimpse of the global knowledge resource just waiting to be tapped.

Thus, telecommunications infrastructures and services play an essential role in both the modernization and social development of a nation. They have become indispensable as they enable countries to compete on equitable terms in an international community governed by interdependence and a global economy.

The Gambia and other African, Caribbean and Latin American countries have enormous potential for development. African policy makers are setting objectives, with the aid of the World Bank, to address the needs of this area – an area characterized by sharp contrasts in its telecommunications development. Factors such as the state of the national economy, education, technology, culture, demography, and geography are all interrelated with telecommunications development. Nevertheless, studies such as those by the World Bank
Rural (villages) and poor urban communities can be information is increasingly possible for The Gambia. Technology-improved access to education, health care, and provides tools to reduce poverty. An agenda of revolution threatens to increase inequity, but it also national and international levels. The information income is strong and becoming stronger at both the relationship between access to information and level of reduces information and income inequalities. The Tolero & Gaudette (1996) explain how IT opportunities for social reorganization.

Uncontrolled flows of information increase, creating unequal human beings on an equal footing, and that According to Pitroda (1993), high technology can put and even compensate for intellectual disparities. Raze cultural barriers, overwhelm economic inequalities, and even compensate for intellectual disparities. According to Pitroda (1993), high technology can put unequal human beings on an equal footing, and that makes it the most potent democratizing tool ever devised. Society is being reorganized as, when information is ubiquitous and inexpensive, social and organizational control based on closely held information is no longer possible. Democracy and decentralization rise, and hierarchical organizations flatten. Travel, work, and consumption patterns change as electronic networks replace stores, factories, and workplaces that exist largely to facilitate information exchanges. Products and services of all kinds become information-intensive, and uncontrolled flows of information increase, creating opportunities for social reorganization.

Tolero & Gaudette (1996) explain how IT reduces information and income inequalities. The relationship between access to information and level of income is strong and becoming stronger at both the national and international levels. The information revolution threatens to increase inequity, but it also provides tools to reduce poverty. An agenda of technology-improved access to education, health care, and information is increasingly possible for The Gambia. Rural (villages) and poor urban communities can be integrated into economic life, and thereby have their income levels raised, through information services. Appropriate regulatory incentives can be designed to encourage the provision of rural telecommunications on a commercial basis as has already been widely experienced in The Gambia. Satellite networks, wireless communications, public telephones, and community information centers are effective arrangements.

Intellectual and artistic products of national cultures can be preserved and disseminated with information technology. Drucker (1994a) further argues that neither governments nor employing organizations should take care of the social challenges of the knowledge society. The rising private sector of local Gambian entrepreneurs, highly skilled Gambian IT professionals residing overseas and a separate and new social sector - the non-governmental organization (NGO) - rises to prominence as it slowly replaces government in the social agenda and in the IT social culture development and diffusion. These entities will immensely increase the role and impact of information technology in Gambian society.

Over 600 Gambians residing abroad (US, UK, Canada, Germany, Finland, Sweden, Japan etc.) converge to a list serve –Gambia-L to discuss a variety of social events relevant to The Gambia regardless of distance. http://www.Quantumnet.GM; http://www.gambianews.gm; http://www.gambianet.com and others are browsed (text and audio) daily by almost all Gambians and friends of The Gambia residing abroad and have access to the Internet, to read local newspapers and listen to local Gambian news reporters from the TV station-GRTS. Reactions and views on issues gathered from these mediums are then reacted to and debated immediately on Gambia-L by participants globally. Participants with access to the net residing in The Gambia share their views and perspective from a local context and also have access to reactions from participants looking and reacting from the outside.

These exchanges are quite powerful linking Gambian society (local and abroad), instantaneously sharing and disseminating information. The social impact of these electronic linkages have begun to be felt by both societies (Gambians at home and Gambians abroad) in numerous and valuable ways. Gambians abroad are more aware and sensitive to local issues and policy positions at home. Gambians at home are benefiting from analysis free from censorship and tinted with exposures of the developed world, in addition to querying factual information to substantiate positions and challenges to policy makers or issues at home. Also, they are provided with the opportunity to share and discuss freely their views on issues and with a vast amount of knowledge to access.

As a result of these minute social impacts highlighted above created by information technology via the linking of these two societies there is more caution on
policy formulation, more pressure on the government that it simply cannot get away with false or weak policies and that information is widely and freely available. This is certainly a new development in The Gambia.

III. Information Technology and Economic Growth: The Connections

Policy makers have long recognized the connection of information technology and economic growth and development. It is demonstrated that, investments in information technology that lead to higher factor productivity and increased competitiveness can have a direct impact on economic growth (Kraemer & Dedrick, 1994; OECD, 1996). The researchers suggest that this relationship underlines the key role that information technology played in the newly industrialized economies (NIEs) in Southeast Asia (Mody & Dahlman, 1992; Rahim & Pennings, 1987; Tam, 1998). In a 1997 OECD study on IT production in the NIEs, they found that their share of IT production in 1985 rose from 6.3% to 17.7% in 1994 and their annual GDP grew by an average of 16.7%. In addition, Dedrick & Kramer, 1995 suggested that IT production is seen as a high growth sector with immense potential for job creation, economic growth and development.

However, the global gap between the rich and poor widens every day, says the Human Development Report 1996, published for the United Nations Development Program (UNDP). According to an administrator of the UNDP “the world has become more economically polarized, both between countries and within countries and if present trends continue, economic disparities between industrial and developing nations will move from inequitable to inhuman.” The report shows that, despite a dramatic surge in economic growth in 15 countries over the past three decades, 1.6 billion people have been left behind and are worse off than they were 15 years ago. In those countries where people are better off than they were 10 years ago, governments have stressed not just the degree of growth (the quantity), but also its quality. They have provided some measure of equity - improved health, education, and employment opportunities for their citizens. Early investment in building people’s capabilities creates a climate, as in East and Southeast Asia, for the forging of strong links between growth and human development. The above-mentioned findings show that more economic growth will be needed to advance human development, particularly for those countries that have not achieved much growth thus far. The report’s look at uneven growth and poverty, however, clearly shows that there are no simple links between economic growth and human development and employment.

According to an adviser to the administrator of the UNDP, Mr. Richard Jolly, “short-term advances in human development are possible - but they will not be sustainable without further growth. Conversely, economic growth is not sustainable without human development. A strategy for economic growth that emphasizes people and their productive potential is the only way to open opportunities. It is increasingly clear that new international measures are needed to encourage and support national strategies for employment creation and human development, especially in the poorer countries.’ Finally, the report suggests that there is no one formula through which all countries will succeed. Former Socialist countries now in transition need to combine the most rapid economic growth possible with human development, if they are not to slide back on both fronts. Countries exhibiting fast growth, such as the tiger economies of Asia, need to take care to combine their concern for growth with an attack on poverty and a “boosting” of human development policies if they wish to ensure future gains. Industrial countries, too, will have to find new approaches to employment, equity, and energy-consuming lifestyles, as well as improving social services for mothers and children, the working poor, and the growing post-retirement population.

In the Gambia and other African countries, the emphasis must be on building a solid platform of human development while accelerating growth in order to sustain that development. These platforms must include a sustainable information technology (IT) infrastructure as its core. The report estimates that at the current slow rates of improvement, countries like Cote d’Ivoire, which is losing ground in education, may require 65 years to reach the Human Development Index level of industrial countries, and that those further behind, such as Mozambique and Niger, will take more than two centuries to achieve this, without changes in policy and/or much more help from the outside. Such priorities call for debt relief, access to foreign markets, and well-targeted development assistance. These could not be achieve without the appropriate and strategic use of information Technology (IT) in all sectors.

The changes discussed above dictate a major adjustment - the information adjustment - to achieve macroeconomic and political balance in an environment of uncontrolled information flows and global competition, trade, and investment. Societies all over the world correctly see major challenges and opportunities from advances in information technology. National strategies that recognize the importance of information for development have appeared in Turkey, Mauritius, Singapore, Vietnam, South Korea, the United States, the United Kingdom (UK), France, Canada, and elsewhere. In the best-known example, Singapore’s Tradenet system was implemented as a key component of the country’s export-oriented economic strategy. The Asian Tigers, without exception, treat information as a strategic priority. Europe has an urgent strategy to make the European Union into an information society, and the United States, despite its aversion to industrial planning, formulated a
national strategy for deploying an information infrastructure. Also, the United Nations Economic Commission for Africa (UNECA) formulated an African information society. Its wide implementation and impact is still a challenge.

It is vital for African countries to adjust or suffer exclusion from the global economy and severe disadvantages in the competitiveness of their goods and services. These economies are threatened with a new and dangerous form of information poverty that has already stretched wider the already distant gap in economic status and competitiveness. E-commerce is already the new frontier of Trade in most of the developed world and a rarity in most African countries. This new frontier poses a challenge and threat to African Trade with its partners in the developed world. It also threatens the sustainability and existence of its already trouble economies. An urgent plan of action is required by policy makers in African economies to swiftly strategize and implement means of remedying this dawning shadow to remedy the "infodroughting" or "digidroughting" or "e-droughting" of Africa. These economies cannot afford not to be connected to the global info-economy.

Allaire (1994) argues further that, “those nations that establish (their information) infrastructure can develop a broader range of applications first and will have a tremendous competitive advantage over those that lag behind. This advantage will accrue not only to the telecommunications industry, but also to such industries as manufacturing, banking, and entertainment and to such activities as education and healthcare.”

Bangemann (1994) argues that the first countries to enter the information society will reap the greatest rewards. They will set the agenda for all that must follow. By contrast, countries that temporize, or favor half-hearted solutions, could, in less than a decade, face disastrous declines in investment and a squeeze on jobs.

Hudson (1995) makes this same argument a little differently. She says that information is critical to the social and economic activities that comprise the development process. Basically, telecommunications, as a means of sharing information, is not simply a connection between people, but a link in the chain of the development process itself.

IV. Information Technology and Economic Development: the International Experience

Knowledge and information are critical in determining a nation’s international competitiveness. According to Lopez and Vilaseca (1996), nations with infrastructures that facilitate the gathering and analysis of information on international markets, trends, consumer needs, production costs, and competitors, are transformed into “knowledge hubs,” from which they can determine how to best adapt to changes in international economic and technological conditions.

They also contend that most African countries face huge external debts, information poverty, obsolete infrastructures, trade barriers, and poor commercial development. This hinders efforts to develop their information technology base and tests their abilities to cope with global changes and trends. In addition, they contend that the level of economic development in these African countries mirrors the level of information technology application in these economies. However, it is to be noted that they too feel that IT and a modern telecommunications infrastructure could help Africa to “leapfrog” onto a par with the developed countries at a far lower cost. This is because, as mentioned earlier, the initial research and development costs have already been borne by the developed nations.

Kah (1999), then, argues that for African economies to rectify the failure of current national, social, and economic development plans and programs and be a part of the global economy, they must utilize appropriate information technology - a process that cannot be undertaken without improvements in their telecommunication infrastructures. This is because the telecommunications component of information technology (IT) serves as a foundation for infrastructure development and is a key factor in generating exports and attracting foreign investments. Kah (1999) found that several studies show that exports of products characterized by seasonal demands requiring close contact with customers such as auto parts, are particularly dependent on reliable and abundant telecommunications infrastructures.

This new attitude has stimulated an increase in investment in the telecommunications infrastructure and has precipitated and rejuvenated sectoral reform in African economies. Telecommunications reform is a prerequisite for African economies to be effective players and partners in the information economy and the global economy at large. The entire worldwide telecommunications sector is experiencing a dynamic transformation - a transformation manifested in the convergence of telecommunications and computers, the participation of local companies in the long-distance market, the development of multimedia, and the advent of wireless, mobile, and cellular communications.

However, policies in support of economic development cannot be reduced to pure technological issues with which the primary objective is to increase the efficiency and productivity of certain sectors. Rather, it requires a broad base of infrastructure and support in education transfer, technical services of all kinds, research and development, technology transfer, linkage with the manufacturing sector, marketing, and management. This should be done within the overall context of maintaining macroeconomic stability and within an economic development plan that promotes the productive use of
labor, and provides basic social services, education, and protection of the environment and natural resources, especially water and land. Once these policies are developed, governments should be committed to following them through.

The emergence of this new society, with its pervasive information capabilities, makes it substantially different from an industrial society. This information society is much more competitive, more democratic, less centralized, less stable, better able to address individual needs, and friendlier to the environment. For African countries, these changes dictate the need for a major adjustment in order to harness information for economic and social development. Such an adjustment requires urgent new policies, regulatory and institutional reforms, and investments.

V. Implementing and Managing IT for Economic Growth in The Gambia

Though the impact of technology could be substantial, implementation issues would be a challenge for The Gambia. Obstacles would include delays, conversion problems, cost overruns, lack of local skilled labor and technical support, and a lack of acceptance by end users. In fact, obstacles such as changing from the “old way” of doing things/processes, end-user training, and poor power supply warrant consideration in the early adoption phases of new technologies. Active participation at different levels of government and society is very important if any tangible impacts and positive returns on investment are to be seen. It is particularly important to note that the acceptance of information technology has a “generation gap” component in developing countries. The younger the generation, the more exposure they have had to technology.

According to Hanna (1994), though information technology can have positive effects on the economic development of a country, it can fail to fulfill the high expectations placed on it if the process is not adequately managed from its inception. He further suggested that information technology’s impact on the labor force is an aspect of IT integration that warrants maximum attention. Automation has decreased the direct labor share of production costs but requires a highly skilled labor force - often a scarce resource in less-developed countries. Nevertheless, information technology provides developing countries with automated alternatives, which lessen the need for highly skilled personnel in professional applications, such as computer-aided design in engineering and architecture etc., thus relieving these countries of handicapping constraints.

Hanna (1994), cautions that African economies will be challenged by the political implications of the existence of these infrastructures (telecommunications and IT). They would have to wrestle with issues such as “foreign ownership” of these important infrastructures, which are high revenue earners and will be the nerve of their economies. The need for better skills and education, and less labor-intensive human involvement, will also represent an enormous challenge for The Gambia, with its excess labor and low skills base. In order to combat this, the Gambian government must ensure that unrealistically high expectations are not developed and that, over the long-term, the education and training needs for full participation in their country’s information technology platform are available to all. There will be a need to re-tool the educational system, too, especially if they are to facilitate the education and training of information technology.

Trends in recent years show a reduction in the costs of information technology. This is the driving force behind the increased popularity and use of information technology; however, African countries should avoid the temptation to buy older technology in order to compensate for rising peripheral costs without first ensuring that the selected technology can evolve within its planned technology platform. It is very important to identify the information technology platform at an early stage, as this will protect the users of these technologies against premature obsolescence. In determining which platform to select, it is important to evaluate the benefits of new technology versus costs over its projected life cycle. These costs include maintaining and upgrading technology as it approaches maturity. Upgrading technology in The Gambia does not imply leapfrogging from obsolescence to a state-of-the-art technology platform. Two approaches that could be adopted are: (a) to utilize the existing technology and to continue technological development by integrating new technologies; and (b) to totally replace the technology they currently possess. Through IT-led economic development, The Gambia could achieve macroeconomic balance, political stability, and growth amidst global information flows, competition, trade, and investment. Developed countries and the NICs are rapidly adjusting their economies to remain competitive in the global economy. Therefore, the Gambian government must also adjust or risk exclusion from the global economy and suffer severe competitive disadvantages in the sale of goods and services.

Telecommunications has been described in the literature as both the core and infrastructure of the information economy. It’s described as the core since major economic activities, such as financial services, are themselves mostly information processing and transmission and other services such as transportation, traveling, and publishing also depend on these facilities. Telecommunications itself has become a large and rapidly growing business - telecommunications operating revenues worldwide exceeds $500 billion, which is roughly equal to the GNP of Canada or two to three times

\footnote{1 (see, Talero and Gaudette- World Bank, 1996).}
that of Africa. Telecommunications systems have been effectively deployed in the extension of social services and regional development: (a) to support human resource development through distance education and training and to facilitate health services in rural areas through linkages to interactive medical information networks; (b) to extend and consolidate government administration to regions; (c) to enhance agricultural development and resource management by enabling farmers to access such information as market trends, weather reports, and modern crop growing techniques; and (d) to support the mobilization of aid for disaster relief operations, amongst other things.

Since new technologies such as wireless local loops and satellites are promising cost-effective capabilities with which to access remote areas, the use of telecommunications systems for promoting regional and economic development is likely to intensify in the future and help in the alleviation of poverty in The Gambia. This is because telecommunication facilitates market entry, improves customer service, reduces costs, and increases productivity in all sectors of the economy. It has become a strategic investment to maintain and develop a competitive advantage at all levels - the firm, the region, the country, and the continent.

Despite Africa’s poor telecommunication infrastructure, Africa’s policy makers and donor agencies are realizing the impact of Internet connectivity on economic development. A recent study by Rorissa (1996), funded by the International Development Research Council (IDRC), surveyed the African countries of Senegal, Zambia, Uganda, and Ethiopia regarding the impact of electronic communication. It suggested that users are realizing the potential of a full Internet connection. In another study, by the National Research Council (1996), it was found that academic and research institutions have been able to conduct effective collaborative projects. This suggests that wider connectivity would improve the overall knowledge bases of many countries and promote positive changes in their economic development processes.

In order for this to be effective, the Gambian government must cooperate and interact with users, private entities, non-governmental organizations (NGOs), and donor agencies. The government needs to create the environment for Internet connectivity by improving its telecommunications infrastructure. NGOs, donor agencies, and interested multinational corporations (MNC’s), should recognize the diversity of technological levels, policies, and national settings, and come up with different solutions and support strategies. International organizations such as the International Telecommunication Union (ITU) and the United Nations (UN) already play a significant role exerting pressure on African governments to liberalize their telecommunications infrastructure to allow competition. As noted earlier, training will be crucial, as will be sensitizing Gambian policy makers to the fact that improvement of telecommunications infrastructure, and investment in Internet connectivity, is vital for the economic viability of The Gambia.

There is a proliferation of low-cost communication networks instituted by donor agencies such as the UN, World Bank, IDRC and NGOs, paving the way for the development of Africa’s national information infrastructures. There is no doubt that for Africa to compete and be viable in this global economy, and to attract investment and spur economic activity, it needs to be “wired.”

There are a number of issues revolving around one major question: namely, why is it necessary to “wire” the Gambian economy given Gambia’s rising and pressing economic and social problems? (a) Is improved telecommunication infrastructures and Internet connectivity a solution to the recurrent socio-economic problems? (b) What are the implications of the information superhighway and the approaching global information economy to The Gambia? (c) What are the challenges in attempting to “wire” The Gambia?

The current advancement in telecommunications and information technology has transformed and elevated developed and East Asian economies. According to Bangemann et al, (1994) technological progress now enables us to process, store, retrieve, and communicate information in whatever form it may take, unconstrained by distance, time, and volume. In this global economy, information is an asset to - a very vital ingredient in - the information economy; and its proper management, and efficient use, enhances economic development and activity. Information technology has transformed the traditional ways in which we work, organize, and govern, and has reduced cycle times and transaction costs, all aspects that The Gambia has not yet fully enjoyed.

Internet connectivity will be of great value in assisting in the management of the economic and social crisis confronting The Gambia and the alleviation of poverty that is stifling Gambia’s economic growth. Numerous projects funded by international agencies such as USAID, UN, the World Bank, and IDRC provide for the exchange of crisis-related information. Internet connectivity could improve regional collaboration and competitiveness and research efforts. The Common Market for Eastern and Southern Africa (COMESA) and the United Nations Conference on Trade and Development (UNCTAD) has realized the impact of trade information networks on inter-regional and intra-regional trade. UNCTAD is setting up trade information focal points called “trade points,” in many African countries. COMESA is developing regional trade networks between its member states.
VI. Conclusions

The Gambia is partly equipped to be a major player in the information economy given its Internet gateway/infrastructure, modern fiber-optic laid infrastructure. However, the following are recommended:

✓ Gambian policy makers should plan for an IT human capital stock to reap the benefits of IT and to remedy the challenges of shortage of capital and technology know-how;
✓ Adequate knowledge of IT and the adoption of appropriate IT management principles in addition to building and implementing a sustainable IT infrastructure in all government entities;
✓ Create an environment to harness private sector investment through partnership with the public sector, including strategic equity partnerships, joint operating schemes and business co-operation contracts;
✓ Increase the use of IT in the public sector via computerization of all government entities and the school system
✓ Establish information technology community centers across the country to enhance access equity
✓ Mandatory computer literacy programs in all educational entities in the country coupled with continues training of all educators
✓ Strategically position the newly inaugurated University of The Gambia (February, 2000) as an “IT training hub” not only for the Gambia but also to the entire West Africa region. This requires huge investments and a commitment on the part of policy makers, but the long-term returns are huge. IT skills must be a mandatory requirement and integrated in the entire curriculum.
✓ Market liberalization and openness is crucial to allow the injection of competition and investments. Competition leads to better technical solutions, better delivery of services and lower prices.
✓ The telecommunication sector should be re-structured and strategically aligned in order to expand, maximize utility of its modern infrastructure and attract investment.
✓ Establish an independent regulatory authority with competent non-political personnel in addition to appropriate legal framework (copyright, security and intellectual property)
✓ Develop a Gambian information infrastructure strategy

In order to transform The Gambia into a viable economic and competitive power in this information economy, they must conceive and implement a national information technology strategy. This will facilitate furthering its economy to move-up the value-added chain by driving and aligning information technology into all sectors. This will also facilitate the process of appropriate and sustainable computerization and then “informatization” of The Gambia. A strategic IT for The Gambia also facilitates the role of government to develop the appropriate IT infrastructure and to maintain a positive investment climate to attract investors as well as sophisticated users to be part of and benefit from the thriving info-economy.

Bibliography


