Is a non-Western path to Modernity via the Deployment of Information Communications Technology Possible in Africa?

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Abstract

Growing optimism in the development capabilities of ICT has led to calls for the deployment of the technology for development in Africa. However, past failures in technological intervention on the continent reveal that technology is insufficient when simply deployed under the status quo mix of development policies without engaging important sets of complementary structures and behaviors to support the adoption. A successful deployment of ICT in Africa will therefore require a rejection of the rationality which dominates development policy and reliance instead on creative strategies that are derived from local African beliefs and value systems. Also important is the nurturing of attitudes that intrinsically motivate Africans to engage ICT and permanently incorporate its applications into local practices. Accordingly, this paper examines the difficult question about why technological innovation has failed to thrive in Africa and then explore ways that Africans may configure viable competencies within local cultures to guide ICT deployment which can lead to lasting ICT benefits.

Introduction

The desire to understand and realize the potential benefits of Information Communications Technology [ICT] for economic development in African countries has grown in recent times. Several factors account for the recent interest in ICT deployment. The rapid improvements which the world has recently witnessed in the ICT industry have not only raised expectations for a possible economic growth and prosperity in developing countries, but the advent of information technology has also imparted the sense of a uniform rate of innovation and economic development that is governed by universal laws of adoption, technical capability and economic growth. African countries that are currently struggling with economic development could therefore be seduced to place their faith in this uniform abstraction of progress to hastily acquire available ICT tools in order to share in their unlimited benefits. The countries might also be led to focus on ICT because of the simplistic representation of progress propagated via the rhetoric of deceptive advertising that accompany ICT development.

Whether it is demonstrated capabilities of ICT or growing optimism in the development capabilities of the technology that will ultimately drive ICT deployment in Africa, the realization of full benefits from ICT deployment will not occur until a fundamental capacity for long term uses of the technology in social and economically productive ways are mastered in the African countries [Polikanov and Abramova 2003]. It is doubtful if this mastering of ICT development and applications will happen soon, for despite the recent intensified attempts to realize the potential benefits of ICT, no effective plan exists for long-term adoption of the technology on the continent. As a result, African countries are implementing ICT projects under development policies that have persistently failed to yield any good results in the past. While the mainstream rationality for transferring technology to Africa has been instrumental in the definition of technological and economic development problems on the continent, and the solutions to those problems, it has been woefully ineffective in streamlining human behavior towards sustained uses of technology [Avgerou 1998, 2000]. Technological interventions in Africa have failed to become established and/or deliver the expected improvements in the human condition. It seems the urgent need to see Africa take advantage of the potentials of ICT for its development and to close the technological gap has overshadowed the need to sufficiently assess the causes of failure in technological innovation ahead of ICT deployment on the continent. Thus, pertinent questions about technological failures in Africa remain unanswered and yet very little effort has been made to examine the nature of technological adoption in Africa beyond the perspective of a development intervention. It is this gap in the ICT for Development discourse that this paper attempts to fill.

The paper addresses the difficult question about why technological innovation has failed to take root in Africa. The first part of the paper discusses the causes of technological failures in Africa and asks whether mainstream development policies can be relied upon to successfully deploy ICT to reverse decades of stagnant economic growth on the continent to bring prosperity to Africans. After this the paper explores the economic development potentials of ICT but argues that the potentials of the technology may not be realized in Africa unless behaviors are developed to support long term deployment and applications of ICT. The technical and social components of the ICT transfer process in Africa must also be managed in a synergistically productive relationship to ensure successful adoption and use. The paper examines these and other issues and concludes with suggestions that African countries may adopt to configure viable

2

competencies within local cultures to stimulate technological innovation that can lead to lasting ICT benefits.

Economic Development Potentials of ICT in Africa

Technological pessimists argue that the most pressing issue about development in Africa is not the adoption and use of ICT. The cynics contend that removing the majority poor out of poverty in Africa is not going to be achieved by granting them easy access to ICT gadgets or cheap connections to the Internet [Johnson 1996; Wade 2004]. Rather, the skeptics believe that African countries must first deal with basic and urgent problems regarding lack of clean drinking water, food, shelter and basic health care that confront inhabitants of the continent [Boafo 1991; Wade 2004]. On the other hand, the important role which ICT plays in economic development has been advanced by multiple international agencies [i.e., World Bank 1999; UNDP 2001; Vodafone 2005] and scholars [Kirkman et al. 2002; Ngwenyama et al. 2006]. Whilst acknowledging the dire economic conditions in which many Africans live, these agencies and authors explain that it is naive to expect ICT and therefore any technology to quickly eradicate endemic problems such as poverty and lack of basic health care and clean drinking water in African countries. The technological optimists emphasize that the adoption and use of ICT in businesses and daily activities of the people may not feed or clothe them directly but it can empower them to grow their businesses, educate themselves and attain improved levels of welfare. In the long run, widespread and effective uses of ICT will contribute to the production of clean water, enough food and good hospitals as well as create an informed citizenry [UNDP, 2001; World Bank 1999].

Potential Benefits of ICT Deployment and Usage in Africa

ICT belongs to a special category of technological innovations whose emergence in society occurs very infrequently but once they are widely applied in society, they bring changes to transform both the domestic life of people and the way business is conducted and organized around the globe [Dicken 2007]. For example, prior to the advent of wireless network platforms for ICT tools, information could move in rural Africa only at the same speed and over the same distance as the prevailing overland transportation system. Wireless-based ICT systems such as the mobile phone have broken this link in Africa and made it increasingly necessary to treat transportation and communication as intimately related technologies. Consequently, the mobile phone has become an effective space control system that African communities may use to create profit-making opportunities and to open up new business opportunities in the countryside. Wireless network systems also expand interactivity between rural and urban locations to spread economic benefits to those Africans who had in the past been excluded from the means of economic advancement [Vodafone, 2005].

The economic benefits of information handling technologies such as ICT derive from a long succession of innovations that played crucial enabling roles in past economic development processes [Beninger 1986]. Through timely delivery of information requirements for production, ICT facilitates the provision of credits for investment, supply of raw materials and the distribution and sale of goods and services. In fact, the use of mobile phones or the internet to shorten time delays in disseminating price information between trading centers and the flow of information between banks can be central to the development of banking systems and the

integration of national and international securities markets in African countries. ICT is therefore not just a simple connection between people, but a link in the chain of the economic development process [Hudson 2001]. ICT deployment and economic development in Africa are therefore not mutually exclusive. Rather, the two work to reinforce each other. Economic development is intertwined with the growth in access and use of ICT whilst efficient uses of the technology can lead to greater wealth, prosperity and economic development in the African countries.

ICT is not only useful in facilitating economic activities on the continent but also, information dissemination through such tools as mobile phones is critical to improvements in human welfare, education, health and the empowerment of underrepresented groups. For example, majority of poor Africans (e.g. farmers) are not just poor because they lack basic resources. In many cases, the farmers are poor because they lack access to information about income-earning opportunities, the going market price for their produce and also lack the knowledge about institutions that shape their lives [Marker et. al. 2002]. The poor African therefore stands to benefit from improved information flow that may improve the effectiveness of government agencies and also help the poor to access institutions that directly affect their welfare. ICT can therefore be an important tool for meeting many of the development challenges facing Africa countries [Chacko 2005]. The potential benefits notwithstanding, ICT is certainly insufficient when simply deployed under the status quo mix of policies without engaging the important set of complementary social behaviors and structures that are important for sustained adoption and effective applications of the technology.

The Causes of Failure in Technological Interventions in Africa

The adoption and use of a new technology causes disruptions in existing social and cultural systems in society. Alongside the technological transfer comes changes that move society away from established traditions to distinctly different and complex forms of social practice. Technological adoption in the traditional social systems in Africa can therefore be very disruptive. As a result, the projects generate varied reactions from the people including resistance to the implementation. The opposition occurs because some of the new arrangements that accompany the technological transfer threaten entrenched interests and ingrained ways of doing things in the society [Avgerou 2001]. Ultimately, the disruptive effects of the deployment may cause the technological innovation to fail and be abandoned, or the attempt might remain unresolved because only sections of society (e.g. the educated elite in urban areas) assimilate the new rationality scheme which was used to transfer the technology [Corea 2007]. According to Avgerou [2000:1], often when this happens, the traditional societies are erroneously labeled "as problematic hosts of technology" on the grounds that they do not only lack the economic resources and the capabilities to develop and deploy modern infrastructure, but they also tend not to make good use of technology transfer and adoption. The questions we need to ask are: why has technological innovation failed to take root in Africa? Is it because Africans do not entertain technology or because there is something wrong with African cultural systems that make them unsuitable for technological adoption? Can the rationality for technological transfer based on the development experiences of Western developed nations be deployed to successfully establish technological innovation in African countries? We discuss answers to these questions in the section which follows below.

A recurring feature of technological failures in Africa is the flaw in the method for transferring technology to the continent that fails to incorporate necessary changes in human behavior and structural conditions of society that can facilitate sustained adoption and uses of technology. Successful technological adoption requires changes in selected aspects of a groups' culture and social environment that are relevant to the learning of new behaviors that are compatible with sustained uses of the technology [Kunkel 1970]. For example, the culture of people in technologically advanced societies embodies sets of behavior that propel society towards continuous technological innovation and increasing economic output. The behaviors involve learning and problem solving orientations that manifest themselves in a willingness to solve problems that confront society using ingenious means and whatever resources are available often for the sake of anticipated rewards and improvements in human welfare [Corea 2000]. The result is continuous technological change which may be the main reason why countries that have learned to harness self-perpetuating systems of innovation have achieved accelerated economic growth, reduction in inequalities and the eradication of poverty [ibid]. It is important to mention that the people in the technologically advanced societies did not suddenly become acquainted technological adoption or the changes in socioeconomic and cultural practices that are frequently generated by the applications of new technologies. Rather, technological adoption developed gradually to fit with cultural aspirations, societal needs and tastes and to also meet the challenges that occurred at various times in their development. Thus, the culture of technological usage and the propensity to search for new solutions to problems rather than adhere to, or preserve traditions in society were steadily incorporated into day-to-day social practices of the people. In this regard, technological adoption reflects more than the acquisition and use of artifacts. It reveals a gradual process of cultural conditioning involving changes in aspects of the social context that generate behaviors that are conducive to technological innovation and improved socioeconomic welfare [Kunkel 1970].

On the other hand, there is stagnation in cultural systems such as those in Africa that are not geared towards technological innovation. This is because a behavior which is capable of producing continuous change is not generated in such societies [Corea 2000]. However, this lack of innovation is not a reflection of the failings of people that compose the social systems but rather, a failing of the architecture of the social system itself in not producing behavior that is conducive to sustained technological adoption and change [Goulet 1971]. For example, through sustained subscription to mobile phones and wireless networks, citizens of many African countries have aptly demonstrated that they are capable of engaging in behaviors that are supportive of ICT adoption. The sustained use of complex technologies in dispersed enclaves of technological hubs in many African cities is also suggestive of this capability. What has been missing is the inability of technological transfer projects to integrate technology into African social systems to make ICT applications permanent. Thus, whereas a significant potential exist for the deployment of ICT for development in African countries, the ability to manage the transition from the transfer through adoption and applications to the envisioned benefits of the technology, is vital for a successful outcome of the project. Accordingly, successful deployment of ICT in Africa will require a rejection of the rationality which currently dominates development policy and a reliance instead on locally creative and developmentalist policies that closely resemble strategies that were adopted by the Western developed nations when they themselves were trying to industrialize [Chang 2007; Haque 1999]. An important challenge for

the deployment of ICT in African countries therefore is the need to study the reinvention of traditional African social systems to generate behaviors that will facilitate effective and sustained technological adoption and innovation. Thus, the long term nurturing of attitudes and behaviors that intrinsically motivate Africans to engage technology and permanently incorporate its applications into local practices is a much more important issue to be addressed in ICT adoption than the common practice of implementing costly and large scale ICT projects that will immediately be rendered obsolete through structurally-induced inertia [Madon 1993]. It is therefore important for African countries that are presently characterized by slowly changing cultural systems and low levels of technological usage to first generate sets of behaviors that are aimed at continuous innovation prior to large scale ICT deployment. The development of such behaviors will in the long run materialize in the use of advanced technologies that will generate the qualitative refinements in life that are expected from the deployment of technology [Corea 2007].

The Clash of Rationalities for Technological Transfer to Africa

In some cases, the failure of technological projects in Africa is caused by the reliance on rationality of technological transfer which is based on the development experiences of European nations. Oriented towards the maximizing efficiency through the balancing of costs and benefits, this Eurocentric rationality is completely at odds with traditional values in African communities. Even though this rationality is at variance with traditional systems and values in African societies, it still dominates over other forms of rationality pursued in development programs that occur on the continent. African and European societies are different with respect to the degree to which they temper economic productivity and efficiency with social values [Corea 2000]. In African societies, reciprocative and redistributive rationality displayed in such beliefs as mutual responsibility, solidarity among groups and common welfare of group members prevail over competition and the freedom of enterprise to accumulate capital. In view of the differences in cultural values and belief systems, the attempts to improve the living conditions of Africans via the European-centered rationality take on new meanings in the African contexts. Ultimately, the clash between the Eurocentric rationality intended to be conveyed by the technology transfer and the local, historically developed system of values and reasoning leads to the abandonment of the technological innovation. Many of the problems of technological failures in Africa are therefore constituted within the techno-economic rationality of technological transfer which is often at odds with locally derived African values and belief systems.

On the other hand, when technological deployment has been focused on the traditions, value systems and actual needs of people within the African communities, some successes have been attained. In March 2009, the BBC reported on banking schemes that had been established in Africa with the help of mobile phones [BBC 2009]. The technological initiatives included MTN's mobile banking service for customers in 21 African nations. The report mentioned similar banks that have been established through partnerships between Mi-Pay and Isys, Monitise and E-Fulusi Africa and the Standard Chartered and Citibank. The banking initiatives build on the successes of the M-Pesa mobile banking system which serves millions of Kenyans and the Grameen banking and Village Telephone systems of Bangladesh. The problem with ICT projects that are based on local value systems and traditions is not that they do not work. Unquestionably, each of the mobile banking schemes above extends banking and investment opportunities to several people and also benefits a large number of rural dwellers. The mobile

phone aided banking schemes also introduce large sections of rural Africans who have no prior involvement with the formal economy into the formal economic sector where they may be taxed. However, the problem is that, projects such as these are not popular in international development plans and have not therefore been widely advertized and applied. Yet, the failures of mainstream technological transfer projects have become too common. In this regard, Avgerou [2000] has argued that the lack of technological innovation in poor developing countries is not because a specific rationality is embedded in a particular technology which makes it inherently inappropriate for adoption in those countries. Rather, the author believes technologies are often mobilized in support of particular regimes of truth and transferred to less technologically advanced regions (such as places in Africa) as part of transferring those particular ways of organizing economic and social affairs. The failures in technological innovation in these countries are therefore symptomatic of rationality for technological deployment which is fundamentally at odds with the objectives the projects were designed to achieve [Avgerou 2000, 2008].

It is therefore important for agencies that spearhead ICT deployment in Africa to remember that local African beliefs and cultural systems do not necessarily fit philosophical assumptions of the rationality that is embedded in mainstream models of development. The way ICT tools [e.g. mobile phones] are used in society is conditioned by the social and economic contexts within the respective societies and as such indiscriminate applications of the Eurocentric development model will not succeed in the African countries. Rather than promoting a universal rationality of development irrespective of the context and the development problems at stake, we need adopt different approaches in different contexts to deal with different problems and priorities. Even the successes in technological innovation achieved among some Asian countries (e.g. South Korea, Taiwan, Singapore,) resulted from locally meaningful responses to the mainstream development paradigm [Feenberg 1995]. Africa is the only region in the world where its development is dominated by foreign development paradigms to the detriment of its rich cultural values, institutions and hence the development of the continent [Mazrui 1996].

Unrealistic Expectations for Technological Projects in Africa

Another factor which also contributes to the failures of technological projects in Africa is the very high expectation that is often attached to the transfer of technology to countries in the region. Perhaps due to the abject poverty and the underdevelopment of African countries, coupled with the urgent need to close the development gap between Africa and the rich countries of the world, technological transfers to Africa often emphasize economic growth to the total neglect of socio-cultural development. For example, the current push to deploy ICT for development in Africa is driven in part by the belief that African countries can use information technology to correct decades of stagnant economic growth and leapfrog several stages of development into economic prosperity [ILO 2001]. Whilst rapid economic growth may be the optimal outcome of ICT adoption in Africa, standard ICT tools such as the mobile phone and even personal computers are not necessarily the best kinds of tools that can generate rapid development and economic prosperity in the poor African countries.

Unlike the industrialized nations with large and established service and manufacturing sectors that make intensive use of ICT, the economies of African countries are dominated by raw material production and subsistence agriculture where information technology plays little or no effective role in the production process [OECD, 2003]. As a result, ICT adds much less value to

the economic production processes in African countries than it does in the advanced economies. Additionally, the domestic markets of African countries comprise large numbers of people with significantly low disposable incomes such that the response to opportunities offered by ICT are recorded more in social uses than direct economic applications of the technology [ibid]. It is however important to mention that the presence of factors that inhibit ICT deployment for economic growth in Africa do not suggest that ICT investment will not happen, or that benefits in economic productivity and human welfare will not occur in the African countries. Rather, investments in ICT and resulting economic benefits will take longer to materialize in Africa than it usually do in the industrialized nations such as Japan or even in transitional economies such as Brazil [OECD 2003]. As explained earlier, the delay of benefits from ICT usage is partly due to the fact that African societies have not had long exposures to technology in general – a fact which also underlies the need to develop behaviors that are supportive of sustained adoption of technology before Africans can reap the full benefits of ICT deployment.

Cultivating a Conducive Environment for Effective Deployment of ICT in Africa

In the light of the limitations of the mainstream methods for transferring technology to Africa, we draw upon alternative approaches for technological adoption offered by the Actor Networks (ANT) and Sociotechnical Systems (STS) theories to understand how the human and technological components of ICT adoption in Africa can best be framed, designed, and managed in a harmoniously productive relationship to support the implementation. The Actor Network theory explains that technologies do not evolve under the impetus of scientific discoveries alone but that technologies mirror our societies in that they are continuously shaped and reshaped by the interplay of social and technological factors [Latour 1987, 2005; Law & Hassard 1999]. Similarly, the STS theory maintains that the viability of a technological adoption hinges on how well the technical and social systems of the project will be individually designed with respect to each other and collectively tuned with respect to demands of the external environment to support the goals of the project [Emery 1978, 1983; Sitter et. al. 1997; Pasmore 1988].

From the detailed explanations offered by these theories and the writings of authors including Kunkel [1970], Hinings & Greenwood [1988] and Suchman [1987], we have come to understand that a successful technological adoption involves two basic forms of change in society. These are changes in features and capabilities of the hardware or software mechanisms and complementary changes in the socio-cultural practices in society that need to be redesigned to take advantage of the functional capabilities of the technology [Davenport 1993]. Generally, a seamless integration of both the technical and socio-cultural systems is necessary for a thriving ICT adoption in society [Emery and Trist 1965]. However, problems of the technological system are easy to diagnose and resolve because they consist of tangible artifacts and files for software. On the other hand, understanding the socio-cultural system in society requires intimate knowledge of the people's culture which is often context-specific and therefore elusive to many foreign development practitioners. As a result, the less known socio-cultural systems in Africa are often erroneously dismissed as irrelevant and hence neglected in technological deployment. As explained earlier, the disregard of the historically evolved system of values and reasoning in technological adopting nations has been a major contributing factor to the failures in technological innovation in Africa. This is because the cultural system influences not only the capability to create socially fitting ways for using technology but also, the ability to manage their integration into work processes and human activities [Davenport 1993; Porter 1990]. Since the

construction of meaningful actions [e.g. owning and using a mobile phone] occurs in culturally and historically conditioned ways within the value systems in particular societies [Chartier 1988], successful ICT adoption in Africa will require recognition of the historical conditions and the rules of social practice that shape behavior and work arrangements in particular African societies.

Designing Effective Integration of ICT into Productive Ventures in Africa.

It is important to remember that new technologies create new conditions and opportunities for human progress but the ways of life of people in particular societies do not improve or change until the technology has been integrated into productive ventures and used widely to alter the social order. For that reason, technology is essentially an enabling tool which makes possible new structures, new organizations, new opportunities and new ways of doing things. Mere access to ICT gadgets such as how the mobile phone has been subscribed in Africa is therefore not sufficient for development to occur. It is easy to be seduced by the notion that technology causes a specific set of changes or that it makes particular structures and arrangements inevitable. On the contrary, technology does not always drive choice rather, it is the choices we make that drive the applications of technology in society. In the industrialized nations of the world where there have been long traditions of technological adoption, the choices and uses of technology are mainly influenced by economic factors such as the drive for profits, demand for the technology, capital accumulation and increased market share. On the other hand, in Africa and other developing regions where industrial production is low and the culture of technological adoption and usage is yet to develop, specific guidelines and plans need to be put in place to redirect and guide the uses of ICT into productive ventures.

Luckily, ICT tools easily accommodate complex social uses and different modes of organization because of their reflexivity and mobility which allow for diverse applications [Zuboff 1988]. However ICT tools do not create jobs by themselves. Users must first be engaged in some form of productive activity and then make elaborate plans to take advantage of capabilities of the technology to network their businesses and social tasks. ICT tools must therefore be necessarily incorporated into day-to-day economic and sociopolitical lives of the people and actively used for their development potentials to be fully realized. In the absence of such integrative national plans for guiding the ICT adoption, the technology will be used to confirm or promote existing socio-cultural practices that may not necessarily contribute to national economic development. For example, in parts of West Africa, some groups use the internet and mobile phones to support criminal activities such as scams and robberies (termed 419 scams) that even obstruct the economic development process itself.

Identifying Cultural Competencies that may assist with ICT adoption in Africa

The impact of ICT on economic development in African countries will be most felt in the way the tools are ingeniously integrated into productive socio-economic ventures where they are used to facilitate the production process and also address the challenges that confront society. It is therefore important for African countries whose citizens have already embarked on mass subscription to such ICT gadgets as mobile phones, to develop competencies from their cultures to guide and redirect the applications of the ICT tools into viable and productive ventures. In this regard, Bunker [2001] has identified some of these competencies that African countries may

adopt to direct applications of ICT into economically viable ventures. The first of the competencies is the ability to envision new products, new services or new functions from a consideration of the potential capabilities of the available ICT tools. The recognition of potentially new uses of the tools could result from a search for technological solutions to existing problems, or the exploration of new problems with the tools [Hammer & Champy 1993]. An example of this is the use of mobile phones in mobile banking to expedite money transfer from urban to rural areas. The second competency involves the ability to identify the potential capability of the available ICT tools for improving existing production, packaging or marketing practices in the community. For example, mobile phones can be used to relay daily retail prices of goods sold in urban areas to small scale producers in rural areas of Africa to enhance profits. The third competency depends on the ability to recognize the potentials for need-driven satisfaction or new demands among consumers, and figure out ways that ICT capabilities can be developed to support or fulfill such potentially new demands. Equally important is the competency which is indispensable to the previous three and entails the ability to skillfully manage and bring about changes in practices of production or packaging, and corresponding changes in the functionality of ICT tools, to achieve the expected improvements.

Designing such competencies requires (a) the ability to recognize potential new applications of information technology and (b) the capability to mobilize and manage human resources to achieve the desired uses and the transformations in human behavior that will support and sustain those uses. In this enterprise, education is important because those charged with the duty to examine local practices and develop new uses for ICT will need to open up to new ideas and then reframe the values and traditions in society to match capabilities of the new technology [Bunker 2001]. Incentive schemes would also serve to enlist commitment to the technological adoption as well as sustain the motivation to change the behavior of potential consumers following the technological adoption [Ciborra 1999]. The competencies can emerge from grassroots experimentation or may result from planned deliberations and consultation with stakeholders in the community.

Conclusion

Growing optimism about the contributions that ICT can make to the socioeconomic development of nations has raised expectations for a possible economic growth and prosperity in African countries. There is therefore a push to deploy ICT for development in Africa which driven in part by the belief that African countries can use information technology to correct decades of stagnant economic growth and leapfrog several stages of development into economic prosperity. It is argued that ICT has the potential to open up new business opportunities in rural areas of Africa and also expand interactivity between rural and urban locations to spread economic benefits to those who have been excluded from the means of economic advancement. The potentials benefits notwithstanding, full benefits from ICT deployment will not occur until a fundamental capacity for long term applications of the technology in productive ventures are mastered in the African countries. A successful deployment of ICT on the continent will therefore require a rejection of the rationality which currently dominates development policy and reliance instead on creative strategies that are based on locally evolved value systems. Rather than promoting a universal rationality of development irrespective of the context and the development problems at stake, we need adopt different approaches in different contexts to deal with different problems and priorities. In addition, the long term nurturing of attitudes and

behaviors that will intrinsically motivate Africans to engage ICT and permanently incorporate its applications into local practices is a much more important issue to be addressed in ICT adoption than the deployment of costly and large scale ICT projects that immediately become obsolete through structurally-induced inertia. Thus, the effective adoption of ICT in Africa will likely depend on recognition of the historical conditions and the rules of social practice that shape behavior and work arrangements in particular African societies. ICT deployment will also require that we look beyond the very strong anticipations of ICT usage outlined in advanced economies and rather identify and nurture competencies from local African cultures that are supportive of sustained uses and development of ICT. A non-Western path to modernity through the deployment and use of ICT is therefore possible in African countries provided the culture and traditions of the people will be fully mobilized as allies in such an enterprise.

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