

ICT **COMPETITIVENESS** in Africa



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This document, on ICT Competitiveness in Africa, is the summary of the full thematic study which was carried out by a team from TNO/Excelsior led by Javier Ewing and comprising Nicholas Chevrolier, Matthijs Leenderste, Maryanna Quigless and Thomas Verghese. The full report is available at www.eTransformAfrica.org. This document forms chapter nine of the publication edited by Enock Yonazi, Tim Kelly, Naomi Halewood and Colin Blackman (2012) “eTransform Africa: The Transformational Use of ICTs in Africa.”

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*Information and communication technologies (ICTs) have the potential to transform business and government in Africa, driving entrepreneurship, innovation and economic growth. A new flagship report – **eTransform Africa** – produced by the World Bank and the African Development Bank, with the support of the African Union, identifies best practice in the use of ICTs in key sectors of the African economy. Under the theme “Transformation-Ready”, the growing contribution of ICTs to Agriculture, Climate Change Adaptation, Education, Financial Services, Government Services and Health is explored. In addition, the report highlights the role of ICTs in enhancing African regional trade and integration as well as the need to build a competitive ICT industry to promote innovation, job creation and the export potential of African companies.*

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INTRODUCTION

The ICT sector has proven to be a strong driver of GDP growth in nations across the world. From developing countries such as India and the Philippines, to developed nations such as the United States of America and Ireland, the ICT sector has contributed to the success of each of these nation's economies, the advancement of its people's skills and capabilities and positioning the nation as a place for global firms to more efficiently do business. The ICT sector is socially and economically relevant to Africa in that it has been the major economic driver in Sub-Saharan Africa over the past decade. Although mobile and internet

penetration remains comparatively low in Africa, never before in the history of the continent has the population been as connected as it is today.

This summary outlines the current and historical landscape of the local ICT sector in Africa, explains the primary areas of ICT that would most benefit the continent, makes tactical recommendations to continue the momentum of growth, lists roadblocks to overcome in order to implement the recommendations and describes case studies from specific African nations that currently lead the way.

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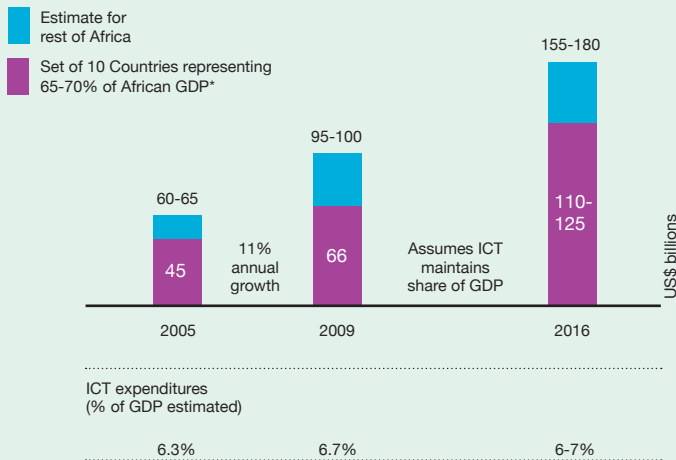
LANDSCAPE ANALYSIS

The opportunity in ICT for Africa is significant. Provided the ICT market continues its impressive double-digit

growth, expenditures in ICT within Africa could exceed US\$150 billion by 2016 (see Figure 1).

Figure 1

Projected ICT expenditures in Africa to 2016



* Countries in sample set are Algeria, Cameroon, Egypt, Kenya, Morocco, Nigeria, Senegal, South Africa, Tunisia.

Note: ICT expenditures include computer hardware and computer software, computer services (information technology consulting, computer and network systems integration, Web hosting, data processing services, and other services); and communications services (voice and data communications services) and wired and wireless communications equipment.

Source: World Bank Databank - African Development Indicators, ITU Measuring the Information Society, 2011, consultant analysis.

Nevertheless, although current performance indicators and financial predictions are largely positive, there are still challenges for the continent in the ICT sector. A number of African countries have made progress on access to ICT

services but the continent largely lags behind the rest of the world in terms of ICT readiness. The ITU Development Index, for instance, indicates that the African region has made slower progress when compared to other regions

in the past 2 years, with roughly half the improvement on an aggregate basis (see Figure 2). According to the

ITU, most of the limited gains have taken place in providing greater access to ICT.

Figure 2

ICT Development Index indicators

Score of weighted factors of ICT Access, Use and Skills.



Source: ITU Measuring the Information Society, 2011.

A key indicator in determining access and usage is the price of service, such as for voice and data. Pricing of voice services in many African countries has become competitive and comparable with the rest of the world.

However, broadband costs continue to be beyond the reach for most Africans. Furthermore, when differences in GDP are taken into account as compared to global benchmarks, Africans pay even more owing to the lower GDP base.

The ITU's ICT price basket analysis details the extent of the gap: for mobile cellular calls, Africans pay on average 25 per cent of monthly gross national income (GNI) per capita versus 11 per cent in other developing nations. On the other hand, the story of mobile penetration across the continent is far better than the internet. Overall, 45 per cent of African residents have a mobile subscription; this is more than four times the penetration of the internet. Spending on ICT within Africa is roughly in line with the global average, although there is a considerable variation between countries. For example,

Morocco spends 3.5 times its GDP on ICT than Nigeria.

Africa has improved its relative share of foreign direct investment (FDI) over the past two decades, albeit from a small base. From 1995 to 2010, Africa's FDI inflows grew at 16 per cent compared with 11 per cent for developing world counterparts, and 9 per cent globally. Furthermore, Africa's perception as an investment destination, including ICT, has improved tremendously in the past few years, according to Ernst and Young's Africa attractiveness survey.

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OPPORTUNITIES AND CHALLENGES

The continent is primed to continue its momentum in the ICT sector. Continent-wide opportunities include:

- increasing industrialization of the ICT industry,
- greater fragmentation and differentiation within software,
- continued growth of the business process offshoring sector,
- leveraging open source software adoption, which has lowered barriers to entry for firms, and
- encouraging greater intra-Africa FDI to allow sharing of solutions already proven on the continent.

Areas where these opportunities can be capitalized are with eCommerce, microwork, and the establishment of ICT parks. These areas not only already have a relatively strong presence throughout Africa, but multinational firms are increasingly looking to Africa to leverage these areas for greater efficiencies and productivity.

The most prevalent challenges across the continent to fully move forward in these business areas are infrastructure, energy constraints and the ICT skills gap (compared to other parts of the world), which impacts users as well as the pool of available, skilled labour for firms wanting to do business in Africa. These challenges are further outlined in a few case studies throughout the study.

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CASE STUDIES

Three nations that are emerging in the area of ICT are Kenya, Morocco and Nigeria. Case studies which outline

each of these nations' opportunities and roadblocks are included in the study. Some of these insights are as follows.

Kenya

The Kenya ICT Board (KICTB), the implementation arm for ICT policy in Kenya, focuses on action-oriented approaches to boost ICT including partnerships with MNCs. The board's eGovernment initiatives have attempted to replicate best-in-class Ethiopian and US eGovernment systems to streamline public service delivery. In addition, the KICTB's public-private partnership initiatives (PPPs) have enhanced self-sustaining development projects and skill building initiatives around the country. The board is now focused on closing other gaps such as rural connectivity, lagging business process outsourcing (BPO) performance relative to global providers, content exports, and enabling ICT in the private sector beyond mobile finance.

Kenya has made great strides in ICT development in the past few years and is now considered to be a leader within Africa. The government's focus on developing an ICT-enabled country has contributed to development of a robust ICT landscape. Science, technology and innovation (STI) are core pillars of Kenya's Vision 2030 plan. Through STI initiatives, the Kenyan

government intends to raise productivity and efficiency through increased resource allocation to scientific research penetration.

Within the BPO sector, three players have risen to the top as full service BPO providers:

- DDD Kenya is a data entry and back office services provider backed by US philanthropic organizations that train disadvantaged Kenyan youths to play an active role in the BPO sector.
- KenCall is the first independent Kenya based company that provides a full suite of BPO services from call centre functions to supply chain management (in partnership with Seven Seas).
- The third major BPO player is Horizon, which has carved out a niche in IT maintenance and HR provision.

The emergence of these three players on the Kenyan local ICT landscape is important as it offers proof of concept of Kenya as a potential global hub for specialized ICT services.

Kenya is unique in that a single, non-government owned operator, Safaricom, dominates the market, with a 70 per cent and 92 per cent share of mobile and internet subscriptions respectively (CCK, 2nd Quarter). This market dominance has enabled Safaricom to launch initiatives that have rapidly changed the cadence of Kenyan ICT at a retail level. Most notable is the ubiquity of Safaricom's mobile payments platform, M-PESA, that has served as a foundation for eCommerce and mobile BPO companies like Virtual City and Seven Seas. With a widespread and common platform for sending and receiving payments, barriers for eCommerce have come down from both a vendor and purchaser perspective.

A difficult but important task is to change Kenya's image on the international stage as the perception of corrupt practices at both corporate and government levels has stymied the inflow of international capital. Kenya has recently implemented policies ensuring accountability and transparency across both political and business mediums but should also focus on acquiring credibility through partnerships with international organizations with trusted brand equity. In the same vein, the government needs to relax labour restrictions on Kenyan businesses so that the private

sector can achieve scale through international trade. The Kenyan Private Sector Alliance (KEPSA) was created to provide a single corporate voice for Kenya so that dialogue with government could add more value. It is currently managing a number of projects and initiatives, including a US\$15m programme on Youth Employment that has created 700 internships to date. KEPSA has been particularly praised for its systematic approach to setting and monitoring key performance indicators to track programme objectives.

Another constraint for Kenya is its lack of reliable data centres and general infrastructure. This has led to higher costs for software-as-a-service (SaaS) or "on-demand" offerings. Research suggests that the largest constraint within the East African region is the existence of affordable and sustainable ICT infrastructure, implying that the existing infrastructure is neither cost effective, nor scalable. Although current mobile penetration rates are over 60 per cent and growing rapidly, Kenya's internet penetration rate remains low at about 15 per cent, attributed to limited cable installation in rural areas. Also, constant power outages as well as hardware security risks have constrained overall productivity.

Table 1 **Kenya roadblocks and pathways to success**

Roadblocks	Pathways
<p>Small pool of qualified young tech graduates: Limits pool of talent to enable scale in existing companies, reduces likelihood of breakout tech entrepreneurial ventures</p>	<p>Examples of success as a motivator: Raise profile of tech successes in Kenya, continue to attract high value competitions to make income generation potential of tech tangible</p> <p>Additional rigor of university level ICT programmes: International standards applied to University technology curricula</p>
<p>High cost to entrepreneurship: Reduces tendency of talent to move into young innovative ventures</p>	<p>Lower cost of failure via fellowships and development programmes: De-couple professional and personal success</p> <p>Implement guarantees for small business AR: Reduction of cash conversion cycle, starting with most reliable payers serves to improve small business cash management and prospects</p>
<p>Low perception of quality and trust in Kenyan businesses: Kenyan businesses must be "that much better" to succeed, limits tendency to execute large, outside of network, initiatives</p>	<p>Conduct joint initiatives between international bodies and local companies Boost credibility through partnerships</p> <p>Implement counterparty verification: Objective assessment of risk of doing business with reviewed counterparties</p>
<p>Limited exposure to foreign innovations and markets: Few beyond Diaspora benefiting from innovations developed elsewhere and bringing international perspective</p>	<p>Increase pathways to foreign exposure: Support efforts to introduce foreign experts to Kenya and vice versa</p>
<p>Unclear government policy and protectionist tendencies: Strict labor policies reducing ability to do business internationally and benefit from scale</p>	<p>Collaboration with governments to dialog on labor policy: Initiate conversation between business leaders and government on specific areas for labor policy improvement</p> <p>Central policy clearinghouse and interpretation: Develop hub for dissemination of easily understood policy information</p>

Morocco

In Morocco, the Government has created two different public bodies along with an ICT federation to facilitate development, research and legislature in the sector. The Moroccan Telecommunications Regulatory Agency (ANRT) is in charge of granting telecom licences, implementing ICT framework and supporting development and research in the sector. Although not solely created for the ICT sector, the Ministry of Finances and Privatization plays a large role in the ICT sector by preparing tax and finance law to aid the ICT sector as well as to create value added services in the field of eGovernment.

The local ICT sector in Morocco is largely concentrated in the outsourcing (BPO), advisory, and infrastructure space though there is a strong concentration of content and solutions developers. In fact, over two hundred technology and BPO focused companies operate from technology complexes in Casablanca and Rabat and four additional complexes around the country are in development stages.

There are over five major telecommunications companies serving the domestic space in Morocco. This high level of competition has led to a high quality of phone and internet service at affordable prices with internet penetration nearing 50 per cent, mobile penetration eclipsing 100 per cent, and the average cost of broadband ranging from US\$15 to US\$30 per month. Further,

the Moroccan government's action to reduce trade restrictions for IT equipment has helped to lower prices for enterprise grade networking hardware and retail devices. In 2009, Morocco joined the WTO Information Technology Agreement (ITA) that removed all tariff barriers to IT products. In addition to reduced hardware costs, the strong brick and mortar retail presence of telecoms providers has also helped to boost telecoms penetration by lowering barriers to access. In fact, in most major travel hubs (train stations and airports), there are several providers offering affordable prepaid and subscription based telecoms services and mobile phone setup time takes less than five minutes as SIM registration is currently not required. The confluence of low cost, easy access and relatively high GDP per capita of about US\$5,000 has led to a country with one of the highest penetration levels on the continent.

To become a global hub, Morocco cannot sequester itself from continental exposure; it must open knowledge and economic pathways into Sub-Saharan Africa and the world. One way to do this is by hosting international ICT symposiums and engagements. The country also needs to focus on becoming a research and development destination and unlock some of the value hidden in its universities. To achieve this, the country should borrow best practices from Israel, which was able to boost its research capabilities in part by loosening constraints on the commercialization of technology developed

in universities by offering professors a greater share of any realized profits. Another educational initiative that Morocco should focus on is increasing support for government programmes to enhance digital literacy. In 2008, only 20 per cent of public schools in Morocco had computer labs and equipment to enable greater digital literacy and a tech-competent labour force. ICT adoption and uptake have a greater chance of success if the population has had ICT exposure during seminal stages of education.

Despite the rapid pace of technology adoption among the Moroccan population and accelerated development of local businesses through government partnerships, Morocco faces high hurdles to developing into an ICT hub that maximizes the likelihood of scale among locally developed companies. Utilization and locally developed content has not yet been maximized as the majority of Moroccans are still adapting to using technology for more than just checking basic email and making phone calls.

Table 2 Morocco roadblocks and pathways to success

Roadblocks	Pathways
<p>Limited exposure to sub-Saharan Africa: Limits extent to which Morocco serves as a continental leader and scope of market access for domestic tech companies</p>	<p>Knowledge exchange events in sub-Saharan Africa: Use education as a means to open up markets and support other African countries</p> <p>International partnerships and engagement in continental symposiums: Leverage opportunities for in person meetings with potential partners</p>
<p>Lack of research and development commercialization: Top talent largely in Universities with limited ability to commercialize technology</p>	<p>Lower barriers to University researcher participation in upside to commercialization: Leverage Silicon Valley and Israel models to tech research acceleration</p>
<p>Opportunity for greater exposure of top technology talent to non-Africa innovation hubs: Current exchange programmes limited to only a few participants (ex. Only 20 in South Korea exchange)</p>	<p>Expand exchange programmes to include greater diversity of Morocco (age and sector) and increase number of people who are able to attend</p>
<p>Limited utilization of technology by broad population beyond basic services: Adoption in schools still in transition period with some push-back from teachers. Few popular organically developed websites. Limited use of mobile and purely online payments</p>	<p>Increase familiarity with technology at a young age: Provide continued support to educational initiatives (ICT as a right not a privilege)</p> <p>Provide greater support to very young, innovative companies: Offer stepping stone incubators to support companies not yet prepared to enter techno-parks</p>

Nigeria

In 2008, the Nigerian government in coordination with the World Bank began implementing an integrated personnel and payroll information system (IPPIS) to decrease fraud and increase accountability in payroll administration and HR recording. Some estimates say the technological implementation has already saved 12 billion Naira (US\$120 million) solely in the pilot phase by eliminating “ghost workers” or fraudulent payees on the payroll. Nigeria has also recently partnered with Intel to increase access to rural healthcare and boost delivery systems via ICT related to health care providers. Multiple stakeholders including ethnic leaders, the Ministry of Health, Intel executives and participating hardware and software vendors have come together to increase productivity and the IT presence in rural areas.

In recent years, a number of entrepreneurial companies throughout Nigeria have realized the potential opportunity within the mobile payments space, which could create a new set of mobile entrepreneurs and new business models with strong value realization in a market of over 90 million mobile subscribers, a large segment of whom remain unbanked. The impressive growth recorded in the Nigerian telecommunications market has unfortunately been challenged by criminal activity and as such, the success of the mobile payments sector appeals to many Nigerians as it provides a cost-effective

solution to authenticate payments and reduce the overall risk of theft. Effective mobile payment companies have provided the Nigerian population with an innovative and detailed payment management process that covers the entire scope of the value chain across all the participants in the mobile payment system. The recent focus on initiatives and licensing opportunities in both the mobile and financial industry on mobile banking and payment services has driven a number of companies to develop innovative mobile payment solutions to transform Nigeria’s banking landscape.

Nigeria needs first and foremost to address its endemic power issue, one that if left unaddressed will keep not only the ICT industry but also the country in economic stasis. Even though Nigeria’s political leaders have promised to solve the crises for years now, it is still a huge barrier to growth. Multilaterals such as the World Bank and African Development Bank should galvanize sustainable energy and power experts, issue tenders, offer financing, and share resources to tackle this problem.

In addition to enhancing infrastructure, Nigeria needs to focus on enabling its people with enterprise-scale development skills and literacy in ICT via educational initiatives and dedicated training programmes for students and business owners.

Table 3 **Nigeria roadblocks and pathways to success**

Roadblocks	Pathways
<p>Low digital literacy: Constrains ICT adoption and innovation at consumer and commercial levels</p>	<p>Mobile phones as digital gateway: Increased access to smart phones, mobile enabled web pages, mobile as information portal, mobile application monetization</p> <p>ICT education: Increased access to ICT in schools, dedicated training for students and business owners</p>
<p>Lack of exposure to external markets, few domestic forums: Reduces visibility into new technology and scale of business</p>	<p>International leadership enabler: Mix of domestic and foreign managers, advisors, and directors</p> <p>Exposure as a two way street: Expert exchange and learning trips, in country forums and incubators</p> <p>Online tech community portal: Development and networking tools for African tech stakeholders</p>
<p>High barriers to business development: Little early stage capital, high cost of operation, high cost of failure</p>	<p>Investment rather than aid: Low returns to early stage venture in Nigeria, but necessary for growth</p> <p>Operating cost parity: Support for high cost of power, connectivity, and facilities</p>
<p>Limited access to virtual payments: High non-banked population (80%) and limited means for online payment limits ability to automate for domestic needs</p>	<p>Mobile money adoption: Support for regulation and encouragement of mobile money movement and interaction across banking and alternative systems</p>
<p>Rampant fraud and msitrust: High levels of distrust within businesses and among partners, strong reliance on relationships rather than capabilities, international perception of risk</p>	<p>Technology as a fraud reduction tool: Business automation to enable scale and increase intra business accountability via transparency</p> <p>Certification promotion: Objective certifications of ability and reliability among individuals and businesses to enable non relationship-based counter party verification</p>

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RECOMMENDATIONS

Despite the successes and the road-blocks, there are specific, proven interventions that African nations can

develop to sustain and further grow the ICT sector. These recommendations include:

RECOMMENDATION ①

Reduce the cost of access for mobile and broadband

Addressing the direct cost challenges will require improving the regulatory and competitive environments for operators as well as better coordination in developing the infrastructure. There will be some negative near-term effects on the largest or incumbent players, since many of these interventions encourage increased competition. However, the improvement of the long-term outlook for the ICT sector should benefit operators by expanding the customer and business base for these services.

One method is to encourage nimble billing approaches to lower end-user

costs and drive up usage. Interventions may include allowing for longer periods of validity for pre-paid credit, enabling per second billing, nationwide tariffs, low denomination recharges, and enabling discounts for “friends and family” networks.

Regulators will have to own most of these initiatives. The nature of the underlying barriers is business competition and product design. That said, there is a potential role for donors to provide limited subsidies to jump start ICT usage in countries with high retail access costs.

RECOMMENDATION ②

Support government/private-sector collaboration

While government and the private sector may not agree on all issues, it is important that the two have an ongoing, structured dialogue. In order to ensure this, the first task would be to create a vehicle and the expectation for interaction between the two groups. The Kenya ICT Board is an

example of this. Established five years ago to be the implementation arm for ICT policy in Kenya, this board has played the role of mediator between the government and private sector and, more importantly, advocate for the sector and its advancement.

Areas where such partnerships can create success include jointly develop and manage infrastructure projects, e.g. large broadband projects like EASSy and SEACOM. Governments

can also spotlight private sectors on joint priorities to engage and attract donors and MNCs to promote the local BPO industry.

RECOMMENDATION ③

Improve the eCommerce environment

Governments, the private sector and donors all play a role in improving the eCommerce environment. All three can set an example by themselves embracing eCommerce in their own operations, by engaging in online (mobile) procurement practices and creating incentives for companies to go online. Other methods include launching

communication campaigns to promote eCommerce, adopt model eContracting/transactions and eSignature legislation for a region, develop data and electronic security laws to include data protection and develop online consumer/supplier protection laws including IP sections.

RECOMMENDATION ④

Improve ICT worker skill levels

African countries need to continue to invest strongly in education as the complexity and competition for vendors in the arena is increasing. Human capital is a weakness for most African countries and BPO success is largely predicated on reliable talent. Owing to intense global competition in virtually every segment of the BPO value chain, African countries need to delineate exactly where they would like to participate (medical transcription, coding, billing), build up relevant experience in these niche areas,

and improve infrastructure to execute seamlessly.

Methods to develop skills amongst the local population include supporting broad primary and secondary education efforts, customizing tertiary schooling efforts to reflect greater context of business and supporting technical skills development through incubators and the private sector. For example, Kenya, Nigeria, South Africa and Uganda have all established networks and academies to advance BPO skills and capabilities,

including BPO certifications supporting global standards. Nigeria has established the BPO Academy and the Association of Outsourcing Practitioners of Nigeria. In Uganda, the School of Uganda's Makerere University, a leading computing school in East Africa, has collaborated with Orion Outsource World and the African BPO Academy to offer a training programme focused

on skills to work for global BPO firms and ultimately qualify students for the BPO Certification Institute's (BCI) globally accredited certification. The programme is currently aiming to train 3,000 young Ugandans. Donors can provide both technical and financial support to design and implement these initiatives.

RECOMMENDATION 5

Encourage innovative business models that drive employment, such as microwork

Microwork represents the promise of ICT as an enabler of broad economic impact. This is possible due to the disaggregation of complex problems into work products that can be addressed by a variety of skill levels and the ability to leverage the relatively well-distributed mobile phone as a work interface.

Tactics to encourage microwork can be divided into both the demand side and the Supply-side. Demand side tactics include expanding the number of business issues that can be addressed through microwork, creating a marketplace for retail/individuals for microwork-related solutions, and creating an internal demand for microwork from local African governments or large corporations. Supply side tactics include addressing the standard basket of ICT SME challenges (e.g. technical skills of the microworker), as many of the issues will be similar for the microworker,

creating standards on workflow management to allow for interchangeability between the various players in the value chain, and creating voice-enabled interfaces to expand the labour pool of microworkers. The standard setting exercise would be a particularly critical area for donor involvement, as the standards would need to be continent-wide, if not world-wide, to drive transformative business impact and visibility for this sector.

Likewise, the BPO opportunity is large but highly competitive. Even operating in the right business environment and maintaining strong BPO fundamentals, there are industry pitfalls that need to be avoided for African BPO companies to survive. An example of a pitfall is BPO firms locking in long-term unprofitable deals in a reaction to the intense competition, thereby dooming the partnership to ultimately fail.

The large amount of upfront cash investment required for large BPO deals often causes vendors to increase capacity very quickly, putting them into a situation with excess capacity. Although these pitfalls are substantial, there are enough methods and experience in

the marketplace so that with the right due diligence a firm can avoid them. There may be a role for the donor community to disseminate these business decision best practices to BPO players on the continent.

RECOMMENDATION ⑥

Create ICT parks in countries that meet infrastructure requirements

The development of the ICT sector has been proven to contribute heavily to the growth of a nation's GDP and, therefore, expanding that investment in developing countries in Africa would be a strong initiative for the continent and its future growth. Not all countries, however, are poised to successfully implement, operate and sustain an ICT park. However, there are common success factors across the most successful parks from which countries can learn as they determine their own viability to establish a park.

Some of these success factors include park organizers having very clear and concise plans to address and mitigate the critical barriers of lack of sponsorship, availability of skilled labour, weak university curricula, infrastructure challenges and programme leadership. Successful parks are, furthermore, located in countries or sub-regions where literacy rates and Human Development Index (HDI) ratings are high, have relatively stable

governments and have the right balance of both government and private sector interest and sponsorship.

The location of an ICT park is also quite crucial in supporting these success criteria. For example, the proposed Konza City in Kenya is being built 60 km from Nairobi, on the opposite side of the perennially crowded central business district from the airport. At the same time, it is building the infrastructure improvements to ensure that this is not a bottleneck, e.g. independent power supply incorporating green elements, water management and a mass-transit transportation model.

Clearly, governments have been the primary drivers behind these efforts, which is appropriate given the scale of the operational and regulatory challenge. The donor community can be helpful in sharing best-practices and providing access to finance to develop the projects (e.g. IFC, AfDB, other development banks).

RECOMMENDATION 7

Support ICT entrepreneurs

Kenya, Morocco and Nigeria have established themselves in the ICT marketplace, and, although there are still many challenges that each nation faces, they have successfully advanced their journey to offer best practice to their fellow African nations. In particular, all three have removed roadblocks and created pathways for ICT entrepreneurs to be successful from which others may learn.

One example is overcoming the high cost to entrepreneurship, which reduces the tendency for talent to move

into innovative ventures. A solution to this includes reducing that cost by decoupling business and personal success through the creation of fellowships and business development programmes. Another challenge is the perceived lack of quality and trust in African business. However, through the creation of joint initiatives with local companies and partnerships with international bodies, this too can be overcome. The donor community can support these programmes through both financial and technical assistance.

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www.eTransformAfrica.org

Publications for eTransform Africa include the Summary Report, Main Report which includes an overview chapter and summary chapters of the full reports, and the full reports themselves covering the following sectors and cross-cutting themes:

Sectors themes:

- Agriculture
- Climate Change Adaptation
- Education
- Financial Services
- Modernizing Government
- Health

Cross-cutting themes:

- Regional Trade and Integration
- ICT Competitiveness

For a more detailed presentation on ICT competitiveness in Africa, see the full eTransform Africa theme report:
<http://www.etransformafrica.org>.

