



## Tip-Toeing across the Digital Divide

African Entrepreneurs Applying, Adapting, and  
Advancing Appropriate Information Technologies

Roselyn Egosangwa, a middle-aged mother from one of Nairobi's most troubled and troublesome slum areas of Korogocho, holds an all too rare job as a sandal maker, hand-crafting the most basic footwear from discarded rubber tires to the sizes, shapes and styles ordered over the Internet by overseas consumers in Australia, Canada, Denmark and other western markets.

Yasser Loutfy, technical manager and founding partner of a local Internet Service Provider housed on a bustling market street in Egypt's Mediterranean port city of Alexandria, struggles to adjust his business model to a new national law providing free Internet linkup and, quite

implausibly, develops a valued and possibly valuable website for the deaf in the process.

Meddia Mayanja, an early computer geek at Uganda's Makerare University in Kampala, works a kind of "bush connectivity" for the purpose of administering an online educational system that currently runs a common curriculum through 15 sites around Uganda that is dedicated to spreading knowledge and creativity simultaneously for a fee.

Egosangwa, Loutfy, Mayanja and many more with business, community development or merely survival skills in nations across Africa are hard at it, utilising and channeling one or another form of information technology to their own needs and, quite often, for society's benefit. Their unique, demand-driven applications are starting to have an effect on the quality of African life in ways that were truly inconceivable a mere five years ago.

It is no surprise to discover hard evidence of the information revolution in African national capitals and urban centres. Billboards and signs promoting computer training, store front advertising for an array of cyber cafes and roadside private, for-profit telephone booths are today almost ubiquitous. But well beyond the bright lights of the big cities of the African continent, information technologies are spreading downward and even backward to the grass roots, inspiring whole villages and communities, and positively impacting living conditions.

In their widely differing environments and activities, Roselyn Egosangwa, Yasser Loutfy and Meddie Mayanja are at the vanguard of this creeping revolution as they strive to utilise telephony, the Internet and other key outriders of the information revolution to help themselves and, in the process, others. In examining their experiences—and that of their known and unknown counterparts throughout Africa—several common characteristics and conclusions shine through:

- *Demand drives supply*—Where a gaping vacuum exists in areas such as communications, education, health services or jobs, advanced information tools are being wielded by the alert and the inquisitive to address the need and try to fill the void. As a rule, locally conceived,

demand-driven initiatives are working; externally encouraged applications often are not.

- *“Ownership” is essential*—Almost universally for the poor and the professionals of Africa alike, the sense of creating, developing and applying information technology strategies themselves—the spirit of the self-motivated—is critical to the drive, dynamism and ultimate success of the undertaking in question.
- *Learning (and adjusting) by doing*—As Africa’s entrepreneurs acquire basic computer skills through schools and training programs, their most practical applications are almost always self-taught, on the spot and under pressure. Their ability to be flexible and adjust to conditions encountered in implementing a project (rather than as imagined in the planning stage) is critical to their initiative’s survivability.
- *Small can be desirable*—Most IT-facilitated startups begin as a small idea to address a local need or opportunity. When successful, the “bigger is better” syndrome arises. But many African IT entrepreneurs cannot scale up for lack of financing or human capacity. Even those who can are unconvinced. In the words of a successful Egyptian ISP operator, “My company was much more fun and more responsive when we were so small that everyone was one shout away.”
- *Think offline security*—Africa’s IT applications mean telephones, cell-phones and computers become coveted items in the context of the continent and magnets for straightforward, offline crime. “Buckle up” safety steps are often required.
- *The money motive matters*—If the continent’s IT entrepreneurs have most always been saddled by insufficient funding in the early stages of development, the most realistic and persevering of them see this as a plus. Africa’s IT upstarts discover that donor monies, often critical for their projects at the outset, can be fickle in the long run and can either overwhelm or vanish altogether. Accordingly, the drive to be sustainable and even profitable by developing reliable revenue streams is, for most, essential.

## Africa's IT Entrepreneurs

As a prototype then, Africa's budding class of IT entrepreneurs are young, driven by doing, flexible, single-minded yet not smug, undeterred by setbacks and quite often seeking a higher social purpose. The common threads listed above (and doubtless additional ones) are weaving the fabric of entrepreneurial-driven, IT-facilitated, socially beneficial applications of communications systems throughout the continent. New and quite used information technologies alike are proving to be an effective tool not only for development, but also for productive profiteering as well. The evidence is clear, if not yet abundant, that IT as a tool can be a tool with a heart.

Egosangwa, Loutfy, Mayanja and their counterparts are doers more than thinkers. Individually, they engage in the application of computers or telephones or the Internet for their own varied selfish and social reasons without worrying it too much. Their drive comes from within, not without, based on highly individualistic, even existential, motivations. The stories of their trials and tribulations are both wholly unique and generically revealing.

### TURNING DEVELOPMENT UPSIDE DOWN: Recycling Waste Rubber and Selling Online Provides Jobs and Danger in Kenyan Slum

Seven years ago when Internet access was first pioneered in Africa by three Kenyan exchange students at Boston-area universities to create a company now known as Africa Online, a reverse exchange student, an American, was looking, not at online opportunities, but at the hopeless living conditions of Nairobi's slum area of Korogocho. Mathew Meyer was on a junior year-abroad program from Brown University, studying Swahili and living on the outskirts of one of the city's most notorious and violent sections to which he was drawn by a new friend and social worker, Benson Wikyo. As a later chronicler of the conception of the company that became known as Akala ("rubber shoe" in Swahili street

slang) Designs put it: “Mathew Meyer was a student who believed something was wrong with our world for people to live this way. Benson Wikyo was a young Kenyan who lived that way.”

Dreaming and working together, the two friends landed a \$3000 grant from the small Samuel Huntington Foundation in the U.S. to launch a community-based business making rubber sandals from used rubber tires. The enterprise was a struggle from the outset. The material and human resources necessary were available in abundance in the form of discarded tires and workers eager for any job, but footwear techniques, basic equipment like peddle sewing machines or the most rudimentary sales, accounting and management skills were not, and had to be learned or acquired by painful trial and error.

Still, Meyer and Wikyo persevered. A few people were engaged as designated “sandal makers” for jobs fetching 150 Kenyan shillings a day (\$2.00 US). A few sandals were sold, initially to friends and acquaintances and through international refugee organisations for \$2.00 apiece. In 1998, Matt Meyer was back in the US doing graduate studies when co-founder Benson Wikyo died suddenly of a series of treatable medical failings. The project effectively died its first of several deaths. But the continued commitment of the workers, coupled with a second grant for a mere \$1500, proved a saving grace. The two inputs prompted Meyer to utilise his college computer skills to try something quite new, designing a website—Ecosandals.com—to promote the rubber sandals online. It was a giant step of faith in broadening the tiny project’s market reach, and the horizons and ambitions of the subsistence economy of the sandal-makers involved. It worked, if to a modest degree.

Today the little company is viable by the standards of many in the area. Monthly online orders from western markets of one of the eight sandal designs offered range from 80 to 800. Eight people are employed full-time. Collectively, they can produce about a dozen new sandals a day. Another ten Korogocho dwellers have qualified through a three-month training program and work on commission as overseas orders ebb and flow. Most of all, there is palpable pride among the workers for their products, their jobs and their demonstrated survival skills.

## Egypt's Newly Legislated "Free-Net" Prompts Fresh Thinking In Alexandria—And A Soundless Approach

Yasser Loutfy, 40 years old and entirely educated in Egypt, got his first job at the US Consulate in Alexandria as a communications technician. He learned the field from a practical point of view, sensed the value of the Internet and, four years ago, gave up this secure job to join a partner to establish the city's second ISP. Glob@INet was founded in 1999 and within two years had 40 per cent market share of the city's several hundred thousand Internet users. The future looked reasonably rosy, until a rumored government decision legislating free Internet for all, went into effect on January 14, 2002, and changed things.

Suddenly, Loutfy and some 60 other small Internet providers throughout the country, like his friend in Cairo, Jordanian entrepreneur Khaled Bichara, founder of LinkdotNet, saw the base of their businesses undermined. The "all you can eat" flat fee system was abandoned. Dialing in *per se* no longer mattered from a revenue point of view; holding customers online for minutes or more at a time did. The competing providers were forced to vie for numbers and for content to keep their customers coming and staying.

In Cairo, Bichara had the resources to acquire eight different content-driven enterprises, offering everything from job search to life style information. The strategy is working. He is in the process of consolidating under his single LinkdotNet brand name, has managed a major advertising campaign and, in the process, has become the country's fourth largest ISP while joining the ranks of the established in the eyes of the national press. "It was our only option," the energised young entrepreneur remarked in an interview. "We had to move very quickly to gain content as a way to keep our subscribers on our system rather than just using it to dial up and go elsewhere. Fortunately, we had some bank financing by this time to do this."

However, Yasser Loutfy in Alexandria had no such option: no available financing nor a sufficiently large market base. He chose a different route, initiating some web-based hosting and page design. In concert with the Chamber of Commerce, Glob@INet announced "e-Alexandria",

a weeklong computer online training program based on UNESCO's Information Communications Driving License (ICDL), for less than \$5.00 US. It was oversubscribed. Yes, they got new customers who tended to turn to Loutfy's ISP first. More important, a number of the city's deaf people came to the training programs, and they proved to be particularly adept and attentive at the computer. Yasser and his partner were struck by this and looked into it further. They discovered to their surprise that there were several hundred thousand deaf people living in the Alexandria area alone, eager to join the information revolution.

The spontaneous market research indicated a new online market where none had been known to exist. Loutfy and his partner decided that only deaf people could know—and provide—what was needed. They hired several and gave them their head. The result is a new website, EgDeaf.com, set up for and by the city's deaf people to serve them fully online for their unique interests, needs and concerns.

About a dozen of Alexandria's deaf population are employed to work the site, form the content and act the parts with sign language for CD ROMs. They are excited by the process. Yasser Loutfy, their employee, is unable to communicate with them in sign language. Through an intermediary who can, however, he tells them, in their "staff meeting" shortly after the launch, that their specialised web content is catching on much faster than he expected. "There's high interest in the site," he reports. He plans to take out some national promotions to attract more users and has had queries from ISPs in East and North Africa about hyper link connections.

They have stumbled onto something that is proving to be needed, wanted and useful, and are producing highly specialised content that is the very definition of sustainable social development.

## **Bush Connectivity In Uganda Comes With Great Risk—And Rewards**

Meddie Mayanja has been involved in information technologies and the Internet in Uganda since its very inception when he was a graduate

student at Makerere University. He has studied, worked, and promoted it, if not particularly profited from it.

Though not a teacher by training, Mayanja is preoccupied with the inherent educational aspect of the computer and Internet revolutions. Currently he directs a project called SchoolNet, a spin-off of the international enterprise World Link that spreads common curriculum in disparate developing countries. He has been administering 15 sites around the country since the launch of the service in 2001, based on \$200 monthly charges for the school systems that sign up. They now count 10,000 Uganda students as having access to online information in a systematic way never available before. “You can see for yourself that this makes a big difference,” he remarks.

This is the professional speaking. Mayanja, the philosopher, goes further. “The Internet seems to make facts and concepts much faster and more flexible for the students to absorb. The computer makes things more creative too. Students want to see something new on the screen, and before you know it they have begun to create it themselves.”

Can steady online access also create false expectations in countries as underdeveloped as Uganda? Can computers generate a different type of unrealistic “power surge”? “Not all of us will be thinkers,” Mayanja replies. “But I have discovered that access to information is a re-orientation of your mind. Is there anything wrong with that?”

### **Need-Driven And Market-Based**

The tales of the Ecosandals.com in Nairobi, of EgDeaf.com in Alexandria, of SchoolNet in Uganda and of the people most centrally challenged and engaged, are presumably mirrored by countless others in African cities and towns, applying the most basic or sophisticated information technologies to run a project, make a business and in the process do some social good.

It becomes important from such a sampling that international donor agencies are ever alert to this and do their very best to foster it. It is equally clear that the entrepreneurial spirit in Africa is alive and well and indeed charged by the opportunities that new technologies can offer.

The interest, outside push and experience of multilateral development agencies like the United Nations, associations like the International Telecommunications Union and a variety of Non-Government Organisations can only help fire imaginations and seed projects like these and others. The native talents, energies and experience of people like Roselyn Egosangwa, Yasser Loutfy and Meddie Mayanja utilising new technologies in their own chosen fashion are ultimately what will make the difference and put real life to the abstract concept of ICTs as a true “tool for development”.