RESEARCH ARTICLE

Political Entrepreneurialism: Reflections of a Civil Servant on the Role of Political Institutions in Technology Innovation and Diffusion in Kenya

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This paper narrates how an innovative political institution in Kenya gained support from private sector players in the Information and Communications Technology (ICT) sector. The paper is centered on the reflections of a top civil servant who leveraged Lewin's theoretical foundations and leadership to propel Kenya from obscurity to global renown in the ICT arena. The paper details the leadership of key players in the political system explaining on how their tolerance for risk encouraged ICT diffusion and innovation in Kenya. The paper delves into the details of executive decision making and how those decisions influence different stakeholders. The analysis reveals why Kenya succeeded where its neighbours did not. It shows that Kenya's continued success in ICTs depends upon its stability – endemic corruption and previous political decisions could threaten this. The paper will also highlight the emergence of a new crop of innovators developing new applications across all sectors including education, health, agriculture and financial services.

Introduction

In his book *Capitalism, Socialism and Democracy* Schumpeter (1942) focused on the relationship between political democracy and alternative economic systems. Classical theorists critique much of his work, including his 'another theory of democracy' which was based on the definition of democracy as 'competition for leadership' (1942/87: 271). Although he is more famous for his contribution to political theory, Schumpeter also provided perceptive insights into the relationship between entrepreneurship, innovation and

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economic development, particularly in his Mark 1 and Mark II theories, where he argued that entrepreneurs are the engines of innovation and technological change and that large corporations are the drivers of that innovation. However, the relationship between political democracy and entrepreneurship is rarely in the public discourse.

This paper will attempt to explore this relationship, using the Kenyan context during President Mwai Kibaki's regime, with specific emphasis on the growth of the Information and Communication Technologies (ICTs) sector in the same period. The paper will discuss executive decision making and how the decisions made, and the risks intentionally taken, influenced innovation and diffusion of

technology in Kenya. The public sector sets the policy framework that either aids or impedes the innovation and diffusion of technology.

The paper proceeds in four sections: 1) a conceptual argument and an explanation of concepts; 2) the contextual information on Africa and ICTs; 3) study questions; and 4) the explanation of Lewin's theory that anchors the study. Lewin's model (1951) includes three stages, referred to as 1) 'Unfreeze' (the period which we sought to build trust with the existing staff); 2) 'Change' (the period which we obtained political support to start rolling out change and building new political enterprises); and 3) 'Freeze' (the period where the gains made needed to be preserved). The remainder of the paper highlights issues including corruption, negative aspects of ICTs and peace that was necessary for a stable and growing nation.

Political Entrepreneurship

Holcombe (2002: 143) suggested that political entrepreneurship occurs when an individual observes and acts on a political profit opportunity. As with market entrepreneurship, entrepreneurial actions require, first, that a profit opportunity exists; second, that someone is alert enough to spot the opportunity and recognize the opportunity for profit; and third, that the individual is willing to act on the opportunity once it is spotted. Each of these three requirements are common elements of political and market entrepreneurship, yet there are both subtle and substantial differences in each, that is, between entrepreneurship in markets and in politics. The fundamental differences arise from the fact that market exchange is based on voluntary agreement, whereas political action always has an element of compulsion behind it.

If Kenya had not invested deliberately in the ICT sector, the country could still be struggling to find means of inclusive development. The ICT penetration led to the development of financial applications that have literally caused a financial revolution.

Mobile money brought efficiencies in the overall economy. Other, new applications in the agricultural, health and education sectors have emerged, creating much-needed efficiencies, and increasing the potential for poverty reduction.

ICTs in Kenya

The gains made in the ICT sector in Kenya have been recognized globally over the past five years. Kenya's pioneering mobile innovation technologies have propelled the country onto the global stage. The Global Innovation Index Report of 2014 say Kenya's performance at the innovation pillar level has demonstrated consistency during this time. During the last four years, Kenya has also shown consistency in performance in pillars 4 (Market sophistication) and 5 (Business sophistication) as well, both in which it has displayed an advanced performance capacity above the rest of its low income group peers.

Starting with the post-election conflict of 2008, the country has been besieged by insecurity, with major terrorist attacks at Westgate Shopping Mall in 2013 and more recently at Mpeketoni, Lamu area, in the coastal region bordering Somalia. In spite of these attacks, the economy is growing and the World Bank's 10th Economic Update (2014) forecasts a growth rate of 4.7 per cent in 2015 and a higher growth of 5 per cent in the next two years if Kenya maintains macroeconomic stability. The Central Bank of Kenya's Kenya Economic Report (2013) reported that Kenya's life expectancy of 64 years is on the upward swing up from 55 years two years earlier owing to the decline in HIV infections. The ICT sector is increasingly becoming a major driver in enabling greater efficiencies not just in financial services, but in agriculture, education and healthcare.

Regional ICT Diffusion

Kenya's internet penetration rate of 39 per cent compares very favorably with it's neighbors Tanzania (4.4 per cent), Ethiopia (1.9 per cent) and Uganda (16.2 per cent), according
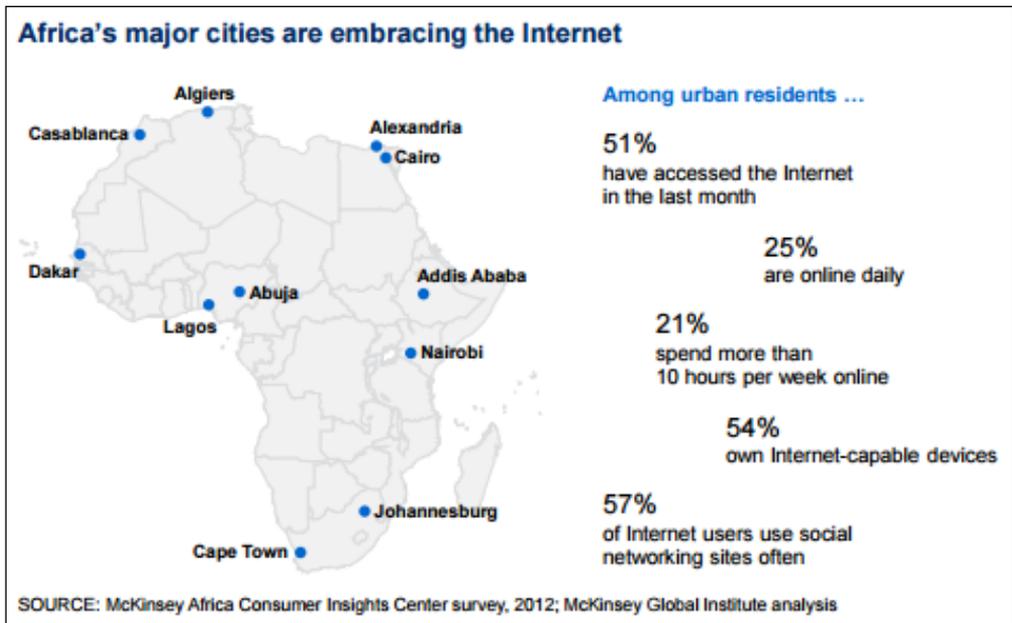
Africa's major cities are embracing the Internet

Among urban residents ...

51% have accessed the Internet in the last month

25% are online daily

21% spend more than 10 hours per week online

54% own Internet-capable devices

57% of Internet users use social networking sites often

SOURCE: McKinsey Africa Consumer Insights Center survey, 2012; McKinsey Global Institute analysis

Figure 1: African Cities with significant online presence.

to the Society Global Internet Report (2014). The report does not capture Rwanda and Burundi. This growth can perhaps be attributed to the path Kenya took in ICT development, in which it pursued an open access approach. The majority of East African countries have some control over the internet, preferring to pursue a centralized model that hinders innovation and creativity. In Kenya, open access to the Internet has revolutionized the way individuals communicate and collaborate, how entrepreneurs and corporations conduct business, and how governments and citizens interact. At the same time, the internet has established a revolutionary open model for its own development and governance, encompassing all stakeholders.

Unfortunately, Kenya's robust internet growth has its downsides. Some criminals take advantage of open systems to wage war against the country, including terrorist attacks and cybercrime. However, overall the country has greatly benefited from the growing innovative capabilities. In the past few years Kenya's creativity in mobile applications has been recognized globally. Financial applications such as Mpesa, as well as initiatives in agriculture, health and education are creating unprecedented efficiencies to the extent that researchers are asking why is it that these new applications are largely coming from Kenya and not any of its neighbours, or the developed countries.

ICTs in Africa

The 2013 McKinsey report "Lions go digital: The Internet's Transformative Potential in Africa" illustrates the growth—and the opportunities—that the internet offers for Africa between now and 2025. Internet penetration will exceed 50 per cent of the population; that is, 600 million internet users, 360 million smartphones, US$75 billion in annual e-commerce sales, US$300 billion in internet contribution to GDP, and US$300 billion in productivity gains. Already, more than 50 per cent of Africans in major cities have access to the internet (see **Figure 1** below). This is a revolution we have already started to witness.

Indeed, the optimism of the McKinsey report confirms the views of Jonathan

Berman's (2013) 'Seven Reasons Why Africa's Time is Now' including the fact that the continent is: 1) a huge market, 2) incredibly stable, 3) its intra-Africa trade is in its infancy, 4) soon going to have the world's largest workforce, 5) spending 20 per cent of government budgets on education, 6) exploding with mobile connectivity and, 7) home to most of the world's uncultivated cropland. These are some of the factors that have been driving and will continue to drive the growth of Africa's middle class.

Study questions and method

Indicators like mobile and internet penetration, as well as the deceasing number of people without access to formal banking services, point to the fact that Kenya has been successful with ICTs. But, success did not come easy. The leadership faced many challenges, including competing interest groups, the process of liberalization and its impact on pricing and quality of service, limited geographic coverage due to underinvestment, corruption and general failure of the Kenyan telecommunications sector. It is despite these challenges that Kenya succeeded. This paper attempts to link theory to what exactly happened as the country shaped its ICT policy, focusing on what others can learn from the experience. To this end I will strive to answer the following questions: What really led to the resurgence in Kenya's ICT sector? What role, if any, did the civil society and international actors play in the success of the ICT sector? What role did public participation play in shaping ICT policy? What lessons can be learned from the Kenyan ICT journey? And finally, are there new problems that Kenya must address to ensure ICTs play a central role in economic development?

Theoretical Foundation

This paper draws heavily upon Lewin's (1947) change management model. This theory form parts of behavioral studies during periods of change, sometimes referred to as change perception theories. These are further supported by the change agent roles developed by Lunenburg (2010). Theories of resistance to change are covered under change implementation. Kelley (2010) infers that different categories of change agents create transformation or change differently based on the different roles that they take.

The beginning of Lewin's 'unfreezing'

On 21 November 2005, a version of Kenya's proposed new constitution was voted down by a 58 per cent majority of the country's voters. The Cabinet was split in the middle, with President Mwai Kibaki campaigned for a 'Yes' vote on the constitution, while some of his cabinet ministers were firmly championing a 'No' vote even though they were all members of the ruling National Rainbow Coalition (NARC). Fearing political fallout, the President reasserted his political authority by dismissing the entire cabinet and reconstituting it afresh. The Ministry of Information and Communications had a new team led by Mutahi Kagwe as the Minister and myself as the Permanent Secretary.

Kagwe was a well-known media personality, and he represented Mukurweini Constituency that neighbours Othaya, President Kibaki's constituency in Nyeri County. He is sharp minded and a great listener. His first meeting with me was brief and succinct on the rules of engagement. We agreed to be brutally honest with each other considering the fact that relationship between the two offices can be obstructive to development and unnecessarily wasteful. 'My role is to give you political support while you run things at the Ministry,' he said. The President, a charismatic, affable and confident person, also offered support, telling us '*Mambo ya Information and Communication Technologies, ICTs, ni yenu sasa, sisi ni wazee*' (Everything to do with ICTs, is for you to deal with, we are now old people), referring to himself and then Chief Secretary and also Head of the Public Service, Ambassador Francis Muthaura. Amb. Muthaura was a career civil servant, congenial, with a quiet

demeanor, who also gave us support to change things.

The initial meeting with the President, Chief Secretary and the Minister fit well with Lewin's (1951) three stage model. The very first meeting was our induction into government, which fit into what Lewin explains as the unfreezing. This stage is about getting ready to change. It involves getting to a point of understanding that change is necessary, and getting ready to move away from the current comfort zone. This, in reflection, was a critical meeting in which the principal practically delegated authority to the agent to take appropriate action and change the sector.

My appointment was a surprise since I had not worked in civil service before. Yet the position of Permanent Secretary was to be the Chief Executive of the Ministry. Fortunately, my work as a consultant with the World Bank in many government reform initiatives had prepared me. Because I came from academia, I had greater leverage to take risk (driving forces of change, according to Levin (1951) than most people in civil service. Policy implementation was perhaps the biggest challenge threatening the Kibaki regime. I took it that my role was to change things and if I got fired, I could always go back to my teaching position at the University of Nairobi. I was also aware that implementation of projects was the weakest link in government. Civil service is sometimes asked to implement policies that they do not understand largely because such policies are driven by donor agencies. In some cases donor agencies themselves contradicted with conflicting conditionalities, making implementation of policy impossible.

The Ministry of Information and Communications had established a strong leadership team that would change the ICT and media landscape in Kenya to what it is today. By February 2006, we had come up with a seven-page document that we referred to as the ICT Master Plan Summary while anticipating to draft a more comprehensive document. Within the first few days in office, we had called the major stakeholders in the industry to establish what the critical issues were. The stakeholders were cautious. Muriuki Mureithi, a member of the online policy advocacy group Kenya ICT Action Network (Kictanet), was to tell me later that they had never heard of my name. And to test the waters, they invited me to a forum to bid farewell to my predecessor, a respected ICT guru, Engineer James Rege. At the function, I knew nobody but in my brief remarks, I made sure that I gave them comfort of my abilities. I gathered that they needed a sector policy.

Lewin's change strategy for liberalization

Since independence, Kenya's ICT sector policy had never been developed. Communications had always been an addendum to Transportation. Nothing much about ICTs was ever discussed in government. Indeed, as we came into government, there were policy documents barring use of computers, fax machines and any other communication gadget that would go against the Official Secrets Act. This policy statement by the then immediate former president, Daniel Moi, had been put in place following the Chinese Tiananmen Square crisis where the fax machine was the technology used to communicate with the outside world. Computers were thought to undermine employment in the country. As such, most of my predecessors did not have the motivation to ruffle feathers in government. Even as ICTs were advancing in the outside world, these legacies made it difficult to come up with a comprehensive sector policy. The new ministry, therefore, was a backwater department that was not appealing to most Kenyans at the time. James Rege's efforts to develop a new sector policy were frustrated and delayed. These frustrations and a growing civil society and donor pressure precipitated a climate for change.

I made an early effort to meet with the World Bank Country Director Colin Bruce. He was delighted that I had sought him out. I wanted to know from him what he

thought was important to change in the ICT industry in Kenya. Bruce advocated pushing liberalization of the sector and trying to get the government to approve the Freedom of Information Bill and the Data Protection Bill, as he has been doing. I assured Bruce that I would try my best. That afternoon, I summoned the Communications Commission of Kenya (CCK) regulator Director General, Engineer John Waweru, asking him what was holding back liberalization of the sector. He was honest, saying that if we liberalized, Kenya's incumbent operator would go down. Waweru had been the Chief Executive Officer at Telkom Kenya when he swapped offices with Samuel Kirui. Telkom Kenya also owned Safaricom, then an emerging telecommunication operator that was being held back by its mother.

In the meantime, media was pressuring the government to privatize Telkom Kenya and exposing the corruption that was going on at the institution. I asked Kirui to give me a comprehensive tour of the company. He too was honest. Employees colluded with outsiders to allow illegal termination of calls (telecommunications lingo for using another person's network without payments or making payments to a third party). Indeed we found out that the network switch (which connects two different networks and records incoming and outgoing calls) had been tampered with while international calls from the gray market were being dumped on the Telkom network. It made it difficult for any audit work to be done. The company had 350,000 subscribers and 19,000 employees. This was a ratio of about 1: 18 (one employee for every 18 subscribers) which compares unfavorably to other more productive operators like AT&T with 126,388,961 subscribers against 639.470 employees or a ratio of 1: 197 (ITU 2011). The equipment was obsolete. Its switch production plant at Gilgil had been shut down in place of carpentry and other non-core activities. It was evident that something had to be done because either way the company was on a downward spiral.

Several stakeholders had in various meetings complained about the cost of telephony in Kenya; as such I sought to find out from the two mobile operators, Safaricom and Kencell why the charges were high. They blamed everything on the interconnection charges with the incumbent operator, further solidifying the case for liberalization in Kenya. Some of the people behind the corruption at Telkom Kenya were powerful politicians. Civil society, for example, had been enquiring about the identity of Mobitelea (an amorphous company that owned shares in Safaricom). Mobitelea was a company registered in Guernsey that owned part of Safaricom, but its directors were not known locally. A majority of Kenyans thought that it was owned by a corrupt network of people. At one point Africog, one of Kenya's civil society organizations, invited me to a breakfast meeting and to their surprise I showed up. I waded through a barrage of questions regarding Mobitelea. Although it seemed suicidal for me to have attended the meeting, it helped provide the necessary confidence that later on fostered a partnership in the push for open data in Kenya.

The ICT Policy

In the meantime, a number of stakeholders mostly from the industry and the universities were helping identify how Kenya utilized ICTs to reduce unemployment in Kenya. Led by Peter Kimacia, then an entrepreneur in the sector, they proposed that we emulate India and the Philippines in setting up an outsourcing industry. At the time there were just a handful of outsourcing enterprises. The biggest one was Kencall. Barely one month into my time in office, I set to find out what we needed to do for the outsourcing industry to flourish in Kenya. Nick Nesbit, Chief Executive at Kencall, invited me to the Kencall facility at night when most of their staff were at work. By 1am, they had listed what the government needed to do in order to develop the industry. The following day, the Ministry started working on a report

to make Kenya an ICT hub and by the start of February we had most of the issues in place as I briefed my Minister.

Some issues, like employment and Kenya's relationship with Western countries and China, needed further exploration. First we wanted to understand the uniqueness of the Kenyan youth through a critical review of their characteristics. Approximately 74 per cent of the Kenyan population is under 34 years old; of these, 64 per cent are under the age of 25 years (The Economist 2010; Population Reference Bureau 2011). In addition, youth make up 64 per cent of the nation's total unemployed population (Saunder School of Business 2009). This discussion influenced the kind of ICT policy documents that the Ministry developed.

In Africa, there is not much about ideology but President Kibaki had nurtured Kenya's capitalist agenda for several years as Minister for Finance during the cold war when most African countries tried socialist ideologies. He was a true free market evangelist and easily saw entrepreneurship opportunities that they could exploit as a government. He saw the greater benefit to the country and sought for collaboration from the private sector to roll out the ICT infrastructure that was impeding progress. His aimed to use technology to enhance public service delivery fit with the concept of the political marketplace based on efficiency-enhancing political exchange that has been promoted by Becker (1983) and Wittman (1989, 1995). The thinking created the basis for developing an ICT policy and a new strategic plan.

By the end of 100 days in office, we had gathered all the issues in the industry ranging from sector policy, liberalization, broadband, legislation, as well as privatization and devised a strategy to deal with each one of them. The key policy objectives included:

· Build ICT infrastructure across the country
· Encourage mobile applications, innovation and development of local content
· Build human resource capacity
· Encourage public-private partnerships
· Create employment opportunities for the growing youth population

The policy objectives were simple and clear and the stakeholders played a great part in developing them. Several meetings with civil servants were held to make them understand the responsibility before the government.

Successful Project Implementation

Infrastructure, especially with respect to lowering the cost of expensive satellite, was their main priority. Frustrated that a regional initiative to link the eastern part of Africa to the rest of the world through fibre optic was taking too long, the team started their own initiative. This move was unlike the past where virtually all large projects went through Western donor agencies before we embarked on the implementation. The World Bank was part of the East African Sub-Marine System (EASSY) consortia that they wanted to discard and so they expected some resistance. Indeed, there was subtle resistance with analyses on how the project would be too risky for one country to bear. It was argued that the regional initiative would spread the risk and may be the only one that could be viable in Africa since there was no market in the first place. By the time these analyses were getting to local media, we had already secured the Government of the United Arab Emirates as our partner and persuaded local telecommunication firms to support the project.

The East African Marine Systems (TEAMS) was conceived as the vehicle to link Eastern Africa to the rest of the world and also as an alternative to the EASSY, the regional initiative that had been going on for more than five years. The cost of meetings to discuss ownership and financing structure were beginning to exceed the eventual cost of building the cable. TEAMS was a partnership with the Emirates government at the top level but internally, it was a public-private partnership with all players in the industry

owning a piece of it. On 11 October 2007, Alcatel-Lucent was awarded the US$79 million contract to lay the cable.

While the country was engulfed in the 2008 post-election conflict, Alcatel-Lucent, the TEAMS contractor, demanded a guarantee before they started the work. None of the partners in the public-private partnership would agree to provide the guarantee. Ordinarily, Parliament must appropriate resources before the ministries can expend; being an election period, however, Parliament was not in session to approve any spending or guarantee. I found a loophole in the law and pressured the Treasury to allow me to leverage on the telecommunications regulator, the Communication Commission of Kenya (CCK), and obtain the guarantee through Citibank. The CCK Board was split in this matter. The board favored waiting until we were out of the conflict, but I muscled enough support to get the request through. Some directors quit as a result but Citi gave the guarantee and construction began in January 2008 on the Emirates' side. On 12 June 2009, the cable arrived in the Kenyan port city of Mombasa and was launched by President Kibaki, Prime Minister Raila Odinga, and other dignitaries.

As the undersea construction was going on, we had started building the internal fibre network to redistribute broadband throughout the country. At the same time, we had approached the World Bank to give us support: 1) to develop rural ICT centers, 2) subsidize broadband to universities, 3) subsidize students to purchase laptops, 4) digitize government registries, 5) support Business Processing Outsourcing start-ups, 6) and subsidize the government to acquire high speed broadband in all of its offices – this later became useful in the roll out of some applications such as the Integrated Financial Management Information System (IFMIS). The outcome was a revolution especially at all universities (both public and private universities benefited from the program), and new ICT hubs opened up. Thousands of new applications were being churned out. Some venture capitalists (VCs) started to scout for opportunities to invest in. Multinationals arrived, such as IBM, which opened up its 12th Lab in Nairobi.

The Kenyan Approach

Drawing my inspiration from the movie *Field of Dreams*, a 1989 American fantasy-drama film directed by Phil Alden Robinson, and the words of one of the lead characters, 'Build it and they will come.' I had begun to have some confidence in our endeavor to take advantage of technology to create many jobs for the youth. The fibre optic infrastructure throughout the country and the accompanying subsidies were showing signs of success. Erick Hershman, a Kenyan American living in Nairobi, approached me to provide free broadband to what became Nairobi's first innovation hub. Although bureaucracy eventually prevented the facilitation of this noble idea, Hershman went on to start the innovation hub (iHub). This triggered a ripple effect where universities who now had sufficient broadband started to build their own innovation centers. Strathmore created the Innovation Lab, Kenyatta University founded the Chandaria Innovation Center, and Jomo Kenyatta University opened The Business Innovation Center, and the University of Nairobi start the Fablab.

These centers began coding competitions, which looped in more universities including the University of Nairobi, Kenya College of Accountancy University and Inoorero University. I personally honoured virtually all the appointments to these universities either to launch a new center or open a hackathon sometimes referred to as Hack day, Hackfest or Codefest (an event in which computer programmers and others related professionals involved in software development, including graphic designers, and project managers, collaborate intensively on software projects). A series of Barcamps (networks of user-generated unconferences), and participant-driven meetings, primarily focused around

technology and the web emerged. The students who ventured into these programming exercises were not necessarily computer science students. They came from all sorts of majors, sometimes working in groups. Unknown to the team, they were delving into an emerging theory around social networks by creating multidisciplinary groups by accident in a country where practically everything is done in a silo format.

Political Will

The success of the Kenyan ICT landscape was a series of accidental interventions starting with my appointment and that of Minister Mutahi Kagwe. Kagwe happened to come from the President's Nyeri County and had unfettered access to the President. He was also smart, committed to seeing change, and the President respected his decisions. The President was a pragmatist, never prescriptive when delegating authority, a quality that gave the team leeway to properly change things. Private sector initiatives on building the first innovation hub, interventions from the World Bank and pressure from growing unemployment of the youth all helped create the change seen today.

In a country where there is no clear political ideology this was a once in a lifetime chance to shape things. Our objective was to quickly begin to nurture the emerging innovation capabilities. We planned to incubate promising innovations. We made trips to Silicon Valley in the US and in Bangalore, India to get ideas. It is while we were in India that we decided that since we had the political will, we could invert the Indian outsourcing model and focus on local internal efficiencies through aggressive automation. But first we needed to establish rural connectivity in the event their plan of automation worked.

Entrepreneurial Failure and culture of handouts

The rural ICT strategy failed. Of the 36 centers built, only five were viable and capable of repaying the US$50,000 loan advanced to

them. In retrospect, we did not spend enough time in planning and developing a business case for each entrepreneur. Although we trained those who were recruited to run the enterprises, the recruits' backgrounds were not suited for entrepreneurship, and the team should have taken into greater consideration regional, ethnic and gender factors that sometimes are in conflict with the desired outcomes. We also assumed that the business portfolio they had prescribed would be what the rural folks wanted, especially e-learning and e-mails. Instead, most of them preferred smart phones to access their e-mails. Most of them did not qualify to run mobile money transfer agencies that were meant to supplement incomes from other ICT entrepreneurial opportunities. Furthermore, the government delayed automating procurement services, which would have been among the activities the digital villages were to do.

We should have given proper consideration to, and sought to gain, an adequate understanding of the prevailing cultural orientation towards business processes in the rural areas. Many years of handouts (grants) had eroded any understanding of other forms of financing, such as loans, in this case to the extent that majority of recipients had no intention of repaying the loan. With such intentions, some recruits diverted the loan into other uses depleting their operational expenditure. Unfortunately, these were areas where the business would have been sustainable if they had had financial discipline. However, this did not deter the team from pushing other projects that they felt could help the country succeed in becoming the regional ICT hub. There was still promise because many youths who could code were now moving to Nairobi to try their luck.

Open Data and hope for freezing of gains made

To boost innovations in the ICT sector the team spent many hours evangelizing to the youth mostly through fire-side charts in

different labs that had come up, but mostly at the I-Hub. They in turn put the government on the spot by asking for data. They needed data for many reasons but mainly to help them come up with new applications. I took up the challenge, knowing that Freedom of Information Bill was facing problems prior to and even after constitutional changes. I sought to bypass the proposed law by going straight to the President explaining to him that open data would not only help our dented image on corruption but will help create jobs. The president wanted to know precisely what I wanted him to do and in response I said that I needed him to launch Kenya's Open Data in a month's time and that I needed his blessings to obtain the data from various ministries. After careful consideration, the president agreed to my proposal.

I quickly convened a joint meeting between the World Bank Kenya Office and my team at the ICT Board to announce that the President will launch Kenya Open Data in four weeks' time. Consternation and incredulity greeted me. But, some understood. I created several teams and got down to work. I was to obtain data from some of the most difficult ministries. At some point I refused to leave the offices of one key ministry until they gave me the data. In the end, we had gathered more than 400 data sets, enough to launch a credible Open Data portal. Technical teams worked day and night to get the portal in shape for the launch. Groups of youth swarmed into the portal to create new applications that would be used as demonstrations during the launch. They were ready three days before the launch date. A day before the launch date, I got a call that the President was looking for me and I knew something had gone amiss. Those who resisted change were bent on derailing the launch.

As I walked into the President's office, I met four ministers and the Chief Secretary. I was sure the Chief Secretary would be on my side. I trusted him and he was my mentor in public service. I was asked to explain what this Open

Data initiative is all about. I decided to ignore everybody and focused on the President, stating that I was not out to undermine the government. Indeed I was doing this for the sake of the President's legacy. We needed political will to make Kenya a true ICT hub and that more than 6,000 youth had been looking forward to this day to showcase the value they had added to our databases that simply sit there, as our youth search for nonexistent jobs. I stated that the data on expenditure that we needed had already been audited. Finally, I posed a question that no one was expecting: Why should the government be giving the World Bank the data while denying our own youth from accessing it? I saw the President smiling but there was silence for a few seconds when the President said, 'I will come launch it tomorrow.'

Back in my office, everybody waited apprehensively. Tracey Lane from the World Bank cautiously asked, 'Are we still on?' I replied 'Yes. But we have some work to do. I may have exaggerated the number of youth attending the function tomorrow as 6,000.' It was 3pm as I called every blogger that I knew to my office. I tasked about 15 of them to whip up the youth into the Kenyatta International Conference Center (KICC) for the following day's launch of the Open Data portal. By 10am on the launch date, more than 5,000 youth had gathered at the KICC. As they walked towards the dais, the then Interior Minister, the late Honorable Saitoti asked loudly, 'Where did you get all these people?' Kenya's Open Data Portal was launched on 8 July 2011.

With the launch behind us, my biggest worry was the demand side of data — how to get the ordinary citizen to use it. With the help of the African Media Initiative (a continent-wide media advocacy group), we began to train media houses on how to use the visualization on the portal for reporting purposes. Some were trained on how to create their own visualization from the data. Although the younger journalists found it interesting, we were not able to fully penetrate

the senior editors who matter most in the newsroom. They failed to use open data in analyzing day-to-day events. We moved to training civil society groups but they were not interested even though the data was highly relevant to their work. We eventually partnered with Africog, which was a member of the Open Governance Partnership (OGP) (a global partnership initiative from several countries pushing for open data), to develop Kenya's application to join the OGP.

Three years after the implementation of Open Data, it still has not gained traction due to the lack of a dedicated champion to explain its usefulness to citizens. More importantly, a few members of society who benefitted from an environment shrouded in secrecy were opposed to any form of transparency. As the World Bank asserted 'Corruption thrives in the dark' (World Bank 1997:45). The foundations of an open and accountable government include publication of government budgets and their availability in easy-to-read summary form; frequent reports to the legislature on budget implementation that enable comparisons between budgeted and actual revenues and expenditures; and timely preparation of public accounts and audit reports and their scrutiny by the legislature and the media.

Kenya's open data initiative also still lacks the capacity to analyze data and provide thought provoking visualizations. Efforts to digitize and build data for online services were often met with resistance and even anonymous threats to the lives of the teams working on the project. In the land registry, for example, we were thrown out even with our promise of improvements in revenue collections. If we were to fully implement Lewin's theory, we would have frozen all the gains made after the implementation of open data.

Corruption

The many twists and turns in the effort to create a transparent system highlight the corruption endemic to Kenya. What is puzzling is the fact that even as initiatives to increase transparency and accountability are growing, corruption is still widespread. In an effort to create institutions to watch over corruption, it seems that the creation of too many similar institutions with conflicting objectives may have proven counterproductive. Furthermore, virtually all the institutions have integrity issues. Some of the corruption cartels claim to 'own' senior editors, civil society organizations, members of the judiciary, and even members of parliament such that they have the ability cover up their indiscretions. Through such networks they can make a whistle blower look like the villain in a corruption scandal.

Corruption stands in the way of growth by escalating costs that are passed on to the consumer, making ICT services unaffordable to a great number of people. When bribery is rampant, it obscures the essence of competition, which leads to poor services. Studies have shown that high levels of corruption lead to low levels of foreign direct investment. As countries have liberalized their telecommunications sectors, no one paid much attention to the policies in the emerging sectors. Some of these policies, either by mistake or design, encouraged corruption. In Kenya, for example, the policy framework required up to 70 per cent local share ownership.

The industry at the time required such heavy capital investments that there was no local person with significant financial muscle to raise 70 per cent of the capital investment. As such, this policy requirement forced the new investors to cover for the locals who could not raise the money. This is what gave rise to the Mobitelea incident. The people behind the Mobitelea scandal have, to date, never been named. At some point they sold their shares for billions of shillings.

As the ICT team came into office in 2006, another scandal, known as Anglo Leasing Finance erupted (this is believed to be one of the biggest corruption cartels in Kenya involved in financing nonexistent projects). The previous administration had

committed the Ministry of Transport and Communications to pay one US$1 million dollars a month for one megabyte of broadband. I cancelled the payments, but the matter continues to haunt the country to this day. The country was sued by the owners of the faceless Anglo Leasing Finance for breach of contract and fined 1.4 billion Kenyan shillings at the English courts. These scandals perhaps would not have arisen if Kenya had open systems in place. And if Kenya ever deals with corruption effectively, it must automate and encourage citizens to use the open data portal to know how their resources are being spent. For this to happen, there must be political will to compel every department to share its data openly.

The negative aspect of ICTs

In the lead up to the 2007 elections, social media had become a major problem. Websites, listservs, discussion boards, Facebook pages and Twitter accounts based outside the country were churning out hate messages that created tension and eventually blew up into full scale violence. The mobile handset and radio became a tool of destruction because most text messages were resent or broadcast to the extent that people began to believe even the lies. There was no legal framework to stop either the broadcast or social media from whipping up the emotions of people to motivate violence. Mainstream media had successfully fought the introduction of any regulatory framework for the media prior to the elections.

In the absence of any legal framework, because the messages resonated well with communities that felt they had been marginalized, and the civil service too was divided along ethnic loyalties associated with different political parties, it was incredibly difficult to stop the crisis. As the crisis raged, some diplomats began to look outside of the country for mediation. With the then US Ambassador to Kenya the ICT team arranged a series of talk shows on vernacular stations to urge the opposing sides to restrain themselves. Media too were beginning to realize

that they were part of the solution as we engaged them to be more objective in their reporting. The team partnered with civil society to conduct a series of workshops for the MPs-elect to act as mediators between the two opposing parties.

Bloggers in Kenya came up with a website that collected eyewitness reports of violence sent in by email and text message and placed them on a Google map. This greatly helped in mapping the crime. A later analysis established that Ushahidi:

> …was better overall at reporting acts of violence as they began. The data collected by Ushahidi was superior to that reported by the mainstream media in Kenya at the time. The service was also better at reporting non-fatal violence as well as information coming in from rural areas (Kennedy School of Government 2008).

The Peace Narrative in Kenya

Continued success in the ICTs in Kenya depends on the country's peace and stability. Since 2007, post-election violence in Kenya devastated virtually all sectors of the economy as well as ordinary citizens. Media started its own peace campaign. The United Nations appointed Dr. Kofi Annan as a special envoy leading the reconciliation team that consisted of former Tanzanian President Benjamin Mkapa and former South African First Lady Graça Machel. These initiatives culminated into the signing of the peace accord on 28 February 2008. Subsequently, a coalition government was formed to implement the peace accord and re-focus the people of Kenya on issues of development.

The main agenda items that were identified to address the crisis, reconcile communities and mitigate against future conflicts included: 1) stopping violence and restoring fundamental rights and liberties; 2) addressing the humanitarian crisis including resettlement of internally displaced people; 3) resolving the political crisis; and 4) examining and addressing constitutional, legal and

institutional reforms, poverty and inequality, youth unemployment and land reforms. Agenda 1–3 have been resolved but agenda 4 is still a challenge. The gains seem to be under threat following a new push for constitutional reforms, barely two years the current constitution was promulgated.

After a successful election in 2013, issues with the peace strategy have resurfaced and sections of the political class are threatening action if changes to the constitution are not made. In a 24 August 2014 article by Nzamba Kitonga, the former chair of the Committee of Experts that drafted the 2010 constitution, Kitonga asks, is the ghost of Naivasha beginning to haunt us? Naivasha was the venue where politicians, laden with selfish intentions, approved the draft constitution that was later promulgated in 2010. Although it is not the best constitution, changing it at the moment may water it down according to Kitonga. Kenya may eventually need strong laws to prevent politicians from inciting the public to violence.

Conclusions

Kenya's ICT sector has been transformed over the past 10 years. With a fairly good infrastructure, the country is set to take off but it must first deal with past political mistakes in order to ensure stability. Internet penetration jumped from less than 10 per cent in 2008 to 40 per cent in 2013 (ISOC 2014). The nascent innovation hubs in Nairobi are fueling development of new applications, especially on the mobile platform, to create efficiencies across all sectors.

Mobile penetration is over 85 per cent and internet penetration too is edging towards 50 per cent, well above many African countries. Kenya leads the world in mobile money with new applications in the area of health, education and agriculture mushrooming from the country's universities. Like any new technology, ICTs do have their problems. While Kenya has, to a large extent, dealt with the 2008 conflict, there are still problems. While productivity has increased, cyber threats have emerged from both internal and external sources. But, overall Kenya is indeed moving forward.

References

Becker, G S 1983 A Theory of Competition Among Pressure Groups for Political Influence. *Quarterly Journal of Economics*, 98: 371–400. DOI: http://dx.doi.org/10.2307/1886017

Berman, J 2013 *Seven Reasons Why Africa's Time Is Now*. Harvard Business Review: Boston.

Holcombe, G R 2002 Political Entrepreneurship and the Democratic Allocation of Economic Resources. *The Review of Austrian Economics*, 15(2/3): 143–159. DOI: http://dx.doi.org/10.1023/A:1015758419984

International Telecommunications Union (ITU) 2011 *Telecommunication Indicator Handbook*. ITU: Geneva.

Kelley, T A 2010 *Types of change agents, article*. True Purpose Institute.

Kennedy School of Government 2008 *Crisis Mapping Kenya's Election Violence: Comparing Mainstream News, Citizen Journalism and Ushahidi*. Harvard Humanitarian Initiative, (HHI). Harvard University: Boston.

Kenya Economic Report 2013 *Creating an Enabling Environment for Stimulating Investment for Competitive and Sustainable Counties*. Kenya Institute for Public Policy and Analysis.

Kenya Economic Update 2014 Edition No. 10 *Take-off delayed? Kenyan Economy Facing Headwinds in 2014, with a special focus of delivering primary health care services*. World Bank.

Lewin, K 1947 *Frontiers in group dynamics*. Human Relations, 1: 5–41. DOI: http://dx.doi.org/10.1177/001872674700100103

Lewin, K 1951 *Field theory in social science; selected theoretical papers. D. Cartwright (ed.).* New York: Harper & Row.

Lunenburg, F C 2010 Managing Change: The Role of the Change Agent. *International Journal of Management, Business and Administration*, 13(1).

Population Reference Bureau 2011 *Kenya's population data sheet.* Kenyan National Co-ordinating Agency for Population and Development. Available at: http://www.ncapd-ke.org/index.php.option=com_content&view=article&id=166:kenya-population-data-sheet-2011&catid=66&Itemid=61 [Last accessed 12 August 2011].

Saunder School of Business 2009 *Empowering Kenyan youth through business education.* Saunder School of Business. Available at: <http://www.africa.sauder.ubc.ca/library/2PageDescription.pdf> [Last accessed 11 August 2011].

Schumpeter, J A 1942/87 *Capitalism, socialism and democracy.* Unwin: London.

The Economist 2010 *Kenya and east Africa: can Kenya make its new deal work?*

Wittman, D A 1989 Why Democracies Produce Efficient Results. *Journal of Political Economy*, 97: 1395–1424.

Wittman, D A 1995 *The Myth of Democratic Failure.* Chicago: University of Chicago Press.