CHAPTER 2.2

The Making of a Digital Nation: Toward i-Mauritius

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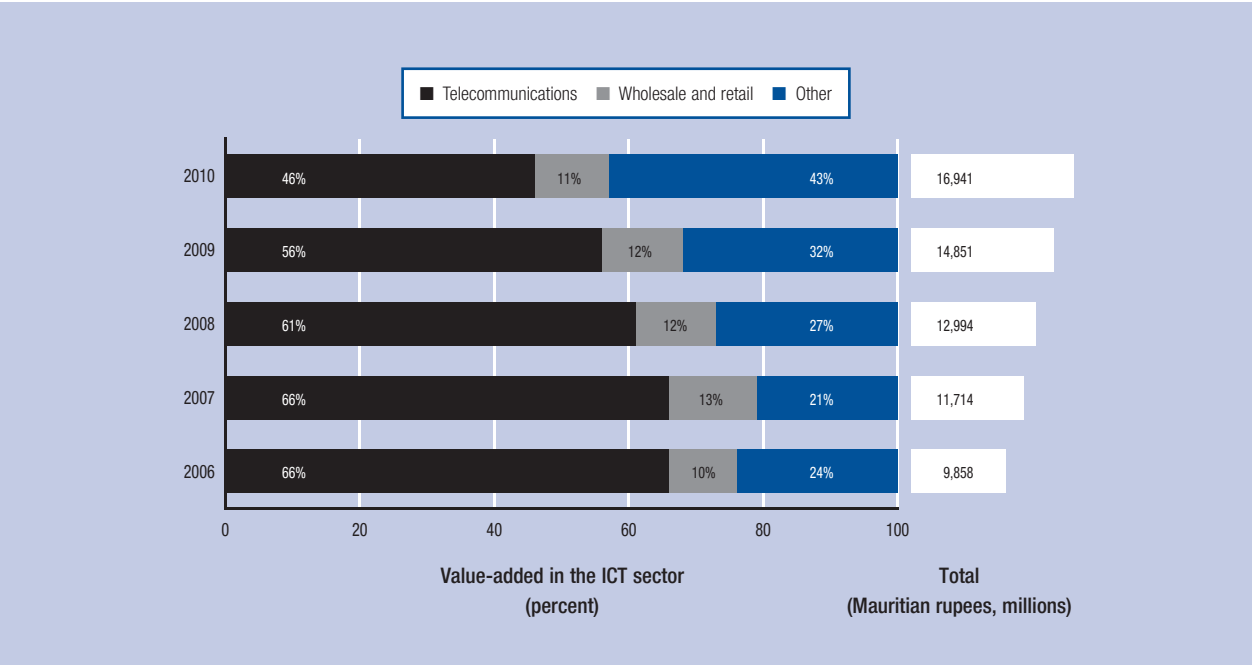
The Republic of Mauritius, a small island state with a population of 1.3 million inhabitants, is nestled in the middle of the Indian Ocean. It has undergone major changes in the last four decades, following its independence. Categorized under lower-income group countries in the early days of its economic development,[1] with an economy dominated by the mono crop sugarcane, today the landscape has been transformed into a service-oriented economy. In fact, recent economic indicators show that the services sector contributes 67 percent of the country's GPD with three leading economic poles: tourism; the financial sector; and, recently, information and communication technologies (ICT).[2] Although the tourism and the financial sectors are well anchored in its traditional economic setup, the ICT sector—albeit a nascent industry a few years ago—has recently been propelled into its new role as the third pillar of the Mauritian economy. ICT's contribution to the nation's GDP stood at 6.5 percent in 2011, with a turnover of US$1 billion; the sector employs some 15,000 people, which represents around 4 to 5 percent of the total workforce.

The definition of the ICT sector of Mauritius conforms to the recommendations of the international initiative Partnership on Measuring ICT for Development.[3] In essence, this definition ascertains all the nomenclatures (by activity) that make up the ICT industry, thus allowing a scientific measurement of its output.

Several milestones have been met in the ICT sector reform of Mauritius. First, the telecommunications sector was fully liberalized in January 2003 pursuant to the General Agreement on Trade in Services (GATS) commitment made by Mauritius in 1998.[4] The first Cyber City project was conceived with the partnership and expertise of the Government of India as a cornerstone for the development of the Mauritian ICT sector. Around the same period, Mauritius was also connected for the first time to a submarine optical fiber route linking Europe to Asia via South Africa. In addition, legislative reforms were undertaken to create an enabling environment for the sector's introduction and to ensure sustainability and predictability for the coming years. A National ICT Strategic Plan was first elaborated in 1998; this was subsequently reviewed to respond to the structural changes brought about with the evolution in technology, markets, and users' demands. The above initiatives are a tribute to the foresight of the Prime Minister who, in 1997, boldly created the first-ever ministry dedicated to the ICT sector. This was a turning point in paving the way toward the transformation of Mauritius into a knowledge-based economy.

In the remaining sections of this chapter we describe the major actions adopted by Mauritius along with their results, focusing on the challenges faced by the country in making the sector emerge as an important pillar. On the basis of the lessons learned in terms of strengths and weaknesses, as well as the opportunities

Figure 1: Growth and size of the ICT sector, 2006–10



Source: Statistics Mauritius, 2011.

that lie ahead, we present some strategic moves—on both policy and operational levels—to undertake in the future in order to consolidate the country's position and enable the ICT/business process outsourcing (BPO) sector to emerge as an engine for sustained economic growth.

POLICY AND LEGISLATIVE FRAMEWORKS

The key to the country's ICT sector development has been the successive formulation of National Strategic Plans since 1998 and the review of the legislative framework. The latest plan is the National ICT Strategic Plan 2011–2014 (NICTSP-2014),[5] which gives significant policy guidance to successfully embrace the knowledge economy journey and to respond to the dynamic changes occurring in that sector. The Plan falls in line with the government's aspirations of transforming the nation into a high-value economy while always ensuring inclusiveness in its approach. The country will continue to see more implementations of such initiatives as the momentum toward this vision of the 2014 aspiration gains speed.

The NICTSP-2014, which is built on previous plans, has two main objectives: first, to review projects recommended in the previous ICT Strategic Plan 2007–2011; and second, to make recommendations to ensure that the ICT sector becomes a main pillar of the national economy and that Mauritius rightly positions itself as a regional ICT hub. The plan contains nine strategic areas of intervention that range from the development of a comprehensive broadband strategy for Mauritius and a review of the legal and regulatory ICT environment to an institutional overhaul, the establishment of a human resources strategy intended to meet the needs to the industry, the international promotion of Mauritius as a credible ICT destination, the creation of an ICT-literate nation, the encouragement of the adoption of ICT services everywhere, a review of the e-government strategy, and the strengthening of the cyber security framework.

The government has further enhanced the regulatory framework to comply with international best practices by introducing various pieces of legislation such as the Computer Misuse and Cybercrime Act, the Information and Communication Technologies Act, the Electronic Transactions Act, the Independent Broadcasting Act, the Copyright Act, the Postal Services Act, and the Data Protection Act. All these legislative elements serve to consolidate the sector and to position Mauritius as a safe and secure destination for ICT/BPO investments.

DEVELOPMENT OF THE ICT SECTOR

It is pertinent to draw some macroeconomic observations by taking the liberalization of the ICT sector since 2003 as a reference point with a view to obtaining quantitative measures. With the spotlight firmly directed toward ICT becoming a major pillar of the economy, it is crucial to confirm the importance of the ICT in the country's economic landscape and establish the sector's contribution to GDP and, by extension, to the socioeconomic growth of the country. Figure 1 depicts the value-added contribution of this sector.

Table 1: ICT sector growth relative to overall GDP growth, 2004–10

Indicator	2004	2005	2006	2007	2008	2009	2010
ICT sector growth rate (%)	22.7	18.2	12.9	14.9	12.6	13.1	13.1
GDP growth rate (%)	4.7	2.3	5.1	5.5	5.0	3.1	4.2

Source: Statistics Mauritius, 2004–10.

The ICT sector recorded an average growth rate of 16.3 percent per annum from 2004 through 2010, while the country's overall annual GDP grew by 4.5 percent (Table 1). The ITU Information Development Index (IDI) for Mauritius has improved from 3.30 in 2008 to 4.00 in 2010. It is now being categorized as Upper Medium (UM) in terms of ICT development rating (the UM range is 2.59–4.05). This is a direct result of improvements in the Mauritian infrastructure, accessibility, and affordability of ICT products and services.

The impetus for the ICT sector to grow as a strong pillar of the Mauritian economy has gathered even more momentum, especially because of its spillover effects, which bring in services and industries that go beyond the boundaries of the sector itself. This sector in Mauritius has, in addition to its double-digit growth, witnessed falling connectivity costs and rising employment levels, and anticipates an employment capability peaking to 30,000 knowledge workers by the end of 2014.

TELECOMMUNICATIONS INFRASTRUCTURE

In order to sustain development of the ICT sector and make access to the Internet a basic citizens' right, as well as to establish an inclusiveness approach and make e-government services popular, high-quality infrastructure facilities and services along with a robust and reliable telecommunications network are necessary. These elements should not only be highly accessible but must also be affordable for everyone.

To assist in propelling the ICT sector as an engine of economic growth, the Government of India extended vital strategic assistance to Mauritius in the form of a US$100 million line of credit facility; half of that sum has been invested in e-government and e-education initiatives. In 1999, the Mauritian government, with the assistance of the Software Technology Park of India, used half of that credit facility to construct the country's first Cyber City to host ICT/BPO companies; it stands as an icon for ICT development in the heart of the island. This flagship technology park is now well known for its leading ICT/BPO companies, which symbolize the success of the ICT sector. All buildings in this area are connected to the international gateway through a gigabit-capable passive optical network–fiber-to-the-business architecture.

There is an *international information infrastructure* consisting of international circuits via fiber optic undersea cables (the South Africa-Fare East, or SAFE, cable and the Lower Indian Ocean Network cable, or LION cable) and as backup via satellite. The present pooled capacity available is the equivalent of about 10 Gb/s from Mauritius to France, with two international gateways, and is expected to more than quadruple in the next two years. As such, Mauritius is acknowledged as having resiliency, route diversity, and enough capacity to drive the international connectivity requirements.

The *national information infrastructure,* for its part, consists of the high-capacity digital microwave links and fiber optic cable system deployment that are used primarily as the network's backbone and backhaul connectivity. Major business cities and residential areas are now being connected via fiber-to-the-building deployment. The total capacity of the local exchange for the network device known as DSLAM, or digital subscriber line access multiplexer, for broadband access caters to some 350,000 subscribers representing about 30 percent of households with access to broadband facilities. A new operator has recently been licensed and is currently deploying fiber-to-the-home infrastructure with a proposed minimum of 10 Mb/s download access to every household. Mauritius will be the first country in sub-Saharan Africa to have nationwide fiber-to-the-home technology deployment. This deployment will further boost broadband penetration, in particular to household usage, allowing it to achieve the target of having at least 60 percent broadband connectivity by the end of 2014.

Rodrigues, one of the outer islands, is presently connected using satellite links; it will be connected through fiber during next year.

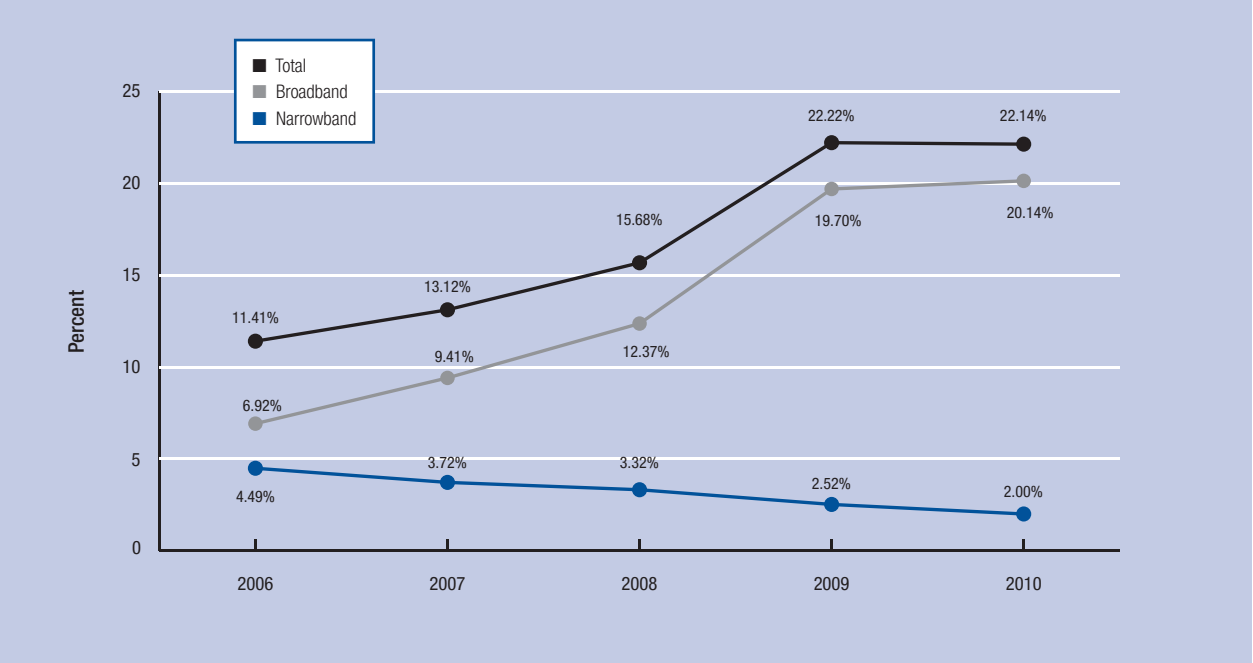
DEVELOPMENT OF THE INFORMATION SOCIETY: INCREASING ACCESSIBILITY

This section describes the extent of ICT's permeation in Mauritian society by considering the evolution of the country's telecommunications services, with particular emphasis on key information society indicators—notably fixed-line teledensity, mobile cellular penetration, and Internet penetration.

Fixed-line penetration

Penetration rates for standard telephone access lines in Mauritius have witnessed a significant increase. In 1995, fixed-line teledensity stood at 13.2 percent; it had reached 30.21 percent by the end of 2010. As of Q2 of 2011 the figure stands at 29.25 percent, which confirms

Figure 2: Internet penetration rate



Source: Republic of Mauritius, Information & Communication Technologies Authority.

Notes: 1. Figures for subscriptions have been rounded to the nearest hundred where applicable; 2. Figures for penetration rates have been rounded to 2 decimal places where applicable; 3. Broadband Internet refers to connection to the Internet at a speed equal to or greater than 256 Kb/s, as the sum of capacity in both directions; 4. Narrowband Internet refers to connection to the Internet at a speed less than 256 Kb/s, as the sum of capacity in both directions; 5. The statistics provided are based on the best available estimates for the period ending 2011 at the time of disclosure; 6. In 2009, subscriptions based on mobile access network were 179,000; for the year 2010 we noted a drastic decrease: i.e., 177,500. This is because one of the mobile operators was been counting double in the ICTA quarterly reports. They were reporting distinct WAP and distinct Web browsing users and just adding them together, leading to a double count, as web users is a subset of WAP users.

the international trend of fixed-to-mobile substitutability in local markets.

Mobile penetration

Mobile penetration rates have exploded from a mere 1.05 percent in 1995 to a staggering 92.79 percent by the end of 2010. As of Q2 of 2011 the figure stands at 96.78 percent. This enormous increase is the result of the intensive network rollout by three mobile operators—Emtel Ltd, MTML, and Cellplus Mobile Communications Ltd—which has ensured almost complete coverage of the island. Moreover, growth in mobile cellular subscriptions per hundred inhabitants is sustained in the double digits, suggesting that the mobile market is still some way from reaching its carrying capacity.

Internet penetration

The rate of Internet penetration per 100 inhabitants remains a key information society indicator that governs the progress made by a country in its transition toward a fully digital broadband–based economy. Figure 2 depicts the Internet penetration rate. It is noted that broadband Internet penetration has been on an exponential progression, while narrowband Internet penetration has been on the decline.

Although much progress has been made since liberalization in 2003 in terms of overall Internet penetration, much remains to be done to steer the economy into the broadband arena, which would be expected to positively influence economic growth. However, the evident trend that broadband is increasingly becoming the preferred subscription approach of end users seeking to connect to the Internet is encouraging. Supporting this trend is indeed one of the main challenges facing the country.

INTERNATIONAL BANDWIDTH CONNECTIVITY: OUTSOURCING OPPORTUNITIES

The affordability of international connectivity is of particular relevance for the ICT/BPO sector, especially since Mauritius is quite far from major European and American markets. Over the past five years, various determinations have been made by the Mauritian ICT Regulatory Authority regarding international connectivity. The price for a 2 MB international private leased circuit capacity is now US$3,500, compared with US$12,600 some five years ago. The price of Internet protocol (IP) transits has also been revised downward to US$600 per mb/s.

ICT CULTURE PROMOTION: ICT OUTREACH FOR ALL

The inclusiveness approach and a re-engineering of the e-government services toward more citizen-centric

delivery require an aggressive ICT culture promotion program. Mauritius fares well in ICT literacy outreach as a result of a comprehensive and well-thought-out strategy in ensuring that not only the relevant ICT literacy/proficiency programs are offered but also free ICT facilities with broadband access are made available throughout the country. The National Computer Board (NCB) has, since September 2006, implemented the Universal ICT Education Programme, an initiative of the Prime Minister of Mauritius. One of the main objectives of the program is to train the population in Internet and Computing Core Certification, the internationally acknowledged computer proficiency course.

Community Empowerment Programme

The Community Empowerment Programme (CEP) is another citizens' outreach initiative meant to enable the creation and sharing of information and knowledge for community development.[6] It is in line with the government's ambition to build an all-inclusive information society, to improve digital literacy, and to encourage the development of local content and creativity. In the context of the CEP, the NCB has set up more than 180 computer clubs in social welfare and community centers around the island in collaboration with other ministries. Furthermore, the NCB manages 94 public Internet access points in all postal offices across Mauritius, set up with the assistance of the ICT Regulator, the Information & Communication Technologies Authority.

Moreover, in an attempt not to leave any citizen behind and for a wider outreach, three cyber caravans travel across the island every day to provide ICT training and computer awareness courses, particularly in areas where ICT facilities are not readily available and accessible.

In a bid to further create an Intelligent Mauritius and to increase broadband penetration, the installation of wireless fidelity (Wi-Fi) networks across Mauritius and Rodrigues is underway under the purview of the Universal Service Fund of Mauritius.

Cyber security initiative

A comprehensive and resilient cyber security strategy is a cornerstone that ensures the trustworthiness of the country's ICT infrastructure and creates the necessary confidence in all stakeholders. Mauritius is among the few African countries with a National Computer Emergency Response Team (CERT-MU). CERT-MU has operated under the NCB since May 2008 and was established based on the recommendations of the National Information Security Strategy. CERT-MU's mission is to provide information and assistance to its constituents in implementing proactive measures to reduce the risk(s) of information security incidents.

QUALIFIED HUMAN CAPITAL FOR ICT GLOBAL TALENT NEEDS

The world today is in a stage of globalization where talent and brain power are becoming the predominant currency.[7] The Mauritian government, in recognizing that skills and knowledge development are strategic to economic growth, was one of the rare countries that introduced free education for all in 1976. This vision has today been acknowledged as the basis for enabling the Mauritian economy to move toward a knowledge-intensive stage of evolution.

The Mauritian educational system is based on a 6-5-2 model. This means 6 years of primary education, which starts at the age of 5 after pre-primary; then 5 years of secondary education; and then an additional 2 years of higher-secondary education. Post-secondary education usually starts at the age of 18. Enrollment is approximately 35,000 students at the primary level, about 30,000 at the secondary level, and about 18,000 at the higher-secondary level. University enrollment is about 8,000 per year. The enrollment rate at the tertiary level as compared with primary intake is presently about 25 percent. Over the last decade, the higher-education enrollment rate has evolved with the population's growing interest in pursuing higher education.

Mauritius has two national universities and several privately owned universities. The latter have ties to foreign universities and deliver programs leading to qualifications with worldwide recognition. Although Mauritius has a limited number of graduates in the ICT sector compared with many other emerging nations, the quality of Mauritian graduates is well known worldwide, mainly because the country's universities have adopted the same stringent standards and benchmarks as European universities. However, the government recognizes that the enrollment rate at the tertiary level is still low and should be improved. In this context, the Ministry of Tertiary Education is currently implementing an initiative entitled One Graduate per Family with the dual aims of, first, overcoming the low rate of graduates being turned out each year and, second, ensuring that every capable student of any strata of the society is given an opportunity to undertake tertiary education.

English and French languages and mathematics are compulsory subjects for 11 consecutive years of schooling. This legacy of the English as well as the French colonies has proven to be very valuable in making the population bilingual.

It is to be noted that in the area of human capital Mauritius faces the inherent barrier of limited ICT professionals, given the small size of the population and relatively small number of students who study science and engineering subjects. Furthermore, very few people have so far developed the ICT/BPO work culture; this is another challenge that the country needs to meet.

SETTING UP THE ICT CENTER OF EXCELLENCE: HUMAN CAPACITY BUILDING INITIATIVE

The ICT Center of Excellence has been set up taking into consideration that adequate human capital is one of the country's most challenging factors. Transforming the island into a knowledge-based economy requires human capital of global talents capable of executing global tasks. It has been acknowledged officially as well as by international consultancy organizations in this area that Mauritius, with its relatively low level of graduates, lags behind many ICT destinations for producing a sufficient number of these global talents. The government has therefore set up an ICT Academy, the main objective of which is to train school leavers in various streams of ICT industry–led courses. In this model, all trainees will undergo internationally recognized industry-led ICT certification courses such as those provided by multinational ICT companies such as Microsoft, Oracle, CISCO, and SAP. The government will also cater for courses that recognize prior learning for those who have extensive experience but who could not integrate a formal academic stream and could not secure the appropriate qualifications. The ICT Academy has planned to train at least 10,000 knowledge workers by the end of 2014 and is being operated as a public-private partnership, where the government is contributing 45 percent of the cost.

OPEN ACCESS POLICY AND DEREGULATION FOR TELECOMMUNICATIONS

Open access is the "possibility for third parties to use an existing network infrastructure," according to the Best Practice Guidelines for Enabling Open Access, adopted by the 2010 Global Symposium for Regulators. The open access policy allows telecommunications operators to enter the market on an equal footing with various local operators in terms of the use of common telecommunications infrastructure.[8] In fact, with a view to further stimulating competition in the ICT market, the Mauritian government agreed, in October 2010, to apply an open access policy for the operation of undersea cable landing stations in Mauritius. It has also encouraged smaller local companies to enter the market and seeks to ensure that no entity can take the position of dominant market power. This has the short-term effect of allowing competitors of the incumbent operators to offer international IP standards of service at rates up to 44 percent lower than previously available.

LESSONS LEARNED

We have presented and synthesized a number of economic and social benefits that countries, such as Mauritius, have used to leverage when favoring ICT investment from global companies to capitalize on global economic opportunities. Mauritius has witnessed significant improvements on all the macroeconomic development indicators in its ICT sector, thus surpassing the net African average.

However, in view of securing such business opportunities locally against a backdrop of the comparative advantage of other established outsourcing destinations, Mauritius faces daunting challenges. The island's geographic location, while at times presenting itself as a safe ICT destination, can also be viewed as a challenge—especially as its major markets are in Europe. This unique situation calls for constantly adapting strategies to reflect the ever-changing global environment. Policymakers should therefore be mindful of similar economic transformations that aim to build a knowledge-based economy in nearby countries, and maintain a competitive advantage by staying on top of human resource development especially.

The complex and continuous transformation of the Mauritian economy from a country dependent on a mono crop to a knowledge-based economy has required major reforms to ensure a smooth and needed transition. However, Mauritius still suffers from a long response time in building up the human capital required, including the major transformation needed to re-skill workers in the traditional agricultural industry for the emerging sector. One consequence of this transformation has been workers' resistance to adapting to the new round-the-clock imperatives and the new cultural environment. These challenges have invariably had a spillover effect on government policies, private-sector strategies, and existing institutional arrangements.

The uptake of the ICT sector and its integration into the global economy requires the adaption to a situation where protectionism, which used to provide a benefit, is today no longer relevant or possible. This paradigm shift for Mauritius has enabled the country to focus on the need to position technological outreach, blended with quality and innovation, at the center of its development strategies.

Clearly the transition to a more technology-intensive, knowledge-based economy is not straightforward. Success depends on a number of critical elements. First, a committed and visionary political leadership that truly believes in the adoption of emerging technologies is a crucial factor in realizing these objectives. Equally important is the provision of a broadband infrastructure that can adequately support and sustain the new economic agenda. This can be realized only if the country has an integrated approach that incorporates the culture of technological development and adoption for all cross-sections of the population. The NICTSP-2014, in fact, provides direction for policy to address challenges and ensure the attainment of the government's objectives to make Mauritius a high-income economy through the adoption of the ICT sector as an enabler.

Another important aspect is the adoption of e-government services. Although the government is committed to promoting ICT culture among its citizens, many e-government services have not experienced a robust take-up rate—in fact, astonishingly, the population is showing some resistance. To date, many departmental systems are already operational; these back-office applications are a major building block of the e-government program. In order to address the relatively low take-up rate, e-government initiatives need to shift away from a focus on the tools and service delivery channels and instead adopt a citizen-centric approach to public service development and delivery. Such a strategic shift would ensure that user needs and demands are met by government.

The refocusing of energies around citizen-centric e-services should be accompanied by the establishment of an e-government centralized coordination body. This body would ensure an enhanced coordination for the development of e-services, and hence the realization of e-services would be harmonized and unaligned actions would be decreased or eliminated.

Of the 53 online services available on the government portal, some 12 e-services are more popular. The most effective is the e-filing system for tax returns, which reaches about 70 percent of taxpayers (around 140,000+). To harness the full power of online service delivery, the government has recently made the usage of e-government e-services mandatory in all relevant ministries and departments. This directive is supported by a reorganization of departmental processes around the needs of the citizens and businesses, which have been established through surveys and feedback. Key performance indicators such as transaction costs, convenience, and user experience are being assessed to get a clear indication of the benefits derived both for the government and the end user. A complete revamping of the government e-services is being undertaken with a new government portal with interactive applications in place.

Moreover, the forthcoming formulation of an e-government strategy will ensure that the e-services are demand-driven, citizen- and business-centric, and hence enhance the value-added of these initiatives.

THE WAY FORWARD

As we look toward the way forward, Mauritius will need to focus its efforts on key areas, some of which are described below.

Developing and implementing a National Broadband Policy

The National Broadband Policy 2020 sets out a strategic vision for an Intelligent Mauritius (branded as "i-Mauritius") and establishes national goals regarding broadband while elaborating specific policies to achieve those goals. As an immediate objective, Mauritius aspires to surge from a typical 1 MB Internet connectivity to at least a 10 MB connection by 2014. The government is fully aware that the National Broadband Policy formulation must take into consideration the short- and long-term national objectives within a context of ever-changing social, economic, political, and technological conditions. The salient features of this policy comprise:

- defining the broadband ecosystem for Mauritius;
- creating an environment that is conducive to attracting new investments and players in the new ecosystem;
- establishing and promoting the national broadband infrastructure;
- consolidating the regulatory and legislative frameworks to allow the emergence of Broadband i-Mauritius;
- ensuring the quality of service of broadband services from "best effort" to "minimum guaranteed" levels;
- developing a broadband-handling culture for adequate usage;
- developing a content-production culture to stimulate sufficient supply and demand mixes;
- developing efficient management strategies in the use of scarce resources for broadband deployment and monitoring thereof;
- providing adequate broadband services within accessibility, availability, and affordability ranges;
- promoting research, innovation, and competition for sustaining the broadband ecosystem;
- introducing adequate regulatory safety nets to ensure the "universalization" of broadband; and
- defining the institutional framework and responsibilities to achieve objectives set.

Moving the value chain of the outsourcing industry

The current ICT/BPO global positioning offers important opportunities for high-value-added and high-income services as long as the challenges highlighted above have been properly addressed. Acknowledging the strengths and weaknesses, the positioning of Mauritius toward more investment in outsourcing is anticipated to be as follows:

- *Data center and infrastructure outsourcing*: As the price of international bandwidth decreases and capacity becomes more abundant, service providers are seriously considering implementing high-value-added and high-earnings projects in Africa, particularly in the Eastern Region where there has been a boom of submarine fiber optic connectivity projects in recent years. Companies are likely to focus on deploying more and more tier-3 elements.[9]

- *Data centers in the Eastern African Region, including Mauritius*: Such a strategy would circumvent the inherent low number of ICT-skilled workers because data centers remain technology-intensive rather than human resource capacity–intensive. Mauritius is poised to be in a position to offer bandwidth capacity, route diversity, redundancy, and safety for such activities.
- *Diversifying product and service portfolio*: Mauritius is traditionally known to be the preferred destination for many low-end ICT/BPO activities because it offers a unique amalgamation of attributes. Mauritius should consider catering to global knowledge process outsourcing (KPO) needs and its high-end processes such as valuation research, investment research, patent filing, legal and insurance claims processing, online teaching, and media content supply, among others. Mauritius—with its internationally recognized pool of skilled workers (although limited in number), including chartered accountants, doctors, MBAs, lawyers, and so on—has important advantages in the KPO market. This pool of workers will increase with the operation of the ICT Academy. This, combined with the multilingual capabilities of the workforce and cost arbitrage as well as global partnerships, will definitely help Mauritius emerge as a global winner in the KPO sector.

CONCLUSION

This chapter has shown how policy and regulatory frameworks have evolved to continue fostering the digital economy and information society of Mauritius. It has addressed the challenges faced by the country in its relatively limited pool of natural resources and the quality of its human capital, and has presented the country's strategy for ensuring that Mauritius is prepared to be part of the global economy.

The aligned vision and efforts of all the relevant stakeholders in the ICT sector at the national level will also clearly contribute toward asserting the visibility of the Republic of Mauritius on the international scene, especially in relation to the global ICT/BPO market. Therefore, continued and sustained efforts to bring down the costs of international connectivity, to improve the quality of the workforce, and to promote a business-friendly environment will further ensure that Mauritius becomes a preferred platform and solutions provider in the global ICT/BPO realm. The solid foundations upon which the ICT/BPO sector is being elevated have endowed Mauritius with the right attributes to meet aspirations and challenges confidently as the country ascends the development ladder of the new global economy.

NOTES

1 World Bank 2011.

2 Statistics Mauritius, available at http://www.gov.mu/portal/site/cso.

3 The ICT sector of Mauritius includes manufacturing and services industries whose products capture, transmit, or display data and information electronically. It includes related activities of manufacturing, wholesale and retail trade, communications, and business services (such as call centers, software development, website development and hosting, multimedia, IT consulting, and disaster recovery). Since 2008, training in IT has been excluded from the definition of the ICT sector. See the Partnership on Measuring ICT for Development, an international, multi-stakeholder initiative to improve the availability and quality of ICT data and indicators, particularly in developing countries, which was launched in 2004. Available at http://www.itu.int/ITU-D/ict/partnership/.

4 WTO 2012.

5 See http://www.gov.mu/portal/site/telcomit.

6 See the NCB (National Computer Board). Available at http://www.gov.mu/portal/sites/ncbnew/main.jsp (accessed February 24, 2012).

7 Cheese et al. 2008.

8 ITU 2011.

9 Manyika et al. 2011.

REFERENCES

Cheese, P., R. J. Thomas, and E. Craig. 2008. *The Talent Powered Organization.* Philadelphia: Kogan Page.

ITU (International Telecommunication Union). 2011. "Open Access Regulation in the Digital Economy." *ITU News* September (7): 43. Available at http://www.itu.int/net/itunews/issues/2011/07/43.aspx.

ITU (International Telecommunication Union), OECD, UNCTAD, UNDESA, UNESCO, World Bank, UN ECA, UN ECLAC, UN ESCAP, UN ESCWA, and Eurostat. 2009. Partnership on Measuring ICT for Development. Available at http://www.itu.int/ITU-D/ict/partnership/.

Manyika, J., M. Chui, B. Brown, J. Bughin, R. Dobbs, C. Roxburgh, and A. Hung Byers. 2011. *Big Data: The Next Frontier for Innovation, Competition, and Productivity.* Report, May. McKinsey Global Institute. Available at http://www.mckinsey.com/Insights/MGI/Research/Technology_and_Innovation/Big_data_The_next_frontier_for_innovation.

NCB (National Computer Board). N.D. Available at http:// www.gov.mu/portal/sites/indicators (accessed February 24, 2012).

Statistics Mauritius. Republic of Mauritius, Ministry of Finance & Economic Development. Available at http://www.gov.mu/portal/site/cso.

World Bank. 2011. Mauritius: Country Brief. Available at http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/MAURITIUSEXTN/0,,contentMDK:20211139~pagePK:1497618~piPK:217854~theSitePK:381974,00.html. Updated September 2011.

WTO (World Trade Organization). 2012. *Telecommunications Services: List of Commitments and Exemptions.* Available at http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_commit_exempt_list_e.htm (accessed February 24, 2012).