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E-Government in Latin America: A Review of the Success in Colombia, Uruguay, and Panama

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Organization of American States

Most Latin American countries entered the 21st century with a gloomy economic outlook. Although the 1990s did not acquire the “lost decade” stamp of the 1980s, Latin American economies were not able to leap forward and catch up to the level of socioeconomic development of the most advanced nations. The dawn of the 1990s witnessed shock to the financial markets with the real currency crisis in Brazil; the 2000s began with the financial crisis in Argentina, with its decision—made in 2001—to suspend payments to international creditors on its sovereign debt. The consequences of this decision are still fishtailing around the tables of international courts, as can be seen clearly in a report issued by the Congressional Research Service in February 2013 under the title *Argentina’s Defaulted Sovereign Debt: Dealing with the “Holdouts.”*¹

The first decade of the new century ended up presenting a remarkable socioeconomic advancement in the majority of Latin American countries. Part of that general progress runs parallel to a conscious and valued effort to bring the countries of the region into the knowledge-based society. This conscious effort is emphasized in the cases of Colombia, Uruguay, and Panama, which will be analyzed in this chapter.

THE ARRIVAL OF E-GOVERNMENT IN LATIN AMERICA

In the crisis context described above, governments in the region live under constant pressure to meet the needs of their citizens with the fewest resources possible. This call for efficient management of public finances has been answered in most countries by state modernization programs that are in their second or third generation and are thereby becoming a stable institutional framework for any public administration transformation. Most of these programs rely on significant financial and technical support from the American Development Bank and, to a lesser extent, the World Bank.

While maintaining a primary focus on the efficiency and effectiveness of public administration, these state modernization programs are actually a widespread call for transparency in the public sector. The Latinobarómetro annual report continues to express concern about the future sustainability of some democracies in the region for two main reasons.² First, a large proportion of citizens wait eternally for the economic benefits of democracy to arrive. Second, high levels of corruption permanently call into question the credibility of public institutions and those in command of them.

At the beginning of the century, information and communication technologies (ICTs) began to make a serious breakthrough in all areas of Latin American society. That magical combination of telecommunications and computing, manifested in the Internet, began to demonstrate its huge potential—not only by enriching

the more creative entrepreneurs but also by touching on every area of daily life, transforming it forever.

Al Gore, the former vice president of the United States, deserves credit for making a big push to introduce ICTs in the US government, showing countries throughout the world how this can be done.

In the 1990s, when the Washington Consensus preached trade liberalization, financial market openness, market-driven currency exchange rates, tax reforms, and other well-known economic policy prescriptions to Latin America, ideas about the new public management (NPM) methods also appeared in the region. Although the countries that followed the NPM creed were left with a network of autonomous institutions responsible for certain government services and some successful public service outsourcing processes, the public management system in the region remained largely over-regulated and process-focused. As a consequence, the importance of results and efficiency never were recognized. Several of the government-controlled autonomous institutions that provide water, electricity, or telephony services still in operation in the region illustrate this trend of the 1990s.

The described context in Latin American countries presents a scenario in which one of the theories developed by Douglas Holmes on the “Internet effect” in the public sector is particularly relevant.³ According to this theory, the Internet comes to public administration as a tool that invites people to re-think and, above all, one that creates excitement in a sector characterized by conservatism and boredom.

Quite soon the term *e-government*, popularized by the Clinton administration in the mid-1990s, found its Spanish version as *e-gobierno* in Latin America. The term and what it represents was widely adopted and began to impact the functioning of government. However, adopting is far from embracing. During the second half of the 1990s, we see mere flirtations with e-government in Latin America through isolated actions, but no evidence of generalized use.

Analyzing these early forays into e-government by Latin American countries with the privileged lens granted by time passed, we can classify these early attempts as reasonably successful and essential to the further development of e-government in the region. In Chile, during the administration of President Eduardo Frei (1994–2000), the first strategic documents on the use of ICTs to improve the competitiveness of the country in general and the functioning of the Chilean public administration in particular were developed. In 1999, Chile’s Internal Revenue System was one of the first public institutions in Latin America to have an interactive presence on the Internet, and 5 percent of its tax returns were filed online that year.⁴

Around the same time, in 2000, under President Andres Pastrana (1998–2002), Colombia launched its national Agenda for Connectivity. In August of the

same year, the Agenda for Connectivity released the Colombian State Portal, funded by the Presidential Anti-Corruption Program. The Agenda for Connectivity subsequently guided the progress of e-government in the Andean country until it was renamed “Government Online” and revised under President Alvaro Uribe.

Equally visionary in the use of new technologies in the public sector was the government of Fernando Henrique Cardoso (1995–2003) in Brazil. The SOCINFO (Society + Information) program, launched in 1999, not only laid the foundation for development of the ICT industry in Brazil over the next decade, but also was the starting point for regional pioneering projects of e-government such as Receitanet (which allows citizens to file and pay taxes online) and Comprasnet (which manages government procurement through the Internet). The use of ICTs in electoral processes in Brazil would merit its own paper, since Brazil’s experience in this area is recognized as one of the most advanced in the world—the country allows all votes to be cast electronically through over 400,000 electronic voting machines.⁵

The pioneering steps taken by Chile, Colombia, and Brazil were soon followed by Argentina, Mexico, Peru, Uruguay, Panama, and others that began by using the Internet as a means of interacting with their citizens in areas related to tax collection, public procurement, or customs. This is not surprising because, for those looking for public investment in ICTs, the easy-to-sell speech included concepts such as “more revenue collection,” “lower expenses,” or, ideally, a combination of both. In addition, the adoption of the Inter-American Convention against Corruption in 1996 pushed transparency to a central place in the political agenda of the region, thereby increasing interest in any tool that could support a more transparent management of public resources.

Throughout the first decade of the 21st century, every Latin American country made some effort to advance e-government. However, many of these efforts are characterized by their secondary place in the political agenda and the lack of fulfillment they showed toward some of their promised impact, particularly in terms of usage of online services. Today, although many countries have established appropriate institutional structures and have set out their respective visions in comprehensive plans, others remain working on their first plans and are still seeking the appropriate institutional solution.

A quick glance at the website of the Network on Electronic Government of Latin America and the Caribbean (RED GEALC; www.redgealc.net), in particular the different editions of the e-government awards excelGOV,⁶ lets us conclude that the majority of American countries have successfully implemented numerous e-government solutions in all areas of public administration. There is, therefore, a wealth of experience

from which to learn and a foundation on which to build a plan for the next steps to accelerate progress.

Although the efforts made so far are commendable, and those who have led from either the political or the managerial sphere deserve the highest recognition from their citizens, we live in a global world where frequently one needs to run in order to remain in the same place. Indexes, global studies, and rankings related to the use of ICTs in the public sector indicate that, although most of Latin America trotted toward a knowledge-based society, some countries in Asia and Europe were galloping.

In the second half of the first decade of this century, a group of Latin American countries followed in the footsteps of those pioneers of e-government to emerge as leaders and show the region that, although in the discipline of e-government there is no recipe that guarantees positive results, there are some good practices that seem to lead to success. We consider three of these countries in the sections that follow: Colombia, Uruguay, and Panama.

THE PATH TAKEN BY COLOMBIA

Colombia had been one of the close followers of the pioneers, but it lost traction during the transition from President Pastrana to President Uribe. It is now regaining that traction under the leadership of President Santos.

Colombia took its first steps in e-government in an encouraging fashion. First, the country undertook an exercise of reflection and strategizing at a high political level that resulted in the document CONPES 3072 (National Council for Economic and Social Policy),⁷ which—as early as 1999—included an introduction with the following paragraph, remarkable for its time because of its vision of the far-reaching nature of ICTs:

Information Technologies are tools that enable the development of a new economy [E-conomía], the construction of a more modern and efficient National State, universal access to information, and the acquisition and effective use of knowledge—all these building blocks to the development of a modern society [author's translation].

The Internet had not yet exploded, smart phones had not even been imagined, and the founder of Facebook was still in high school when the government of Colombia talked about the e-economy, the connection of ICTs, the construction of a modern state, and the acquisition and use of knowledge. Fourteen years ago, this was quite a vision for policymakers in Latin America.

This strategic document, which incorporates the first Colombian Agenda for Connectivity as an annex, was followed a few months later by Presidential Directive 02, signed by President Andres Pastrana. This directive

became one of the first strategic documents related to the knowledge-based society in the region, emphasizing the purpose of the Agenda and saying in part:

The National Government has designed the Agenda for Connectivity as a state policy, which seeks to expand the use of information technology in Colombia and thereby increase the competitiveness of the productive sector, modernize public institutions and socialize access to information [author's translation].

During President Pastrana's administration, the Presidential Program for ICT Development and the Colombian Government Portal were also launched.

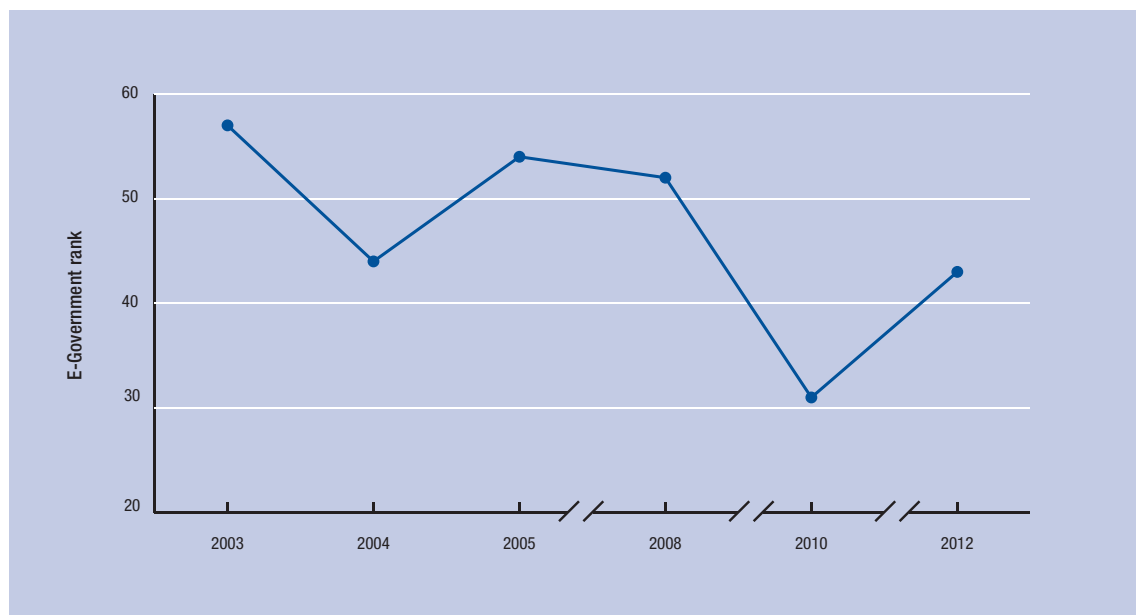
In the early years of President Alvaro Uribe's administration (2002–10), the focus was on bringing some institutional order to the management of knowledge-based society initiatives and providing human and financial resources for the Agenda for Connectivity. By this time, the Agenda had become state policy. The government under President Uribe maintained the Agenda and strengthened its link to the National Development Plan 2003–2006, which validated and reaffirmed it, making it a driving force for fundamental elements of socioeconomic progress such as education, health, safety, and local development.

In addition, President Uribe showed his commitment to the advancement of ICTs in the country with the signing of two decrees: Decree 3816 of 2003 established the Intersectoral Council for Policies and Management of Information for Public Administration. This decree became a key element for the approval of resources for the Agenda for Connectivity as well as for the adoption of interoperability standards within the Colombian government. Decree 1151, issued in 2008, launched an updated view of e-government in Colombia—the Government Online Strategy—along with a set of goals to be achieved by all branches of government, as well as a timetable and a mechanism for monitoring them.

The arrival of President Juan Manuel Santos gave a definite boost to Colombia in its progress in the use of ICTs in the country as a whole and in the government in particular. Building on the accumulated experience and giving continuity to the team that had been working in the Colombian Government Online Strategy for years, the Ministry of Information and Communication Technologies launched the Vive Digital (Live Digital) strategy.⁸ In just two years, Vive Digital achieved remarkable results,⁹ making Colombia the winner of the well-known Global System for Mobile Communications Association (GSMA) Government Leadership Award given during the Mobile World Congress in Barcelona in February 2012.

In this environment, Colombia's rise in the most widely used e-government rankings—such as the

Figure 1: Colombia's position in the UNDESA E-Government rankings, 2003–12



Source: UNDESA E-Government Survey, available at http://www.unpan.org/egovkb/global_reports/08report.htm.

Networked Readiness Index (NRI) published by the World Economic Forum and the E-Government Survey published by the United Nations Department for Economic and Social Affairs (UNDESA)—is not surprising. As shown in Figure 1, during the period 2005–11 Colombia experienced an upward trend that positions it as one of the leaders in the region in the use of ICTs the modernization of public administration. The country moves from 57th position in 2003 to 43rd position in 2012, going as high as 31st place in 2010.

Colombia's experience provides some important lessons for other countries that are still defining their approach to e-government:

1. **Political support must be strong.** In Colombia, the introduction of ICTs in the society in general and the public sector in particular has always counted on strong political support at the highest level, from the first directive signed by President Pastrana in 1999 to the launching of Vive Digital by President Santos in 2010.
2. **The use of ICTs must be state policy.** The continuity of plans, initiatives, and teams throughout the last few years underscores the importance of the principle stated in the first ICT strategic document released in 1999, which set up the Agenda for Connectivity as a state policy that seeks to expand the use of ICTs in Colombia to increase the competitiveness of the productive

sector, modernize public institutions, and socialize access to information.

3. **Financial resources must be sufficient.** Since its launching in 1999, the Agenda for Connectivity has had the financial resources needed to carry out its planned initiatives. Initially, the Agenda depended heavily on international financial cooperation, as evidenced by the fact that it was created under a United Nations Development Programme Transparency project, but gradually gained its place in the general state budget. Under the leadership of the Minister of Information and Communication Technologies, Diego Molano Vega, the government of Colombia announced ICT investments of US\$750 million per year (5.5 billion Colombian pesos for four years),¹⁰ thanks in part to partnerships with the private sector, which will contribute 40 percent of the total amount.
4. **E-government must reflect and respond to the concerns of citizens.** Colombia soon discovered that it was essential to focus on the citizen to succeed in e-government. The country became a pioneer of the concept of *apropiación*—a Spanish comprehensive concept that refers to access, adoption, usage, and sense of ownership—and created an office dedicated to this matter within the Government Online program. This citizen adoption-ownership vision is understood as the

need to listen to citizens; to communicate with them before, during, and after the implementation of e-government solutions; to seek and attract them to e-government through modern marketing tools; and to ensure a minimum level of connectivity and a basic knowledge of how to use the tools.

- 5. Cooperation across nations enhances progress.** According to Roberto López, the general manager of the regional e-government network RED GEALC, during the past 10 years, Colombia has been the most active participant of all countries in Latin America in the network's activities. Colombia has requested the most information, participated in more expert exchanges, presented the most candidates for the excelGOV awards, and been involved in more working groups and research activities than any other country in the network. Throughout this decade, Colombia has learned from other countries' experiences in order to move faster and more successfully along the path of e-government. The website of the RED GEALC, in the horizontal cooperation area,¹¹ illustrates this idea with specific activities.
- 6. Institutional and workforce capacity must be excellent.** The Colombian government has conducted one of the most important efforts in Latin America in building institutional capacity through the training of its human resources. Through agreements with the OAS, CINTEL, SENA, universities, and other institutions, the government program has trained nearly 200,000 civil servants in different areas related to e-government.

THE ROUTE TAKEN BY URUGUAY

The Oriental Republic of Uruguay has demonstrated that it is not necessary to be one of the economic powerhouses of a region to take big steps toward integrating the country, particularly the government, into a knowledge-based society.

Uruguay took its first steps toward e-government early, with the creation of the National Committee for Information Society. In 2000, the issuance of Decree 225, signed by President Jorge Batlle (2000–05), launched the Uruguay in Network initiative. But e-government really took off in the Southern Cone country during the administration of President Tabaré Vázquez (2005–10).

Although the country's e-government portal was launched and efforts to bring connectivity to schools began in the early 2000s, it was the creation of the Agency for Electronic Government and Information Society (AGESIC) in 2007 that provided the basis for

Uruguay's recent rapid progress in e-government.¹² AGESIC is physically near the Office of the President, and it became the institutional space for careful strategic thinking focused on the digital agenda of the country, as reflected in the Uruguay Digital Agenda 2008–10 (Agenda Digital Uruguay is now in its second, 2011–15, version).¹³ This document is a comprehensive exercise that focuses on the building blocks of e-government, establishing elements such as a public key infrastructure, an interoperability platform, a computer emergency readiness team (CERT), and a mechanism for online payments. It also sets up operational initiatives that introduced Uruguay to the knowledge-based international arena. Among these initiatives is the Plan Ceibal¹⁴—which was awarded the highly regarded excelGOV Prize 2009 by the RED GEALC.

These early achievements of AGESIC soon acquired international visibility, and were probably one reason that Uruguay became home to the first meeting of Ministers and High Authorities of Electronic Government in Latin America and the Caribbean.¹⁵ This meeting was organized by the OAS in collaboration with the International Development Bank and the International Development Research Center as well as AGESIC itself. Colombia, as noted earlier, is the most internationally oriented of the RED GEALC network countries, and Uruguay certainly comes second on the list of those looking for international experiences; the country is always ready to learn and share knowledge beyond its own borders.

President José “Pepe” Mujica not only underscored the importance of ICTs for Uruguay's development, but also enhanced support for AGESIC. President Mujica himself participated in the international e-government event “Towards an Integrated State” in May 2011, giving a speech where he publicly reiterated his presidency's support of the e-government initiatives led by AGESIC and defended the principle of putting ICTs at the service of citizens and humanizing the current technology-oriented society.

Along with this support, AGESIC counted on two additional elements that help to explain Uruguay's recent success in the field of e-government. First, political support was reflected in the program's financial resources. Since its inception, AGESIC's budget allowed it to expand from 30 employees in 2007 to 160 in late 2011, and to lead numerous initiatives—such as the e-Government Interoperability Platform and the REDUY communications infrastructure initiative¹⁶—with its own financial resources. Moreover, the Uruguayan government entrusted the leadership of AGESIC to an executive director who offers a deep knowledge of public administration and a business profile linked to the field of technology. This combination of qualifications in the most senior AGESIC executive, Jose Clastornik, has

Table 1: The evolution of Uruguay in the Networked Readiness Index rankings, 2005–12

Year	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2012
Rank	60	65	65	57	45	44

Source: World Economic Forum, *The Global Information Technology Report*, various years.

proven instrumental to both the political and operational success of the institution.

A remarkable aspect of the Uruguayan progress toward a knowledge-based society is the significant role played by Uruguayan businessmen linked to ICTs. Among its members, the Uruguayan Chamber of Information Technologies (CUTI) has many small- and medium-sized Uruguayan enterprises with regional presence and recognition.¹⁷ These companies have elevated Uruguayan technology exports from US\$50 million in 2000 to US\$225 million in 2010.¹⁸ This availability of advanced knowledge and technology solutions within the country has undoubtedly been a catalyst for expanding Uruguayan e-government.

Table 1 shows Uruguay's path to success, as seen in *The Global Information Technology Report 2012* published by the World Economic Forum. The country moves from 65th in the world in 2005 to 44th in 2012. Uruguay's experience offers some lessons, listed below, that can benefit other countries currently implementing or planning to implement initiatives in this area:

- 1. Presidential proximity is crucial.** In addition to political support at the highest level, proximity to the president is essential for managing the day-to-day activities of e-government. In this sense, the functional independence from the presidency has been instrumental to the success of AGESIC managing the operational portion of its agenda, as has been AGESIC's formal link to the Office of the President through the Deputy Secretary of the Office of the President, who is a member of AGESIC's board.
- 2. Excellent, well-qualified leaders are essential.** Overcoming difficult challenges requires leaders with the best credentials. In the case of AGESIC, having a chief executive officer with business experience, deep ICT industry knowledge, and a history of working in public service has been a key factor in its success.
- 3. Local ICT businesses must be nurtured.** The availability of a well-developed local ICT industry has been a cornerstone in Uruguayan progress toward a knowledge-based society. It has provided easy and immediate access to knowledgeable advice and qualified professionals

to implement elements ranging from design to deployment and subsequent operation. By being local, these qualified ICT professionals not only can act faster but also can understand the local culture better, thereby increasing the chances of success in the implementation of e-government projects.

THE WAY OF PANAMA

Although President Mireya Moscoso (1999–2004)'s mandate created the e-Panama National Commission in October 2001, aside from the national strategic document Agenda for Connectivity and some sectoral progress—especially in the form of the introduction of ICTs in education—Panama made no outstanding advances during this period. The e-Panama Commission, which at the time constituted a good planning exercise, never had the necessary financial resources to achieve the goals proposed. According to media reports, the resources available to the commission did not exceed US\$1 million in two years of operation.¹⁹

In 2004, then-new President Martin Torrijos (2004–09) provided an important push for ICTs in Panama. Even before taking office, President Torrijos showed clear signs that he attached great importance to ICTs as tools for state modernization. Just 30 days after taking office, he signed Decree 102, which created the Secretariat for Government Innovation. This decree provides the secretariat with broad powers to advance the knowledge-based society, both in the country in general and in the Panamanian government in particular. In practical terms, it raised the matter to a ministerial level, because the secretary reports directly to the president, thus endowing the Secretary for Government Innovation with a significant level of access to and dialogue with cabinet ministers. Projects such as the Digital Agenda, PanamáCompra, PanamáTramita, and others that allow Panama to advance its modernization efforts were brought forward, setting the basis for the development of the information society in Panama.

The government of President Ricardo Martinelli (2009–present) made a smooth transition from the former Secretariat for Government Innovation to what became the Authority for Government Innovation (AIG) by passing Act 65 in October 2009. Led by a general manager who reports directly to the president, the AIG has enhanced international cooperation, particularly with

Table 2: The evolution of Panama in the Networked Readiness Index, 2005–12

Year	2005	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011	2012
Rank	66	65	64	66	58	60	57

Source: World Economic Forum, *The Global Information Technology Report*, various years.

the Republic of Korea, and has increased collaboration with the private sector to compensate for limited financial resources.

The AIG has retained those aspects of the secretariat that were considered to be functioning well, including some members of the team; performed a strategic review; and planned to refocus its efforts and provide a renewed push to lift Panama's score in the e-government rankings of the NRI and UNDESA's Survey. Under the leadership of Eduardo Jaen, the AIG emphasizes two key goals on which Panama will build its final leap to e-government. The first is to bring connectivity to every municipality in the country. The second is to put the management of public resources across the government in order through the modern solution of government resource planning (GRP). The Paperless Panama project, the 311 Citizen Service Center, and the municipal e-government program MuNet Panama are some of the initiatives that, in little more than two years, have given Panama international recognition as well as helped it progress in the previously mentioned e-government rankings.²⁰

This progress, shown in Table 2, can be attributed to the following reasons and might be a valuable reference for other countries:

- 1. Extraordinary political support at the highest level.** As discussed above, the last three presidents of Panama have included ICTs both in their speeches and actions, passing legislation and launching initiatives. President Martinelli especially emphasized the importance of ICTs during his speech at the 67th United Nations General Assembly in September 2012, presenting them as key instruments to accomplish the Millennium Development Goals.
- 2. A continuous and participatory planning effort.** The last of these efforts, the AIG Strategic Plan 2010–14,²¹ shows a clear vision not limited by the usual need for results in the short term. Long-term initiatives such as infrastructure deployment projects and organizational culture transformation are included among other actions of more immediate impact such as e-safety and the municipal e-government program.
- 3. Legal independence and functioning autonomy.** Although AIG's position in the

organizational chart of the government of Panama is near the Office of the President, it is also its own legal entity. This independence provides an important operational freedom that has been instrumental in establishing alliances and agility in project implementation. This autonomy became very instrumental in attracting Eduardo Jaen as general manager. He brought not only a business view to the management of ICTs in government but also the valuable experience of having been IBM's general manager for Central America.

COMMON ELEMENTS: THE TRIANGLE OF SUCCESS

The recent experiences of Colombia, Uruguay, and Panama confirm the theories of those who research e-government and the suspicions of those who work every day in this field. Although there is no magic formula for success in advancing ICTs in public administration, those who do succeed share some common ingredients.

The first of these common ingredients is the political support of the highest authority in the country. In all three cases analyzed, the support of the president has been instrumental in mobilizing other critical elements, such as legislative changes, institutional strategy, and budgetary allocation.

Another common ingredient in these e-government success stories is the attention paid to the qualification of human resources. This component has two equally relevant sides: the leader and the team. Although they have not done it alone, Jose Clastornik (Uruguay), Eduardo Jaén (Panama), and Diego Molano Vega (Colombia) share a common characteristic that became crucial for the advancement of e-government in their respective countries. All three, for different reasons, are able to communicate directly with the highest authority in the government and know how to interact in their country's political sphere. At the same time, they are each very knowledgeable about ICTs, after having had successful careers in the private sector.

A third factor—usually a consequence of the previous two—is the availability of financial resources. In recent years, Latin America has seen too frequently how sound political speeches on the subject of ICTs failed to change the life of any citizen and never moved beyond a nice planning document adorning the bookshelf of some ministerial office or multilateral organization. On many occasions, this is because of one fundamental

Table 3: E-government Office annual budget, Uruguay (2008–12)

	2008	2009	2010	2011	2012
Annual budget (US dollars)	9,231,536	7,485,041	9,966,243	15,165,654	16,988,859

Source: AGESIC, available at www.agesic.org.uy.

reason: they did not “put their money where their mouth is,” as the famous saying goes. In those countries where ICTs do not have their own line in the national budget, years will continue to go by without solid ground being established for future socioeconomic progress.

The budgets of other countries, such as Uruguay, ensure that ICTs have sufficient financial resources by allocating specific amounts to e-government in their budgets. Table 3 shows the evolution of investment in e-government in Uruguay over the last five years.

OTHER FACTORS CONTRIBUTING TO SUCCESS

Although slightly less relevant and less evident than the three elements discussed above, some other aspects that have accelerated the progress of e-government in the countries studied are worth mentioning.

One such element is the search for international points of reference. As pointed out earlier, the organized effort to study, understand, and learn from what others have done, along with the initiative needed to visit countries that are more advanced and invite them to help, have been part of the corporate and political culture of the three countries studied. Colombia, Uruguay, and Panama have made this idea a dogma. They have participated in numerous instances of international relations and cooperation and have taken full advantage of the experience of others.

Another important aspect that should be considered is concerned with the ICT-related business capacity installed in the country. Colombia very cleverly used its Vive Digital push to generate an emerging entrepreneurial sector in the field of ICTs. These entrepreneurs were able to grow because of the investment efforts of the government; this, in turn, ensures that Colombia has the local knowledge needed to progress.²² Uruguay has enjoyed a thriving and exporting technology sector for the past 15 years. And Panama, with its enviable geographical location, also has a large number of ICT multinationals operating within its borders.

Finally, in all three countries a certain element of continuity has been maintained in both their plans and their working teams. In some cases, the ruling party itself changed; in other cases, the ruling party remained in power. But in all three countries, a change of party or president did not mean a radical break in approach or policy. In all three, many members of the team remained in place and the majority of initiatives were continued, and the changes provided an opportunity to review the

strategic approach, introduce new projects, and adapt the priority areas to ever-changing citizens' needs and technology opportunities.

THE CHALLENGES AHEAD

All governments in the region—those more advanced in providing e-government and those lagging behind—face a similar challenge to remain competitive in the global e-government arena: connectivity. According to the last NRI,²³ published by the World Economic Forum in 2012, in the Latin American region, only Uruguay and Chile are ranked among the top 50 countries worldwide for broadband Internet subscriptions. Uruguay ranked 47th on this indicator with 10.9 percent penetration and Chile ranked 50th with 10.5 percent. The Netherlands, ranked 1st in the world in the 2012 NRI for broadband Internet subscriptions, had a penetration rate almost four times those of the Latin American top countries. In mobile broadband subscriptions, the panorama does not improve much. Uruguay (ranked 42nd) and Chile (45th) had rates of 9.7 percent and 9.0 percent, respectively. Ecuador was in 47th place, with a rate of 8.3 percent. Korea, the top country in this indicator, showed a mobile broadband subscription rate of 78 percent.

As Chile discovered during its early e-government efforts, merely making modern e-government solutions available to the citizens does not guarantee that citizens will use them. Colombia, an avid observer of international experiences, quickly realized that well-planned marketing and active promotion under the umbrella of an “Appropriation Office” would help to reach out to those who are connected. The problem is that, as the above-mentioned figures show, broadband connectivity still benefits a minority of the population. It should not be a surprise, then, that the main objective of the latest Colombian ICT strategy, Vive Digital, is to multiply the number of broadband connections in the country by four, with strong emphasis on low-income households.

Closing the connectivity gap between Latin American and developed countries will require the deployment of a great deal of infrastructure throughout the region. Regardless of the method chosen (optic fiber, dark fiber, satellite, whitespaces, etc., and their multiple combinations), the necessary investments are challenging. If the governments in Latin America are to take seriously the connectivity gap and the hurdle it poses for the socioeconomic progress of the region, they

will need to work with the private sector and put in place decisive policy actions. For these big investments to become a reality, financial contributions from the private sector will be critical. In addition, some minimum policy commitments will have to be made and implemented. At a minimum, legislation must be passed that attracts investment into the sector by opening it to competition, establishes the necessary investment protection, creates a framework for public-private partnerships, and makes good use of all the radio spectrum available. The more ambitious countries, such as Colombia under the Vive Digital, will even set up tax breaks for the imports of computing equipment.

Even before the arrival of the Internet, the region suffered a connectivity gap between those with access to phone service and those without it. In order to close this gap, beginning in 1994, programs of universal access funds for telecommunications proliferated in Latin America. In general, these programs are funded by charging a percentage (between 0 and 1 percent) of telecommunication companies' revenues.

Leaving the enormous Brazil fund aside, today close to US\$1 billion is available in the bank accounts of these universal access funds. It is paradoxical that the region keeps losing the information society race partly because of its low broadband connectivity at the same time that it sits on these valuable resources, which should be devoted to connectivity-related initiatives. These funds, however, will not be nearly enough to close the digital divide that separates Latin America from the most advanced countries in the world, especially because those advanced countries continue to pour effort and support into initiatives that promote and expand ICTs. For example, last year Australia launched its National Broadband Network initiative.²⁴ This country, which has a smaller surface area than Brazil, plans on investing US\$35 billion (US\$8 billion of which will be contributed by the private sector) to provide access to broadband connection to all Australians by 2015.

An additional challenge—that will grow in importance as e-government advances—is the issue of interoperability,²⁵ both domestic and international. No e-government solution can bring efficiency to public administration if it is not interoperable. If a solution is designed outside an interoperability framework, it will probably need to rely on the ability of the citizen to provide data and documents, even if online, that are already in the hands of another section of the government. In most Latin American countries, interoperability is left to the will of the authorities involved in any specific public procedure or service. Countries such as Brazil, Chile, Colombia, and México—although they have the required infrastructure in place and have defined the interoperability standards—are still struggling to get the necessary commitments from all actors involved.

The interoperability problem becomes bigger when you consider cross-border situations. E-government will be seriously limited in its ability to deliver on its promises if applications and databases are not able to communicate among themselves outside national borders. Customs procedures, health services, security, judicial collaboration, natural disaster cooperation, international transportation, and many other services require international interoperability if they are going to provide citizens with efficient services. The RED GEALC network has participated in discussions and research on regional interoperability over the past five years, but this is just a tiny light in an uncertain scenario. The exchanges have taken place at a technical level, but interoperability has not yet gained ground in the regional political agenda. Given the difficulty of the topic and its relevance for a region that wants to take the most possible advantage of e-government, political leaders should start paying attention to it as soon as possible.

Despite these significant challenges, e-government is an unstoppable reality. Arguably it will continue to grow in Latin America because it has already shown positive impact in the lives of Latin American citizens. The rankings mentioned are merely an objective mechanism allowing comparison among countries and analysis of their evolution. The relevance lies in what is behind the rankings. Behind Colombia's position are citizens who, thanks to ICTs, participate more than ever before in the design of public policy. More than 50,000 Colombians participated in the design of the National Educational Plan 2006–15. Uruguay's position in the rankings is the reflection of the satisfaction experienced by the parents of the 45,000 newborns per year who can register them electronically immediately after they are born, providing them with the right at the center of many human rights—identity. Behind Panama's rankings are entrepreneurs who used to need five days to set up a company; now, thanks to PanamaEmprende, they can do it in 15 minutes.

MOVING FORWARD

Two forces will combine to keep pushing the advancement of e-government in Latin America. First, people who taste the flavor of the efficiency of the online world through the private sector often become anxious demanders for the same efficiency in their governments. Many Latin Americans are already enjoying the convenience of online purchasing or banking, and want their governments to imitate that type of interaction. Second, all governments face the challenge of attending to the needs of a growing population with ever-increasing demands under a tight budget that rarely expands. This situation generates an urgent plea to make the most out of every dollar managed by the government—also known as *efficiency*. Every plan to bring efficiency into government will have ICTs as a key supporting tool.

NOTES

- 1 Hornbeck 2013.
- 2 See www.latinobarometro.org for information about the organization Latinobarómetro and its annual report; see also The Economist 2003.
- 3 Holmes 2001.
- 4 See <http://home.sii.cl/>.
- 5 See the Superior Electoral Court website at <http://www.tse.jus.br/internet/ingles/index.htm>.
- 6 Information about these awards can be found on the RED GEALC website at <http://www.redgealc.net/premios-excelgob-2009/content/3711/en/>.
- 7 The CONPES 3072 document is available at <http://www.dnp.gov.co/CONPES.aspx>.
- 8 See <http://vivedigital.gov.co/>.
- 9 See <http://www.mintic.gov.co/index.php/vive-digital/logros>.
- 10 See <http://www.mintic.gov.co/index.php/vive-digital/plan/preguntas-frecuentes>.
- 11 See RED GEALC's "Horizontal Cooperation Fund," available at <http://www.redgealc.net/horizontal-cooperation-fund/content/2024/en/>.
- 12 See <http://www.agesic.gub.uy/>.
- 13 For details of the Agenda Digital Uruguay, see http://www.agesic.gub.uy/innovaportal/v/1443/1/agesic/mapa_de_ruta:_agenda_digital_uruguay_2011-2015.html.
- 14 For further information about Plan Ceibal, see <http://www.ceibal.edu.uy/Paginas/Inicio.aspx>.
- 15 For details about the meeting, which took place in March, 2009, see <http://www.redgealc.org/montevideo-marzo-2009/contento/2673/es/>.
- 16 See http://www.agesic.gub.uy/innovaportal/v/518/1/agesic/plataforma_de_gobierno_electronico_del_estado_uruguayo.html?menuderecho=3 for details about the e-Government Interoperability Platform; see http://www.agesic.gub.uy/innovaportal/v/504/1/agesic/red_uy.html?menuderecho=3 for details about the REDUY communications infrastructure initiative.
- 17 Information about CUTI can be found at <http://www.cuti.org.uy/>.
- 18 Oriental Republic of Uruguay 2011.
- 19 Guerra 2004.
- 20 For details about all these projects, see <http://www.innovacion.gob.pa/proyectos>.
- 21 See <http://www.innovacion.gob.pa/descargas/AIG-PLAN-ESTRATEGICO-2010-2014.pdf>.
- 22 See <http://www.mintic.gov.co/index.php/vive-digital/iniciativas>.
- 23 To download *The Global Information Technology Report* or view and interact with the data platform, see <http://reports.weforum.org/global-information-technology-2012/#=>.
- 24 For information about Australia's Department of Broadband, Communications and the Digital Economy, see <http://www.dbcde.gov.au/broadband>.
- 25 A complex and complete definition of interoperability beyond the ICT field can be found at www.wikipedia.org. For the purposes of this chapter, we refer to *interoperability* as the capacity of applications to communicate and exchange data within and across borders.

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