THE MULTISTAKEHOLDER MODEL IN INTERNET POLICY-MAKING

A CASE STUDY OF PARAGUAY

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Declaration

I hereby declare that this dissertation is my own original work.

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Abstract

Internet Governance was a vague topic in Latin America and especially in Paraguay. Only after Snowden´s revelations of mass surveillance, the topic becomes familiar. This work addresses the need that Paraguay adopts institutional multistakeholder mechanisms for Internet policy-making. The study makes a comparison of regional experiences of institutional consolidations to address their effectiveness and suitability for replicability. The comparative approach analyses case studies from Argentina, Brazil, Colombia, Costa Rica and Mexico. The research also analyzed the early stages of Paraguay institutional mechanism and the local environment for Internet regulations. A survey showed the maturity of the local stakeholders to face the challenge to build a collaborative unit for Internet policy formulation following the Internet Governance principles.

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List of abbreviations and acronyms

APADIT	Paraguayan Association of Information Technology Law
AR	Argentina
CAPI	Argentine Commission for Internet Policy
CC	Creative Commons
ccTLD	Country Code Top-Level Domain name
CEILAC	Centre of Entrepreneurship and Internet
CERN	European Organization for Nuclear Research
CERT-PY	Cyber Incident Response Centre- Paraguay
CGI	Brazilian Internet Steering Committee
CITEL	Inter-American Telecommunications Commission
CNC	National Computer Centre
CO	Colombia
CR	Costa Rica
CRC	Communication Regulatory Commission, Colombia
CONATEL	National Telecommunications Commission
COPACO	National Communication Company
DIFTI	Directorate of Physical Integration and International Transport
DNS	Domain Name System
E-LAC	Plan of action for Latin America and the Caribbean
ECLAC	Economic Commission for Latin America and the Caribbean
EDB	Ease of Doing Business
EGDI	E-Government Development Index
GDSS	General Direction of Statistics and Surveys
GDP	Gross Domestic Product
HDI	Human Development Index
IANA	Internet Assigned Numbers Authority

IATA	International Air Transport Association
ICANN	Internet Corporation for Assigned Names and Numbers
ICT	Information and Communications Technologies
IDI	ICT Development Index
IETF	Internet Engineering Taskforce
IG	Internet Governance
IGF	Internet Governance Forum
ISP	Internet Service Provider
ISOC	Internet Society
ISOC Paraguay	Internet Society Paraguay Chapter
ITU	International Telecommunication Union
IXP	Internet Exchange Point
KEI	Knowledge Economy Index
KOICA	Korea International Cooperation Agency
LACIGF	Latin-American and Caribbean Internet Governance Forum
LACNIC	Latin-American and Caribbean Internet Address Registry
LACTLD	Latin-American and Caribbean Country Code Top-Level Domain Association
LED	Digital Electronics Laboratory
MERCOSUR	Southern Common Market
MX	Mexico
MFA	Ministry of Foreign Affairs
MIC	Ministry of Industry and Commerce
NIC	Network Information Centre
NSA	National Security Agency
NTIA	National Telecommunication and Information Administration
NTP	National Telecommunication Plan
OAS	Organization of American States
OECD	Economic Cooperation and Development
PY	Paraguay
SECOM	Secretary of Communication, Argentina

SENATICS	Secretary of Science and Technology
SME	Small and Medium Enterprises
TEDIC	Association of Technology, Education, Development, Research and Communication
UN	United Nations
WGIG	Working Group on Internet Governance
WSIS	World Summit on the Information Society

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Chapter 1: Introduction

Internet governance has been placed increasingly on the map of government priorities after Snowden revelations. In 2013, a former US government employee called Edward Snowden has revealed thousands of classified National Security Agency (NSA) documents to journalists, denouncing pervasive mass surveillance through telecommunications and Internet channels. The fact that US government were spying on American citizens as well as foreigners has raised a global debate on information monitoring limits, privacy protection, and security boundaries. In the list of "target people" were included world leaders and foreign governments, such as the German Chancellor Angela Merkel, the former Brazilian President Dilma Roussef, and former French President Nicolas Sarkozy.

Snowden revelations have spurred a broad range of reactions in different stakeholder groups, bringing to the awareness about data protection closed to the end users, but also raising an important discussion on governments about cross-border data flow and the Internet "boundaries." Briefly, the tension caused by the unilateral government misuse of the Internet as a tool for obtaining information has challenged the current model of collaboration and coordination in the Internet Ecosystem. However, instead of choosing the path to breaking the model that the Internet Governance builds, government and all stakeholders have decided to reinforce it, by re-adhering to the core principles of an open Internet and the adoption of multistakeholder approach.

Important meetings held after these revelations, such as NETmundial[1], the ITU Plenipotentiary 2014 and recently in November, ICANN 57 in India[2], where the multistakeholder model has also been put in the spotlight.

NETmundial demonstrated that multistakeholder process could be used for the adoption of global Internet principles. The milestone of the meeting was seeing governments participating on equal footing with other stakeholders. The power is shifting from hierarchy to citizens. The government no longer has the last word on decision-making and can no longer solve the problems alone.

The NETmundial Multi-Stakeholder Statement says, "Internet governance should be built on democratic, multi-stakeholder processes, ensuring the meaningful and accountable participation of all stakeholders, including governments, the private sector, civil society, the technical community, the academic community and users. The respective roles and responsibilities of stakeholders should be interpreted in a flexible manner concerning the issue under discussion". Daniel Fink, former Executive Director for the NETmundial secretariat, in a personal communication (October 2016), wrote, "We learned in NETmundial that the world is capable of getting together in a multistakeholder fashion to agree upon a set of principles to preserve a global good. The lesson is to listen to the community for guidance".

During the Internet Governance Forum (IGF) 2016, Lawrence E. Strickling, Assistant Secretary for Communications and Information at the Department of Commerce, said about the milestone of the IANA transition, "…. is the most successful demonstration of the power of the

[1] NETmundial was a Global Multistakeholder Meeting on the Future of Internet Governance, held in Sao Paulo, Brazil in April 2014. To read more about the meeting see at http://netmundial.br/about/

[2] The first ICANN meeting after the National Telecommunications and Information Administration (NTIA) contract with ICANN expired and a bottom-up multistakeholder process was developed for the Internet Assigned Numbers Authority (IANA) Stewardship Transition. As of 1 October 2016, Public Technical Identifiers, a new affiliate of ICANN, are providing the IANA functions. To read more about the IANA transition see at https://www.icann.org/stewardship

multistakeholder model and provides important lessons as we consider how to build on the momentum created by this remarkable achievement" (Strickling, 2016).

Internet governance and multistakeholder model are being discussed in local debates over issues such as access, net neutrality, and freedom of expression, cyber security and data protection. Government´s role in managing activity on the Internet are being questioned. Examples to support a multistakeholder model approach in policymaking are being developed worldwide.

William Drake, notes in an article written for the e-book *Internet Governance: the NETmundial Roadmap* that "there is a need to develop multistakeholder mechanisms at the national level owing to the fact that a good portion of Internet governance issues should be tackled at this level. National multistakeholder mechanisms should serve as a link between local discussions and regional and global instances. Therefore, a fluent coordination and dialogue across those different dimensions is essential" (Drake, 2014, pos.289).

The multistakeholder examples for Internet policy-making involve all the various actors with balanced and equal representation. Consensus-based decision-making by multi-participants with different perspectives help develop time-sustainable, effective and efficient quality policy as they took into account all stakeholders opinion in an open, flexible and transparent mechanism.

The process is complex, lengthy, and could be more expensive but it provides with policy sustainability that in the long term result more profitable. As noted by Marilia Maciel in the article written for the e-book *Internet Governance: the NETmundial Roadmap*, "the Multistakeholder networks have been perceived as an efficient model for Internet governance because they could identify softer and speedier approaches to policy making and regulation" (Maciel, 2014, pos. 4279).

The purpose of this dissertation seeks to address the need to develop an efficient and legitimate Internet ecosystem in Paraguay and provide context for a policy coordination unit. It challenges the premise of the question if Internet policy-making can be made in a multistakeholder manner in Paraguay, by exploring the complex factors that contribute to Internet governance.

Clay Shirky, in his book *Cognitive Surplus*, has shown that people are ready to help the world become a better place if they are allowed to. The most important lesson is that "once you learn how to exploit the cognitive surplus in a way that it matters to people, other shall copy your technique worldwide." It is the case of the Brazilian Steering Committee that accordingly to Peter Knight, in his e-book *The Internet in Brazil*, it "has successfully implemented the multistakeholder model for the formulation and, adoption and execution of policy regarding the Internet" (Knight P., 2014, pos. 270).

This research will evaluate existing regional governance institutions in Brazil, Argentina, Costa Rica, Mexico and Colombia. These cases studies serve to identify the best suitable model for Paraguay´s Internet policy making, and it describes the potential for a multistakeholder national institution for policy coordination.

Literature Review

The multistakeholder governance is a new and dynamic topic that is in constant change and development. Among the few writers on the subject in the region were Aguerre and Galperin (2014) and, in the North, Gasser, Budish and Myers (2015). Both works take a comparative approach and look at several national cases of multistakeholder as governance groups. Aguerre and Galperin examined cases from Argentina (CAPI), Costa Rica (Internet Governance Council), Mexico (Initiative Group) and Brazil (CGI). Gasser et al. analyzed the formation and operation of governance groups and the contextual environment. *Comite Gestor da Internet* (CGI) is the only case study extendedly documented.

To date, no research on the institutionalization of the local process in Paraguay has been done. This study is an attempt to fill that gap. Therefore, it will mainly highlight experimental research done. There is not a wide range of literature available, for this reason, online resources, and interviews with regional experts who shared their experiences with their national Internet Governance processes, and structures will serve as main sources of this research. This issue highlights the importance of continuing research and capacity building in the field.

Methodology

The purpose of this study was to determine the effectiveness of the multistakeholder model for Internet policy making in Paraguay. Over a period of one month, a survey was sent to collect data from local Internet end users. The aim was to learn from their experience and perception of Paraguay´s Internet ecosystem. The survey allowed the following questions to be answered: 1) what was their experience in Internet Governance and Internet Public Policy in Paraguay; 2) What are the problems that Internet faces in Paraguay; 3) Can those problems be solved in a multistakeholder manner approach; 4) Are they interested in participating in the development of Internet Governance in Paraguay and; 5) what are the topics they preferred to work with. The survey was divided into sections described as follows: (a) demography, (b) background, (c) Internet situation in Paraguay, (d) participation in public policy development, and (e) working-groups.

This dissertation will lay the groundwork for a local Internet ecosystem able to develop Internet policy with a multistakeholder participation to solve critical infrastructure and economic problems that Paraguay is facing. In Chapter 2, an overview of the interplay between policy and regulatory environments is presented. A detailed analysis of the economic, political and regulatory framework is provided. Factors such as openness to business, human resources and skills development, Internet access, and affordability play a significant role in Paraguay´s positions in many global development rankings.

Chapter 3 will examine the survey results taken to determine the readiness of Paraguay and Paraguayans to follow a multistakeholder process for Internet policy-making and Internet Governance discussions.

Chapter 4 will examine the best practices of regional multistakeholder entities models to make a benchmarking and to determine the best suitable model for Paraguay´s Internet development and ecosystem or best reference model. This is followed by the conclusion, challenges, and recommendations as the foundation for the establishment of a national Internet policy coordination unit.

This dissertation will demonstrate that Paraguay is ready to face the challenge to develop its multistakeholder Internet policy coordination unit, following the guiding principles of Internet Governance. Moreover, by making small changes in a collective way it can have significant influences in Paraguay´s development and economy.

Chapter 2: Regulatory Framework

Background

Since 2014, Paraguay has been discussing Internet Governance in a national forum organized by Internet Society Paraguay Chapter (ISOC Paraguay) and a Multistakeholder Advisory Committee[3]. It was the first time that the debate was established using a multistakeholder model. People are showing interest and are willing to continue the discussion and to participate in the policymaking process.

Despite this, there is still a need for stronger commitment[4] from all stakeholders and their active participation to discuss those issues that are not yet addressed in a coherent and unified manner where all the interested parties are involved in an equal footing.

After three years of having these discussions in the local Internet Governance Forum, participants are asking for more, and they are asking for outcomes. The natural next step is to

[3] According to the Internet Governance Forum Paraguay´s Operating Principles, ISOC Paraguay has decided to create a national forum, following the principles of the Internet Governance Forum (IGF) - a United Nations led-activity initiated in 2006, as a local platform for multi-stakeholder policy dialogue on Internet governance. ISOC Paraguay is the secretariat and annually organizes the event with the help of a multistakeholder group of volunteers and the special sponsorship from ISOC and ICANN. The IGF Paraguay is composed of and open to the following recognized stakeholder groups on equal basis Government, Civil Society, Private Sector, Technical Community, Academia and Internet end users. All the five recognized stakeholder groupings have at least one seat in the Advisory Council. Nic.py chair and represents it.

[4] In October 2016, the third edition of the IGF Paraguay was organized. In the first editions of the forum (2014 and 2015), it was difficult to engage the audience as they were still learning about Internet Governance, the multistakeholder model and the open forum. Nevertheless, this year, more people were engaged and participated actively in the organization and in the panels. This is due to the continued shared information about news, events and more importantly about fellowships opportunities. Some members of the community seized those opportunities and participated in regional or global events related to Internet Governance. That first-hand experience and networking helped new members get more involved locally. Other members also manifested that a neutral space to discuss policies and to work together was lacking, and that the Forum has fulfilled that need. There is stillroom for improvement in engagement and reaching out to more stakeholders who are not yet participating. This is a work in progress.

create a local platform, a national organization to discuss Internet Governance and develop Internet public policies in Paraguay in a participatory, inclusive, voluntary, open and bottom-up manner. This organization shall be able to make recommendations, dictate Internet principles, and establish good practices for the development and implementation of Internet public policies with the participation of all sectors involved including government, private sector, civil society, technical community, academia and Internet end users.

During the Lac-i-Roadshow[5] was discussed the regional models available for the debate and discussions on Internet governance. Case studies from Brazil, Argentina, Mexico and Costa Rica have been investigated to see how they implemented and addressed these issues. More details will be further discussed in chapter 4.

The legal, economic and political situation for Internet development in Paraguay and the feasibility to establish a multistakeholder organization in charge of Internet policymaking will be analyzed in this chapter.

Economic, political and social factors

Paraguay extends over a total area of 406,752 km^2, divided into two distinct natural regions: The Eastern Region and the Western Region. It is a landlocked country surrounded by Argentina, Brazil, and Bolivia. It lies 800 kilometers from the Pacific Ocean and 600 kilometers from the Atlantic Ocean.

[5] It is a an event from the Internet Corporation for Assigned Names and Numbers (ICANN), designed to raise awareness across the Latin American and Caribbean (LAC) region on key topics related to the multistakeholder model and Domain Name System (DNS) critical infrastructure such as the transition to IPv6, SSR (Security, Stability and Resiliency) and the impact of the new gTLD program. The event was co-organized in Asunción by ICANN, ISOC Paraguay and the ICT Minister, *Secretaria Nacional de Tecnologías de la Información y Comunicación* (SENATICS), in September 22-23, 2016. The topics covered in the agenda were about: 1) Internet Governance and the multistakeholder model: Study cases in LAC Region; 2) Innovation and DNS Industry; 3) Strengthening the technical sector in Paraguay; and 4) Roundtable about a Roadmap for a multistakeholder framework in Paraguay. There were approximately 153 high quality attendees from the stakeholder groups of Private Sector, Government, Technical Community, Academic Community, Civil Society and Internet end users. The groundwork for the roadmap to establish a national multistakeholder framework has been firmly set with 40 participants agreeing to move the process forward. SENATICS´s Minister, Mr. David Ocampos, announced that he supports the multistakeholder model to address the public policy aspects of the Internet.

Paraguay has 6,926,100 inhabitants[6]. The most populated Departments are Central, Alto Paraná, Itapúa, Asunción (Capital City) and Caaguazú. The principal cities are located in the Eastern region: Asunción, Lambaré, Fernando de la Mora, San Lorenzo, Encarnación, Concepción, Ciudad del Este, Pedro Juan Caballero, Coronel Oviedo and Villarrica. The main cities in the Western Region are Mariscal Estigarribia and Filadelfia (Spanish Ministry of Foreign Affairs, 2015).

Paraguay, a Unitary Republic, with a representative democracy. The three powers of the State are Executive (Presidential system), Bicameral Legislature (Senate and Deputies Chambers) and Judiciary.

Paraguay´s Gross Domestic Product (GDP) growth is 4% (Banco Central del Paraguay, 2016), with USD. 27,623 per capita income (World Bank, 2015), which represents an upper middle-income economy. It ranks 106th in the World Bank's Ease of Doing Business[7] (EDB) (World Bank, 2016). The lower the GDP growth, the more difficult it is to attract investors. The low EDB ranking is also very much related to bureaucracy and low use of Information and Communications Technologies (ICT), as shown in the Network Readiness Index and ICT Development Index which will be developed further in this chapter.

Education

Paraguay is a bilingual country, and the official languages are Spanish and the native language Guaraní[8]. The total illiteracy rate[9], (population 15+ years, both sexes) is 4.88%. In the urban

[6] According to the Permanent Household Survey (2015) taken by the General Direction of Statistics and Surveys (GDSS), the economically active population is 3,492,514 (61.61%), the working Population is 5,668,886 (81.85%) and the economically Inactive Population is 2,176,372 (38.39%).

[7] According to the report, the Doing Business Report scores economies based on how business friendly their regulatory systems are using the distance to frontier score and the ease of doing business ranking. It measures aspects of regulation that enable or prevent private sector businesses from starting, operating and expanding. These regulations are measured using 11 indicator sets: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency and labor market regulation.

[8] Although there is some local content in Guarani, it is not enough. Firefox Foundation and Wikipedia are doing great work translating their products, and some local newspapers have digital content in Guarani. However, this does not mean that Guarani-only speakers will find relevant content for themselves. This could also decrease use and Internet access in rural areas. It must also be taken into account that Guarani is an oral culture not a written one.

[9] 96.21% of the total population with no instruction has also never used Internet (GDSS, 2015)

zone, it is 2.57%, and in the rural area, it is 8.70% (GDSS, 2015). On the other hand, adult literacy rate, population (15+ years, both sexes) is 96% (World Bank, 2014).

Despite the high literacy average, Paraguay ranks 91st in the Knowledge Economy Index (KEI), which represents a country's preparedness to compete in the Knowledge Economy. "The KEI is based on a simple average of four sub-indexes: Economic Incentive and Institutional Regime (EIR), Innovation and Technological Adoption, Education and Training, and ICT Infrastructure" (World Bank, 2012). Other numbers show as follows: knowledge index, 4.97; Innovation index, 4.07; Education Index, 4.26; ICT index, 3.90 and Economic Incentive Regime index, 3.58.

The Knowledge Economy Index is very much related to the investment in Research and Development. Paraguay is one of the last countries in the region to invest in research and development with a percentage of 0.2%-0.5%. Paraguay has a percentage of only 25%-50% of students receiving university education while in the region; the enrolment rate averaged 43% in 2012 (ECLAC, 2016). The consequence is the lack of human resources for Scientific and technological activities, not to mention innovation. These factors are critical today to increase a country´s GDP.

Youth

The youth population (15-29 years old) is approximately 28.5%. Most of them live in the urban area (63%) and are economically active (64%). About 68.5% access the Internet (GDSS, 2014). These numbers show similarities with the online demographics in Latin America where the 15-24 years old audience represents 31% (comScore, 2015). The future workforce of Paraguay is young, active, literate, and with basic education. Educational Policies should prepare those youths for a hyper-interconnected world where they can be protagonists and not followers. Creativity is a skill they already have; they just need more education.

ICT Development

Information and Communication Technologies (ICT) is crucial and a crosscutting enabling resource for economic and social development. The International Telecommunication Union

(ITU) has developed a multi-factor measure, the ICT Development Index (IDI), a single benchmark of the level of ICT development in countries across the world. Since 2007, ITU has published a series of reports entitled "Measuring the Information Society." The report (2016) combines eleven indicators on ICT and reflects access, use, and skills, capturing key aspects of ICT development[10]. Paraguay ranks 109th in the ICT Development Index (IDI) with 4.08; access sub-index, 111th; use sub-index 105th; skills sub-index, 113th and, in the American region ranks 26th (ITU, 2016). Unfortunately, Paraguay has regressed since it ranked 107th in 2015. All other sub-indexes also had a setback except use sub-index that has increased mainly because of growth in mobile-broadband subscriptions (ITU, 2016)

Though mobile penetration is 94.4%, it shows low Internet penetration. Tablet or similar is 5.59%, and access to the home Internet is 22.71%. The mobile phone is also the preferred way of Internet access (93.90%) for the urban and rural population (GDSS, 2015). Compared to the region where total Internet penetration is 66.7%, Paraguay represents only 3.1% - with 45.9% penetration (Internet World Stats, 2016).

The statistic also shows that Paraguayans use the Internet preferably for instant messaging (93.72%) and social media (89.99%) (GDSS, 2015), as Paraguayans are heavy social media users. The LAC DNS Marketplace study (2016)[11] found that "connecting to the Internet through mobile technologies such as phones and tablets can lead to a Walled Garden effect" (ICANN, 2016). Accessing mainly through phones can also be a threat to net neutrality. Although mobile Internet penetration can ease access problem, it can also hinder the possibilities that Internet can bring to education, health, e-government and culture where more and better bandwidth is needed.

[10] According to the report, the best-ranked countries have a high level of ICT investment and innovation. The majority of high-performing countries have liberalized and competitive ICT markets that encourage innovation. They also have populations with relatively high incomes and the skills needed to make effective use of ICTs.

[11] According to the report, in 2016, ICANN commissioned a study that was to identify and define the strengths and weaknesses in the industry ecosystem within the region and develop recommendations on how to advance the industry and bring it closer to the opportunities available.

Regardless low penetration in percentage terms, Paraguay is the country with the greatest increase in Internet penetration in the region since 2012. “Penetration increased from 29.34 % in 2012 to 43% in 2014 - that is, more than 13.6 %” (SENATICS, 2016).

However, the country least connected to broadband is Paraguay. In 2015, Fixed-Broadband subscriptions were 3.14% of the population, while active Mobile-Broadband subscriptions were at 39.23% (ITU, 2016b). On the other hand, Paraguay stands out with a speed of 6.1 Mbps. in the measurement of the speed in mobile connections, compared to the region average speed of 2 and 4 Mbps. (ECLAC, 2016b). It also ranks third out of the top five countries with the cheapest mobile-cellular services in the region (ITU, 2016).

Paraguay cannot harness the benefits brought by broadband connectivity because of the high cost, poor quality of service, insufficient policy, outdated regulatory framework and inadequate infrastructure.

Numbers show that Paraguay has problems with access, infrastructures, and education. Investments in infrastructure are low, and the geo-localization of a landlocked country makes the Internet transport traffic costs very high for the local economy.

Infrastructure, access, and broadband are big topics in the regional Digital Agendas. For infrastructure development, in particular, broadband, Paraguay has launched the National Telecommunication Plan (NTP) (2016-2020), promoted by *Comisión Nacional de Telecomunicaciones* (CONATEL) the National Telecommunication Commission and the Digital Agenda (2013-2018-*Conecta Paraguay*), promoted by SENATICS, which will be further developed in this chapter.

TABLE 1 RANKING

Factor	Paraguay	World Bank	ITU	ECLAC
GDP	4,%	27.623		
Illiteracy	4,88%			
Adult literacy B		96%		
Knowledge Economy		91		

Knowledge Economy Index	3,95%		
Innovation index	4,07%		
knowledge index	4,97%		
Education index	4,26%		
ICT index	3,90%%		
Economic Incentive Regime index	3,58		
Research &Development			0,2%-0,5%
University Education			25%-50%
Youth population	28.5%		
Youth access to the Internet	68.5%		
ICT Development Index (IDI)		112	
Access sub-index		106	
use sub-index		109	
skills sub-index		104	
Mobile penetration	94,4%		
Tablet or similar	5,59%		
Access to home Internet	22,71%		
Mobile Internet access	93,90%		
fixed-Broadband subscriptions		3,14%	
Active Mobile-Broadband subscriptions		39,23%	

IXP

Paraguay does not have access to submarine cables. The problem of poor connectivity results in not having net independence, local content, poor quality of service and having to pay high costs for international traffic.

Those problems can be solved with Internet Exchange Points (IXP). IXP allows local networks to exchange traffic in an efficient way within a focal point without the need to exchange traffic internationally. It keeps traffic locally. This efficient communication helps reduce international traffic costs for local Internet Service Providers (ISPs) and improves the speed of services. It stimulates Internet development by reducing costs at latency. For Internet end users, it means faster Internet.

The challenge is to work together to improve the connectivity and reach a good governance model to improve local infrastructure. Reducing costs, improving access, creating local content and creating new jobs will reflect on Paraguay´s Human Development Index (HDI)[12] through a greater Internet penetration in the country.

In May 2016, *Compañia Paraguaya de Comunicaciones* (COPACO) - the National Communication Company together with *Centro Nacional de Computación* (CNC) and a local company (TEISA) launched the first IXP in Paraguay (IXPy)[13] with CONATEL´s coordination. The data center is located in the CNC.

In an email to the author, Gustavo Amarilla - a CNC staff (May 2016), wrote, "The proper news about the local IXP, is that it will represent an improvement in services and should constitute a decrease in costs too. As in many countries, the lack of local content is notorious. If it were not for the digital local newspapers, possibly close to 100% of what [Paraguayans] consumed would be generated in another country. Also, the speed of access is very low; Internet penetration only has an impact when talking about 3G or 4G networks. In nearby countries, they are talking about 5G and 6G technologies. [Paraguay] does not have an infrastructure that allows offering fast and low-cost access in rural areas; therefore, many parts of the country do not have the Internet [access]".

About the governance model, in an email to the author, Ignacio Velázquez - CNC Manager (June 2016), wrote, "the institution in which he is currently working is one of the most interested parties in supporting the multistakeholder model and collaborating with the

[12] Paraguay ranks 112th in the HDI according to the report "Work for Human Development" (2015).

[13] In the third IGF Paraguay, during the panel on IXP, the presenters shared that this project was possible thanks to Internet Society´s (ISOC) collaboration and its IXP program that promotes its use. Part of the infrastructure was an ISOC donation. The first stage and more difficult step was reaching an agreement and to collaborate to improve the governance model. ISOC was very useful being the neutral party. They followed the technical rules that are available in the market and are used in the region. Conatel will mediate with telecommunications companies to join the project and by providing a part of the universal funds. They will continue the work in collaboration with ISOC, Facebook, LACNIC, Packet Clearing House, and the DNS industry. In November 30 2016, 14 ISPs signed an agreement to join the IXPy Executive Committee.

development of Internet governance in Paraguay." CNC has driven IXPy - a technical project - in a multistakeholder manner in partnership with other institutions.

Critical resources

The Network Information Canter - Paraguay (NIC.PY) is the delegated organization for the ccTLD (country code Top Level Domain).PY, the two-letter code assigned to Paraguay according to ISO 3166-1. The name delegation service is provided jointly by *Laboratorio de Electrónica Digital* (LED) the Digital Electronics Laboratory from the Catholic University of Asunción and CNC from the National University of Asunción, which are the institutions responsible for the administration of the ccTLD-PY (Country Code Top Level Domain - Paraguay).

LED (ccTLD-PY Administrative Contact) is responsible for approvals of domain delegation requests, and CNC (ccTLD-PY Technical Contact) is responsible for the administration and operation of the DNS servers. Both organized the NIC.PY by a delegation of ICANN[14] - the authorized entity for the assignment of Internet names and addresses, according to the principles contained in RFC 1591 - Domain Name System Structure and Delegation, and in the ICP1 - ccTLD Delegation Practices Document. The NIC.PY makes the delegation of new domain names under the second level domains such as ORG.PY, EDU.PY, MIL. PY, GOV.PY, NET.PY, COM.PY, and COOP.PY.

The legal nature of the institution comes from the agreement signed in 1995 by both Universities for the domain name delegation. This agreement follows the category of a ccTLD managed by the Academia. This joint managing influences the policies and strategies they follow. According to the LAC DNS Marketplace study, the fact that a ccTLD is embedded in an academic environment, such as NIC.PY, "limits the freedom that the TLD manager has to take decisions and develop an independent commercial strategy for its ccTLD" (ICANN, 2016).

[14] ICANN is the international entity in charge of proposing and recommending the rules for the operation, stability and security of the domain name system and the root servers as well as being responsible for the assignment of such numbers and names.

There are no official statistics on the total number of domain names registered in Paraguay. However, according to Latin American and Caribbean Country Code Top-Level Domain Association (LACTLD) Report #8 (2016), "Paraguay showed a positive annual growth rate in 2015 within a range of 15-20%". In an email to the author, Velázquez (June 2016) wrote, "The [local] ccTLD annual growth was 12% in 2015, above the regional rate of 10%". Despite that, "Paraguay has the lowest rate of domain name penetration in the region" (ICANN, 2016).

The ccTLD should revisit its registry policy to increase the domain name penetration rate. Actions should be developed to increase new registrations. Strategies should include a marketing campaign with an improvement of prices and services. It has to take into account that the young population, which is the future of entrepreneurship, predominantly accesses the Internet through mobile phones. Better methods of payment should be provided, and a sales channel with registrars and resellers should be developed. The legal nature of the ccTLD should also be analyzed to improve its independence, budget autonomy, and sustainability.

During ICANN 53 in Buenos Aires (2015), SENATICS and ICANN signed a Memorandum of Understanding to increase coordination and collaboration between both organizations to address specific concerns from landlocked countries to enhance internal regional traffic (ICANN news, 2015). Through this agreement, SENATICS, ICANN, and LACTLD established a DNS Development Canter called "*Centro de Emprendimiento e Internet*" (CEILAC) at the beginning of October in Paraguay. "The Center will serve as a knowledge repository and networking point for acquiring and sharing expertise, resources, training and support for the implementation of initiatives and projects in digital environments." It will focus on regional capacity building on the topic of the DNS industry ecosystem (ICANN news, 2016). The goal is to promote the emerging DNS sector in all of South America and specifically in Paraguay.

This new Canter shall help with competitiveness and innovation in the DNS Industry and at the same time will foster the digital economy in Paraguay and the region.

Regulatory Environment

A modern regulation for the Information Society and the digital economy is a priority for the country´s development. It presents a challenge for ICT policymaking, and government´s action plans to greater access and infrastructure, to foster economy, education and social well-being.

The Global Information Technology Report series published since 2001 by the World Economic Forum "has measured the drivers of the ICT revolution using the Networked Readiness Index." The Index has four sub-indexes: environment, readiness, usage and impact, divided into ten pillars and indicators. In the Report (2015), Paraguay ranked 105th (out of 143) in the Network Readiness Index, with a value of 3.4 (out of 7). It suffered a regression, since, in 2014, Paraguay ranked 102nd. In the political and regulatory environment (first pillar), Paraguay ranked 133rd [15] (WEF, 2015).

A poor policy and regulatory framework have a bad influence on the country´s economy. A low ranking in the ease of doing business, e-government and ICT development shows this correlation.

The government policy should stimulate the digital economy and encourage investments and innovation. Policymakers and all stakeholders involved must take that challenge to ensure long-term results and holistic strategies for ICT development. The new digital economy needs enabling market and innovation policies.

Telecommunications

One of the first sectors that need adapting to changes and challenges that have come with globalization and market liberalization is Telecommunications. Regulations should be clear and make it easier for the market to provide the most efficient solutions that foster competition and innovation, and encourage private investment in infrastructure to increase access to telecommunications services. A strong political and administrative plan is also needed. It must

[15] Other ranking includes business and innovation environment (second pillar) 98; infrastructure (third pillar) 64th; affordability (fourth pillar) 81st; skills (fifth pillar) 105th; in individual usage (sixth pillar) 93rd; business usage (seventh pillar) 111th; government usage (eight pillar) 125th; economic impacts (ninth pillar) 95th and social impact (tenth pillar) 124th. The best indicators were total tax rate percentage profits 61st, mobile network coverage; percentage pop. 55th and adult literacy rate; 46%.

go beyond voice services, reaching services based on convergent platforms, with an emphasis on Internet access. Policies should favor development.

The telecommunications regulatory framework in Paraguay is governed by Act Nº 642, which created CONATEL as the regulatory body for the sector. CONATEL is responsible for regulating telecommunications, supervising and sanctioning operators, and managing the radio-electric spectrum and universal service funds. It establishes the technical standards, and grants licenses and authorizations for telecommunication services, except for basic service - fixed telephony – a concession granted by Congress.

In March 2009, the regulator modified the Internet Access Provision and Data Transmission regulations to allow any licensee to be able to connect terrestrially with signal providers located abroad. It was the most significant advance in recent years. The previous framework restricted the transmission of data by the optical fiber at an international level to basic service concessionaires (the state company)[16], which was perceived by public opinion and the operators[17] as one of the factors that limited the development of Internet access. The new Internet Access Provision regulation also establishes users' protection measures that still lack institutional and regulatory development (Angulo, 2008).

Comtel's resolution detailed the services that ISPs can provide such as World Wide Web, e-mail, file transfer, group news, chat, audio, and video conferences. For any other services, ISPs must request Comtel's authorization. This resolution does not distinguish between Internet access and third party services. This resolution is contrary to Internet infrastructure and creates

[16] In the 1990s, the region went through telecommunications privatization with the exception of Paraguay. The State owned the telecommunication basic service provider (ANTELCO) until 2000. In 2001, it was transformed as a public limited company - COPACO. Paraguay is one of the few countries in the region that still has a state-owned telecommunications provider.

[17] In July 1997, Antelco requested Conatel to become a retailer. All ISPs sent a note to Conatel asking to reject the license for unfair competition. Conatel answered that there was no monopoly since the ISPs can also communicate via satellite and that it was the high price that hindered the access to optical fiber. The conflict lasted almost a decade until Copaco (formerly Antelco) became a retail supplier in August 2006. Conatel´s Resolution No. 235/98 on Data Transmission Services established that the data transmission on an international scale could only be done through the Telecommunications Basic Services Concessionaire (Copaco). This provision served to maintain a monopoly in the access to international fiber optic network in favor of Copaco (ABC, 2008). The main problem for COPACO was that ISPs started offering VoIP services for international call, bypassing it and decreasing its revenue.

a regulatory framework that harms net neutrality, competition, and innovation. Regulations must respect the layered architecture of telecommunications networks. It is necessary to comply with the Net Neutrality Principle that allows the robustness, stability, and permanence of the Internet, avoiding acts of unfair competition between ISPs.

National Telecommunication Plan

The National Telecommunication Plan (NTP) lays down the basic technical guidelines that ensure the integration and implementation of telecommunications services at national and international levels. It is prepared and approved by CONATEL[18]. Every five years it must be updated or revisited. It must be taken into account when developing national plans for telecommunications development. The objective is to have clear policies, communication, and transparency to create an attractive investment environment and to achieve social benefits for the population with greater accessibility.

The NTP has been conducted in open and transparent consultations with operators, telecommunication chambers, and others interested parties. Also, all preliminary documents were made available, to gather the greatest number of opinions and contributions. It reached a consensus and enriched the guidelines.

The NTP is a sectoral plan, part of a larger one, the National Development Plan 2030 (PND 2030) approved by Executive Decree Nº 2794/2014. The NTP takes into account the following three strategic axes present in the PND 2030: 1. Poverty Reduction and Social Development - ensuring access to telecommunications services; 2. Inclusive economic growth - coverage of 80% of the population with broadband Internet, and 3. Integration of Paraguay into the world - incentive to the national telecommunications industry (Conatel, 2016).

[18] The NTP was elaborated in accordance with article 15 of Decree No. 14.135 / 96 (General Regulation of the Telecommunications Law) and was developed thanks to Project PAR15001. Institutional Support to CONATEL on priority government issues for Telecommunications Sector of Paraguay - (i) revision of the National Telecommunications Plan in force in the Country and its update for the period 2016-2020, developed between CONATEL and ITU.

CONATEL expects 80% reduction in Internet service rates by 2020. The goal is that by 2020 households connected to the Internet will go from the current 30% to 60%. In this sense, by 2020, 70% of companies in Paraguay will be connected to the broadband Internet as well as to all government institutions and schools (Conatel news, 2016).

E-government

The Republic of Paraguay has signed the Ibero-American Charter for Electronic Government in Chile in 2007. Next, an agreement was signed in 2010 between the Korea International Cooperation Agency (KOICA) and SENATICS, for the project called 'ICT Master Plan.' The agreement aimed to modernize and promote all aspects of information technology, promoting transparency in government management, industry, and commerce with a particular emphasis on small enterprises. Later, by Executive Decree No. 7706/2011, the ICT Master approves and is mandatory for all agencies and entities dependent on the Executive Power.

By Act No. 4989/2013, SENATICS was established, and the Framework for the Application of Information and Communication Technologies in the Public Sector was created. It defines, supervises and supports the implementation of transversal policies and strategies to guarantee access and use of ICTs to the Paraguayan population to improve their quality of life and support the sustainable development of the country. SENATICS´s management report 2015 said, "The Digital Agenda follows the UN World Summit on Information Society actions and the Millennium Development Goals." Its four strategic lines are "i) equity and social inclusion, ii) e-government, (iii) technological infrastructure, and iv) ICT in education."

Paraguay has increased transparency in public management by passing a new law on "Access to Public Information." It also has taken some public policies in public consultations, opening new spaces for participation, including through virtual forums or bottom-up mechanisms[19].

The UN E-Government Development Index (2016) analyses how e-government is evolving and gearing itself to support the realization of the Sustainable Development Goals (SDGs). The

[19] NTP, IXP and Cybersecurity Plan.

Survey offers a snapshot of the development of e-government in countries across the globe. The report is based on three components: online service index, Telecommunication infrastructure index, and human capital index. Paraguay has advanced more than 25 positions in 2016 and ranked 95th. It has high Online Service Index (Between 0.50 and 0.75) and middle E-Government Development Index (EGDI) of 95. E-Participation Index (EPI) is 72, Telecommunication Infrastructure Index (TII) 0.2544, and Human Capital Index (HCI) 0.6409, with a GNI Per Capita (US dollars) 4380 (United Nations, 2016).

Paraguay still needs to improve the coordination tools and strengthen high government information system for decision-making. It should find a facilitator in the process of elaborating Public Policies. Technological convergence will require policies that correlate with economic growth, reducing the digital divide, increasing the possibility of participation and the right to interact with the State through technologies, which implies the high modernization of public administration and access to ICTs.

E-commerce

For the development and competitiveness of the commercial sector, Paraguay must invest in improving bandwidth, reducing connectivity costs, expanding Electronic Commerce (e-commerce), encouraging and empowering small and mediums enterprises (SMEs), strengthening the software and digital industry, fostering local content generation, and exporting digital goods. It must also invest in industry professionals' training, enabling technological innovation.

E-commerce is the fastest growth factor in the economy. It is understood as any form of exchange of products and services in which parties' act using electronic means in all or some of its phases. It needs a sound regulatory framework for digital signatures, electronic documents, cybersecurity, data protection[20], spam, and e-payment.

[20] Although Habeas Data is ensured in the National Constitution as a guarantee and the e-commerce Act regulates spam, the national legislation is not adequate for the new era of Information Society. The existing laws (Act 1682/2001 and its modification by Acts 1969/2002 and 5543/2015) are intended to regulate mainly bureau credit

Since 2012, the Ministry of Industry and Commerce (MIC) has been the enforcement authority for Digital Signature (Act Nº 4017/2010) and Electronic Commerce (Act Nº 4,868/2013), which established the legal framework for electronic trading and contracting.

E-commerce in Paraguay is approximately 2.6% of e-commerce in Latin America, corresponding to USD. 1.3 billion, according to data from the Latin American Institute of Electronic Commerce (cited in SENATICS, 2016, p. 16)

During the *eCommerce Day* Paraguay in June 2016[21], Marcos Pueyrredón - the Latin-American Institute of e-commerce (ILCE) Manager added, "The challenge of electronic commerce in Paraguay is to increase supply by generating a positive experience, as the demand already exists." There are new actors in the market[22]. The market needs to understand what younger generations want and provide greater mobile Internet penetration and speed.

Paraguay needs to overcome structural issues (infrastructure), get an efficient online payment method, and solve the regulatory deficit in personal data protection.

Cybersecurity

The Paraguayan Penal Code (Act 1160) introduced computer crimes in 1997 and defined such crime as any typified unlawful, reprehensible and punishable action committed using a computer or any action targeted against it. The classification includes crimes against people´s goods and legal relations such as data alteration, computer sabotage, computer fraud and documents and signals damage. Later, in 2011 (by Act 4439[23]) new types were included such as child pornography; unauthorized data access; data interception; preparation for illegal access; unauthorized computer system access; computer system sabotage; computer scam; debit

and not transactions over the Internet. It does not regulate international data transfer, and lacks security means for data protection and an independent regulatory Agency entitled to enforce and protect personal data.

[21] *eCommerce Day* is a regional tour since 2007 that covers 12 countries to promote e-commerce and business online organized by ILCE. The Paraguayan Chamber of e-commerce is a local chapter and organizer of this event.

[22] Tigo introduces the FinTech (financial technology) with Tigo Money and is doing Business2Business.

[23] This Act modified the Penal Code and complemented others in the fight against child pornography, such as the Act that approved the United Nations Convention on the Rights of the Child (Act No. 57/90); the Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography (Act No. 2134/2003), the Children´s Code, Act No. 2861/2006 that represses trade and commercial or non-commercial dissemination of pornographic material, using the image or other representation of minors or disabled persons. The Specialized Computer Crime Unit acts jointly in investigative teams conformed with the Specialized Unit to Combat Human Trafficking and Sexual Exploitation of Children and Adolescents (SENATICS, 2016)

or credit cards forgery and any other electronic payment method. However, some current behaviors such as cyber terrorism, cyberbullying, grooming, and identity theft is not regulated yet.

In 2010, by State Prosecutor's Resolution No. 3459, a Specialized Unit to fight against cyber crime was created, exclusively dedicated to advising and supporting investigative tasks and expert acts in legal cases involving cybercrime and offenses committed through computers.

The National Police also created a special unit to combat cybercrime. On April 2, 2011, by Resolution No. 360, the Computer Crime Department was created, depending on the Technical Support Division (ABC, 2011).

During the Second IGF Paraguay (2015), the Head of the Specialized Division against Computer Crimes, Commissioner Alarcon, commented, "Bureaucracy is the biggest problem during the investigation and the lack of unity among all institutions fighting cyber crime." He emphasized that "the great challenge for the police authorities is prevention."

SENATICS is the authority in charge of security information in the country (article 12, paragraph h, Act 4.989/2013). It establishes and manages personal and governmental information policies protection, creates capacity on information security, lays down a security organization system, proposes national security policies, and establishes an information protection plan.

The authority in cyber security incident management and cyber security is the Cyber Incident Response Canter - Paraguay (CERT-PY)[24]. It facilitates and coordinates cybernetic systems and information protection of government and private sector infrastructure and ensures an efficient and timely response to cyber incidents. Also, it is responsible for the technical training of information technology professionals and government staff and creates awareness about cyber security.

[24] It was created by Decree No. 1.624/13 and is under SENATICS´s structure.

There is a lack of cooperation mechanism between CERT-PY and the private sector (SENATICS, 2016). This situation is related to the lack of a proper data protection law that does not ensure a secure data transfer and does not provide a proper defense mechanism for data owners.

Paraguay was officially invited to join the Convention on Cybercrime (known as the Budapest Convention), which is the only international cooperation treaty in the field of cybercrime. The State Prosecutor is working with the Ministry of Foreign Affairs (MFA) to adhere to the Convention (State Prosecutor, 2015). This Treaty will help solve the cooperation problem at the international level. Some critics to this Convention observe, among others, that it is outdated, as new cyber crimes have emerged since 2005, and that it does not ensure clear protection for fundamental rights. Paraguayan legislators should consider those concerns when incorporating the treaty to the national legislation.

National Cybersecurity Plan

"The General Secretariat of the Organization of American States (OAS), in cooperation with SENATICS and MFA Paraguay, worked together to develop a National Cyber Security Strategy in Paraguay" (OAS, 2015). The plan is a strategic document to improve the coordination of public policies on cyber security and to integrate all sectors in the development of ICTs in a reliable and resilient way in Paraguay (SENATICS, 2016).

According to the approved plan, a National Cybersecurity Commission will be formed, led by a National Coordinator appointed by the Executive Power. The Cybersecurity Commission will be responsible for monitoring and evaluate the implementation of this National Plan by different governmental actors, in addition to promoting and fostering integration, participation, and cooperation between the various stakeholders (government, business, Academia and civil society).

The Plan consists of four sections:

1. Diagnosis on Cybersecurity in Paraguay, describing the main features of the current state of cyber security and the application of ICT in the country;

2. A Guiding principles for the formulation and implementation of any public policy on cyber security in the country;

3. The priorities and objectives of the National CyberSecurity Plan. The action plan includes (a) Awareness and Culture; (b) Research, Development, and Innovation; (c) Protection of Critical Infrastructures; (d) Cyber Incident Response Capacity; (e) Research Capacity and Cybercrime Persecution; (f) Public Administration; (g) National Cybersecurity System; and

4. The National Cybersecurity structure.

It has to be noted that only government entities forms the National Cybersecurity Commission[25] and does not include a multistakeholder process in decision-making. Other stakeholders will only participate when requested for cooperation.

Critics of the plan

The Plan claimed to have involved the participation of all stakeholders interested in cyber security[26]. However, as Radunovic (2015) describes, "a real multistakeholder approach requires that the right components of the entire government be included as well - not only Executive Power and its ministries such as security, ICTs, telecommunications regulator, economy, education, foreign affairs, health, and agriculture." Other powers should also be included. Judicial Power is included in the participants' list, but Legislature Power is not. Maricarmen

[25] The National Commission on Cybersecurity will be composed of Representatives of the following public bodies:
- National Secretariat of Information and Communication Technologies
- Cyber Emergency Response Team
- National Emergency Secretariat
- Ministry of Foreign Affairs
- Ministry of Justice
- Ministry of National Defense
- Ministry of the Interior
- National Police
- Ministry of Finance
- Ministry of Industry and Commerce
- Ministry of Public Works and Communications
- Ministry of Education and Culture
- State Prosecutor
- National Telecommunications Commission
- National Council of Science and Technology

[26] The list of participants can be found at https://www.SENATICSs.gov.py/application/files/2614/6316/2380/Participantes.pdf

Sequera, TEDIC Director, in a personal communication (November 2016), complained that "the Cybersecurity Plan did not follow a multistakeholder process since SENATICS had unilateral meetings with other stakeholders and did not reach a local consensus in a bottom-up way. She also claimed that the National Commission is a compound of government only members".

The Internet Society (2016) in the "Policy framework for an open and trusted Internet" also recommends creating policies that promote economic and social growth, innovation and development. It encourages transparency in policy-making and actively engaging stakeholders in Internet policy development and collaborative solution development, as well as shared responsibility and accountability. At the same time, it warns that the "less inclusive a process, the less likely it will be to generate trust and support among outsiders" (ISOC, 2016).

The Plan does not give priority to passing a data protection law to bridge the gap between Internet end users' privacy and private sector obligation to collaborate with the authorities during cybercrime investigations. It also lacks a clear and easy methodology for the free flow of information between government agencies and the private sector, as well as for international cooperation.

The Plan follows the "International Principles on the Application of Human Rights to Communications Surveillance (the Necessary and Proportionate Principles)[27]"; such as legality, legitimate aim, necessity, proportionality and respect for fundamental rights in the measures that will be adopted to avoid arbitrary and unlawful intrusions (Necessary and proportionate, 2013).

[27] According to the information on the web page, "the principles were drafted by a global coalition of civil society, privacy and technology experts in 2013, and was endorsed by over 600 organizations and over 270,000 individuals worldwide". To read more see at https://necessaryandproportionate.org

The positive outcome is that Paraguay has a National Plan of Cybersecurity where all interested actors participated. There are some things to improve, but that can be done in the future with everybody's collaboration and experience.

DIPLOMACY

The MFA plans coordinates and executes foreign policy. The Internet has brought new topics to diplomats' agenda such as Internet Governance and cyber security, to mention some. The department in charge of dealing with those new topics is the Digital Diplomacy Unit. Unfortunately, in Paraguay, no such special division within the MFA deals with Digital Diplomacy or international policy related to the Internet[28].

In an e-mail to the author, Miguel Candia - First Secretary at Geneva Permanent Mission (May 2016), wrote that "the technical responsibilities fall under the Direction (Director or Directorate) of Physical Integration and International Transport (DIFTI), under the Office of the Vice-Minister for Economic Affairs and Integration, in close collaboration with the Permanent Missions in Geneva and New York. The Information Technology Unit is not related to the political and technical negotiations at bilateral or multilateral level".

As a developing country, Paraguay has more important and urgent matters to deal with than Internet policy. The budget and staff allocated is insufficient. However, as the Internet is an enabling development tool, the MFA should increase its human resources and budget to deal with the increasing number of Internet-related discussions at national and international level.

Candia (May 2016) also recommends, "Creating a Taskforce directed by an experienced diplomat, skilled in negotiations at the national and multilateral level, with authority to engage national officers and other stakeholders. The Taskforce should work in close coordination with

[28] Paraguay is an ITU Council Member (2014–2018). It is also a member of the Inter-American Telecommunication Commission (CITEL), Southern Common Market (MERCOSUR) and the Union of South-American Nations (UNASUR). According to Candia (May 2016), the MFA in coordination with SENATICS and CONATEL are working together with international Internet organizations such as ISOC, ICANN, Geneva Internet Platform and the European Organization for Nuclear Research (CERN).

UN and OAS missions and with the Directorates dealing with international organizations". He also suggests "including Internet Governance as a subject of study in the Diplomatic Academy." In the following chapter, will further discuss the results of the survey taken to analyze the readiness of Paraguay and Paraguayans to follow a multistakeholder process to develop Internet public policy and to address Internet Governance issues.

Chapter 3: SURVEY RESULTS

BACKGROUND

The situation in Paraguay was analyzed in the previous chapter where it was seen how Internet Public policies are developed and discussed at the local level. The existing regulatory framework offers support to the Information Society. Nonetheless, more investment should be made in infrastructure, access and Internet connectivity to foster and protect the digital market. The research found that, regarding participation, there is still room for improvement for the development of Internet policymaking in a multistakeholder fashion. To that end, a survey was created to analyze the maturity of stakeholders to create a national organization to discuss Internet Governance and to participate in Internet policymaking.

The purpose of this study was to determine the readiness of Paraguay and Paraguayans to follow a multistakeholder model in the way they develop Internet public policy and to address the issue of Internet Governance. Over a period of thirty days, a survey was sent to all the participants who registered for any of the three multistakeholder meetings that took place in Asunción since 2014, which were developed in Chapter 2.

The survey allowed the following questions to be answered:

1. What was their experience in Internet Governance and Internet Public Policy in Paraguay?
2. What are the problems that Internet faces in Paraguay?
3. Can those problems be solved in a multistakeholder manner approach?

4. Are they interested in participating in the development of Internet Governance in Paraguay?

5. What are the topics they preferred to work with?

The survey was divided into sections described as follows: (a) demography, (b) background, (c) Internet situation in Paraguay, (d) participation in public policy development, and (e) working-groups.

METHODOLOGY

Qualifying criteria

* Participants of any of the three meetings where the model of participation by multiple actors (multistakeholder) on Internet Governance (IG) were discussed. They are the First and Second IGF Paraguay (2014 and 2015) and the LAC-i- Roadshow (2015).

* Civil Society members from ISOC PARAGUAY and the *Asociacción Paraguaya de Derecho Informático y Tecnologíco* (APADIT), not-for-profit associations involved in Internet Governance[29].

* Members of the Internet Governance Working-group (*Gobernanza-Paraguay*).

* All interested participants through social media such as Facebook, Twitter, and LinkedIn.

* Participants have access to a computer and Internet connection.

ONLINE SURVEY

May 6 - June 1 2016

The research was conducted through a survey using a Web-based questionnaire from May 6 to June 1, 2016. Invitations to complete the survey were sent via the mailing list (ISOC Paraguay members, APADIT members, and "*Gobernanza-Paraguay"* Working-group and ISOC Paraguay event´s participants). The questionnaire was also shared in social media (Facebook,

[29] TEDIC is another organization working in Internet Governance. They were invited to participate through an external link but only one of its Directors took the survey.

Twitter, and LinkedIn). The target surveyed were individuals who have a higher interest, knowledge, and participation in Internet governance and Internet Public Policy. Thus, while the results are not representative of a broad population, they are nevertheless useful in evaluating the stakeholders' needs and expectations in the development of Internet in Paraguay.

The survey was made available in Spanish. The English version of the questionnaire is included as an appendix to this chapter.

Primary data was generated by directly asking questions. The method for collecting quantitative data used was a self-completion questionnaire sent by email and social media. There was a risk of a potentially high non-response. However, follow-up for those initially not responding was used. 365 survey invitations were sent, and 101 answers were gathered.

Types of questions included multiple choice, *Likert* scale, demographic questions and providing an opinion.

Respondents had the choice of recording their names or opting for anonymity. There is a slight possibility that individuals could have responded more than once. However, 82 out of 101 respondents were reached by e-mail and were recorded as well as at their IP addresses. Only 19 respondents were reached through social media or web link, and 10 of these left their names. There were only nine anonymous interviewees.

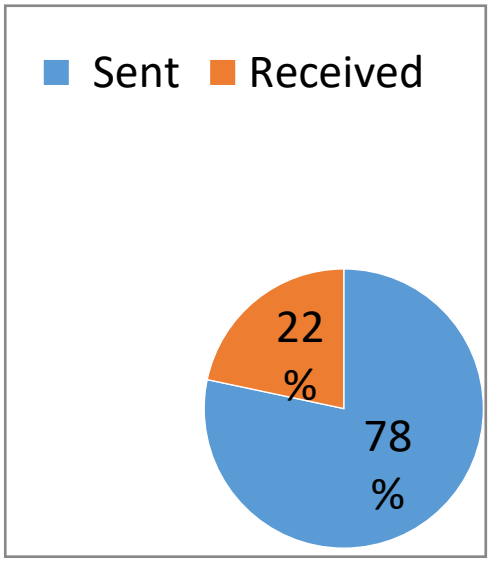


FIGURE 1 SURVEY INVITATIONS

EXECUTIVE SUMMARY

There were three meetings in Paraguay were the model of participation by multiple actors (multistakeholder) on Internet Governance was discussed. They are The First and Second Internet Governance Forum of Paraguay (2014 and 2015) - organized by ISOC Paraguay and the Multistakeholder Organizing Committee; the Lac-i-Roadshow (2015) - hosted by ICANN, ISOC Paraguay, and SENATICS.

In September 2015, during the "LAC-i Roadshow," national and international leaders from various sectors met in Asuncion to discuss regional patterns of multistakeholder participation and the creation process of an Internet Management Committee. During this meeting, the existing regional models were reviewed and shared. They are Brazil (CGI), Costa Rica (Internet Governance Council), Mexico (Initiative Group) and Argentina (CAPI - AFTIC, today Ministry of Modernization); to analyze which model was best suited to Paraguay, and to improve the situation of Internet usage nationwide**.**

The main goal was to discuss the possibility of creating a national organization that discusses Internet Governance generally and to develop Internet public policies in Paraguay, in a participatory, inclusive, voluntary, open and bottom-up manner, in particular. This organization would thus be able to make recommendations, dictate Internet principles, and establish good practices for the development and implementation of Internet public policies, of course, with the participation of all sectors involved such as government, business, civil society, technical community, Academia, and Internet end users.

An informal working group was formed after the Second IGF Paraguay held in November 2015. A mailing list called "*Gobernanza-Paraguay*" was created to this effect. The purpose of the working group through the mailing list was to continue the discussion started on those forums. However, the participation, regarding quantity and quality, was poor and the list served as a bulletin board mainly. The experience showed that participants were not used to online discussions in forums or mailing list. Therefore, they did not understand the challenge. Besides, there was not a clear objective and a common issue they decided to attack.

It was important to know members background, interests, and expertise to improve participation and involvement in the mailing list and working groups. To this end, this survey was prepared in expectation that the results will help to improve and to shape the team.

This survey and research will help with the findings on how to move forward to the creation of a national organization that discusses Internet Governance and how to develop Internet public policies in Paraguay, in a participatory, inclusive, voluntary, open and bottom-up manner.

The study, in fact, found that there is a good pool of participants willing and able to participate in a discussion about Internet Governance and Internet Public Policy in Paraguay. They found the multistakeholder meetings useful and felt that their opinions were being heard. Therefore, they would continue participating in that kind of meetings and are willing to participate in working groups.

The majority of the participants are male, older than 30 years old, domiciled in Asuncion, with a higher education (tertiary), specialized in new technologies and with a full-time job.

It was also noted, that there are more representatives from the government and business actors. The participant's perception was that government and business actors are also responsible for the improvement of Internet development in Paraguay.

The factors that most affect the development of the Internet in Paraguay are economics, infrastructure, and politics. Priority problems to solve are Infrastructure, costs, speed, and net security.

The study has found that the relevant activities for facing the challenges are participating in working groups, having mixed meetings, investing in capacity building and engaging in research activities.

The most expected results of public policies adopted in a collaborative and coordinated manner are economic growth, social and cultural development, more equality and justice.

Target Audiences

Respondents were requested to provide detailed opinions on their experience with Internet governance structures, processes and the Internet situation in Paraguay. Responses were collected from 101 participants (stakeholders) who were contacted through mailing lists of individuals involved in Internet governance in Paraguay at different levels and through social media as well.

From the 101 respondents, 55 came from participants of any of the multistakeholder events held in 2014 and 2015. ISOC Paraguay members were more active than APADIT members were with nine answers against four. Twenty-three answers were collected from the working group "*Gobernanza-Paraguay*." Social media reached out to ten respondents.

Most of the interviewees were participants from the Second Internet Governance Forum in Paraguay (30%), followed by the participants to the Lac-i-Roadshow (23%) in 2015. Only 19% were participants from the First Internet Governance Forum of Paraguay in 2014.

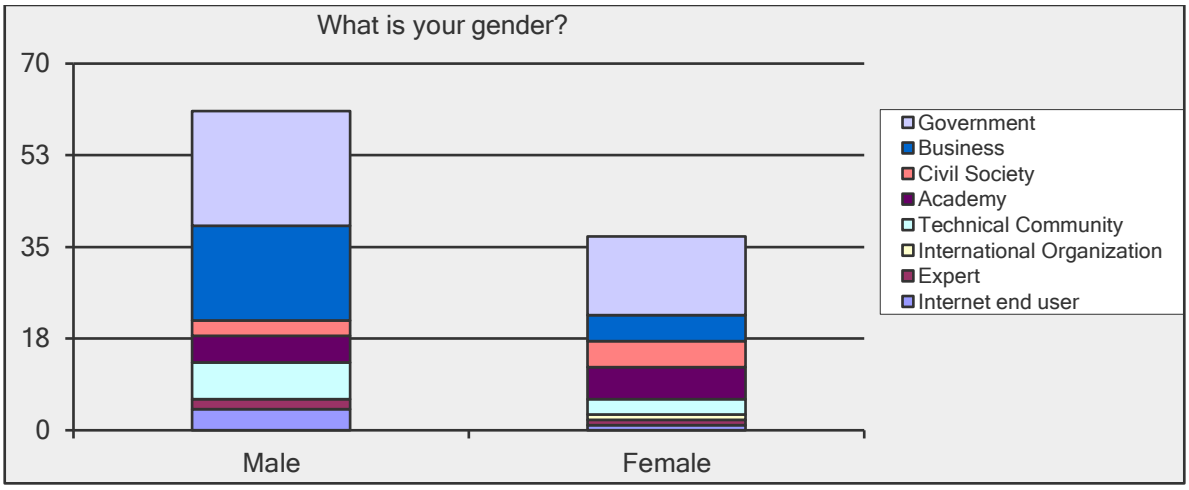
TABLE 2 EVENTS PARTICIPANTS

Have you ever participated in one of the mentioned meetings? Please select.		
Answer Options	Response Percent	Response Count
Second Internet Governance Forum of Paraguay, 2015	30,9%	30
None	30,9%	30
LAC-i-Roadshow, 2015	23,7%	23
First Internet Governance Forum of Paraguay, 2014	19,6%	19
All	12,4%	12
Other	5,2%	5

Demographic Information

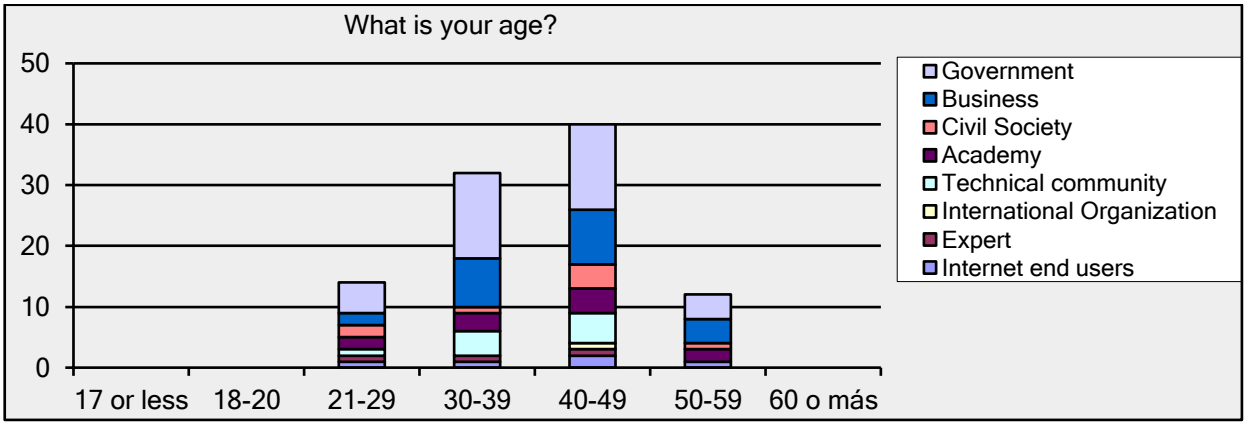
Male participation reached 63% while female participation reached 37%. There is a clear need for gender balance and need to encourage women's participation.

TABLE 3 GENDER



Most respondents were between 40-49 years old (41%), followed by respondents between 30-39 years old (33%). The younger generation of 21-29 years old (14%), was greater than the older generation with 50-59 years old (12%). Since Paraguayan population is mostly young, under 30 years old, young people should get far more involved. There is a need to involve the youth and prepare them to be the future leaders.

TABLE 4 AGE



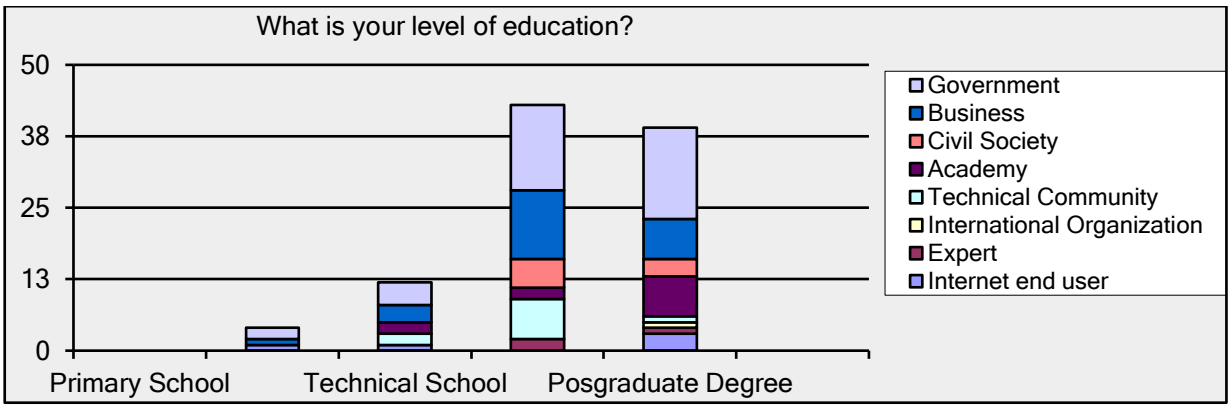
The majority of respondents are domiciled in Asunción (58%), the Capital of the country. Following by (27.66%) domiciled in nearby cities in the Central Department as San Lorenzo (7.14%), Fernando de la Mora (6.12%), and Luque; Lambaré, Villa Elisa, Capiatá and Itaugua (3.6% each). Others city reached only (1.2%) such as Ciudad del Este, Coronel Oviedo, Ñemby, Katuete, and Paraguarí. Most of the respondents (85.66%) came from the Central Department. There was a small percentage (4.8%) of respondents domiciled in another country. It represents

two Paraguayan living abroad, and two foreigners who took the survey (from Venezuela and Brazil).

Education

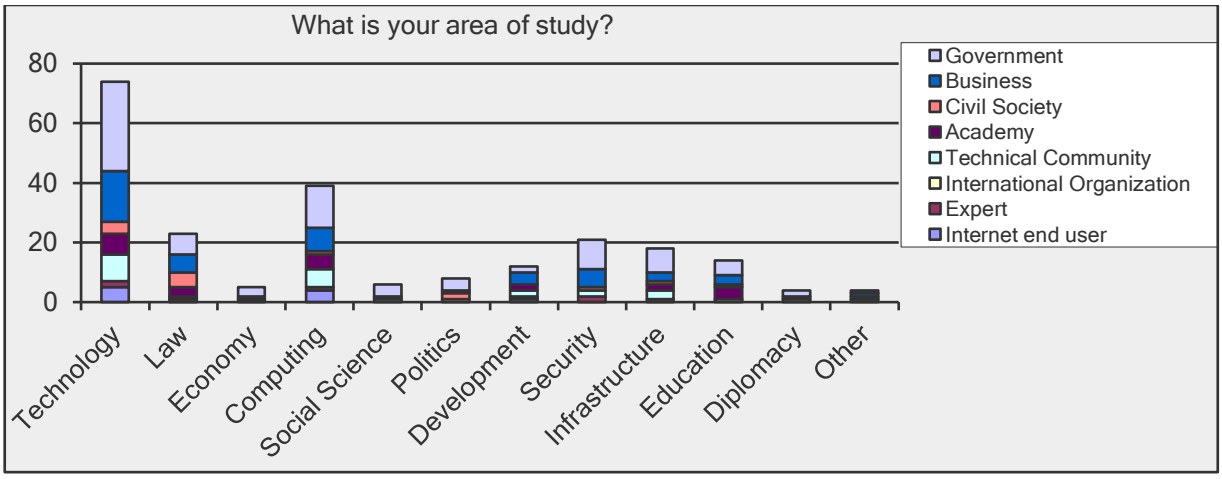
The level of the education of the respondents was high as most had a tertiary qualification (43.56% University and 39.60% Master/Ph.D. degree). There is also a good percentage of technical qualification (12.87%) and a very low percentage (3.96%) of secondary education. The level of education facilitates the creation of capacity building activities to help the respondents engage in the discussion actively. By doing so, it will also increase awareness and give a greater diffusion to these activities. Above all, it is highly beneficial that they understand the importance of their participation in these debates.

TABLE 5 EDUCATION



Most of the respondents came from the technical area: Technology (76%), computing (41%), security (22%), and infrastructure (20%). Followed by Law (23%), Education (15%), Development (13%), Politics (9%), Social Sciences (6%) and Diplomacy (4%).

TABLE 6 AREA OF STUDY

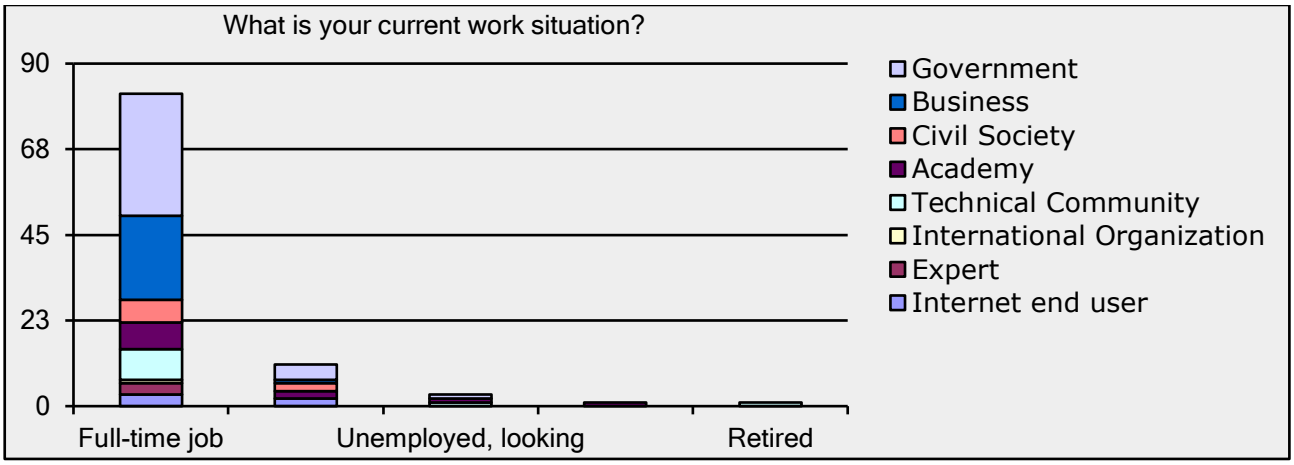


These results are related to the numbers of respondents coming from the Lac-i-roadshow attendees (23%), which in the majority were from the government sector and the Information Technology (IT) area. Nonetheless, the technical community is the one that showed the most interest in these discussions, contrary to the civil society that had little participation in the survey, as would be seen later. Having most of the respondents from a technical background makes it easier to understand how the Internet works, and how the multi-stakeholder and bottom-up process works as well, given that they are very much related to the Internet Engineering Task Force (IETF) and collective processes and activities.

Labour situation

The vast majority of the respondents have a full-time job (84%). A small percentage of the interviewees have a part-time job (11%). Unemployment was at 3%, with 1% looking for a job, 1% not looking for a job and 1% retired. Having most of the respondents in a full-time job makes it a little more difficult for respondents to participate actively in the discussions during their spare time. These results are also very much related to the work methodology they have chosen and one of the reasons why the mailing list has not been very active.

TABLE 7 WORK SITUATION



Stakeholder representation

Most of the respondents were from the government sector (37%). In the second place, came Business sector (23%), third Academia (11%) and fourth civil society (8%). End users (5%) came in fifth place, expert (3%) sixth and International Organizations (1%) last place. The numbers are very much related to the event's attendee (First and Second IGF Paraguay and Lac-i-Roadshow) that were mostly from the government sector. In spite having invited two well-known not-for-profit organizations working on Internet governance issues such as ISOC Paraguay and APADIT, civil society representatives were not very active in the survey. This pattern is also shown in the list of events attendees[30].

[30] Civil society participation in the survey was low. Nevertheless, they are the more active stakeholder in Internet Governance discussions either locally or abroad. This contradiction may have a reasoning that voluntary work is only for passionate and persistent people. There also is the voluntary fatigue syndrome. Another reason could be that there are only three civil society organizations working on these matters and they are the same people working together and in their respective organizations.

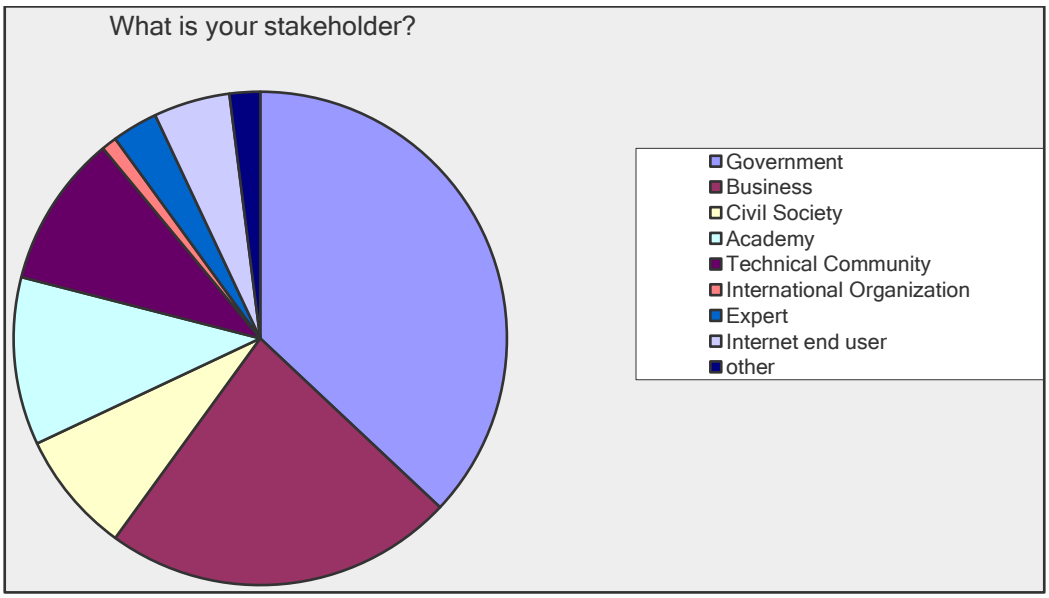


FIGURE 2 STAKEHOLDERS

Multi-stakeholder meetings

The most attended meeting was the Second Internet Governance Forum with 30%, which at the same time equates to 30% who never attended any meetings at all. The second most attended meeting was the Lac-i-Roadshow with 23.7%. The First Internet Governance Forum had an attendance of 19.6% of respondents. These numbers show the increased interest and participation in these kinds of meetings. However, only 12.4% attended all the meetings. Moreover, a low percentage (5.2%) attended other meetings such as ITU, WSIS, LACIGF, and the South-School on Internet Governance.

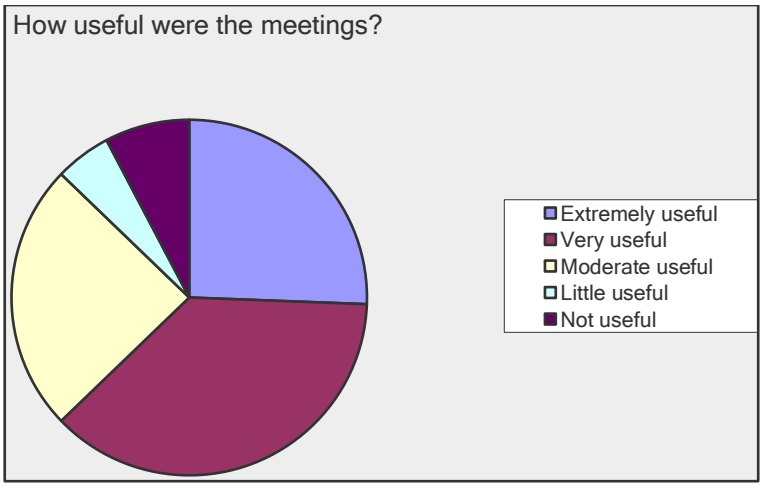
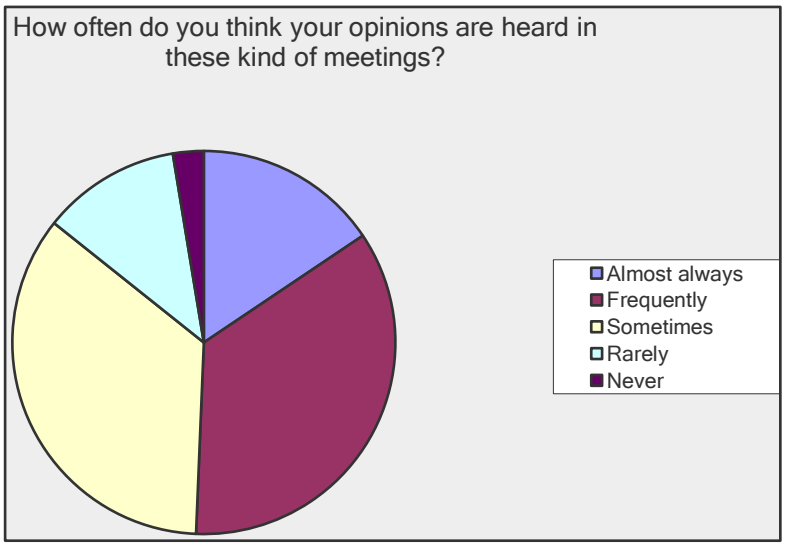


FIGURE 3MEETING PERCEPTION

The research examined if the multistakeholder meetings are productive for respondents professional careers. Respondents agreed on the fact that these kind of meetings are very

productive (37.18% very productive, 25.65% extremely productive). 24.36% moderately productive. On the other hand, a small percentage found them little or no productive (7.69% not productive, 5.13% little productive).



The respondents felt that in this meeting their opinions are heard. Frequently and sometimes with 35%, always with 15.58%, rarely with 11.69% and almost never with 2.6%.

FIGURE 4 OPINIONS

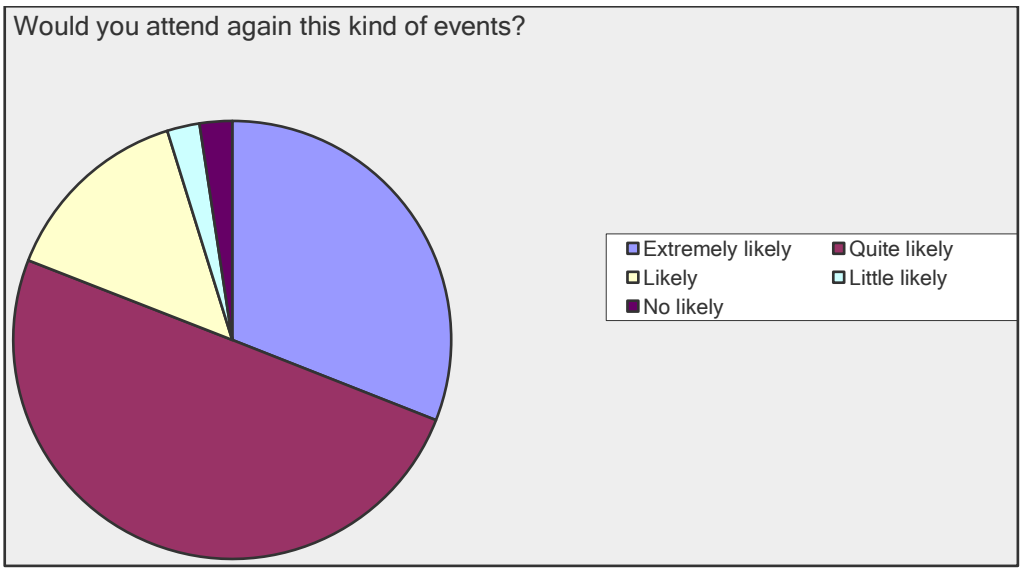


FIGURE 5 FUTURE ATTENDANCE

Most of them would return to attend one of the meetings, with 30% extremely likely and 50% with quite likely. Somewhat likely with 14.29% and little and nothing likely with 2.38%. This pattern was shown in the increased attendance in the Second Internet Governance Forum in 2015.

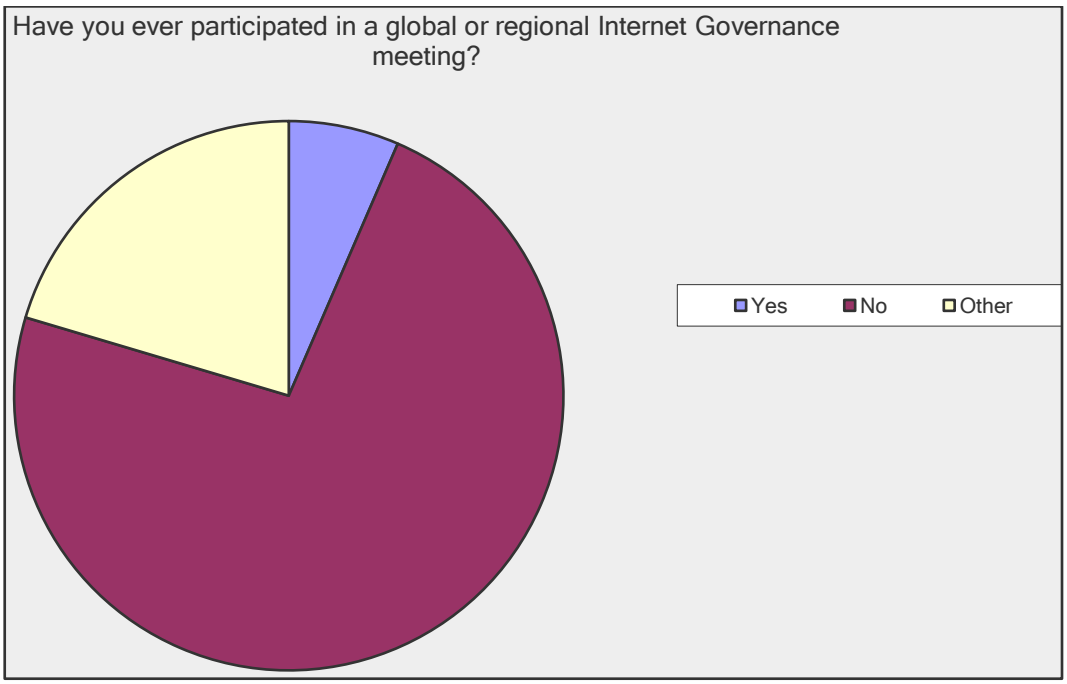


FIGURE 6 INTERNET GOVERNANCE MEETING

For the majority of the respondents, these national events were the first multistakeholder model meeting they had ever attended. 73.12% of the interviewees have never participated in a global or regional meeting on Internet Governance. Only 6.45% participated in a meeting. 20.43% participated in some Internet Governance meeting, such as some of the global IGF meetings, LACIGF, IGF Argentina, ICANN, Latin-American Internet Registry Address (LACNIC), some Schools on Internet Governance (Germany and South), meetings in Geneva.

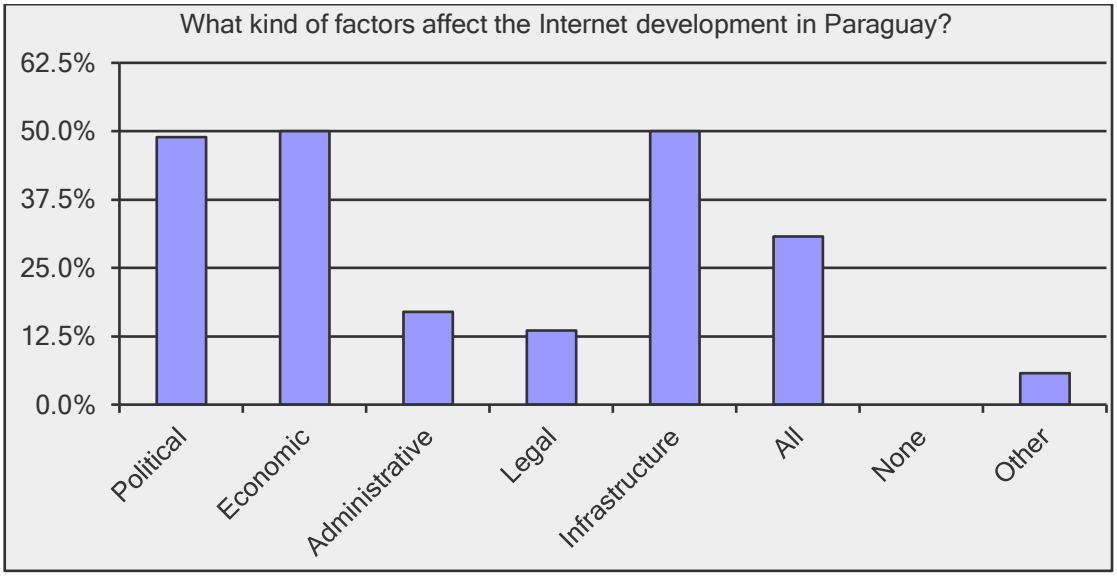
These numbers showed that local forum is necessary to create awareness on regional and global participation. Also noteworthy was that there was needed more outreach and scholarships to promote involvement in these types of meetings at a global and regional level, despite the small number of participants who had access to some of the regional and global multistakeholder-kind of meetings.

Internet Development

A set of questions explored the situation of Internet in Paraguay and the factors that affect its development. Respondents considered that the factors that most influence the development of the Internet in Paraguay are economics (50%) and infrastructure (50%). The political factor (48.86%) is next in line. Legal factors came in at 30.68%; other factors at 5.68%.; While

30.68% constituted all the factors affecting the Internet situation in Paraguay. Some other factors included were the facts that Paraguay is landlocked country and geopolitics.

TABLE 8 FACTORS FOR INTERNET DEVELOPMENT IN PARAGUAY



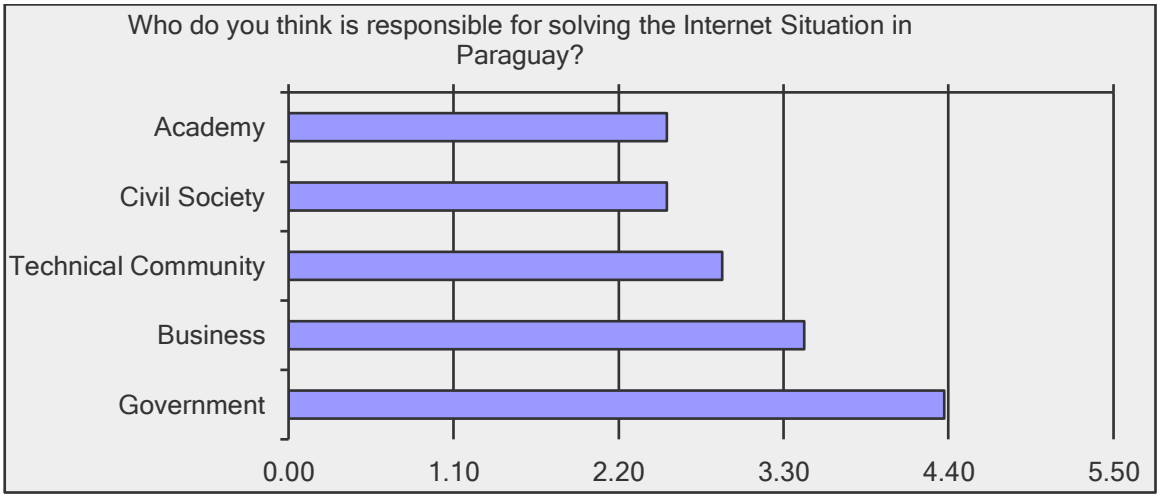
Regarding the priority topics for the Internet development in Paraguay, they ranked as follows: Top of all are Infrastructure, costs, speed, and net security. Secondly, they selected digital divide, legal environment, business environment, network neutrality, dialogue spaces, innovation and software development, with a very narrow margin. Factors suggested investing in education, local content creation, leadership generation and gender equality.

TABLE 9 PRIORITY TOPICS

Order from most to least important, each of the factors that you consider a priority for improving the situation of the Internet in Paraguay: (5 highest importance, 1 minor importance):							
Answer Options	1	2	3	4	5	Rating Average	Response Count
Infrastructure	5	0	12	14	57	4,34	88
Costs	4	1	10	21	48	4,29	84

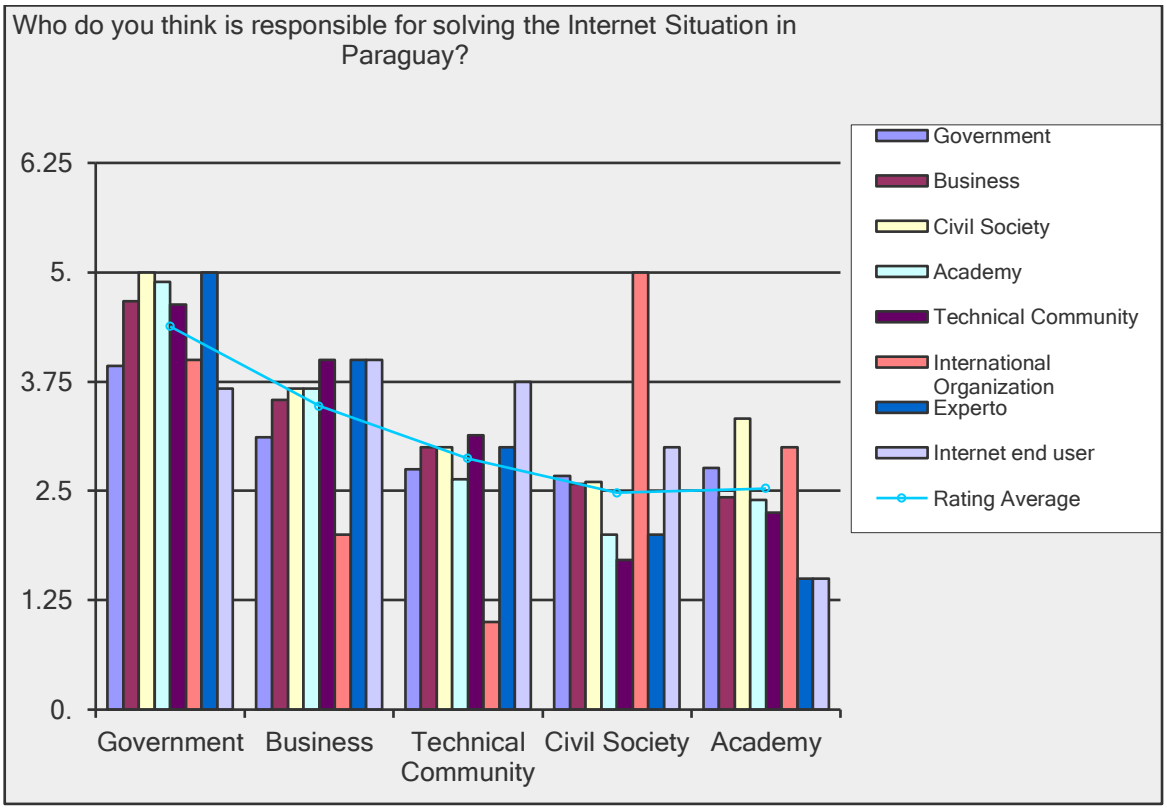
Speed	5	2	15	20	43	4,11	85
Bridging the digital divide	6	5	10	16	45	4,09	82
Improve legal environment (content, intellectual property, gender, child safety, etc.)	5	5	16	22	36	3,94	84
Promote innovation and software development	5	4	15	31	23	3,81	78
Creating official Internet Governance platform	6	9	15	22	33	3,79	85
Facilitate a good business environment	3	7	20	27	23	3,75	80
Net security	4	6	21	24	25	3,75	80
Net Neutrality	3	11	17	32	17	3,61	80
Other	3	1	2	5	1	3,00	12

TABLE 10 RESPONSIBLE FOR THE INTERNET IN PARAGUAY



The study found that the perception of the respondents about the primary actor in charge of solving the situation of Internet in Paraguay is the Government (76%) and the Business sector (51.3%). The technical community followed with 53.13%. The least responsible are the civil society (28.57%) and the Academia (30.99%).

TABLE 11 STAKEHOLDERS PERCEPTION



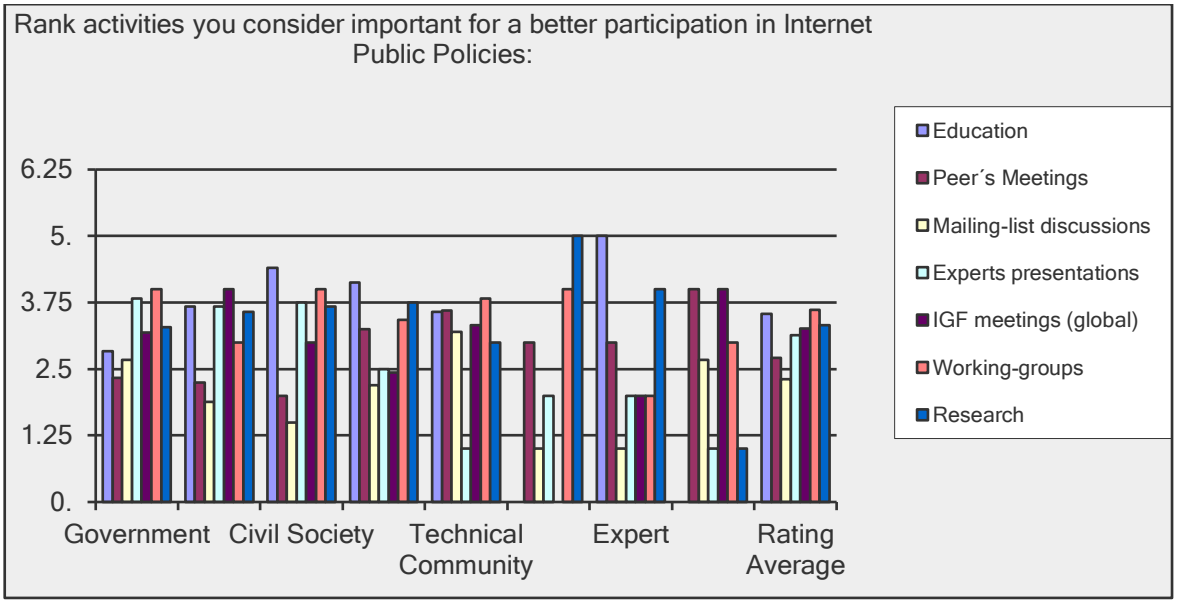
The Academia and Civil Society stakeholders think that the government is the most responsible. Accordingly, the Government thinks that those accountable are the business sector and the government.

Actions

The study has found that the relevant activities for facing the challenges are participating in working groups but not necessary in mailing lists. They preferred mixed meetings. Secondly, capacity building. Thirdly, to carry out research work. Nonetheless, the academia was found last in the line of responsibility for solving the Internet development problems. On the other hand, it was felt that the academia could help in showing a better and more active participation in Internet public policy discussion. Moreover, respondents preferred to participate in global and regional meetings rather than in meetings with their peers. The expert dissertation ranked

fifth despite the fact that capacity building ranked second. There is a contradiction here or the respondents simply do not think the two rankings relate to each other.

TABLE 12 ACTIVITIES



Public Policies

It was also noted during the study that 47.7% of respondents agreed that Internet development is a top issue on the State political-social agenda. 22.7% think in a neutral way about the issue. 13.6% slightly disagreed. 9.1% disagreed, and 6.8% completely disagreed.

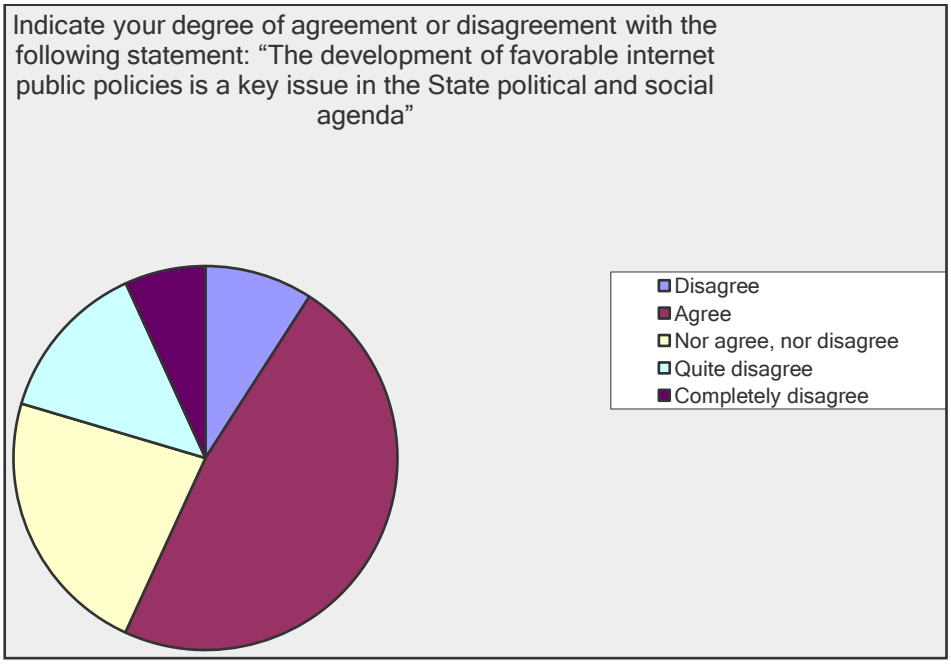


FIGURE 7 STATE AGENDA

The most expected results of public policies adopted in a collaborative and coordinated manner are Greater commercial opportunities, economic and social development, more capacity building and culture, equality in access and rights, increased foreign direct investment, increased workforce, increased Equity and justice.

Regarding the question about respondent's opinion and experience, about the main difficulties found in participating in the Internet public policies development at national level in a coordinated and collaborative manner, they cited the following difficulties:

1. Supplier`s economic interests and their political lobbying to lock innovations and initiatives aimed at a greater regulation on interconnection, net neutrality, and free competition;
2. Digital divide;
3. Lack of cyber security;
4. Lack of coordination, leadership and participant's enthusiasm;
5. The voluntary fatigue syndrome, especially from the civil society and the technical community and whom should be the responsible party for watching the implementation of public policies;
6. The lack of State Policy causing projects to discontinue;
7. Lack of real engagement and commitment of all actors;
8. Lack of political will;
9. Government limited knowledge of the problem for the deployment of infrastructure;
10. Hidden agenda; and
11. Corruption.

Way forward

A set of questions explored the possible next step for the Internet public policy development in a multistakeholder model manner. Consequently, it was proposed to create sub-working groups according to their interest and experience and to determine the debate topics on detected priorities.

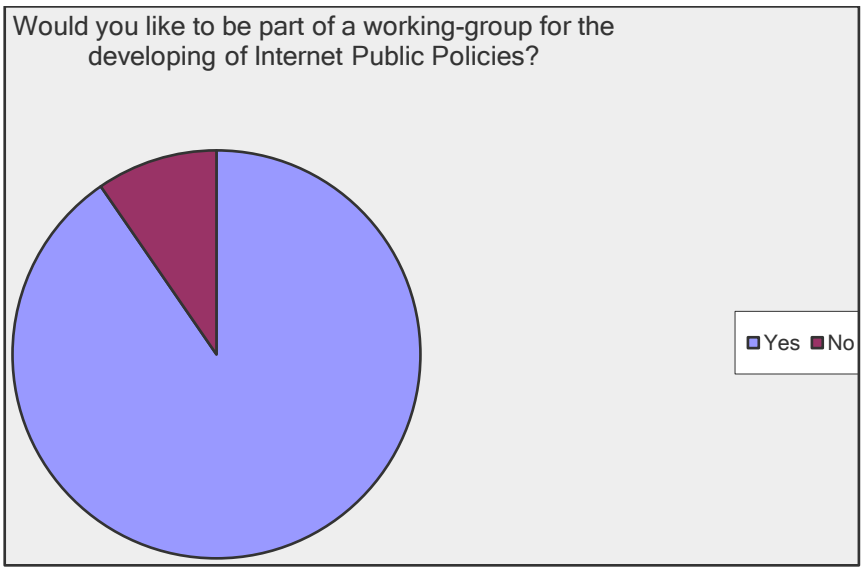


FIGURE 8 PARTICIPATION IN WORKING GROUP

90.41% would like to be part of a working group related to Internet Governance and Internet Public Policy development in Paraguay. The main sub-groups would be on Technical-Infrastructure (40.68%), Capacity building creation (22.03%), Legal-Administrative (16.95%), Communication (6.78%) and economic-finances (5.08%).

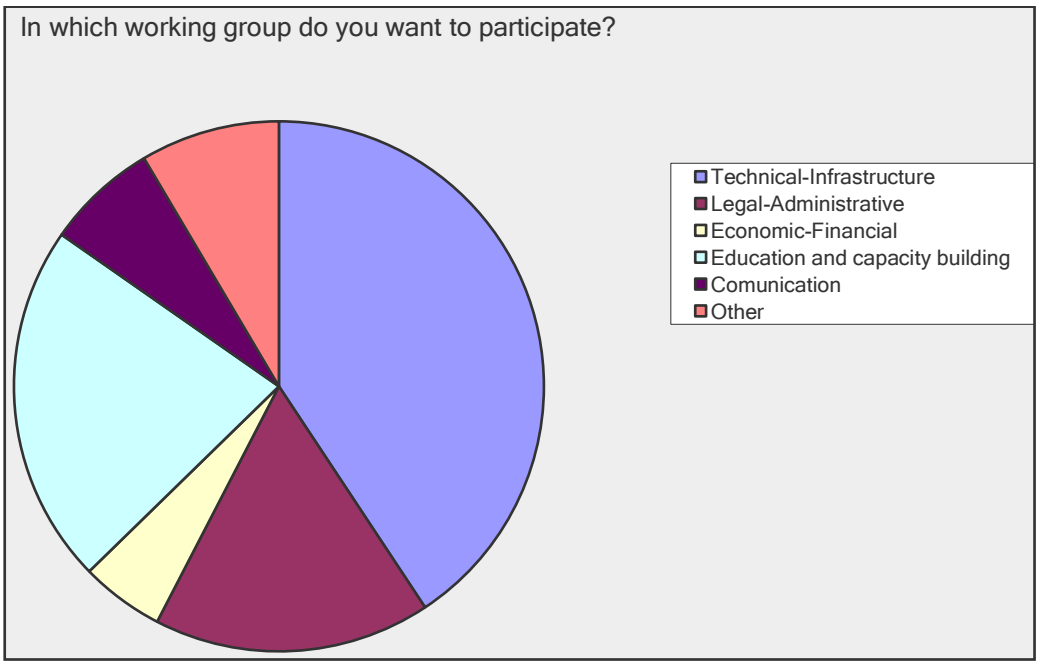
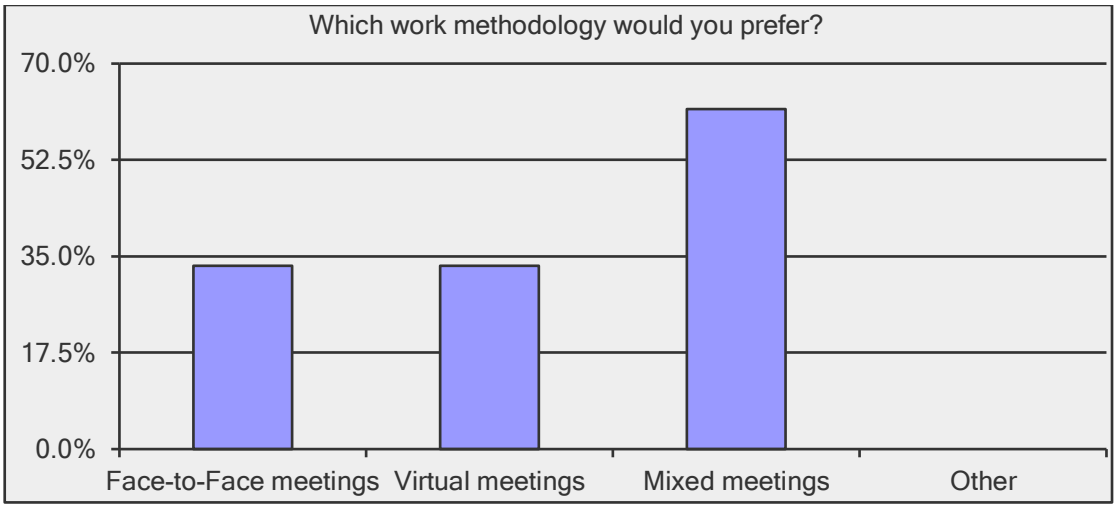


FIGURE 9 WORKING GROUP´S SELECTION

The work methodology preferred was to have mixed meetings (61,67%), meaning having both virtual and face-to-face meetings.

TABLE 13 WORK METHODOLOGY



Finally, the study found some clear recommendations for next steps and good practice in the Internet public policy by creating working groups with concrete objectives to ensure commitment and sustainability (Table 14)

TABLE 14 WORKING GROUPS TASKS

Legal and Administrative:	**Technical and Infrastructure:**
1. Internet Principles. 2. Create an ICT bill´s database 3. Ask for a legal framework to Mercosur to promote better access to ocean cables, better quality of service and price. 4. Propose recommendations on fundamental rights defense. 5. Establish the legal framework for the national organization in charge of Internet Governance and Internet Public Policy.	1. Backbone, 2. Net neutrality. 3. Digital divide. 4. The regulatory framework for infrastructure development. 5. Improve Broadband. 6. Access quality standardization. 7. IXP

Economic and Financial: 1. Benchmarking of public policies that positively affect the country's economy and development. 2. Infrastructure Increased investment by government and businesses. 3. Action plans and investment projects related to technological infrastructure with the participation of the government and big companies of the sector.	**Capacity building and Education.** 1. Create free Access Points in Public Institutions. 2. Improve teaching and the use of ICT in all country`s schools. 3. Increase academia participation for development and innovation in Paraguay. 4. Organize capacity-building activities with the support of ICANN, ISOC, and DIPLOFOUNDATION.
Communication: 1. Raising awareness of Internet benefits and risks	

KEY TAKEAWAYS

Create a multi-stakeholder group, autonomous and independent, as a Convener (Group). Its job is to coordinate the actions of the group and be the Government Advisory Council on Internet Governance.
Create a Code of Conduct.
Establish a Secretariat that is in charge of the Administrative part and that serves as support to the Coordinating Group.

Continue with the platform and space for Internet Governance dialogue.
Proceed with the discussion in the mailing List “Gobernanza-Paraguay.”
Create an Information Repository.
Promote calendar of activities and scholarships
Mapping of local actors, problems and solutions.
Create the Sub-working groups with a new mailing list by topic. Moderated by a member of the Coordinating Group and Expert. Establish the mission, scope, and term of each group.

In the next chapter, will be further analyzed the regional models available on the debate and discussions concerning Internet governance and the way these models were implemented and addressed Internet public policies. The case studies include Brazil - which have adopted an organized structure, the CGI - and Costa Rica, Mexico, Colombia and Argentina, which adopted an informal one.

Chapter 4: REGIONAL´S MULTISTAKEHOLDER MODELS

Despite the success of the multistakeholder process demonstrated by NETmundial and the IANA transition, the institutional mechanisms developed through national multi-stakeholder coordination processes continue to be a challenge for most of the countries, Paraguay included. In this chapter, will be further developed the experience of some countries in Latin America, such as Brazil, Argentina, Mexico, Costa Rica, Colombia, and Paraguay.

THE INTERNET GOVERNANCE FORUM.

The Internet Governance Forum is a space for dialogue, involving different stakeholders (multistakeholder). Is a space for neutral debate, no decision making or negotiation are taken but discussions and exchanges of information and share best practices on relevant issues for the Internet Governance agenda and networking. The results of these debates can end in Internet public policies.

Background

The discussion on Internet Governance has been promoted at the WSIS[31], which took place in two phases: Geneva 2003 and Tunisia 2005. The first phase prepared the foundations of the Information Society and resulted in the WSIS Declaration of Principles and Plan of Action[32]. The Working Group on Internet Governance (WGIG) was created. The main conclusion of the

[31] For more information about WSIS see http://www.itu.int/net/wsis/geneva/index.html
[32] All documents can be found at http://www.itu.int/net/wsis/documents/doc_multi.asp?lang=en&id=1161|1160

WGIG was that Internet Governance is not exclusively limited to purely technical issues such as the management of critical Internet resources but involves a considerably broader scope[33]. The working definition for Internet Governance adopted by the Tunis Agenda is:

> "*Internet governance is the development and application by Governments, the private sector, and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programs that shape the evolution and use of the Internet" (WGIG, 2005)*

The second phase launched the Action Plan and resulted in the Tunis Commitment and the Tunis Agenda for the Information Society. The Internet Governance Forum (IGF) was created, as set out in the Tunis Agenda in paragraphs 72 and 73. It defined IGF, both in its work and in its functions, as a multilateral, multi-stakeholder, democratic and transparent forum, with a mandate to:

1. "Discuss public policy issues related to key elements of Internet governance in order to foster the sustainability, robustness, security, stability, and development of the Internet.
2. Facilitate discourse between bodies dealing with different cross-cutting international public policies regarding the Internet and discuss issues that do not fall within the scope of any existing body.
3. Interface with appropriate intergovernmental organizations and other institutions on matters under their purview.

[33] According to the WGIGI report, four key public policy areas were established : "(a) Issues relating to infrastructure and the management of critical Internet resources, including administration of the domain name system and Internet protocol addresses (IP addresses), administration of the root server system, technical standards, peering and interconnection, telecommunications infrastructure, including innovative and convergent technologies, as well as multilingualization. These issues are matters of direct relevance to Internet governance and fall within the ambit of existing organizations with responsibility for these matters; (b) Issues relating to the use of the Internet, including spam, network security and cybercrime. While these issues are directly related to Internet governance, the nature of global cooperation required is not well defined; (c) Issues that are relevant to the Internet but have an impact much wider than the Internet and for which existing organizations are responsible, such as intellectual property rights (IPRs) or international trade. The WGIG started examining the extent to which these matters are being handled consistent with the Declaration of Principles; (d) Issues relating to the developmental aspects of Internet governance, in particular capacity-building in developing countries".

4. Facilitate the exchange of information and best practices, and in this regard make full use of the expertise of the academic, scientific and technical communities.
5. Advise all stakeholders in proposing ways and means to accelerate the availability and affordability of the Internet in the developing world.
6. Strengthen and enhance the engagement of stakeholders in existing and/or future Internet governance mechanisms, particularly those from developing countries.
7. Identify emerging issues, bring them to the attention of the relevant bodies and the general public, and, where appropriate, make recommendations.
8. Contribute to capacity building for Internet governance in developing countries, drawing fully on local sources of knowledge and expertise.
9. Promote and assess, on an ongoing basis, the embodiment of WSIS principles in Internet governance processes.
10. Discuss, *inter alia,* issues relating to critical Internet resources.
11. Help to find solutions to the issues arising from the use and misuse of the Internet, of particular concern to everyday users.
12. Publish its proceedings" (UN, 2005).

The United Nation General Assembly extended the mandate of the IGF for another ten years, during the WSIS+10 Review in December 2015.

For developing countries like Paraguay, the IGF gives the opportunity to participate in the debate as equals with wealthier nations.

The regional IGF initiative, the LACIGF, is the space where different stakeholders from the region can discuss issues about the Internet, reflecting the need of their respective communities (IGF, no date). It not only facilitates regional exchanges but also contributes to better engagement with the global IGF. The same job does the National IGF initiatives and creates a

better engagement with both regional and global IGF. Paraguay is included in the current national IGFs in LAC regional group[34], having organized its third meeting in October 2016.

National IGF allows local communities to come together to solve a local problem and to treat them with their perspectives and needs in a multistakeholder dialogue. In a personal communication, Fatima Cambronero, former MAG member (November 2016), wrote, "These initiatives demonstrate that local actors have given legitimacy to multistakeholder forums, most of the time built on a voluntary basis, with much effort and scarce resources" [either human or economic].

MEETINGS

There have been 11 meetings. The first one was in Athens (2006), following by Rio de Janeiro (2007), Hyderabad (2008), Sharm El Sheik (2009), Vilnius (2010), Nairobi (2011), Baku (2012), Bali (2013), Turkey (2014), Joao Pessoa, Brazil (2015) and lastly in Guadalajara, Mexico in December, 2016.

The IGF overarching theme for this year was 'Enabling Inclusive and Sustainable Growth.' The main topics discussed how to connect the unconnected how the Internet can help achieve the goals of the 2030 Agenda for Sustainable Development. Since last year, it can be seen an increased in youth participation, thanks to capacity building programs[35].

MULTISTAKEHOLDER MODEL

The multistakeholder model comes from the definition of Internet Governance set in the Tunis Agenda. Each stakeholder group (government, the private sector, and civil society) has a role and responsibility to play when developing and applying Internet policy. To solve key Internet issues and to have a better solution, they have to be found in a collaborative way.

[34] There are eight LAC national IGF from Argentina, Brazil, Uruguay, Colombia, Mexico, Ecuador and Peru, besides Paraguay.

[35] ISOC, CGI.br, Nic.Mx and the Government of Mexico supported the Youth@IGF Program in its second edition. The program allows youngster from 18-25 years old from around the world to learn about Internet Governance and participate at an IGF meeting.

In a blog posting, Markus Kummer (no date) reflected on "what are the basic ingredients that qualify a process of being true to the multistakeholder approach[36]." He found that the "undisputable features are **openness, inclusiveness, and transparency** of processes." He affirmed, "The fact that everyone can participate in a process and make their voice heard makes the process multistakeholder by nature." (Kummer, no date)

The multistakeholder approach has demonstrated its efficiency, efficacy, and legitimacy. It is being adopted by various organizations such as IETF, ICANN[37], Economic Cooperation and Development (OECD), Council of Europe, International Air Transport Association (IATA), Creative Commons (CC)[38], and for the development of other global topics such as climate change and water.

The decisions taken in a Multistakeholder model are more accountable, sustainable and efficient, because of the open, inclusive and transparent process. In a personal communication, Oscar Robles - LACNIC Manager (May 2016), considers that "it is a slower process, less efficient regarding resources but the decisions took are sustainable in time and more legitimate."

ACTORS AND ROLES

The WGIG definition acknowledges that each stakeholder group will have different interests, roles and participation (UN, 2005)[39].

1. **Governments** have the task in setting policies for the development of Internet ecosystem and the environment. They have public interest responsibilities and the mission to bring them

[36] To read more about the evolution of the concept of multistakeholder cooperation see https://www.internetsociety.org/blog/2013/05/multistakeholder-cooperation-reflections-emergence-new-phraseology-international

[37] ICANN, is a not-for-profit organization based in California, United States in 1998. Now is being under revision in terms of accountability and transparency. The different stakeholders (government, private sector, civil society, technical community, Academia and Internet end users) discusses and take decisions on technical aspects of the Internet, in a bottom-up process, based on consensus and multistakeholder participation.

[38] To read more on the IATA and CC model of governance, see the Berkman Research Publication (2015) "Multistakeholder as Governance Groups: Observations from Case Studies" at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2549270

[39] To see the complete roles of each stakeholder look at the WGIG report, section IV- "Developing a common understanding of the respective roles and responsibilities of all stakeholders from both developed and developing countries" p. 8

into discussions. The WGIG range the responsibilities from capacity building, development, and adoption of laws, regulations, and standards to promoting the research and development of best practices.

In the beginning, in the WSIS, the governments were the majority with a stronger voice and the most knowledgeable in multilateral negotiations and procedures. As newcomers in multistakeholder discussions, governments has learned to participate in the same process of engagement and debate with non-state actors.

2. **Private sector.** Internet companies, telecommunications operators, and other related businesses have interests in ICT policymaking for the development of the market. The roles and responsibilities of the private sector include self-regulation, best practices, guidelines and tools for policymaking. To support or finance research and development of technologies, standards, processes, and innovation.

The private sector in developing countries have the same challenges as a Civil Society in trying to organize itself and develop strong positions that have an impact on policy processes. The national IGF are important for the private sector to understand the relevance of IG discussions and the need to be involved and engaged.

3. **Civil society.** It is the link between the Internet end users and consumer with other stakeholders. They bring experience and direct contact with the grassroots. The roles and responsibilities of civil society include awareness raising and capacity-building, defending human rights, public interest, common goods, democratic processes. Promoting inclusiveness by bringing perspectives of marginalized groups and ensuring that policy is accountable to the needs of all members of society.

Academia and technical community sometimes are included in the civil society sector. Both of them bring a valuable contribution to capacity building, innovation, creativity, standard-setting, and development.

Although civil society participation enhances the effectiveness and legitimacy of policy-making, they are questioned about not having an equal and global representation, unity of all the groups that represent the third sector and no clear and transparent processes for their selection; factors that can hinder their legitimacy and credibility. Other civil society members also argued that there be an unchanging elite that always participates in the debate, leaving few spaces for newcomers[40] and being under or inadequate representation of all relevant civil society actors (mostly from the global south).

On the other hand, they give a human and more inclusive perspective to the debate, including public interest and human rights topics into the discussions. They usually have more experience and knowledge on the local level than more of the government officers or even diplomats. However, most of them lack diplomacy skills and negotiations abilities.

PRINCIPLES AND PROCESS

The Internet Society "has developed four attributes of successful multistakeholder decision-making: inclusiveness and transparency; collective responsibility; effective decision-making and implementation; collaboration through distributed and interoperable governance" (ISOC, 2016b).

Participation has to be open, transparent, accountable, inclusive and equitable. Stakeholders are standing in their respective roles, with their needs and responsibilities. The process has to be flexible, collaborative and cooperative with a shared goal and a bottom-up decision-making. Capacity building is key to support meaningful, active and informative participation.

Accordingly, Lawrence Strickling, in his speech at the IGF 2016 said that "... the most effective multistakeholder processes are ones that:

[40] In the mailing-list of different civil society groups such as IG Caucus, BestBits, Governance, RedLatam, you can see that these complains keep happening. There is a clear imbalance of capacities and knowledge of the policy-making processes and record of the discussions. Leading to a dominance of more experienced and active participants who capture the leadership and representation seats. Other members become mere spectators.

- ✓ Include and integrate the viewpoints of a diverse range of stakeholders, ensuring that historically underrepresented groups have a meaningful say in the policies that impact them;
- ✓ Produce outcomes that are consensus-based reflect compromise, and are supported by the greatest number of stakeholders;
- ✓ Build agendas through bottom-up contributions rather than delivering top-down mandates;
- ✓ And earn legitimacy by practicing openness and transparency and developing an environment of trust" (NTIA, 2016).

REGIONAL MODELS

Following the expertise of participating in global and regional IGF has led some countries in the region to experience new ways of governance, following the principles and processes of multistakeholder decision-making for Internet policy.

At the national level, until recently few countries had established national mechanisms for Internet policy-making (Aguerre C. and Galperin H., 2015)[41]. The experience of some countries in Latin America, such as Brazil, Argentina, Mexico, Costa Rica, and Colombia, are of much value for improving Paraguayan experience and increase its maturity in the process.

BRAZIL

Brazil has the most famous and fruitful model of a national mechanism for Internet policymaking in the region[42], *Comite Gestor da Internet* (CGI), the Brazilian Steering Committee. A unique institution, taking a multistakeholder regulatory approach and focusing

[41] To learn more about nationals mechanisms researched on this study by Aguerre and Galperin, read "Internet Policy Formation in Latin America: Understanding the Links between the National, the Regional and the Global" at http://www.global.asc.upenn.edu/publications/internet-policy-formation-in-latin-america-understanding-the-links-between-the-national-the-regional-and-the-global/

[42] The Internet regulatory environment in Brazil made a good environment for a multistakeholder approach in decision-making process rather than a top-down government decision. Academia play an important role as well as civil society. They separated telecommunications from Internet, understanding that it is an added value service that use telecommunications networks.

more heavily on consultation processes. Its mission is to guide the development of the Internet in Brazil. It "coordinates and integrates Internet service initiatives" (CGI, 2011).

CGI was created following the principles of Multilateralism, transparency, and democracy. The Inter-Ministerial Ordinance Nº147 of 31/05/1995, amended by Presidential Decree Nº4.829 of 03/09/2003 establishes CGI´s scope, "the purpose of coordinating and integrating all Internet service initiatives in Brazil, as well as promoting technical quality, innovation and the dissemination of the services available." (CGI, no date) It was created before ICANN establishment in 1998. It is a pioneer in the multistakeholder model. The late decree (2003) make it possible for peer elections, forming an electoral college[43].

It is a multistakeholder institution comprised of members of the government, the business sector, the third sector, and the academic community. CGI has 21 councilors, 9 of them nominated by the Federal Government; four of them appointed by the corporate sector; four of them appointed by the third sector; three of them appointed by the scientific and technological community and; one Internet expert[44]. "A representative of the Ministry of Science and Technology coordinates the works of the Council. The elected councilors have a three-year mandate and render a public interest service, not being entitled to any remuneration for the time they serve in the Council" (Gasser et al., 2015).

In 2005, the Brazilian Network Information Canter (NIC.br)[45] was established. It implements the decisions and projects approved by the CGI. Since CGI is not an incorporated entity, it is associated to NIC.br - a not-for-profit organization- as the executive branch and through the legal advisory council.

[43] Since 2004, Civil Society representatives are elected democratically through e voting on the web (CGI, 2014).
[44] To see the current list of counselors see at http://www.cgi.br/membros/perfil/
[45] NIC.br is the operative unit and they deal with domain names, CERT.br, IXP, Information Society Centre of Study (cetic.br), quality indicators, security, web development, W3C, center for research and development (Ceptro.br) and consultancy. During the Lac-i-Roadshow, the Councilor Tavares commented that 2015 budget was of 35 million dollars and that all the money is re-invested in the development of Internet. CGI supervises and nic.br administers.

Another milestone of the CGI was the Internet Decalogue approved in 2009. The "Principles for governance and the use of Internet[46]" provide a guide for the discussion and promotion of Internet rights. It was the background for the Marco Civil, the first Internet bill of rights in the world.

CGI shares data and best practices around the creation of regional and national multi-stakeholder Internet governance structures. In that context, in 2015 a CGI representative came to Paraguay to participate in the Lac-i-Roadshow, to promote the model and share experiences. Brazil´s model is difficult to compare with as they have 20 years of existence and lots of experience installing the multistakeholder process in Internet policy-making. The best asset of the CGI is that it has economic independence as the funding comes from the Nic.br, one of the wealthiest ccTLD in the region. This situation focuses the discussion on policies and not in fund raising. The executive branch (nic.br) assure sustainability. On the other hand, following the Brazilian model can put at risk local ccTLD as they can be seen as a source of funding and detract its mandate.

Brazil had its particularities, the historical moment they lived with the telecommunications companies and Internet regulations, the vast scale of resources (NIC.br funding from domain names sells) and the active and mature participation of academia and civil society. Carlos Afonso, CGI Councillor, in the 20 years anniversary of the CGI, said, "It was a great challenge to build a pluralist structure that makes decisions with particular sectoral interests." He added, "The CGI is a reference model, not the model to follow. Other countries can adapt it to a reference model, not fully integrated as each country has its characteristics" (nic.br video, 2015).

[46] To read the full Decalogue see at http://www.cgi.br/resolucoes-2009-003-en/

COSTA RICA

NIC Costa Rica (ccTLD) created *Consejo Consultivo*, the Internet Governance Council[47]in October 2012 with CGI advice. It is a multidisciplinary group formed by various sectors representatives, which the primary purpose is to discuss Internet and Country Top Level Domain Name (.cr), make recommendations to the National Academia of Sciences in its role of administrator of the ccTLD. To discuss the development of the Internet as a way to contribute to the country´s growth and improve the quality of life of Costa Ricans. The sectors represented are Academia, Telecommunications, Government, NGOs, Judicial Power, ISPs, Business, Civil Society, Tourism, and Finance industry. NIC Costa Rica selected the original members. Then, the Council suggested new members join, and others have requested to join. Chambers were invited to join to have a greater representativeness of all sectors.

The members of the Advisory Council have the following functions:

• Discuss national issues proposed by NIC Costa Rica and/or the Advisory Council, related to development, universal access, and Internet operation.

• Issue policy recommendations to NIC Costa Rica.

• Create working groups to follow up on specific topics[48].

• Follow up discussion through mailing lists and/or forums administered by NIC Costa Rica.

• Organize and participate in two annual face-to-face meetings to discuss progress and define new topics for discussion (*Consejo Consultivo*, no date).

In a personal communication, Rosalía Morales, NIC.CR CEO (March 2016), wrote, "The barriers that were encountered during its establishment included lack of knowledge about Internet governance from some of the members that were invited to join and the turnover of

[47] NIC.MX was the pioneer in the region to have and Advisory Council, since 2011. Different stakeholders, such as Internet end users, registrars and government representatives, form it. It´s mandate is exclusively to discuss domain names policies. The participation is by invitation only and is renewed in time (personal communication with Manuel Haces, November 2016)

48 Currently they have six working groups: Internet Policy, Infrastructure, Security, .CR Domain Growth, Net Neutrality and the National Education Network.

members." However, the invitation encouraged participation and helped as a capacity building enabler for those new to Internet Governance and multistakeholder model. It also contributes to understanding the importance of establishing the Internet Governance Council for the future of Internet development and growth in Costa Rica by explaining the objective and vision of the Council. Another barrier was the existing legislation based on the legacy telecom regulation, according to Carlos Raul Gutierrez-former Council member (personal communication, March 2016).

The process took time as they invested a lot in defining the Council Membership. In the beginning, the invitation was sent to organizations (not on a personal basis). However, this strategy did not show the expected results. When government staff left their job position, they ran off with the knowledge acquired and the familiarity with the Council.

On the other hand, Morales (March 2016) also wrote that the "there was a general interest and sense of cooperation from all parties involved. The creation of the Internet Governance Council was very well received by almost all institutions that were reached out at the time of the creation of the Council".

Another strategy used was to have two high-level meetings during the year. Fewer meetings helped to prevent the participation of administrative staff with no power of decision. Morales wrote, "Two meetings per year was well received and has proven to be a successful way to maintain decisions makers as active members of the Internet Governance Council." Apart from the high-level meetings, they have an online discussion that changes every two months to assure a constant discussion of the main topics during the year in an efficient manner and its summaries are presented and discussed during the Council meetings.

This new space of discussion ensures inclusiveness, transparency, and accountability. It helped with inclusiveness by inviting all major players in the development and growth of Internet in Costa Rica. Transparency and accountability were assured by having an online repository where all minutes, presentations and materials were uploaded for all members to have access. Also,

Morales (Marc 2016), says, "Accountability, legitimacy, and effectiveness are ensured by making sure that the people that represent the member organizations are active, have decision-making power and contribute to the discussions."

Legitimacy and efficiency are assured by making the meetings open to all interested parties and by NIC.CR following all the debates and informing all its members. All the government positions are previously reviewed, discussed and defined by the Council. Gutierrez (March 2016) believes that "greater care has to be exercised so that the process remains effective in reaching its previously proposed (small) goals, does it promptly (particularly if end users are directly affected) and is recognized as a sustainable policy that can be defended in a court of law. Otherwise, the process can be easily discredited".

On the replicability of the model, Morales (Marc 2016) believes that "Costa Rica´s model can easily be replicated in another country if they have strong democratic values and high Internet penetration." However, Gutierrez (March 2016) believes that "it also depends on the relationship between the ccTLD and the Government, but it could serve as best practices and shared experiences to help to build other Councils."

On an opposite position, Raquel Gatto, ISOC Regional Policy Advisor, in an interview (November 2016) told, "The Costa Rican´s model need a strong management and a fix secretariat for more organization." It started well but ended up in a mailing-list discussion. Government participation was bigger than other stakeholders were. It serves as a place to meet, talk, share information and consultation. It does not make or shape policy decisions as the CGI does.

MEXICO

In México, the initiative is called *Diálogos sobre Gobernanza de Internet*. It is a local effort that follows the principles of the Internet Governance Forum, organized by the "Initiatives Group," formed by various stakeholders from the Mexican Internet Ecosystem belonging to the Academia, Technical Community, Government, Private Sector and Civil Society. The main function of the Convener Group is to define the Thematic Hubs, the Event Agenda, invite the

speakers and participants, and prepare everything related to the logistics of the event, through established principles[49].

The dialogues contribute to the formation of high-level opinion and promote an informed participation of Mexican entities in Internet Governance Forums (regional and international). At the same time, to strengthen the participation of different sectors of Mexico in different national, regional and global events related to the Internet Governance Forum. To increase the level of dialogue in the country on these issues gradually (Diálogos de gobernanza, no date).

The Principles followed for the event are:

• It is an event for all Sectors of the Mexican Internet Ecosystem, which seeks equal participation (Multistakeholder).

• It aims to generate balanced information based on the principles of the Internet Governance Forum (IGF).

• It is inclusive by integrating different positions to avoid a single information criterion.

• It does not seek to generate conclusions, consensus or decisions but to generate dialogue to understand and enrich ideas, not necessarily agreements.

• It is organized in a neutral space with free participation.

- Seeks diversification on funding to avoid the dominance of a specific sector and to encourage the collective apprehension of the event (Dialogos de gobernanza, no date)

The barriers that they encountered in the formation was that it took much time to define the guiding principles and to invite each member to participate and to explain the initiative. NIC.MX was the facilitator, which ease the work. In an interview with Manuel Haces, NIC.MX Relations Manager (August 2016), he said, "If the invitations were made by an NGO or the government it would have had different results, as NIC.MX was a neutral party, an articulator, and mediator".

[49] The first edition of *Diálogos sobre Gobernanza de Internet* were in November 4-5, 2013 and the second edition in February 17-18, 2015.

After a while, the initial enthusiasm decreased. The technical secretariat had to motivate the participants, follow the discussions and maintain the list active. After the success of the first *Dialogos sobre Gobernanza*, more people got interested in participating. However, they are still looking for the best mechanisms for inclusion and participation. They need to decide between an open or conservative approach (open list or selective criteria for participation). Haces (August 2016) also commented, "The Group is now closed and sectorial because they want to prevent that there would not be a rotation in leadership positions."

On the replicability of the model, Haces (August 2016) believes "The model can serve as best practices and shared experience. However, every country should find its national mechanism according to their needs." To the comparisons made with Brazil, he argued, "they first need to find their model at their own time before deciding to become a legal entity and let the time do its job."

Fatima Cambronero, in a personal communication (November 2016), also believes "the Mexican model cannot be easily replicated in another country within the region as each local community has its peculiarities, times of maturity, needs, specific topics of discussion, spaces for debate, and different leaders who are the ones who will configure these mechanisms and procedures, adapt and adequate to these particularities. Pretending to import an exogenous solution to a community with different leaders, needs, processes and culture, is most likely doomed to failure or, if applicable, stagnation".

About transparency, Cambronero (November 2016) wrote "transparency and accountability are guaranteed by all the participants as well as the fact of having a Technical Secretariat that keeps a record of the minutes."

The Initiatives Group deficit is the need for more participants and to get more sectors involved, but for that, they have first to decide on the mechanism they will follow to allow open and formal participation. Although the group is still small, there has not been any question on its legitimacy. According to Cambronero (November 2016) when "the group becomes more

mature; the same robustness and maturity of the group will require more formal and structured representation mechanisms."

The Mexican initiative serves as a consultant body to the government and not for decision making as well as Costa Rica´s. On the other hand, Oscar Robles, LACNIC Manager, in personal communication (March 2016), wrote, "Currently, there is no national mechanism for generating Internet-related policies in Mexico, only a couple of events related to the IGF have been organized, so there is no history in decisions taken under this mechanism."

Robles, in communication with the author (March 2016), believes that "for the multistakeholder model to work, it requires mainly a society organized in interest groups, if they do not have a coordinated representation, the collaboration mechanism is difficult. The lack of coordination within the Government determining which issues belong to a particular office makes it difficult to make decisions".

The Mexican model is not open and has no concrete actions other than organizing the national IGF every two years. It is just an informal group of dialogue. It has to perfection its rules of procedures and plan of actions. As in Costa Rica, it serves as a place to meet, talk, share information and consultation.

ARGENTINA

Argentina has always been very active in international forums such as ICANN, CITEL, ITU, eLAC and has stronger and active representatives from Internet industry, civil society, and Academia. The government has representatives from the Ministry of Foreign Affairs (technical staff) and ccTLD (NIC.ar). The local Internet community is small but very active and mature. In a personal communication, Olga Cavalli, Argentina MFA staff (May 2016), wrote, "Argentina has an inclusive group of relevant stakeholders that work together in its respective roles at the national level."

The first attempt to build a government coordination mechanism was before NETmundial when the Secretary of Communication (SECOM) created CAPI, the Argentine Commission for Internet Policy in 2014. CAPI was a formal space for intra-governmental coordination with a

mandate to a) enhance national information sharing and coordination among the different government entities involved in Internet Policy and Governance, and b) to consolidate Argentina´s various positions on these issues in international forums (Aguerre C. and Galperin H., 2015). This presidential initiative did not follow through.

In 2015, the new government´s Administrative Decision Nº232/2016 created the Directorate of Policies and Internet Development within the e-Government Sub-Secretary of the Ministry of Modernization. Its mandate is to provide internal advisory and consulting services to the Public Administration in matters of digital policy and the Internet. It covers Digital government, open government, and Internet Governance. It is another government lead initiative.

Agustina Callegari, Internet Policy Director of the Ministry of Modernization, during the LACIGF9 in Costa Rica, told, "The government is starting the process for a multistakeholder group to address Internet issues. The Directorate is open to the multistakeholder model and aims at creating governance group within the country as well as explaining about Internet Governance. The participation is open to all interested parties, including other government offices. They have monthly meetings and a collaborative agenda to improve the Internet in the country. The decisions are not binding. They follow a bottom-up process, transparency and openness principles. The government want to articulate the national, regional and global position" (LACIGF9 video, 2016)

In a presentation for CEILAC, Paloma Szerman, Ministry staff, said that the Directorate "is also a facilitator to the community to coordinate and generate consensus on Internet policies, as well as to collaborate and coordinate Internet governance initiatives at the local level and the participation of Argentina in the international arena. It gives capacity-building related to the Internet and its functioning, to create and facilitate opportunities for the community, to establish links with experts to create a collaborative network in the Internet ecosystem and to create synergies among the different actors to achieve local development and strengthening opportunities in the sector" (Szerman, 2016).

To build an inclusive group of relevant stakeholders to work together is key to the success of any working group and promote capacity building (Ministry of Modernization, no date). The Multi-sectorial Internet Working Group acts as a platform for articulation and analysis with the different relevant actors to facilitate a collaborative dialogue to agree on public Internet policies and best practices for industry and other stakeholders. It is a space for monthly dialogue aligned to the model of governance. The objective is to exchange positions, address problems and reach agreements for the elaboration and implementation of Internet policies in the country. The meetings are:

- Open: the call is free for all who want to participate.
- Multi-sectorial: all the stakeholders interested in Internet issues can join.
- Participatory: everyone can express his or her opinions and recommendations (Ministry of Modernization, no date).

In a personal communication, Agustina Callegari (December, 2016), wrote "As a part of this WG, all other governmental administration are invited to participate in "*Mesa de Internet*" an internal Internet discussion to debate about the national, regional and international agenda, discuss joint policies for Internet Development and Internet Governance initiatives".

About the barriers for Internet policy-making, Agustina Callegari (December 2016), wrote, "The process is long, and it does not always end in a policy implementation or law. Trust between actors is fundamental to ensure sustainability and legitimacy. Participation of all stakeholders is not always easy and identifying certain actors such as Civil Society, Academia, and Technical community is complex. Remote participation is provided to alleviate the long distances in such a big country and assure diversity".

Argentina also organizes the national forum (IGF Argentina), a space for dialogue on Internet Governance in which the Government, Civil Society, Academia, Technical Community and the Private Sector have a conversation that helps shape the use and development of the Internet in the country (IGF Argentina, no date). This year they had the second edition. They have an

independent secretariat, use a neutral space, provide scholarships for participation; have a mailing list and give access to the documentation.

Clearly, the first attempt of the government to have a coordination mechanism for Internet policy did not work, besides not being open to other stakeholders. Nonetheless, the Government is still the main driver and facilitator to ensure the new initiative in time and results. The new administration creation of the Directorate of Policies and Internet Development has a right multistakeholder approach for Internet policy-making. There is also a neutral space for dialogue at the national IGF. Nonetheless, it has not developed policy on a multistakeholder process yet.

COLOMBIA

Colombian initiative began with the organization for the fifth LACIGF that took place in Bogota in 2012. However, the group was officially formed in 2013 for the next LACIGF (sixth edition in Cordoba, Argentina). It has representatives from civil society, government, academia, technical community and the private sector.

Pilar Sáenz, a member of the group *Mesa Colombiana de Gobernanza*, during the LACIGF9 in Costa Rica, told about their beginning. "They wanted a local space for dialogue and for that they impulse a multistakeholder group with government participation. They had meetings every three months, with a previously approved agenda built collaboratively and provided remote participation. They already had two forums. The first started small with 50-70 participants while the second in 2015, gathered 200 participants. The strategy was to have a joined activity with regional LACNIC meeting. This year they will innovate having a Colombian youth IGF for the first time, as a pre-event of IGF Colombia". She happily commented, "After three years of discussion they now see the results, to discuss public policies beyond IG, as cyber security for example. She emphasized that having a space for debate and dialogue is critical. The challenge they face is to reach consensus in policy and decision-making, to have an official position and to become a consultant body for the government. Their best asset is the continuity in the process they initiated" (LACIGF9 video, 2016).

In 2014, the Colombian Government's Communications Regulatory Commission (CRC) designed a strategy on Internet Governance in collaboration with several sectors. The Strategy included the following:

1. Setting the topics that the country should focus in the coming years.
2. Analysis of the Internet Governance international debate, including an overview of the key players and discussion.
3. Proposal for the Government position and participation.
4. Analysis of Internet Governance national debate, including both the involvement of the Government in the national group and the work on Internet Governance and in the Ministry of Information and Communication Technologies.

The strategy has three pillars:

1. International level:

    A. Colombian Government integration into the international debate.

    B. Participation in the main conferences at the international level.

    C. Identification of international stakeholders.

2. National level:

    A. Identification of national stakeholders.

    B. Transfer of knowledge and capacity building

3. Appropriation of the concept of Internet Governance:

    a. Identification of main topics (CRC, no date).

The best outcome of this group is the Internet Governance Forum of Colombia. In November 2013, a multi-stakeholder group was created, called the Working Group for Internet Governance Forum. It seeks to provide a space for the Internet community for an open and participative discussion on Internet Governance. This group has also participated actively in regional and global meetings on a regular basis.

The principles and processes that govern this group is:

1. Diversity and new actors
2. Bi-monthly meetings
3. Rotation of the place for the face-to-face meeting.
4. The constant search for new spaces. Encourage the participation of the academia
5. Use of communication tools, such as a) mailing list to share information, reports, events and activities at national, regional and international levels and coordinates different advocacy activities, b) Etherpad[50] for collaborative notes taking, c) Teleconference or Videoconference - to include people outside Bogota and, d) Website to keep documents and meetings minutes.

The challenges that they face are to include more stakeholders, help training government staff to attend ICANN and IGF meetings to participate and assuring continuity in international forums. (*Mesa de Gobernanza*, no date)

PARAGUAY

The situation in Paraguay for a multistakeholder process is in its early beginning. In an interview, Mr. David Ocampos, SENATICS´s Minister (May 2016), stated, "The State is an interested party in the formulation of public policies in a multistakeholder way, collaborating with the creation of capacities." On the other hand, the participation of the private sector is scarce due to the low development of ICT and DNS industry. There are few but active civil society organizations involved in Internet governance[51]. The academia has little participation and if it does, is very shy. Educational programs are not focused on Internet governance nor ICT development nor in research and innovation as was developed in chapter 2. Capacity building is vital to involve new participants and motivate them to be development actors. The young population has to be involved and engaged in the change.

[50] A web editor based on real-time collaboration.

[51] The most active NGOs are ISOC Paraguay, TEDIC and APADIT.

Civil society is doing an extraordinary job, despite being few in numbers. They initiated the debate and discussion on Internet Governance, open data, open government and security. A good example is the **Open Data and Open Government** movement. In a personal communication, Gisela from *Girolabs* (October 2016), wrote that the "Open Government movement in Paraguay had been developed in recent years with a particular focus on transparency, access to public information and open data publication." The data comes mainly from the government, with the opening of certain relevant data, especially in the area of education, public procurement, and public services[52].This lead to a coordinated agenda between Open Government and Open data. On the other hand, people still show some fear about what people can find if they open all their data. Unfortunately, civil society does not participate actively in the use of those data. Peralta (October 2016) also believes that "data can help to improve academic research in various fields, as well as research for public policy-making, with a strong foundation."

Using open data in Internet governance debate can help to track discussions and to learn from others' successes and failures, for best practices, benchmarking and research. It will help with transparency and accountability, increasing information sharing and collaboration. It could help to empower Internet users providing real opportunities to participate and collaborate directly in decision making rather than being an outsider spectator or a mere commentator.

Another civil society initiative is the organization of the **IGF Paraguay**[53], further developed in chapters 2 and 3. ISOC Paraguay is the promoter and organizer of the forum. The initiative started as a necessity for greater national participation at regional and global fora. There was a lack of a suitable and neutral space for dialogue and debate on public Internet policies and a

[52] Ministry of Education, the National Directorate of Public Procurement and the Secretariat of Public Function.

[53] The first IGF Paraguay was held on August 4, 2014. Thus, Paraguay had the opportunity to define the role it should play in Latin America and in the world on the issues that were addressed, such as human rights in the online environment, IPV6 deployment, Internet Exchange Point (IXP), and other topics such as online privacy, etc. There was a varied participation of the different stakeholder, the good receptivity of the technical community, the wide participation of University students, as well as the assistance of numerous public servants in the IT area. This year the third edition was held on October 6, 2016.

National Internet Governance Agenda. To fill the gap, ISOC PARAGUAY invited other interested parties to take part in the Organizing Committee. Representatives from government, civil society, Academia, the private sector and technical community joined the initiative.

The initiative had two objectives:

1. To take Paraguayan voice to the global and regional forum, explaining the local reality; and
2. To feed the local debate and facilitate the achievement of national objectives following the international debate. To develop national Internet policies in a multistakeholder process, promoting a national platform for the debate.

In 2015, after the second edition of the IGF Paraguay, a working group on Internet Governance was formed; open to all interested parties in participating. A mailing list managed by ccTLD (NIC.py) was created. It is a communication tool curated by ISOC Paraguay, to continue the discussion initiated in the forums and to detect the needs and debates for improving Internet development in Paraguay.

For transparency, a shared file is on the cloud were all minutes and documents are stored. All working group members have access to them. There is also a website to share the events and agenda. Remote participation is also available thanks to ISOC and ICANN collaboration. This year life streaming was provided via YouTube.

Unfortunately, the Ministry of Foreign Affairs has little participation in these discussions. Judicial and Legislative Powers has no participation at all. The spaces are filled with IT administrative staff from the Executive Power but with no power of decisions. NETmundial has a best practice to share with a high-level government and diplomat's participation. Daniel Fink, former Executive Director for the NETmundial secretariat, in a personal communication (October 2016), wrote "…the high-level participation comes from the efforts of the hosting government and the fact that the head of state endorsed the meeting. There was an excellent effort from the diplomatic body to engage high-level participants".

The private sector is increasingly participating, but more ISPs and telecommunications companies need to get involved. In a personal communication, Carolina Aguerre, a researcher at San Andres University (June 2016), wrote that "what is still lacking [in Paraguay] from her perspective is a stronger engagement from the business sector. It is still not very strong and conflated around telecommunications operators. It would be interesting to see more engagement from other types of businesses, such as hosting companies, ISPs and domain name resellers, for example".

The Paraguayan initiative, as well as Mexican and Costa Ricans, serves as a space for dialogue and exchange of information. Currently, it does not work as a national mechanism for generating Internet-related policies. The best outcome is the organization of the IGF Paraguay and the discussions on the mailing list.

The next challenge is to increase other stakeholder participation, especially from the government (with the power of decisions), such as representatives from CONATEL, COPACO, MFA, Judicial and Legislative Powers; to start thinking about a national mechanism for Internet policy-making in a multistakeholder model.

At international forums, there is a clear need for coordination between government representatives itself and then with other stakeholders. There is a lack of leaderships and policy coordination for Internet discussions and not a single Paraguayan position.

BEST PRACTICES.

The best practices and lessons learned to create a national mechanism for generating Internet-related policies from the models analyzed, are:

1. A governance group or convener group, as a neutral and independent entity, should lead on Internet Policy-making and provide a neutral space for multistakeholder discussions.
2. ccTLDs can serve as coordination hubs for national Internet policies, building on the model of the Brazilian Internet Steering Committee.

3. Multistakeholder Advisory Councils can help designing positions on Internet Governance matters at the national level.
4. Fewer meetings with productive discussions are preferred.
5. Membership by stakeholder representation can assure continuity and inclusiveness.
6. The committees should be formed in a multistakeholder way, and their respective communities should support each member.
7. Transparency on the working process is required to share decisions and debates that were taken.
8. To have feedback processes or public comment periods to receive opinions from the communities at-large for what the decision-making group produced.
9. Promoting capacity building activities, as multistakeholder as possible.
10. Preparing materials in the local language and with a focus on the local regulations and issues.

RECOMMENDATIONS

Regional Internet policy experts that were interviewed recommended to:

1. Establish the institutional and structural foundations to enable a truly multistakeholder dialogue first. Rodrigo de la Parra, ICANN Vice President of Stakeholder Engagement for Latin America, in a personal communication (June 2016), wrote, "This does not necessarily mean that a new institution should be created. Instead, Paraguay should define the stakeholder groups to be included and acknowledge their roles and responsibilities. The key is the degree of inclusion of stakeholder groups in the process".

It will enable Paraguay to establish an agenda and prioritize those matters that deserve immediate attention. The Internet, infrastructure and access development to enhance connectivity; pricing issues; cybersecurity, enabling digital society and local content in Guarani are key topics to be addressed. It is important to select few topics per year to see tangible results

that will motivate participation and engagement. Work on prevention, not on regulation; there is a danger to regulate in excess.

The current willingness of the different stakeholders in Paraguay to work collaboratively is one of the best assets. After three years of organizing the national IGF, it can be seen the increased participation and involvement of new actors. It is productive to have a renew management every two years to assure new energies and continuity, to have newbies and pioneers working together.

Other assets are the cultural identity, high youth population, low tax index for technology industries, cheaper energy, less bureaucracy for start-ups incorporation. Carolina Aguerre in a personal communication (June 2016), wrote "there is a generation of young Paraguayans (25-45) that have the knowledge as well as the motivations and mindset that enables them to connect local problems with larger regional and global themes and issues related to Internet policy and the development of technical capabilities".

2. Raise awareness and build capacity for Paraguayan stakeholders to participate fully and to see the relevance of the topic being discussed. Scholarships or fellowships opportunities are imperative to increase participation, which will lead to a greater inclusion and engagement. To create a personal connection and networking with international actors will empower participants and will promote a return to the community by sharing experiences and involving new players.

3. Start with a basic structure, enhance dialogues, information sharing, best practices and recommendations, effective coordination and then move towards a more complex institutional structure. This new multistakeholder entity will benefit all other institutions in reaching a consensus in policy discussion and implementation. It will also help with a stronger and unique national position to present and defend at regional and international forums. Aguerre (June 2016), also recommends, "The State policy should accommodate the multistakeholder mechanism within its structure."

Raquel Gatto, (October 2016), believes that "the most similar model to Paraguay is the Colombian model. A convener group with government participation that has the objective to organize the National IGF. What is still lacking to Paraguay is to have a final product a more tangible outcome". Aguerre (June 2016) agrees and believes "the organization of two editions of the Paraguay IGF are already significant milestones upon where to build a more institutionalized experience." The convener group also need to be seen as an advisory panel where the government can feel the temperature of its policy processes and decision-making. Paraguay has to walk it owns path and see what will work best for the country. Another challenge is to find sustainability, not to depend on ccTLD resources or see it as a saving account to get the money from which will detract the ccTLD from its mandate.

TABLE 15 GUIDING PRINCIPLES COMPARISONS

Principles	*Brazil*	*Costa Rica*	*Mexico*	*Argentina*	*Colombia*	*Paraguay*
Openness	X			X	X	X
Inclusiveness	X			X	X	X
Transparency	X	X	X	X	X	X
Consensus-based decision-making	X					
Cooperation	X	X	X	X	X	X
Voluntarism	X	X	X	X	X	X

Conclusion

SUMMARY OF FINDINGS

From the research carried out, it is clear that institutional coordination between public and private organizations is imperative, avoiding the generation of separate compartments. Policy integration, adequate planning, monitoring, and evaluation are required to follow its development. It is necessary that all State Powers (Judiciary, Legislative and Executive) participate actively and co-ordinately.

Nonetheless, the elaborated processes carried out in the public consultation for the National Cybersecurity Plan, the National Telecommunication Plan and the governance model for the IXP, were all interested stakeholders participated, must be highlighted. There is still room for improvement in the bottom-up process, the active participation on an equal footing of all stakeholders, and consensus building in decision-making.

For the commercial sector's development and competitiveness, Paraguay must invest in improving bandwidth, reducing connectivity costs, expanding e-commerce, encouraging the generation of local content, developing the DNS market, and supporting SMEs.

For the infrastructure sector, policies must be aimed at fostering telecommunication competition, stronger State investment in reliable and high-quality infrastructure, better access and affordability, and in facilitating greater private sector investment through greater fiscal incentives. The government should invest in ICT adoption and Internet penetration. Private investors need a stable and predictable regulatory framework to facilitate investments.

All the work shall be done with all stakeholders, not by the government only. All other actors shall get involved and participate actively in facing such enormous task and leading Paraguay to a stronger economy based on ICT infrastructure and knowledge.

Integrated policies will result in effectiveness, transparency, and accountability, and increasing participation in decision-making.

The survey has shown that Paraguay and Paraguayans are ready to work in a multistakeholder manner. They have already started the journey. The work is still in progress. There are many things to improve and work to do. However, the most important are that they have already started. The experience has shown that every year there are more people involved and more actors engaged. There is still lots of capacity building work to do, but the foundations are laid.

The creation of a national organization that discusses Internet Governance and develop Internet public policies in a participatory, inclusive, voluntary, open and bottom-up manner would be very welcome for Internet development in Paraguay. There is no single best-fit model for multistakeholder governance group that can be applied to Paraguay; it has to find its model.

CHALLENGES

1. To find a flexible and innovative decision-making mechanisms to enable governance and policy-making adequate to local needs and actors.
2. To share a clear goal to keep participants motivated and committed.
3. To build networks and create capacity. Lack of capabilities inhibits full participation of some stakeholders. It will also help to provide local solutions to local problems and to work collaboratively towards a public good.
4. To seek for a broad participation through a voluntary process. Ensure the involvement of wide range of stakeholders on equal footing and with a shared understanding of the bottom-up process. It will improve legitimacy to enforce decisions in an informal or formal mechanism.
5. Administrative officers should have authority to make decisions on their behalf.

6. To increase the mass media knowledge and perception of Internet Governance to create awareness.

RECOMMENDATIONS

The multistakeholder process is not a leaderless process. It needs strong leaders to facilitate the work of the group. A small team with specific, quantifiable objectives should be enough. Is better to start small and gradually work towards its growth.

The policy unit should be neutral and not be part of any existing agency or process with a policy-making or policy-implementation mandate. Respective organizations should implement decisions. Recommendations are:

1. To have a clear and narrowly defined objective as well as the mission.
2. To have a mechanism of real accountability to evaluate its performance through measures of checks and balances. Effectiveness will help with member's satisfaction with the work done and its results.
3. To have feedback mechanisms for stakeholders to have their needs and interests reflected in the decision-making process.
4. To adopt innovative techniques such as those uses in open data, open government for information sharing and evidence, a map of actors and issues to address the complex and diverse topics on Internet governance, to build a roadmap, to establish best practices and benchmarking.
5. To have a technical secretariat to help with agenda, organization, communications and monitoring the implementation of the decisions.
6. To create a repository to keep records of the reports, documentation, policy processes and institutional memory. It will help with transparency and access to information on how to participate in relevant policy activities.
7. To have an evaluation of operational effectiveness and objectives through an annual review.

8. To create working groups divided into sub-topics. To produce reports to inform the plenary to discuss and vote. It will create the space for active participation towards a public interest that will create a sense of belonging and an opportunity for professional grow.

Finally, it is important that Diplomats be responsible for establishing Internet policy coordination teams to respond to the increase - national and international - Internet policy discussions.

The first task for the Convener group is to evolve and mature to create a positive and inclusive environment for a multistakeholder process. The group itself have to find its true value before thinking about the legal structure needed for the new entity.

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APPENDICES

APPENDIX I – REGIONAL EXPERTS INTERVIEWS

1. **CAROLINA AGUERRE (LACTLD)/ RAQUEL GATTO (ISOC) / RODRIGO DE LA PARRA (ICANN):**

a) According to your work experience in Internet Policymaking in the region and your collaboration with Paraguay to develop a multi-stakeholder process:

b) What do you think are the most urgent matters that the country should work on?

c) What do you think are the best assets that the country has?

d) Do you think that the national capacities can orient Internet policy towards a multistakeholder coordination process?

e) What do you think is needed to engage more Paraguayan participation in IG forums?

f) Do you think a national mechanism for Internet Policymaking will work in Paraguay?

g) Which model do you think will best work for Paraguay: CGI Brazil, *Consejo Consultivo* from Costa Rica, Initiative Group from Mexico or CAPI – AFTIC from Argentina?

2. **ROSALIA MORALES, CARLOS RAUL GUTIERREZ (CR), MANUEL HACES, OSCAR ROBLES, FATIMA CAMBRONERO (MX), OLGA CAVALLI, AGUSTINA CALLEGARI (AR).**

a) According to your professional experience in the national mechanism for Internet Policymaking in your country:

b) What were the barriers you encounter to its establishment? How did you encourage participation and engagement in its formation and work?

c) How did you ensure inclusiveness, transparency, accountability, legitimacy, and effectiveness?

d) Do you think it can be easily replicated in another country in the region as a reference model?

e) What best practices and experiences can help build other national mechanisms for Internet Policymaking?

f) How does the multistakeholder model affect effectiveness, efficiency, and legitimacy?

3. **DAVID OCAMPOS (SENATICS-PY).**

a) What do you think are the most important IG matters that the country should work on?

b) Why do you think Paraguayan participation in IG forums is very low?

c) Do you think multi-stakeholder mechanisms for Internet Policymaking will work in Paraguay?

d) Which model do you think will best work for Paraguay: CGI Brazil, *Consejo Consultivo* from Costa Rica, Initiative Group from Mexico or CAPI – AFTIC from Argentina?

e) What changes should your institution make to work in a multistakeholder way?

4. **IGNACIO VELÁZQUEZ/ GUSTAVO AMARILLA (NIC.PY).**

a) How do you think that the Paraguayan ccTLD can be integrated horizontally as well as vertically or run in a multistakeholder way?

b) What changes should and could be made to rethink the model of governance of the ccTLD?

c) What is the rate growth of the ccTLD and the commercial input? Has the ccTLD any budget allocation to promote Internet growth and use in the country?

d) Is there a Registrar Association in Paraguay or any similar organization?

5. **DANIEL FINK (NETmundial)**

a) What are the most valued lessons learned from the NETmundial experience?

b) What NETmundial Best Practices can be reciprocated in national mechanism for Internet Policy-making?

c) What was learned about transparency and consensus-based decision-making?

d) How did you ensure High-Level participant´s engagement and participation?

e) How did you ensure inclusiveness, transparency, accountability, legitimacy, and effectiveness?

f) What barriers did you encounter from the Internet community and how did you solve them?

6) **MIGUEL CANDIA (MFA, GENEVA MISSION)**

a) Who is in charge of Internet issues in the Ministry of Foreign Affairs? Is there a specialized unit?

b) What are Paraguay´s engagement and participation in international policy related to the digital environment?

c) Due to the spread of Internet-related discussions, complexity, intensity, and variety, has the Geneva Mission increased its allocation of resources (human and financial)?

d) How many diplomats responsible for Internet issues are in the Geneva Mission? Are they exclusively dedicated to that matter?

e) Do you think that establishing an Internet Policy Coordination team would help to respond to the increasing national and international policy discussions with Internet dimension?

f) Do you believe that this policy coordination team would be able to work in a multistakeholder way?

g) What recommendations would you make to the MFA to deal with increasing number of Internet-related discussions (national and international)?

h) Which ICT Tools would you recommend using to facilitate the work of the MFA in Internet-related discussions (domestic and international)?

7) GISELA PERALTA (OPEN DATA PARAGUAY)

a) Could you talk about the Open Data / Open Government movement in Paraguay?

b) What were the best results obtained as a movement in Paraguay?

c) What difficulties did they encounter along the way?

d) Could you tell best practices cases and Open Governance experiences that could be replicated in Internet governance?

e) Do you agree and why to this quotation: “Open Data would help shift evidence-based "faith" decisions” (Noveck, 2014)

f) What Open Data tools would you recommend to navigate the complex ecosystem of Internet governance?

g) How will these tools help overcome the redundancies and gaps that lead to "orphan" issues in Internet governance?

APPENDIX II- Survey on Internet Governance in Paraguay

1. Instructions

This survey is aimed to survey data on the situation of Internet Governance and Internet Public Policy in Paraguay. All information you provide will be strictly confidential, and your name will not appear in any report of the results of this study. Your participation is voluntary, and you do not have to answer the questions you do not want to. Your answers are critical to improving involvement in the development of Internet public policy in Paraguay. Thank you for your cooperation.

2. Information of Participants

Demographics 'Information.

1. What is your gender?

Answer Options	Response Percent	Response Count
Masculine	63,0%	63
Feminine	37,0%	37
answered question		**100**
skipped question		**1**

2. What is your age group?

Answer Options	Response Percent	Response Count
17 or less	0,0%	0
18-20	0,0%	0
21-29	14,0%	14
30-39	33,0%	33
40-49	41,0%	41
50-59	12,0%	12
60 or more	0,0%	0

answered question	**100**
skipped question	**1**

3. At this time, in which city do you reside?

Answer Options	Response Percent	Response Count
Asunción	58,16%	57
San Lorenzo	7,14%	7
Fernando de la Mora	6,12%	6
Other country	4,08%	4
Limpio	3,06%	3
Lambare	3,06%	3
Capiatá	3,06%	3
Luque	3,06%	3
Itauguá	3,06%	3
Villa Elisa	3,06%	3
Coronel Oviedo	1,02%	1
Katuete	1,02%	1
Paraguarí	1,02%	1
Ciudad del Este	1,02%	1
Ñemby	1,02%	1
No category	1,02%	1
answered question		**98**
skipped question		**3**

4. What is your education level?

Answer Options	Response Percent	Response Count
Primary School	0,0%	0
Secondary School	4,0%	4

Technical School	12,9%	13
University degree	43,6%	44
Postgraduate degree (Master, PhD, etc.)	39,6%	40
None	0,0%	0
answered question		**101**
skipped question		**0**

5. What is your current work situation?

Answer Options	Response Percent	Response Count
Full-time job	84,0%	84
Part-time job	11,0%	11
Unemployed, looking for job	3,0%	3
Unemployed, not looking for job	1,0%	1
Retired	1,0%	1
answered question		**100**
skipped question		**1**

6. *What is your major of education?*

Answer Options	Response Percent	Response Count
Technology	76,0%	76
Law	23,0%	23
Economy	6,0%	6
Computer Science	41,0%	41
Social Sciences	6,0%	6
Political Science	9,0%	9
Development	13,0%	13
Security	22,0%	22
Infrastructure and standards	20,0%	20

Education and culture	15,0%	15
Diplomacy	4,0%	4
Other (please, specify)	6,0%	6
answered question		**100**
skipped question		**1**

7. What is your group of actor?

Answer Options	Response Percent	Response Count
Government	37,0%	37
Business	23,0%	23
Civil Society	8,0%	8
Academia	11,0%	11
Technical community	10,0%	10
International Organizations	1,0%	1
Expert	3,0%	3
Internet end user	5,0%	5
Other (please, specify)	2,0%	2
answered question		**100**
skipped question		**1**

3. Background

There were three meetings where it was discussed the models of participation by multiple actors (multistakeholder) on Internet Governance. They are the First and Second Internet Governance Forum of Paraguay (2014 and 2015) - organized by ISOC Paraguay and the Multistakeholder Organizing Committee; the LAC-i- Roadshow (2015) - hosted by ICANN-ISOC Paraguay and SENATICS.

In September 2015, during the "LAC-i Roadshow," national and international leaders from various sectors met in Asuncion to discuss regional patterns of multistakeholder participation

and the process of creation of an Internet Management Committee. During the meeting, it was were reviewed and debated on Brazil models (CGI), Costa Rica (Consultative Council), Mexico (Initiative Group) and Argentina (CAPI - AFTIC). To review which model is best for Paraguay and to improve the situation of Internet nationwide**.**

As a reference, we use the Internet governance definition of the Working Group on Internet Governance of the World Summit on Information Society**:**

"Internet governance is the development and application of Governments, the private sector, and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programs that shape the evolution and use of the Internet" (WGIG, 2005).

In this section, we would like to know your level of satisfaction and the quality of the meetings

8. Have you participated in one of the following meetings? Select all that you attended.

Answer Options	Response Percent	Response Count
I Internet Governance Forum of Paraguay, 2014	19,6%	19
II Internet Governance Forum of Paraguay, 2015	30,9%	30
LAC-i-Roadshow, 2015	23,7%	23
All of them	12,4%	12
None of them	30,9%	30
Other (please, specify)	5,2%	5
answered question		**97**
skipped question		**4**

9. How useful have been the meetings to you?

Answer Options	Response Percent	Response Count
Extremely useful	25,6%	20
Very useful	37,2%	29

Moderately useful	24,4%	19
Little useful	5,1%	4
Not useful	7,7%	6
answered question		**78**
skipped question		**23**

10. In general, with what frequency do you think your opinions are heard and valued in that kind of meetings?

Answer Options	Response Percent	Response Count
Always	15,6%	12
Frequently	35,1%	27
Sometimes	35,1%	27
Rarely	11,7%	9
Never	2,6%	2
Other (please, specify)		3
answered question		**77**
skipped question		**24**

11. What is the probability that you will attend one of those meetings again?

Answer Options	Response Percent	Response Count
Extremely probable	31,0%	26
Very probable	50,0%	42
Quite probable	14,3%	12
Little probable	2,4%	2
Not probable	2,4%	2
answered question		**84**
skipped question		**17**

12. Have you ever participated in any regional or global Internet Governance meeting?

Answer Options	Response Percent	Response Count
Yes	6,5%	6
No	73,1%	68
If the answer is yes, please specify:	20,4%	19
answered question		**93**
skipped question		**8**

4. Internet situation in Paraguay

According to the ECLAC´s report: "The state of broadband in Latin America and the Caribbean" (2015), Paraguay is still far behind in the region regarding connections speed. In broadband download speeds, Paraguay is 3.54 megabytes per second (Mbps). In countries with greater grows, the connections percentage is more than 4Mbps, like Costa Rica, Peru, and Paraguay but are showing lower percentages of subscribers as well. In Paraguay, Internet broadband is less affordable and reaches an earnings average of 4.84% for Internet access. This situation may be related to the high costs of Internet traffic transport these countries face due in part to the difficult access to submarine cables.

We would like to know your opinion on the development of Internet in Paraguay, its effects, and consequences.

13. What kind of factors is affecting the development of the Internet in Paraguay?

Answer Options	Response Percent	Response Count
Political	48,9%	43
Economic	50,0%	44
Administrative	17,0%	15
Legal	13,6%	12
Infrastructure	50,0%	44

All of them	30,7%	27
None of them	0,0%	0
Other (please, specify)	5,7%	5
answered question		**88**
skipped question		**13**

14. Order from most to least important, each of the factors that you consider a priority for improving the situation of the Internet in Paraguay: (5 highest importance, one minor importance):

Answer Options	1	2	3	4	5	Rating Average	Response Count
Infrastructure	5	0	12	14	57	4,34	88
Costs	5	2	15	20	43	4,11	85
Speed	4	1	10	21	48	4,29	84
Bridging the digital divide	5	5	16	22	36	3,94	84
Improve legal environment (content, intellectual property, gender, child safety, etc.)	6	9	15	22	33	3,79	85
Promote innovation and software development	3	7	20	27	23	3,75	80
Creating official Internet Governance platform	4	6	21	24	25	3,75	80
Facilitate a good business environment	3	11	17	32	17	3,61	80
Net security	6	5	10	16	45	4,09	82
Net Neutrality	5	4	15	31	23	3,81	78
Other	3	1	2	5	1	3,00	12
							5
answered question							**89**
skipped question							**12**

15. Indicate who you think are responsible for resolving the Internet situation in Paraguay, according to their level of responsibility (5 most accountable and 1least accountable):

Answer Options	1	2	3	4	5	Rating Average	Response Count
Government	8	2	1	7	57	4,37	75
Business	6	9	12	37	8	3,44	72
Technical Community	5	13	34	8	4	2,89	64
Civil Society	17	18	11	12	5	2,52	63
Academia	22	16	16	8	9	2,52	71
answered question							**89**
skipped question							**12**

16. Indicate your degree of agreement or disagreement with the following statement: "The development of favorable Internet public policies is a critical issue in the State political and social agenda."

Answer Options	Response Percent	Response Count
Disagree	9,1%	8
Agree	47,7%	42
Nor agree, nor disagree	22,7%	20
Quite disagree	13,6%	12
Completely disagree	6,8%	6
answered question		**88**
skipped question		**13**

5. Participation in Public Policy development

The working group (WGIG) most important conclusion was that Internet governance is not exclusively limited to purely technical issues such as the management of critical Internet resources but entails considerably wider scope where are relevant issues as reduced the digital

divide, respect for freedom of information and expression, cyber security, preservation of cultural identity and own language, and so forth.

For the development of Internet policy and Internet governance, its debate and discussions, it is necessary to take an informed and active participation, to be able to influence them.

17. What are, in your opinion and experience, the main difficulties faced in participating in the development of Internet public policies at the national level in a coordinated and collaborative manner?

Answer Options	**Response Count**	**Response Percent**
Relevant	31	59,6%
Efficiency	17	32,7%
Effectiveness	10	19,2%
Impact	8	15,4%
Sustainability	7	13,5%
No category	1	1,9%
answered question		**52**
skipped question		**49**

18. Rate from 1 to 5 the activities that you consider necessary to have a better participation in Internet public policies (5 more necessary, 1 less necessary):

Answer Options	**1**	**2**	**3**	**4**	**5**	**Rating Average**	**Response Count**
Capacity building (education)	8	7	7	6	24	3,60	52
Peers Facet-to-face Meetings	5	11	10	7	2	2,71	35
Relevant topics Discussion in mailing lists	15	8	8	5	3	2,31	39
Experts Lectures	5	5	9	7	7	3,18	33

Participate in regional and global meetings on Internet Governance	4	10	12	13	8	3,23	47
Participate in working groups to analyse and propose concrete solutions	6	4	6	18	14	3,63	48
Conduct research	7	7	9	9	12	3,27	44
answered question							**77**
skipped question							**24**

19. Rate the expected results if public Internet policies are adopted in a collaborative and coordinated manner (7 most expected and 1 least expected).

Answer Options	1	2	3	4	5	6	7	Rating Average	Response Count
Increased ICT business opportunities	3	3	5	5	12	10	18	5,18	56
Increased foreign direct investment	10	5	7	11	4	8	8	3,94	53
Increased workforce	8	11	11	2	11	12	2	3,72	57
Greater equity and social justice	15	9	9	8	8	4	5	3,29	58
Equality in access and rights	4	8	9	11	7	9	5	4,06	53
Economic and social development	3	8	4	12	11	9	14	4,69	61
Capacity building and cultural development	7	5	7	11	8	8	13	4,42	59
answered question									**73**
skipped question									**28**

20. Are you interested in being part of a working group to study and analyze participation in public policies and Internet development in Paraguay?

Answer Options	Response Percent	Response Count
Yes	90,4%	66
No	9,6%	7
answered question		**73**
skipped question		**28**

6. Working Groups

Working groups are necessary to carry out the objectives proposed at the First and Second Internet Governance Forum and the LAC-i-Roadshow. They are going to be divided according to the interest of the participants. Please indicate your preferences.

21. In which working group do you want to participate?

Answer Options	**Response Percent**	**Response Count**
Technical and Infrastructure	40,7%	24
Legal-Administrative	16,9%	10
Economic-Financial	5,1%	3
Education and capacity building	22,0%	13
Communication	6,8%	4
Other (please, specify)	8,5%	5
answered question		**59**
skipped question		**42**

22. What work methodology would you like to use?

Answer Options	**Response Percent**	**Response Count**
Periodic face-to-face meetings	33,3%	20

Virtual meetings (mailing lists and video conferences)	33,3%	20
Mixed meetings	61,7%	37
Other (please, specify)	0,0%	0
answered question		**60**
skipped question		**41**

23. Contact Information:

Answer Options	**Response Percent**	**Response Count**
Name and Surname	100,0%	55
Company or Organization	89,1%	49
Address	83,6%	46
City	92,7%	51
Country	92,7%	51
Email	98,2%	54
Phone number	85,5%	47
answered question		**55**
skipped question		**46**

24. What is your direct experience on the subject that allows you to do a reliable work?

Infrastructure Sector Digital Signature Level Years Information Security Experience Theme Internet Project Systems Privacy Development

25. Do you have concrete proposals to change the Internet situation in Paraguay or the public policies that you consider inadequate or insufficient?

Objectives Education Infrastructure Quality Internet Technology Interested Better

26. Are you subscribed to "Gobernanza-Paraguay" mailing list?

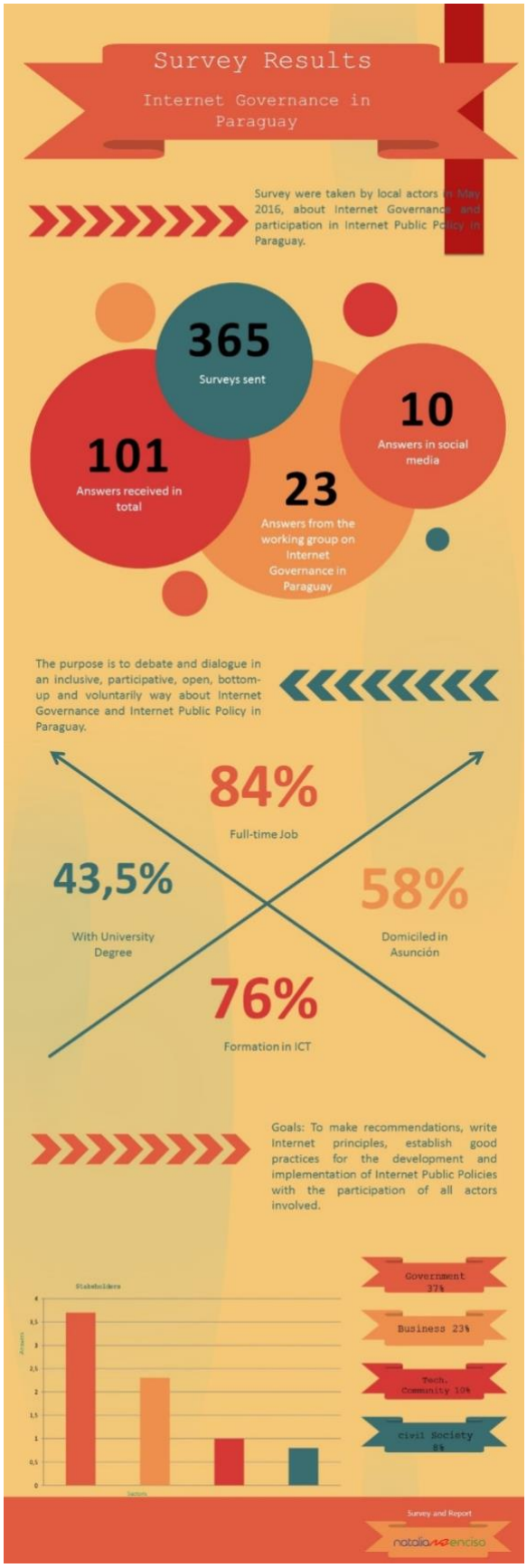
Answer Options	Response Percent	Response Count
Yes	52,6%	30
No	17,5%	10
I would like to subscribe to	29,8%	17
answered question		**57**
skipped question		**44**

7. Final comments
Finally, we would like to know more about your ideas and proposals.

27. Do you have any other comments, questions or suggestions?

Survey Paraguay

APPENDIX III – INFOGRAPHICS



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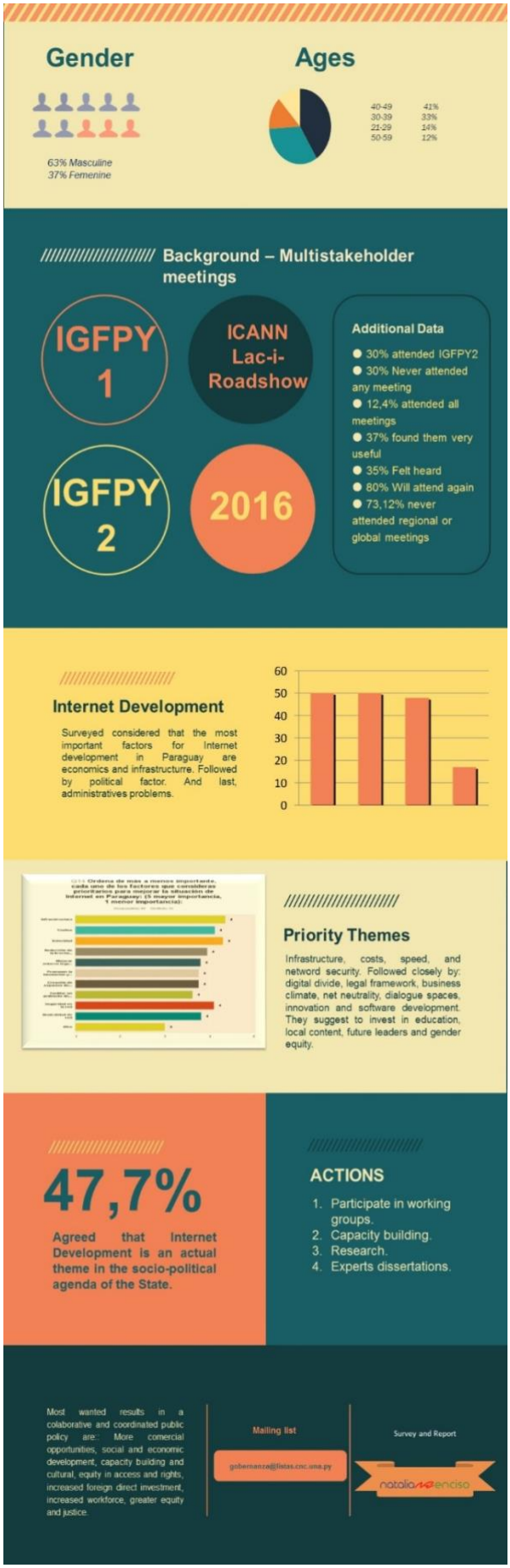

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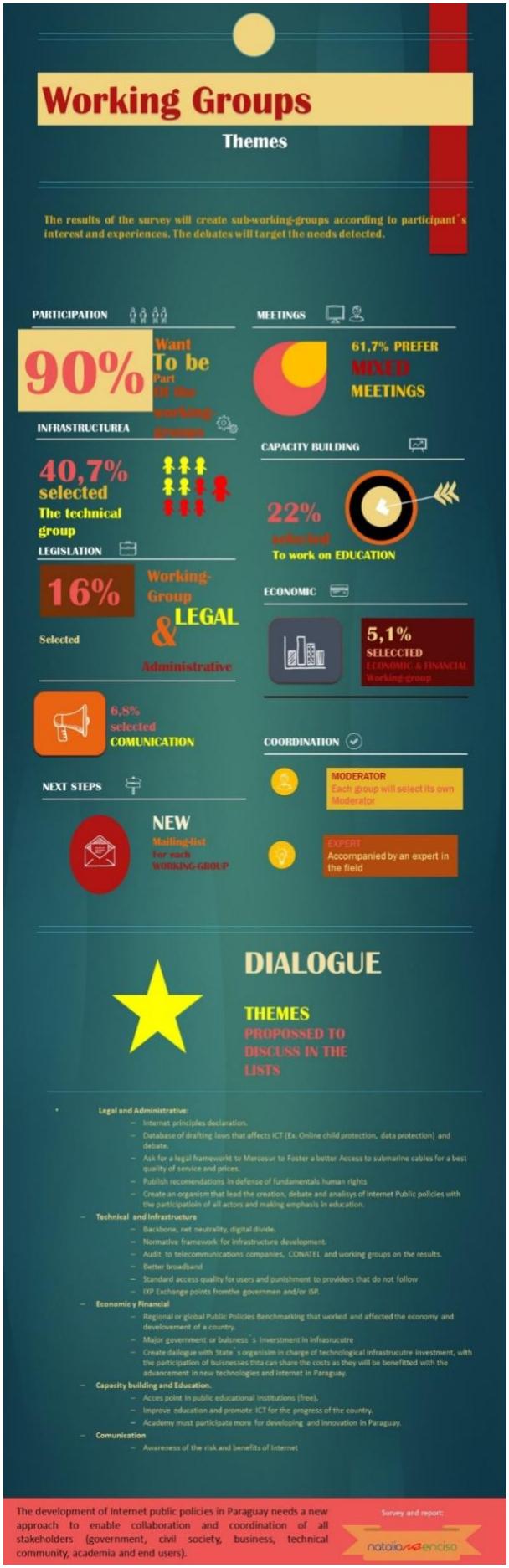

INFOGRAPHIC 3