

****Draft working paper****

VI ANNUAL GIGANET SYMPOSIUM
26 SEPTEMBER 2011, NAIROBI

Internet communities in Argentina and Brazil: origins, networks and institutional development¹

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Abstract

This work attempts at describing and explaining the differences and similarities of the Internet governance institutional ecosystem in two middle income developing countries, Argentina and Brazil. It does so by examining the main players involved in the origins of the Internet in each country, as part of what could be defined as the national “Internet community”. This concept has been used but has little explanatory potential. Instead, alternatives from policy networks and governance frameworks are employed to provide further insights into an emerging policy arena, which is the national domain for Internet governance. The work addresses the origins of the Internet in these two countries in order to understand the values and interests that initially shaped these networks.

Introduction

How much agency did local actors in Argentina and Brazil had to take part and/or shape Internet policy issues? How did these new Internet policy networks interact with preexisting policy networks? What was the effect of international networks and policy networks in Argentina and Brazil? How formally structured are these networks?

Although these questions will not be fully answered in this work they are guiding issues of the research². National policy formulation and development of an Internet institutional ecosystem depends on the existence of organized actors and networks with the international regime. The network approach in this work is used fundamentally to analyze the different organizational policy networks in both countries. When assessing the national context for Internet Governance a key analytical component is the identification of the actors involved. Because of the technical characteristics of the Internet, which makes it impossible to be ruled by a single set of actors, the network approach is helpful in order to identify both the actors involved (which can be more or less organized) and their relationships (which can be more or less institutionalized).

¹ This work is part of an ongoing research for the dissertation. It has been partially funded by a scholarship from the CONICET of Argentina.

² It had been accomplished at this stage by a qualitative comparative study based on 25 interviews.

What follows presents the relationship between the Internet community concept and epistemic communities and advocacy coalitions frameworks. The next section provides key concepts of policy networks and networked forms of governance in order to address the relationships and between the different stakeholders. After this, the two country studies are succinctly developed focusing on the Internet origins and the pioneering organizational actors. Lastly, the two cases are analyzed in a preliminary manner while the data is still being processed and the work is a preliminary phase.

Background. National Internet communities: values and the shaping of policy interests

During the end of the decade of the 1980's the Internet became a global technology that connected not just computers in developed nations, such as the United States, Canada, the UK or France, to mention some of the most relevant countries in the Internet's origins, but it was also adopted in other regions, including poorer ones. Latin American universities and research centers incorporated the technology as researchers returned to their countries after their postgraduate and doctoral degrees pursued mainly in US and UK universities. The main purpose of these researchers was to maintain communication with the former colleagues and advisors and thus pursue collaborative research. Key usages involved mails and distribution lists and already by the late 1980's both Argentina and Brazil had an established ccTLD to run their national addresses while the local Internet infrastructure was developed.

In this respect, Argentina and Brazil follow a common pattern with the "International Internet Regime". Although this regime was not properly institutionalized nor organized during that decade, the uses of the Internet in most Latin American, as well as European and South-East Asian countries arose from the same needs – scientific collaboration - and adopted similar strategies of interconnection. What differed at the time, and to an extent still does today, are the ways in which the Internet became institutionalized and organized inside countries. Thus, differences are encountered in the "national Internet regimes", which range from diverse organizational arrangements for the ccTLDs, to legal norms and procedures concerning both the level of infrastructure as well as contents.

The slippery concept of *Internet Community* has been adapted to the diverse changes that technology has suffered, for instance with the milestone of the *World Wide Web* in 1995, and also with the new ways of institutionalization, mostly with the creation of the ICANN in 1998.

Because of the Internet's origins in diverse North American and British universities, the initial Internet community is associated mainly with academics and experts in IT, electronics, and networks. However, as stated in a report by the *Oxford Internet Institute* (OII) for the European Commission (2009), the social development of the Internet must not be circumscribed to the "Internet entrepreneurs" and their visions, since they obstruct the capacity to visualize a wider spectrum of actors who played a central role as users of these emerging networks.

As well as researchers, engineers and advanced students, there were those who looked to this as a hobby, as was the case of many virtual communities who decided to connect their computers to local networks, to what later became the Internet. Another relevant group is formed by hackers and open-source activists. Castells' characterization (2000) of the *hacker*

culture as “creative programming”, characterized by the autonomy of the projects in contrast with corporate agendas and the use of the net as a technology that promotes autonomy, were central components for the development of new applications and Internet platforms.

The group composed by entrepreneurs and network operators was crucial for the development of the Internet’s commercial vision. This potential has already been recognized by the Internet creators, but given the characteristics of the Internet’s public financing in its origins, mainly by the Defence Ministry and the *National Science Foundation* of the United States, it was difficult to make this compatible with the commercial interests of large corporations.

It is noteworthy that national States are not represented in this initial diagnosis of the composition of the Internet community, except for the United States and Great Britain to a lesser degree. The appearance of governments as growingly important stakeholders in the definition of the Internet community is a more recent phenomenon which is necessary to inscribe in the dynamics of a national level and with a tripartite view (following the distinction of the public/market/social realm).

The appearance of national domain names and their institutionalization under the shape of a ccTLD is an initiative that highlights this tension between an ad-hoc, spontaneous governance, based in the personal relations as opposed to the traditional types of governments, in which formal institutions are the ones that define, shape and influence the regulations and procedures for action, given that what it is at stake is nothing more than the nation-state in cyberspace. Despite the questioning that might exist about the State as a stakeholder capable of influencing in a world perceived as global, its capacity is still highly important for some authors. “Global institutions and their procedures are yet little developed in comparison with the public and private domains of any given sovereignty that works reasonably well (...) The national arena is yet the formation and institutionalization space with the greater development level, although it rarely adopts the best imaginable shapes” (Sassen, 2006: 1). This statement is crucial to comprehend the growing importance that States are giving to the regulation and Internet policies not only because it might be a source of revenue, but because the Internet is increasingly visualized as a national strategic resource and even in a world which is becoming more global, national states can still operate and influence with great impact.

The concept of epistemic communities as developed by Haas³ (1992) is useful to characterize the origins of the Internet in these countries and the role played by researchers and scientists. Although the social, political and economic circumstances differed, the dissemination of this Multi-Purpose-Technology through expert scientific networks in many countries was possible due to shared norms and principles regarding the spirit of collaboration and open standards which lead to a common policy enterprise in both countries driven by scientists and researchers who needed to maintain communication with colleagues in other countries.

Yet, from an *Advocacy Coalition Framework* (ACF) (Sabatier, 1997: 132), the concept of epistemic communities is too lax and doesn’t provide for a strong explanatory potential. “On

³ "...a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy relevant knowledge within that domain or issue-area" (1992, p.3).

the whole, however, we are convinced that the existence of advocacy coalition – defined as actors from a wider variety of institutions who share policy core beliefs and coordinate their behavior in a variety of ways – has been demonstrated for numerous policy subsystems in several OECD countries. This would seem to contradict many political scientists’ assumption that institutional differences are primordial. The evidence to date suggests that the policy beliefs shared by members of different institutions may be at least as important in explaining their behavior as the institutional rules that apply to members of a given institution. (Sabatier, 1997: 130).

One of the defining features of the ACF is the identification of aspects that form part of the policy core as the basic causes of the problem. The perceived causes affect the set of solutions and who bears the cost. Advocacy coalitions, defined as people from a variety of positions (elected and government officials) interest group leaders, researchers) who share a particular belief system – that is, a set of basic values, causal assumptions, and problem perceptions – and who “show a non-trivial degree of coordinated activity over time” (Sabatier, 1988 et al in Sabatier and Jenkins Smith, 1997, 138) point towards the similarities in the approach to the problem.

The ACF also distinguishes between the time frame and scope. Firstly, there is the short versus the long term coordination problem (as has been noted by Ostrom (1997) and pursued in Sabatier, 1997). The institutionalization and organizations surrounding the Internet at a national level tend to enhance coordination mechanisms among different stakeholders, when considering a multi-actor organization such as the Brazilian Internet Steering Committee attending mostly the long-term. With regards to scope, the ACF looks at a policy subsystem which in the case of the Internet Governance regime of this research is between the nation-state and international organizations. In this research I precisely choose to differentiate them in order to account for its differences.

The ACF is a more rigid framework than the epistemic communities’ approach. Both of these ideas nevertheless emphasize the values, norms and orientation underlying the ideology and actions of stakeholders involved in a particular policy issue. Whereas one tends to be more abstract (epistemic communities) and the other is more grounded, they are useful to determine the different degrees of common traits, common goals and coordination to achieve them amongst stakeholders with low formal levels of organization. The concept of policy networks becomes very useful to determine not the ideas that bind these different stakeholders together, but their modes of coordination and communication.

The political economy of national policy networks

The Domain Name System and technical standards that structure the Internet are core features that help it being characterized as a global public good. One of the stronger conceptual ties between the global public goods and international political economy is that a new tripartite system of governance for global public goods. Although this has been a common feature of international fora which has embraced, at least in discursive terms the multi-stakeholder approach, this has not been the case inside countries. National policy formulation and

development of an Internet institutional ecosystem depends on the existence of organized actors and networks with the international regime.

The term “Internet Ecosystem” will be used following the Internet Society (2010) model to designate the set of organizational actors and processes surrounding the Internet. These processes are: the development of open standards, services and shared global services; education and capacity development; the development of local, national, regional and global policies; names and addresses through open access processes for the development of policies. Regarding the stakeholders, it discriminates between individual players, organizations, firms and governments; machines and devices and creators of the services and equipment manufacture. This model does not provide a description of the organizational actors in terms of their policy interests but of their functional and structural attributes. The process specification establishes different levels and dimensions which are ultimately interconnected.

Although policy networks tend to be more descriptive rather than analytic, it is a useful concept to account for the interests of different pressure groups and agenda-setting motives. “The image of the policy network represents an intuitively comprehensible metaphor: regular communication and frequent exchange of information lead to the establishment of stable relationships between actors and to the coordination of their mutual interests” (Adam and Kriesi, 2007: 129).

“Policy-making is taking place in policy domain-specific subsystems, which operate more or less independently one another in a parallel fashion. Policy subsystems consist of a large number of actors dealing with specific policy issues. Political processes in these subsystems are not controlled by state actors alone; rather, they are characterized by interactions of public and private actors” (Adam and Kriesi, 2007: 129). As Clark (2008) develops, the distinctions among economy, polity and society are important but also misleading without additional attention to their interdependence. The three realms are more accurately described as different facets of an immense network of systems. The boundaries of economy, polity and society are porous and shifting because they ultimately depend on values emanating from each realm. Commercial or market values formed in economy, political values developed through the governing process, and cultural values within community life interact with one another to determine the proper extent of economic activity, political authority and social control.

The network approach in this work is used fundamentally to analyze the different organizational policy networks in both countries. When assessing the national context for Internet Governance a key analytical component is to discriminate the actors involved. Because of the characteristics of the Internet, which makes it impossible to be ruled by a single set of actors, the network approach is helpful in order to identify both the actors involved (which can be more or less organized) and their relationships (which can be more or less institutionalized). The work of Kahler et al. “Networked Politics” (2009) discriminates between network approaches that emphasize structures and those that emphasize actors.

The network as structure concentrates on the structural characteristics and assesses the effects of network structure. In this approach, network design is not intentional on the part of any actor/set of actors. Conversely, the network as actor perspective discriminates between

networks and other types of organizations, evaluating network success or failure in achieving collective ends. From this perspective, networks are a weak form of governance.

Policy networks, from this perspective constitute “more or less stable patterns of social relations between interdependent actors which take shape around policy problems and/or policy programs” (Adam and Kriesi, 2007: 133). In these networks governments do not occupy a central position. Network management in public administration, in contrast to democratic, hierarchical, or market coordination, is a “weak” form of governance that promotes mutual adjustment of the behavior of actors in the form of negotiation and consultation by trying to influence strategies. “It seeks to steer by initiating and facilitating interaction processes, by brokering and mediating conflicts and by shaping network structures” (Adam and Kriesi, 2007: 132). Different strategies are coordinated for diverse objectives or by the selection of problems or policies in an inter-organizational network of relationships.

Policy networks are a useful conceptual tool in trying to account for the difference in outcomes in the two countries studied. While in Argentina there does not seem to be a policy network but a loose array of actors, in Brazil Internet Governance is more clearly identified.

There are two dimensions of a policy network (Adam and Kriesi, 2007). The first refers to the capacity of the different actors, as they are considered as a basic characteristic of how networks operate. Capacities refer to the power structure. This can be concentrated or fragmented. The second dimension refers to the types of actors. It is worth distinguishing between State actors and others in the intermediation of interests (political parties, advocacy groups and social organizations). State actors constitute a particular type as they have access to a special resource in the exercise of power with binding consequences for other players and the specific and legitimate use of force. Another dimension of the typology refers to the modes of interaction between the players in a network and their degree of cooperation. Three types of interaction are identified: conflict/competition, negotiation and cooperation.

“Viewed as structure, networks are not the result of conscious design on the parts of agents, even though they are sustained by interaction on the part of the nodes. An individual node (State, individual, or other agent) confronts the networks as a structural given, its behavior constrained by network ties” (Kahler, 2009: 5). The network perspective also reinterprets the notion of power an actors’ attribute is not the only variable to be taken into account but also the position it occupies within a particularly policy network. Cowhey and Muller (2009) describe strategies of delegation that are deployed by governments that wish to reduce their vulnerability to the exercise of network power by other governments. When examining the power of networks two dimensions are important. On the one hand, measuring the power of networks in terms of scalability, understood as the ability of political networks to grow rapidly at relatively low cost without altering the fundamental form of the organization and adaptability as the capacity to incorporate elements of hierarchy and centralization into their network structure. “Scalability and organizational adaptation over time are associated with more effective collective action by networks in specific environments. Rather than offering explanations for network power under all circumstances, the authors suggest conditions under which network structure and characteristics diminish influence over international outcomes” (Kahler, 2009: 16).

Internet origins in Brazil

The *Fundação de Amparo e Pesquisa do Estado de São Paulo* (FAPESP) is the organizational setting for the first network connections in Brazil in 1987. FAPESP was a research council that granted scholarships and Demi Getschko, one of the fathers of the Brazilian Internet was a young engineer working at the school of engineering and electronic computing. He was working at FAPESP to create the datacenter, as there were great interests from the researchers that came from their studies abroad to stay in touch with other universities. FAPESP initially provided services via email using Bitnet. In 1987 universities in São Paulo and Rio took place to start coordinating connectivity outside Brazilian frontiers.

FAPESP had its own budget and had to provide services to other state universities in Brazil. Thanks to this organizational status in the São Paulo scientific ecosystem, this marked a visibility of the organization within the university system in Brazil and abroad which would make it acquire a position of centrality in the policy network of communications which would become a valuable asset for the future Internet network.

The first associated network to Bitnet network in Latin America was created in the state of São Paulo (named ASP). It involved five research centers and universities of São Paulo lead by FAPESP and Demi Getschko, USP, UNICAMP, UMPESP, and IPT. This proved to be one of the critical landmarks of the Brazilian Internet, as it would be a proof not only inside Brazil but in the emerging international Internet regime, that networks could be managed and run efficiently by FAPESP.

Although Brazil is a federal country, São Paulo enjoys a privileged position in the country due to its importance as an industrial center that competes with developed regions and countries in the rest of the world. This marked difference between São Paulo and other Brazilian states enabled FAPESP, funded by the state government São Paulo, enabled this research agency to quickly lead the emergence and development of the Internet in Brazil together with its other counterpart, the *Rede Nacional de Ensino e Pesquisa* (National Network for Education and Research) in Rio de Janeiro.

The RNP was created in 1989 by the Ministry of Science and Technology to develop the academic Internet and its infrastructure. Both FAPESP and the RNP are the original locus of the Internet in Brazil, but FAPESP managed to secure the country domain names, .br which led to the development and institutionalization of the commercial Internet in São Paulo while the RNP is the national locus of the Brazilian academic Internet and its counterpart with international networks such as CLARA⁴. The Agency project incorporated other States such as Rio Grande do Sul, Pernambuco and Bahia as there were networks beginning to work there and there was a coordination needed to have all the data working under the same network. The purpose of the RNP was then to connect all Brazilian states. Its federal vocation was manifest from its origins, but despite its technical competence Internet Protocols for the commercial Internet were

⁴ Spanish acronym for Latin American Advanced Network Cooperation, the regional academic Internet Network.

delegated by Jon Postel to FAPESP in Sao Paulo, which as mentioned was centered in providing services to its constituent organizations, that is universities in that state.

Because the State-owned telecommunication corporation, Telebras⁵ had the monopoly of international communications, FAPESP and the RNP had to connect individually with US research centers in 1988. FAPESP connected with directly with Fermilab in Chicago and the RNP with the University of Maryland. The advantage was that in Sao Paulo the ASP network was already in place while RNP was connected on its own. The Brazilian country domain name and the task of managing the .br was delegated to Demi Getschko at FAPESP.

Yet the commercial Internet would not develop until the United Nations Conference on Environment and Development– the Earth Summit – held in Rio de Janeiro in 1992. Carlos Afonso, one of the fathers of the Brazilian Internet, a social activist who studied in Canada during exile and Herbert de Souza, intellectual father of Afonso, jointly founded IBASE, the Brazilian Institute for Social and Economic Analysis with the idea of tapping into communication and information technologies to advance the cause of Brazilian society. The institute created Alternex, Brazil's first ISP in 1989. In the early days it had less than 100 users and the connection was established via phone in San Francisco when messages were transmitted.

In order to launch the web in the Summit he travelled to Geneva to present his idea to the UN personnel organizing the event. "We had quite a time convincing them. At first they thought the idea outlandish. Next, we had to convince the Brazilian authorities to allow the necessary infrastructures to be set up. The combined pressure from the UN and the academic community in favour of establishing a permanent connection to the Internet finally won out. Embratel agreed to set up two dedicated Internet lines: one in São Paulo, the other in Rio."⁶ This was how a new tradition was born, which has since spread globally: it is now commonplace for planetary happenings to unfold on the Web as they are taking place. Carlos Afonso's aim was to disseminate the possibilities of this new media. This also would serve to dissuade the State from over-regulating of this field of activity. "We were betting that this was the best way to ensure the future of this technology and to provide access to the greatest possible number of people. We were also fighting the Rio academia, who wanted a state monopoly over Internet access, as was already the case with telephone service. I fought this tooth and nail, because such an approach is contrary to the spirit of the Internet."⁷

The private sector became interested in the Internet when it envisaged the business potential and how this network was competing with the telecommunications paradigm of end-to-end user. Telebras was the only telecom that could provide international connection and that

⁵ Telebrás was a holding company controlled by the Government with interest in various telecommunications companies in Brazil. In May of 1998 Telebrás was broken up into 12 holding companies, each one responsible for some of the Telebrás ownership interest. Embratel Participações S.A. is one of these 12 holding companies bearing controlling interest in Empresa Brasileira de Telecomunicações S.A - Embratel. The Government sold its controlling stake in a privatization auction in July of 1998. From: http://www.embratel.com.br/Embratel02/cda/portal/0,2997,RI_I_1207,00.html

⁶ http://www.idrc.org/en/ev-43249-201-1-DO_TOPIC.html

⁷ http://www.idrc.org/en/ev-43249-201-1-DO_TOPIC.html

provided interconnectivity within the different Brazilian states. The role of Ivan Moura Campos as secretary of Science and Technology for the State of Minas Gerais and then as a key figure on the national Ministry of Science and Technology played a crucial role in setting the Internet aside from the new telecommunications act. It was described as a value-added service under the new regulation which had two key consequences for its development: it enabled competition for Internet access, thus promoting a diverse organizational sphere of ISP which belonged to the private, social, governmental and research spheres and it set the ground for a specific organization to govern the Internet, the Internet Steering Committee. This was the first battle which the 10-year old incipient Internet community struggled and won in 1995.

In that same year the Internet Steering Committee was formed. It was a non-governmental body, non-formal, but which held representatives from civil society, business and government, including the recent new telecommunications regulator, ANATEL. This council was responsible for establishing recommendations as to the use of the Internet in Brazil as well as hosted the Brazilian ccTLD. It was responsible for the coordination, the distribution of interests and rights which in practice it was the TELESP in Sao Paulo which was also running the .br domain names. That committee was a move to centralize, institutionalize and define the framework of the Internet policy decisions in Brazil in a multistakeholder environment. This early configuration of a relatively complex organization at the time to discuss Brazilian concerns of the Internet at the time is – as some of the interviewed experts describe – one of the reasons why the country domain name .br was always much stronger than the largest gTLD, .com.

In 1995 the RNP attempted to launch a commercial Internet. The RNP became an alternative to the monopoly of Embratel which at the time was then the only organization that could provide interconnection in Brazil and outside. With the separation from the telecommunications sector, the RNP, which held the competing infrastructure for interconnection, was allowed to provide services to private commercial ventures. The RNP did not charge connection costs and stimulated newcomers to connect to the Internet by providing information and training to the first generation of ISPs that was beginning to start. The RNP gradually became focused in providing Internet access to the Brazilian academic network.

During the decade that followed 1995, the telecommunications act oriented investments in the telecom sector to the universalization of voice services instead of data services. Although this legislation was very encouraging to provide telephone services it was not stimulating for telecommunication companies to provide data communication in some areas of the country.

The Internet community in Brazil is defined in opposition to the telecommunications policy network. As a main researcher at the RNP explains, “The *Internet community* concept makes sense, particularly in its initial moments, as it represented mainly a new philosophy on the use of telecommunications which was against a model that had been practiced by the telecommunication companies. The Internet community revolutionized that usage model of the infrastructure of telecommunications and received a reaction from the traditional model. Telecoms would like to always offer a fixed tariff either by time or traffic volume”⁸. This struggle, added to all the services and applications offered with the web, including VOIP which is another

⁸ Jose Luis Ribeiro Filho, RNP. November 2010.

major paradigm shift for this sector, fostered a common objective and common values as to the need for a broad and general access to information via the Internet.

Internet origins in Argentina

Yet, the origins of the Internet in Argentina are also academic and can be traced as far back as 1984 with the Secretary for Science and Technology, Manuel Sadosky. He created a commission with researchers from universities in Bahía Blanca, Santa Fe and Buenos Aires. At the same time, different publicly funded research organizations such as the CONICET, INTI (National Industrial Technology Institute) and CONEA (National Atomic Energy Commission) had invested in the computers⁹. They were Digital computers, not the IBM mainframes. The Argentine research community was proud to develop their own standards which differed from other government agencies and corporations that used IBM. There was a prejudice against IBM amongst the scientific sector at the time due to a perception of corruption and bribery which involved the company and government officers, which exemplifies a common value of the community. To purchase these computers and train their specialists in the US in Digital the different players from the R+D public sector required consensus and cooperation, key attributes of policy networks. This company provided not just the tools but a deep know-how of computer science with its machines and to these days they are used in courses at university. To further develop this idea of community, VAX computers – which were a Digital model - were used by some 20 institutions in the country and the technical experts tried to develop their own support systems – in a similar fashion to Europe and the US, as well as texts and files as a precursor of email. With the Kermit program electronic engineers developed modems which allowed interaction amongst computers in a network in the mid 1980's. The development of X25 through the ARPANET network created by ENTEL, the national telecom at the time allowed the scientific community as well as banks to communicate. By 1986 there were file transfers between the communities in Bahia Blanca, Santa Fe and Buenos Aires.

Bahía Blanca played a significant role in the origins of the Internet in Argentina. It is a city located in the southernmost part of the Province of Buenos Aires with a university that is prestigious in science, engineering and computing, the *Universidad Nacional del Sur*. According to one of the Internet pioneers, there were always fluid relations between the university and CONICET (National Research Council for Science and Technology) (Adler, 1987). This last enjoys political and budgetary independence from universities, that is why this description of closeness, which might seem redundant in other national scientific contexts is more of an exception in the Argentine context.

Ciencia Hoy (Science Today) was the administrative umbrella under which Retina project operated. Retina, which was lead by a former physicist from the National Commission for Atomic Energy, provided Internet connection for hundreds of academics via a link with the Chilean CONICET – which had a connection established by the NASA in 1991. In 1994 Retina signed a contract with IMPSAT which provided a link with the United States. When that occurred Telintar lowered its tariffs from 46.000 dollars to 6.000. IMPSAT was owned by an Argentine business group which developed nuclear reactors for the Argentine nuclear industry.

⁹ Which during the mid 1980's cost approximately one million US dollars.

This provides a very good example of how epistemic communities and policy networks operate when involved in particular issues.

Similarly to Brazil, but with the absence of civil society groups, the scientific community and the new the Internet business sector in Argentina, organized around CABASE (Argentina Internet Services Industry Association) had to struggle with extremely high interconnection costs imposed by the private monopoly of Telintar, owned by Telefonica and Telecom¹⁰. But Telintar did not have TCP/IP until 1995, all connections were in X25. The business sector of the Internet was formally organized in 1989 in CABASE and had leading Internet pioneers of the country who had served in different ventures, mainly ISPs during the late 1980's and early 1990's.

Ariel Graizer founded Data Markets, the first ISP in Argentina and he was a leading figure of CABASE's board for over a decade.

By the end of 1995, when the World Wide Web was fully launched in Argentina this changed and from CABASE this was a crucial element. During the the Argentine Telecommunication Exhibition of 1995, Data Markets and another company, Startel had a stand to sell the Internet and Internet usage soared after this.

In 1998 CABASE created the first private sector initiative of a Network Access Point (NAP)¹¹ of the Americas, to optimize Internet traffic and lower interconnection costs. It was a direct blow to Telintar's monopoly practices. This is an example of the cooperation mode of interaction in a policy network, with international ties with the technical regime. The National Communications Commission did not intervene to regulate this: "We told them we were going to do something and that they didn't have to intervene and it has been kept like this since then. We told them it was going to be beneficial but they did not understand it and were not interested. That was at the beginning of the mobile phone era, privatizations had taken place shortly before and the business and big money was somewhere else. In fact, IP interconnection is not regulated until now".¹²

CABASE is now interested in the participation of the telecommunications sector in Argentina to cooperate with smaller ISPs and regional NAPs. The three large telecommunication companies, Telefonica, Telecom and Telmex are not members of CABASE and have been providing Internet services in the last years at great profit. The lack of regulation which was initially beneficial for the emergence of a community of Internet entrepreneurs but the dominant telecommunications players take advantage from the lack of regulation – thus operating under a logic of conflict/competition with the original values of the business sector representatives of the Internet community. CABASE perceives the telecommunications sector as big dominant players that try to impose the rules of the game. Because they can impose their own rules to the market they are not playing by cooperation rules. Thus, the policy network is fragmented in

¹⁰ Telintar was charging 40.000 dollars a month for a 64 kbps monthly in 1995.

¹¹ NAP are also referred to as Internet Xchange Points, IXPs.

¹² Ariel Graizer, August 2010.

two groups and concentrated in CABASE in one cluster and the international telecommunications in the other.

The creation of ICANN and the participation of CABASE in the organization of the second meeting for the Internet White Paper Forum in 1997 which led to the creation of ICANN which took place in Buenos Aires provides evidence of the international connections of this subgroup in the policy network. They did not feel represented by ARIN, as this organization did not share the same language, because it did not understand their policy concerns, nor the country's problems. Graizer remarks that it was essential for them to show the rest that there were different issues at stake in Latin America that they could organize themselves. If the model was going to be multistakeholder it had to show the interests of other regions and the meeting in Buenos Aires showed this to the international Internet community.

The lack of Internet regulation is perceived by the business community in Argentina as an entry gate which allowed "civil society" to participate and which otherwise would have been a matter of business for telecommunication firms. The business community around CABASE perceives itself as civil society. Graizer defines civil society in Argentina as the academic network and lawyers who pursue human and civil rights issues. He considers that it is issues rather than actors the ones who define civil society.

In the absence of other civil society groups involved in the origins of the Internet in Argentina, a main difference with the Brazilian Internet community and its policy networks, these small entrepreneurs which struggle against large international corporations from a consolidated industry such as the telecommunications one, provides a meaningful metaphor along the line of "David vs Goliath".

The fact that RFC 1591 was drafted when most of the ccTLDs had been created already in 1994 could be interpreted as an attempt to legitimize the functions of IANA and Jon Postel. The example of Brazil, where the country code was delegated to one member of the FAPESP –and that person in good faith shared that resource and fostered the institutionalization of a Brazilian Internet regime is an illustration of the informal way in which the early delegation process was managed. Argentina, on the other hand, had sufficiently legitimate credentials when its Ministry of Foreign Affairs asked for the delegation of the ccTLD. Yet, the motives for the MFA request were far from representative of the idea that Postel and the early pioneers of the Internet had of the Internet community. Instead, they were government officials who in the midst of the financial crisis and hyperinflation of 1988-89, in attempt to cut costs and thought that email communication amongst the Argentine embassies and delegations spread over the world would be an efficient measure to save on international communications.

These two histories of the Internet origins in Argentina and Brazil provide evidence on some key aspects related with policy networks and advocacy coalition framework. In the first place, the different values amongst the different players in both countries are a sign of the different advocacy groups and the Internet political economy within these countries. The academic community in both states share common interests in terms of the consolidation of the Internet infrastructure and the struggle with telecommunication incumbents. Because civil society in Argentina in Internet Governance issues was not organized it was absent from this debate initially.

Different patterns of policy networks affect the dynamics and influences of the different stakeholders. The academic communities in both countries acted in a coordinated manner to achieve connectivity and in the case of Argentina, creating a landmark in the Internet landscape of the country with Retina. Both networks acted functionally and in a cooperative manner to coordinate different actions. In the case of Brazil the academic policy networks was divided politically in terms of the scope. While the Sao Paulo researchers worked initially to develop the Internet in that State as their organizations belonged to the State of Sao Paulo, Rio de Janeiro and the RNP had a more federal perspective. The “common enemy” in both countries proved to be the telecommunications monopoly and its accompanying regulation.

In Argentina, on the other hand, the cooperation was also functional to device larger and more ambitious strategies of differentiation, not just from the business sector but also from the government.

But clearly the most important difference between both countries’ Internet Governance system is their network configuration and orientation. While in Brazil the governance structure is that of a formal network, materialized in the Internet Steering Committee, that is, the network-as -actor approach (Kahler et al, 2009) in Argentina it is a network as structure. It was never intentional and it is now the form of governance it has been able to achieve. As was noted by the claims made by CABASE of more participation of the large telecommunication providers and more regulation, the network as structure approach in this country has been in place for two decades in an instrumental manner, where players adapt to circumstances rather than learning from them.

The different ccTLD models in both countries also offer interesting alternatives to the policy network approach. While in Argentina the network is more symmetrical, while in Brazil the cooperation is more of hierarchical nature. Network management thus becomes a critical factor in order to circulate information and make policies through them. It depends on a series of conditions as (Kickert and Koppenjan, 1997) note. In the first place, the number of players is very significant, as it is easier to reach consensus with a smaller number. In the case of Brazil as most of the important actors are concentrated organizationally by the Internet Steering Committee, where there the problems of information asymmetry and the number of actors are more controlled. In Argentina there are no control, but the loose definition of the Internet players does not always account for a dense policy network but rather different nodes with varying degrees of centrality and number of connections.

Network complexity is another vital characteristic and diversity is the key variable to assess this. The complexity of the Brazilian network is much more evident from the accounts of the Internet pioneers as the State design and the differences between regions are clearly marked. In Argentina there is a greater homogeneity, both among different policy subnetworks (academics, government officers, businesses) but also in the aggregate Internet Governance network.

The degree of self-referentiality is another important attribute. Depending closed networks tend to be very efficient but are less prone to different ideas and innovation. In the case of Internet Governance closed networks might not be able to read appropriately the context's signs. In both countries the networks tend to be quite closed to the inside, but with good ties with the international network.

The absence of strong conflicts of interest is another crucial element for network governance "the scope for finding a joint solution is far greater than may be inferred from the reference to conflicts" (Kickert and Koppenjan, 1997 in Silke and Kriesi, 2007: 133). The conflicts of interest are very wide in the case of Argentina where the telecommunication companies who own the backbone infrastructure are not part of the policy network. In Brazil with the Internet Steering Committee the conflicts of interest tend to be discussed internally in formal organizational settings.

A final distinction of network governance is the costs implied in network management. These costs are great in Argentina which has no formal source of funding for Internet Governance policy making for the policy network as such. In Brazil the case is different not only because there is funding, but also because the political costs of managing conflict are internalized within the Internet Steering Committee.

Conclusions

This work has attempted to provide a preliminary map of the Internet origins in Argentina and Brazil, the formation of those "Internet communities" and the emerging values that configure these different advocacy groups. Stakeholders have been defined from a policy perspective orientation to the values attached to their concerns. It has also developed some of the main traits that define policy networks within the emerging national Internet regimes in these countries and their differing types of interaction.

From an analytical viewpoint, when assessing the trajectories and development of policy networks in these countries it is clear that there is a national system of governance which, although dependent on the global Internet regime works from a network as actor in the case of Brazil. This is a key policy choice that defines orientations as the modes of governing a global public good inside a country's frontiers. The differences in values that emerge due to the different policy domains from the market, government and civil society are managed within a defined organizational network. The Argentine case operates through a network as structure. Due to the lack of institutionalization of the Internet regime in the country, the network becomes a governance form out of necessity, not choice. Both national regimes differ as well from the international one. In the case of Argentina due to it loosely coupled national network, which is less structured than the international network and in the case of Brazil due to its

determining policy choice to generate a formally organized Internet community around the ISC, which is much more structured and organized than the international network.

Examining Internet Governance processes at a national level provides multiple challenges due to the lack of studies conceptualizing this recent phenomenon. Theoretical perspectives and frameworks that conceptualize the phenomena from a network perspective to understand the values that are driving the different stakeholders involved in the institutional ecosystem provide a good lens to understand this emerging issue.

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