INTERNET GOVERNANCE AND GLOBAL SELF REGULATION

Building Blocks for a General Theory of Self Regulation

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The following exposition sets out to identify the basic theoretical and empirical building blocks for a general theory of self-regulation. It uses the Internet as an empirical basis since its global reach and technical characteristics create interdependencies between actors that transcend national boundaries and allow for non-governmental forms of regulation to emerge. The current wave of globalization increasingly creates global interdependencies that open avenues to new forms of self-regulation. A study of the Internet from this perspective provides us with the conceptual tools needed to interpret these developments and develop tools to direct regulatory policies more effectively.

The first part of this exposition provides the theoretical building blocks by analyzing the concept of self-regulation. The second part provides empirical building blocks by analyzing the state of affairs of one of the most contested types of regulation on the Internet, its domain name system. The third part of the exposition integrates the findings of the first and second part of the inquiry and concludes by emphasizing the characteristics of the Internet and by accentuating the relevance of the Internet situation to the development of a general theory of self-regulation in a global context.

1 Theoretical building blocks

1.1 Internet Governance and Self Regulation

Internet governance comprises the institutional and procedural aspects of controlling the behavior of actors on the Internet. In perfect analogy to governance of the world outside the Internet, control of the Internet is based on the power to regulate and to enforce regulations. In both contexts self regulation seems to be an uncomplicated concept referring to situations in which the subjects of regulation are themselves also the creators and/or enforcers of this very regulation. In its simplest configuration, self regulation is the most primitive ordering mechanism of what once has been dramatically labeled the ‘state of nature’. In a more sophisticated form, self-regulation comprises a wide variety of different types of delegation.

The Internet is an information transaction network that is characterized by the prevalence of self regulation. The *global* and *technical* features of the Internet responsible for its distinctive

decentralized organization, renders it a perfect research object into self regulative processes. In many ways the Internet at-large can even be considered as one large self regulative system since its global reach renders no organization powerful enough to control the Internet in its entirety. Interaction on the Internet is primarily egalitarian in nature and typically based on the interaction between peers with a common interest. The technical architecture (e.g. Packet switching) and a widespread availability of knowledge and technological resources empower both individual users and private market parties and prevents states from obtaining extensive regulatory and enforcing powers. As a consequence the ability of states to control the Internet is very limited. Notably, the identification of all participating computers, which is essential for worldwide communication on the Internet, is regulated by a private corporation, the Internet Corporation for Assigned Names and Numbers (ICANN). The case of ICANN that will provide the empirical part of this inquiry, therefore serves as a case in point. In addition to providing insight into the specifics of Internet governance, the ICANN case will highlight some complications in the traditional conception of self regulation thus providing building blocks for a more balanced and complete theory of self regulation.

1.2 Self Regulation and Delegation

From a conceptual point of view, the first steps from a state of nature in building a society requires a primitive form of self regulation, that is, small groups of individuals regulating their own behavior, a phenomenon we label *original* self regulation. As cooperation becomes more complex and involves more people, larger groups tend to benefit from delegating their regulative powers. Delegation can taken on one of three forms; *coordinate*, *superordinate* and *subordinate* delegation. In its simplest form the regulative powers are delegated to a small subset within the group in order to coordinate behavior within the group. This type of *coordinate* delegation is very common and preserves the self regulative character of the *original* variety of self regulation. Within the context of public organizations coordinate delegation can take shape as advisory committees. Within the context of the Internet the responsibilities of system administrators and standardization committees are good examples of coordinate delegation. More advanced types of delegation involve delegation of regulatory powers to hierarchically higher level, *superordinate* self regulation, and delegation to a hierarchically lower level, *subordinate* regulation. Superordinate delegation is the kind of delegation treated by most classical delegation theories typically involving the delegation of regulative powers by the people to states and by states to organizations of states. On the Internet this type of delegation of regulative power is an exception (keeping the essential difference between actual power and formal authority in mind[1]). The only examples of effective superordinate delegation on the Internet concern purely local affairs taking place within national territorial borders. The Internet shows some apparent examples of global superordinate delegation. One important contribution in the empirical part of this exposition is to show why in ICANN's case this conclusion is deceptive. In classic delegation theories, subordinate delegation typically concerns the subordinate delegation of powers by organizations of states or by states to subordinate legislative and administrative levels like federal states (US), member states (EU),

1 The sparse EU directives that are aimed at the regulation of the Internet prove this fact by their lack of real enforcement. E.g. The privacy of Internet users is principally regulated and actually protected by private communication arrangements mainly concerning technology (the architecture of the Internet, privacy enhancing technologies like anonymizing, encryption, relocation and filtering and p2p networking) and not by EU Directives 1995/46/EC on Data protection or 2002/58/EC on Privacy and Electronic Communications. The same holds for most other directives like the Copyright Directive 2001/29/EC.

provinces and counties.[2] As opposed to coordinate delegation, both genuine superordinate and subordinate delegation cause a transition from self regulation to non self regulation by definition. Therefore, these latter forms of delegation, as the exposition of ICANN will confirm, are merely of indirect interest to the theory of self regulation. However, as the analysis of the ICANN case will show, *quasi* superordinate delegation and subordinate delegation can play an important role in the development of self regulation of the Internet.

1.3 Causes of delegation relevant to self regulation

Delegation of regulative responsibilities can have various causes that appear relevant to self-regulation.[3] In a number of cases the delegator attributes superior knowledge of or close contact with the subject matter to the delegate. In most cases of coordinate delegation the delegator institutes an internal expert organization to this aim which can take an advisory role or a regulative role, depending on the extent of expertise needed. The delegation of regulative powers to ICANN is an example. Other common arguments are the promotion of common interests (e.g. superordinate delegation to the EU by its member states), the need to match dissimilar interests of different groups of stakeholders (cf the coordinate delegation of regulative powers of domain name system-stakeholders to ICANN), the need to serve the specific needs of local communities (e.g. the subordinate delegation of powers by states to counties and municipalities, but also by the EU to EU states), the need for cost reduction or speed (delegation as an anti bureaucratic measure), and more genereally the need for efficient and effective enforcement. The empirical evidence from the ICANN case however suggests that all these different arguments can be reduced to changes in the balance of powers that constitute changing delegator-delegate relations.

As the ICANN case will show in more detail, the complexities involved in these changing power relations can best be described and explained using a market frame of reference as opposed to a state frame of reference in which the processes are depicted as intentional political processes directed by state-based actors.

1.4 Delegation of Substantive, Procedural and Accountability regulations

The specific kinds of regulation that are delegated in all these transfers of regulative powers add even more to the complexity of the subject. An original self regulating group has a broad palette of regulative competences of which any subset can be subject of delegation. In its most extreme form, a group can transfer all regulative powers similar to the transfer of regulative powers in constitutional democracies from the “demos” to the representatives in parliament. In many cases of delegation only the power to regulate the behavior of regular subjects is transferred (substantive regulations). In in other cases, the authority to regulate the behavior of the rule applicants (procedural regulations) or a combination of both is transferred. Delega-

2 Modern delegation theories also focus on the delegation (or outsourcing) of regulative powers by private organizations to subordinate organizations.

3 The occurrence of these forms of delegation have all kinds of causes (also called reasons, grounds or motives, usually in retrospect) that can be relevant to the understanding of self regulation. Historically, changes (variation) in the actual balance of powers and unintentional (natural) selection processes (e.g. selection towards cooperative behavior) have caused (forced) delegation. In our time and legal culture these consequences are commonly presented as the results of idealistic choices based on fundamental political principles (democratic rights, economic freedom etc.) or as rational choices based on the need for efficient and effective communication, decision making and implementation. As the ICANN case will show the “fundamental” or “rational” considerations are actually dictated by the existing balance of powers.

tion of regulative powers presupposes supervision. This is why delegation involves the creation and enforcement of reporting rules and agreement on the consequences of a breach of the conditions of delegation. These types of rules, commonly referred to as accountability rules, are typically introduced the first time that an originally self regulating community coordinately delegates its regulative powers. As we will see in the ICANN case these accountability rules can also be subject to delegation.

Three classes of Self regulation: Original and Delegated (reinstated or introduced)

Following the previous description, delegation of regulatory powers tends to transfer the original self regulative powers of individuals and smaller groups to other individuals and groups. On this account *original self regulation* served as a precondition for the existence of delegation. In addition, delegation itself can logically be the origin of (non original forms of) self regulation. This class of self regulation can be called *delegated self regulation*. From a logical point of view, delegated self regulation comes in two varieties. The first variety occurs when a new delegatee group is created by a delegator. This type of delegated self regulation can conveniently be called *introduced self regulation*[4]. The second variety occurs when self regulation is reinstated to an original group This kind of delegated self regulation can be called *reinstated self regulation* and is strongly associated with *deregulation*, the clearest example being a public organization (like a state) re-establishing original self regulation by delegation of regulative powers back to a private group. In order to assess ICANN's situation adequately it is useful to keep the distinction between these three types of self-regulation into mind.

2 Empirical building blocks

In the previous section we have proposed a number of theoretical concepts and relations that we think are prerequisite to an adequate description and explanation of self regulation on the Internet. As indicated in the previous section, the introduction of a part of these concepts and relations is inspired by an empirical study into the regulative powers of the Corporation for Assigned Names and Numbers (ICANN)[5]. We think that ICANN is representative of the most important category of self regulative arrangements on the Internet, as these arrangements are characterized by the regulation of a global public interest by a global private organization, which is managed by the main subjects of the regulation themselves (interested parties or stakeholders). ICANN is a private organization, that regulates an important public issue (the identification of computers and websites on the Internet) and that is managed by its main stakeholders (including states). As a representative case of self regulation, the ICANN example renders initial validity to the proposed concepts and relations. The starting point of the following analysis of ICANN's regulative powers and regulative procedures is the debate about ICANN's supposed accountability deficit. An organization serving public interests is usually presumed to be accountable to the public. From a state frame of reference the public

4 A variant of this introduced self regulation is the introduction of a new delegator to an existing self regulating group or existing self regulating groups, which usually will precede the introduction of a new (composite) delegate group. The situation in which a new delegator just imposes accountability on the existing self regulative group is equivalent to ordinary super-ordinate delegation of (in this case) the power to regulate accountability. The fact that the would be delegator can take the initiative shows that delegation (at least in these cases) is an effect of a changing balance of powers instead the result of idealistic or rational choices of the self regulating group.

5 The case material described in this section has been published before in: VEY MESTDAGH, C.N.J. DE & R. W. RIJGERSBERG (2009). Rethinking Accountability in Cyberspace: A New Perspective on ICANN. In: International Review of Law, Computers & Technology,, Volume 21, Issue 1 March 2007, pages 27 – 38.

is commonly represented by a state or an organization of states (governmental supervision) and states are mainly accountable to the public through elections. The ICANN case not only shows that governmental supervision and elections are not viable as a part of the self regulative arrangements on the Internet, but moreover it shows that technical characteristics of the Internet introduce competition.

ICANN's accountability problem

ICANN manages the Internet's Domain Name System (DNS). The DNS helps users find their way around the Internet by allowing a (unique) string of letters, the domain name, to be used instead of each computer's unique Internet Protocol (IP) number[6]. Domain names consist of several parts, representing levels within the naming structure, separated by dots. At the end of the domain name we find the Top Level Domain (TLD) which is divided into Country Code (cc)TLDs representing countries, like .uk and .ir, and Generic (g)TLDs representing general categories like .com and .org. To the left of the TLD we find the second level domain falling under the first and so on, resembling a standard classification system. The system is set up in this way in order to ensure unique naming on the Internet. It also allows for an easier, more efficient and less vulnerable way of translating the names into the IP numbers needed to contact the respective hosts. This process, called 'resolving' mimics a hierarchical naming system since it resolves the domain names level by level[7].

The top of the DNS consists of the root zone file and its 'authoritative' servers[8]. The root zone file is simply a list of Top Level Domain (TLD) names[9] and the IP numbers referring to the servers able to resolve the second level domain names falling under this specific TLD. First the TLD name gets resolved and the query gets directed to a server dedicated to resolve secondary level domain names falling under the respective TLD. This one in turn refers to the third level domain name server etc until the complete IP address is resolved and the host can be contacted. The root zone file is the master file from which the DNS gets its data. In effect, controlling the root means controlling the Internet because deletions and additions to this file affect the top of the Internet's universe. If for example, the cc TLD of the Islamic Republic of Iran, represented by .ir would be deleted, eventually, none of the domain names containing the .ir TLD could be resolved anymore and consequently, the underlying web pages could not be accessed[10]. Since domain names are scarce due to the fact that they need to be unique, and Internet users are affected by choices regarding TLDs, ICANN is said to set public policies[11]. In Klein and Mueller's words[12]:

6 See THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2007b) ICANN general information (factsheet).

7 For the purposes of this paper, this rough sketch of domain name resolving suffices. For a more in depth treatment see NATIONAL RESEARCH COUNCIL (U.S.). (2005) Signposts in cyberspace: the Domain Name System and internet navigation, Washington, D.C., National Academies Press.

8 Authoritative servers are servers that get their information directly from the root zone file.

9 TLDs are divided in to generalTLD's like .org, .com etc and country code TLDs like .uk and .de etc. For an overview of registrations see the VERISIGN INC. (2005) The Verisign Domain Report. The Domain Name Industry Brief.

10 This is a simplification of reality. Caching makes it possible to directly access content avoiding the use of authoritative name servers. The data in the caches however needs to be updated regularly in order to guarantee the validity of the information. Eventually, the caches will also contain updated information regarding the deleted data (see op cit, note 2).

11 ICANN's decision not to add the proposed .xxx domain name debate forms an interesting illustration, see ICM REGISTRY (2005) The Voluntary Adult Top-Level Domain (TLD) - .xxx.See also THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2007c) ICANN Publishes Revision to Porposed ICM (.XXX) Registry Agreement. *ICANN Announcements.*The question whether to add this TLD to the root zone file raises implications regarding freedom of speech, protection of citizens, privacy issues and so on. Cf LESSIG, L. R., PAUL (1999) Zoning Speech on the Internet: a Legal and Technical Model. *Michigan Law Review,* 98.

12 C.f. KLEIN, H., MUELLER, M. (2005) What to Do About ICANN: A Proposal for Structural Reform. Internet Governance Project.

'ICANN makes global public policy in a number of fields. It makes competition policy by controlling business entry into the domain name registry market and by determining the market structure of the US$ 2 billion industry. It engages in rate regulation, setting the base price for the majority of the world's wholesalers and retailers of generic domain names. It makes Intellectual property policy by defining and enforcing global laws regarding rights in domain names. Indirectly, ICANN affects freedom of expression because its rules on trademark protection in domains set limits to public use of words, and its rules regarding registrant data are intended to make anonymous expression on the internet impossible. Many would say that ICANN also engages in taxation; it imposes per-domain fees on domain name registries and the fees have grown sharply over time. Finally ICANN's powers are open ended; the entities it regulates must commit to implementing any further policies that the organisation should promulgate. ICANN's regulatory and supervisory activities constitute global public policy of a type usually exercised only by governmental (or intergovernmental) entities'.

Indeed, the power to set public policies is commonly held by (inter)governmental agencies. Unlike those agencies, ICANN lacks the appropriate mechanisms to constrain its decision making power and secure its accountability to the public. The following paragraphs examine two exemplary proposals to overcome this deficit and show that inadequate assumptions underlying these proposals caused an inadequate appraisal of ICANN's accountability mechanisms.

Proposed solutions

Two exemplary solutions have been proposed to solve ICANN's accountability problem: direct elections of a part of ICANN's board of directors and intergovernmental supervision. The proposal to directly elect a part of ICANN's board to reduce the accountability deficit needs to be seen against the background of ICANN's legitimacy problem[13]. When it was founded in 1998, ICANN's board consisted of nine technical experts, nine user representatives and a president. None of them were elected by the Internet users[14]. The transference of the DNS management from the US government to the *not for profit corporation* ICANN soon raised questions regarding its policy setting powers and led to a call to overcome this democratic deficit[15]. In 2000, answering to fierce lobbying pressures[16], the board decided to have five out of nine user representatives directly elected by the Internet community. Despite its promising outlook, the project failed miserably[17]. Of the estimated 375 million Internet users at the time, less than 0.01 percent actually voted. Failure of the experiment led ICANN to abandon the idea of direct elections in 2002[18]. The second proposal, intergovernmental supervision would solve the legitimacy problem by making ICANN accountable to the international community. The cluster of proposals presented by the UN Working Group on Internet Governance (WGIG)[19] is a recent initiative to this end. This type of proposal is mainly rooted

13 WEINBERG, J. (2000) ICANN and the Problem of Legitimacy. *Duke Law Journal,* 50.

14 See ibid. note 130 and FROOMKIN, M. Ibid.Wrong Turn in Cyberspace: Using ICANN to Route Around the APA and the Constitution.

15 See HUNTER, D. (2003) ICANN and the Concept of Democratic Deficit. *Loyola of Los Angeles Law Review,* 36.For Klein and Mueller's see *supra* note 7.

16 See KLEIN, H. (2001) The Pro-Democracy Movement in ICANN.

17 PALFREY, J. G., JR. (2004) The End of the Experiment: How ICANN's Foray into Global Internet Democracy Failed. *Harvard Public Law Working Paper No. 93; Berkman Research Publication No. 2004-02.* SSRN.

18 For ICANN's post reform bylaws see THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2002, December 15) Bylaws.

19 WORKING GROUP ON INTERNET GOVERNANCE (2005) Report of the WGIG.

in the widespread concern regarding the alleged unilateral US power over the root zone file[20] combined with a strong belief that internationalisation of Internet governance is a first step in overcoming the digital divide[21]. Despite pressures from countries like Brazil, Russia and China[22] at the UN World Summit on the Information Society (WSIS) in 2005[23] where the Internationalization of ICANN was at the top of the agenda, an agreement was reached to maintain the status quo[24].

None of the attempts to overcome ICANN's accountability problem by implementing traditional state-based solutions succeeded. Whereas many causes might have led to the failure of the proposals, the more fundamental question is whether we actually *need* state mechanisms to control and influence ICANN's DNS decisions. In the next paragraph we show that DNS context lacks essential conditions for applying a state model to assess and design its accountability mechanisms. In order to see the reason, it is useful to examine these conditions within their traditional context; that of the state.

The State Frame of Reference

Democratic representation is designed to avoid governmental power abuse by monitoring and influencing the decisions that are taken in the public interest on behalf of the people[25]. This principle underpinning the election experiment also forms the basis for the supervision proposals. Intergovernmental supervision influences decisions by holding the organization accountable to the international community, represented by state officials. So both instruments, elections and intergovernmental supervision, are based on the same principle, i.e. to constrain and influence decision making powers. Representation through elections provides the 'bottom up' means and intergovernmental supervision provides the 'top down' means of achieving this goal.

The reason why citizens require constraints on governmental decision powers is due to their degree of dependency[26]. The lack of alternatives to government decisions made in the public interest requires citizen participation. This is why accountability enhancing mechanisms are built into our constitutions. It also forms the basis for insisting on democratic decision making in general. In ICANN's case, dependency and a lack of alternatives lie at the heart of the governance debate and have formed the basis for the proposed solutions. The next section shows that it is exactly at this point where the applicability of the state frame of reference breaks down.

20 The source of the power is; DEPARTMENT OF COMMERCE (USG) & NETWORK SOLUTIONS, I. N. (1998) Amendment 11 to Cooperative Agreement Between NSI and U.S. Government. While NSI continues to operate the primary root server, it shall request written direction from an authorized USG official before making or rejecting any modifications, additions or deletions to the root zone file". See also MUELLER, M. (2005) US Unilateral Control of ICANN Backfires in WSIS. Politechbot.

21 See for the UN's commitment; WORLD SUMMIT ON THE INFORMATION SOCIETY (2003, December 12) Plan of Action.

22 Europe has shown concern about the US position since the ninety's. At the WSIS Europe held an intermediate position pleading for an independent forum which would act as a platform for all stakeholders, REDING, V. (2005) Opportunities and challenges of the Ubiquitous World and some words on Internet Governance. IN MEDIA, E. C. R. F. I. S. A. (Ed.).

23 UNITED STATES GOVERNMENT (2005) Domain Names: U.S. Principles on the Internet's Domain Name and Addressing System. IN ADMINISTRATION, N. T. A. I. (Ed.).

24 See WORLD SUMMIT ON THE INFORMATION SOCIETY (2005, September 30) Tunis 'Summit of Solutions' Now in Sight. IN UNION, I. T. (Ed.).See also MCCARTHY, K. (2005, November 16) US Wins Net Governance Battle. The Register.

25 This is expressed in Lincoln's Gettysburg address when he talked about government 'of the people, by the people, for the people c.f. p.19ff. TRIBE, L. H. (2000) *American constitutional law,* New York, NY, Foundation Press.

26 POST, D. (1999, June 6) Governing Cyberspace "Where is James Madison when we need him?" *ICANNWatch.*

Factual misconceptions

The UN proposals to put the DNS under intergovernmental supervision are based on the assumption that the US controls the root zone file. Since the Internet is a trans-national medium affecting the global public interest, our democratically informed sense of justice tells us that uniform control by one nation is not fair and that every individual should have a say in decisions affection the global public interest. This is the source of the UN's call for intergovernmental supervision. In the eyes of many nations, the US seems to have a disproportional amount of power over the root zone file and in fact, it has the last say regarding changes in ICANN's root zone file[27]. Whereas the root zone file is not much more than a telephone directory listing names (TLDs) and IP addresses of authoritative servers, it does form the spine of the DNS. It is the informational source of the 13 authoritative TLD name servers, i.e. the servers that obtain their information directly from the root zone file. In addition to this, the US role seems strengthened by the fact that ten of these thirteen authoritative root zone servers are located on American soil. Three of these servers are even run by the American government.

Appearances however, are deceptive. The US power over the root zone file is rather overrated. The availability of alternative root zone files and root zone servers systems operating independently from the US/ICANN based system diminishes the US' power significantly. From a political point of view the most interesting alternative is the European Open Root Server Network[28] (ORSN), which consisted of 13 independently operating root zone servers thus providing a European alternative counterbalancing US power. The ORSN had two operating modes. The *ICANN based operating mode* served as the normal mode and involved daily synchronization with the ICANN based system with one exception. Removed TLDs are not removed from the ORSN root. For example if ICANN for political reasons would remove a country code TLD on instigation of the U.S. this TLD would not automatically be removed from ORSN. The *ICANN independent mode* did not synchronise automatically and was to be activated whenever the political situation required this, for example, when a possible modification or downtime of ICANN's root appeared or was expected[29]. The ORSN servers were primarily placed in Europe. The interesting point about this alternative is that a possible US power abuse by deleting TLDs, e.g. .ir, from ICANN's root zone file would not prevent the ORSN users from reaching the deleted domains[30]. The moment that the .ir TLD name was deleted from ICANN's root zone file, Internet Service Providers could (and pressured by their customers probably would) switch to the ORSN operated DNS servers and their users would be able to reach the Islamic Republic of Iran without difficulty. The ORSN tells us something about the way in which power imbalances are dealt with on the Internet (by private actors). The fact that after six years of service the project was put to a halt due to a lack of financial resources suggests a changing conception of the threat and dominance of US power on the Internet.

The US power over the root zone file however, is not the only overrated issue in the current Internet governance debate. There is an even more persistent and fundamental assumption

27 Op cit. note 23.

28 OPEN ROOT SERVER NETWORK (2002) ORSN (about and FAQ).

29 Ibid.

30 Apart from the ORSN, there are many satellite servers (copies of the authoritative server). It remains to be seen how many of them are likely to copy unwanted US deletions in the root zone file.

which is also part and parcel of the US power debate. It concerns ICANN's sovereignty, or monopoly (if put in market terminology) regarding the DNS. The issue at stake is (again) determination of the root zone file content, and its focus is on possible additions to the root zone file[31].

In order to maintain uniform resolvability, i.e. guaranteeing that every connection, whether in Spain or Alaska, has equal access to identical information, maintaining one single root zone file is elementary. At the moment ICANN manages 18 gTLDs and slighty over 240 ccTLDs[32]. 'The Internet however, is no longer the kind of thing where only six guys in the world can build it'[33], and ICANN has been very slow in expanding the domain name universe with additional TLDs. As a result, alternatives have been developed catering for the increased demand for new TLDs. As from 1996 onwards, companies have been offering competing TLDs and hence complete domain names[34]. The most important commercial TLD providers simply offer an alternative system of root zone servers that include ICANN's root zone file. On their own root zone server system they offer registration for additional TLDs and complete domain names. In order to increase access to the newly registered names they contract ISPs thus providing access to the ICANN independent TLD's.

One of these companies, New.Net[35], had contracted Tiscali with over 4.8 million active European users[36], Earthlink (Atlanta) also with over 4.8 million active subscribers[37] and Tutopia in South America with 2.7 million registered users[38]. New.net was just one of many companies offering alternative domain name services on the TLD level. Other exampled offering alternative root server systems were for example UnifiedRoot[39] and Public-Root[40]. In addition, China also operates on this market. It has launched alternatives to .com domain names using Chinese characters[41] that are directly accessible to 110 million Chinese internet users[42] and are not accessible outside China without configuration changes[43].

In sum; the assumptions informing the proposals to implement traditional state-based mechanisms in order to monitor ICANN's operations are based upon factual misconceptions. Neither the US power over the root zone file, nor ICANN's power regarding the Domain Name System (DNS) in general, are strong enough to justify the implementation of classic state based accountability mechanisms. The availability of alternatives makes the state model inadequate as a frame of reference by which to judge and design ICANN's accountability

31 The debate regarding the US domination of the root zone file focuses mainly on the possible deletions of existing TLD's due to US influence.

32 For an overview see INTERNET ASSIGNED NUMBERS AUTHORITY (IANA) (1998) Generic Top-Level Domain.and INTERNET ASSIGNED NUMBERS AUTHORITY (IANA) (2002) Index by TLD Code.

33 See Paul Vixie in an interview RHOADS, C. (2006) Endangered Domain. *Wall Street Journal.*

34 AlterNic, eDNS and Iperdome for example were early alternative DNS providers.

35 NEW.NET (2003) New.net Domain Names.

36 TISCALI (2007) About us.

37 NEW.NET (2007) New.Net Partners.

38 RIGHTNOW TECHNOLOGIES (2005) RightNow Powers CRM For Top Latin Amercian Network Services Provider.

39 UNIFIED ROOT (2006) FAQ.UnifiedRoot also works on a commercial basis in order to promote the liberalisation of the domain name market. It has also contracted Tiscali in order to provide access to their extended universe see also; TECHREPUBLIC STAFF (2005, November 26) Dutch tech firm want to rid the Web of the .com. *TechRepublic.*

40 PUBLIC-ROOT (2003) Public-Root (homepage). Public root offers its global root server system as well to alternative domain names. It has recently launched a TLD system in Turkey see TDN STAFF (2005, June 23) Top Level Domains Launched in Turkey. *Turkish Daily News.* Istanbul.

41 PDO STAFF (2006, February 28) China Adds Top-Level Domain Names. *People's Daily Online.*

42 BBC STAFF (2006, March 7) China and the Break-Up of the Internet. *BBC News.*

43 MACKINNON, R. (2006, February 28) China's New Domain Names: Lost in Translation. *RConversation.*

mechanisms to the public. In the next paragraph we propose an alternative, more promising frame of reference and discuss its advantages in assessing the DNS market and ICANN's accountability mechanisms.

The market frame of reference as an alternative

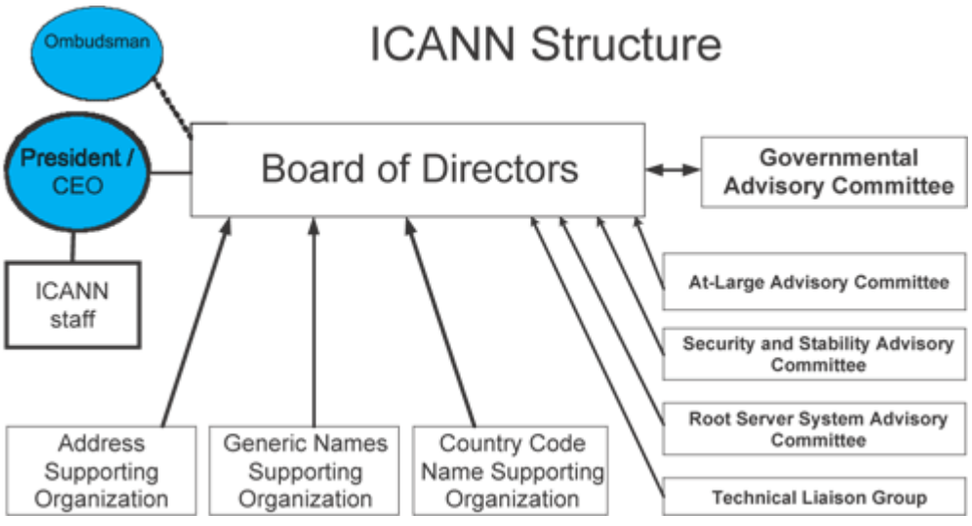
The availability of alternatives has caused the State frame of reference to break down as a viable model to asses and design ICANN's accountability mechanisms. The availability of alternative root server systems and competing TLD providers renders the need for traditional political accountability mechanisms superfluous. There is however another widely accepted, traditional model available that does seem to fit ICANN's situation perfectly. The market model is able to provide us with a better understanding of the economic reality, i.e. the expanding competitive environment, in which ICANN operates. The accompanying notion of accountability might shed a new light on ICANN's accountability requirements and its curious hybrid organizational structure.

In a market situation the notion of accountability to the public takes on a completely different form. The traditional State- based principle of accountability to the public gives way to an accountability mechanism through which citizens influence decision making not by representation but by voting with their feet. As opposed to political accountability, market accountability is based upon informal economic mechanisms rather than highly formal hierarchical control types of accountability. On the market place the ability of a company to maintain and attract customers is the main indicator of the company's accountability to the public. On a market the principle of political accountability is replaced by a company's ability to respond to their consumer needs. Actual customer choices are the key constituents of the main accountability mechanism of the market. On the Internet, the actual competitive character of the TLD- and root server systems markets forces a shift in conceptual frame of reference upon us. Consequently, ICANN needs to be assessed using a market rather than a State frame of reference. In the previous paragraphs the focus has been on an adequate description of the DNS and the supply side of the services involved. The next paragraph focuses on the demand side of the DNS services and shows that ICANN's current stakeholder model is a new organizational arrangement based on market principles and a variety of consumer demands.

ICANN revisited

The analysis thus far established that ICANN is a market party. Instead of using a normative model in order to examine the adequacy of ICANN's accountability mechanisms, this paragraph will provide a description of ICANN's actual accountability to the public by focusing on the role that States and private Internet users play within ICANN's organisational structure. The latter part of this paragraph explains ICANN's hybrid structure in the light of the market model.

Figure 1: Organisation chart ICANN: < http://www.icann.org/general/org-chart-12jan04.gif>



As Figure 1 above shows, ICANN's board is its central policy making body[44]. It consists of a President and fourteen directors deciding by a majority vote. Eight directors are appointed by the (board-independent) Nominating Committee (NC) based on the criteria of geographical diversity and technical skills[45]. Two directors are appointed by the Address Supporting Organization (ASO), two by the Generic Names Supporting Organization (GSNO) and two by the Country Code Supporting Organization (CCSO)[46]. These fourteen directors in turn, annually elect the President[47].

Within ICANN, the Internet users are represented in a variety of ways. ICANN's prime provision for empowering the global individual Internet users is the At Large Advisory Committee (ALAC)[48]. Operating on the same level as the technical advisory committees (the Security and Stability Advisory Committee, the Root Server System Advisory Committee and the Technical Liaison Group), the ALAC is purely advisory in nature, informing ICANN's board directly about the Individual user's concerns.

Similar to the ALAC, the governmental concerns are addressed by the Governmental Advisory Committee (GAC)[49] consisting of representatives of national governments, governmental organisations, and regional bodies like the European Commission. Its task is to provide advice on public policy issues affecting governments[50]. Like the ALAC, the GAC's influence is advisory and informative. Since ICANN's board is obliged to search for a mutually acceptable solution in the case of diverging views, it seems to be more powerful than the ALAC[51].

44 Art II, Section 1 Bylaws ICANN at THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2002, December 15) Bylaws.

45 Ibid, Art. VII Section 4 and 5

46 Ibid, Art. VI Section 2(1)

47 Ibid. Art XIII Section 2

48 THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2005) At-Large Advisory Committee (homepage).

49 THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2007a) Governmental Advisory Committee (homepage).

50 BETTINGER, T., WILLOUGHBY, T. & ABEL, S. M. (2005) *Domain name law and practice : an international handbook,* Oxford [UK] ; New York, Oxford University Press, p15.

51 Op cit, note 44, Art XI, Section 2(1)(j)

The scope of its advice however, concentrating on the interaction between ICANN's policies and national laws or international agreements[52], limits the GAC's power significantly[53].

The ALAC is not the only way in which the Internet users are represented. Within the NC they occupy half of the voting seats[54]. As such they have a large say in the appointment of eight ICANN directors. In addition, the NC also appoints half of the CCSO's Council responsible for developing ccTLD policies, which in turn appoints two ICANN directors[55]. They are also represented by nine out of the twenty-one voting members in the GSNO which is responsible for developing gTLD policies[56] and again, the appointment of two ICANN directors. In short, the Internet users are directly involved in the appointment of ICANN's directors and the development of TLD policies.

The inclusion of both users and state representation within ICANN poses difficulties for the State frame of reference. Specifically the inclusion of Governmental representation and ICANN's commitment to mutually acceptable solutions is a breach with a fundamental feature of a modern state, namely its sovereignty[57]. From a market perspective the inclusion of both governments and private users is also unusual, but it does allow for a natural explanation.

As was noted before, on a market, the accountability to the public is simply constituted by the organisation's capacity to attract customers and its ability to maintain to serve them according to their needs. Since States are generally more inclined to foresee conflicts with national legal frameworks affecting national citizens, they obtained a specific status within ICANN. The strategic relevance of government and individual user inclusion can be seen in the light of ICANN's awareness of potential competition and its fear of Internet splits[58]. Since on the Internet decisions regarding the DNS can have implications for national legislation and existing treaties, keeping in line with the legal frameworks has several advantages. It improves ICANN's responsiveness to the governmental needs and reduces the chance of premature splits of the Internet along territorial lines. As a consequence it helps ICANN to maintain its market share.

Inclusion of individual customer representatives within ICANN's organisational structure is also in line with the market model. It provides the most direct way to monitor consumer needs. In fact, the incorporation of both private users and governmental organisations as customers within its formalised organisational structure actually takes the notion of responsiveness one step further. Instead of the traditional sales monitoring, relying on market survey's and customer satisfaction reports (generally outsourced to other companies), customer participation in company decision making is quite a revolutionary way of keeping in line with

52 THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS Governmental Advisory Committee (about).

53 For an example of public policy discussed within the GAC concerned the cooperation of law enforcement with regards to the potential .xxx TLD, see THE INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS (2006, March 28) GAC Communiqué -Wellington, New Zealand. Wellington.

54 Op cit, note 48, ICANN's bylaws, Art VII, Section 2

55 Ibid, Art IX, Section 3(1)

56 Ibid, Art X, Section 3(1)

57 See United Nations Charter Art. 2(1)

58 See for example MUELLER, M. (2001, November 23) Competing DNS Roots: Creative Destruction of Just Plain Destruction? *ITU Strategy and Policy Unit Lunch Seminar.* Geneva.

the customer's needs. In effect, ICANN has taken the market's prime accountability concept, responsiveness, to a higher level in its need to maintain and increase its market share. In this sense, judged from a market frame of reference, ICANN's accountability mechanisms are substantially advanced and sophisticated, and judged by its market share they are rather effective as well.

Conclusion

The origin and the development of ICANN's regulative powers can be described and partly explained by the theoretical concepts introduced in the first paragraph. Originally the identification of computers on the Internet was regulated by the users (military and scientists) of the Internet themselves (*original self regulation*). Soon the expanding dimensions and diversity of the Internet brought about *coordinate delegation* of this task to system administrators (e.g. Jon Postel and the originally informal organization IANA). In 1988 the Internt Assigned Numbers Authority (IANA) was contracted by the US ministry of defense and in 1998 ICANN was established and contracted by the US ministry of commerce. The first contract did not suppose delegation of regulative powers to the US government because of its narrow scope (national defense research). The second contract (the Memorandum of Understanding (MOU) between the US department of commerce and ICANN) does presuppose *superordinate delegation* of the regulation of the DNS. More than that, the MOU stipulates that the permanent transition to private sector DNS management requires that the private sector will first acquire the capability and resources to assume the responsibilities related to the management of the DNS. As we have seen, this presupposition of superordinate delegation denied the actual balance of powers characterized by a multitude of stakeholders (many of which are non US and a number of which are states). Paradoxically, ICANN's actual organizational structure, although based on the MOU and on cooperation with the US department of commerce (both suggesting a supervisory relationship), almost completely reflects this actual balance of powers. The US government evidently acknowledges an ideal (and realistic) balance of powers but dictates that ICANN has to install adequate accountability provisions before the actual *subordinate delegation* of regulative powers can take place. Until such adequate provisions have been installed ICANN is accountable to the US government[59].

What the exposition outlined above shows is that the installation of new accountability mechanisms fails, that the actual US power over the DNS is overrated and that ICANN is subject to competition. This means that the supposed superordinate delegation of regulation of the DNS to the US never took place and consequently that the proposed subordinate delegation of regulation of the DNS to ICANN never will take place. The MOU actually introduces the US as a delegator and ICANN as a 'would be' delegatee. ICANN is a newly defined conglomerate of stakeholders which actually comprises a broader representation of stakeholders than IANA did. This *introduced self regulation* will just function as long as ICANN is representative of the 'self' composed of all the global stakeholders. The competition that occurred in the DNS services suggests that ICANN has not been fully able to represent all stakeholders (to satisfy all its customers), a development that will force ICANN to adapt to such an extent as to reflect the real balance of powers and thus *reinstate full self regulation.* The fact that the ORSN initiative has been withdrawn and the fact that many new domain name services providers

59 Actually, very recently, the privatization of ICANN has been finalized by expiration of the contract between ICANN and the US on the 30th of September 2009.

have not developed into permanent competitors shows that ICANN is slowly adjusting to new power relations under the threat of competition.

In sum, ICANN turns out to be a TLD provider and a root server system provider amongst competitors. Consequently, a market- rather than a state frame of reference is therefore more appropriate to describe the economic reality of the competitive market in which ICANN operates. Using the market model's accompanying accountability concept based on responsiveness, a rather different picture emerges. Assessment of ICANN's accountability mechanisms actually shows a very successful organization. Its hybrid structure in which both governments and individual users are incorporated as stakeholders presents a novel and rather effective way in which to organize a not for profit company eager to preserve its market share in a global environment. With the rising number of Internet connections world-wide, the demand for additional TLDs will continue to grow. In addition, the general availability of techniques to set up root server systems and to register domain names stimulates competition between DNS services providers. A uniformly resolvable DNS as was envisioned when ICANN was founded is already an idea of the past[60]. With a growing demand for Chinese and other internationalized domain name systems, the number of Internet splits (either technically or effectively) is likely to increase. The interests of Western countries associated with the Internet are varied. The ideals of fair trade and human rights have traditionally been high on the agenda, but the rise of Internet connections also create new opportunities for Western companies to enter emerging foreign markets. In order to safeguard and pursue these Western interests on the Internet it is necessary to re-examine the state's role in regulating the Internet. This analysis of the DNS forms a necessary first step towards such a re-examination and paves the way for further research developing more effective state policies.

3 Theoretical and empirical building blocks

Systematically thinking through the life cycle of self regulation[61], using general legal concepts (like governance, delegation and regulation), inspired by an empirical examination of new regulative arrangements like that of ICANN, shows where delegation theory[62] should be extended to meet the descriptive and explanatory requirements of self regulation.

First, Internet governance is dissimilar to other forms of governance (like government and governance by businesses) because of the *state of self regulation* on the Internet, which mainly consists of *original self regulation* maintained by *coordinate delegation* as a consequence of the *global, decentralized and technical characteristics of the Internet*. We still do not know if this is just a first phase in the natural development of the organization of the medium, or put

60 See for the Chinese additions c.f. op cit, note 40.

61 Starting with original self regulation, developing into delegated self regulation and finally into introduced or reinstated self regulation.

62 There actually is no general delegation theory. Delegation has been extensively studied in many different disciplines, each discipline employing its own partial perspective. The study of law focuses on the formal aspects of delegation, political science on the role of the state (Hobbes, Burke), behavioral sciences on organizational aspects (e.g. Weber, bureaucracy), political economy, business management and economics since the early seventies of the last century on the consequences of delegation for the promotion of the interests of the delegator (referred to as principal by agency theory) and the rules that define the accountability of the agent etc. The inadequacy of these partial theories for describing and explaining self regulation on the Internet is obvious. Agency theory for example hinges on asymmetry of information (the information deficiency of the delegator), which is just one of many causes of self regulation (and by definition is not a problem in a world dominated by self regulation) and on the regulation of accountability, which is provably absent in representative cases of self regulation on the Internet.

differently if it will be followed by the subsequent phases of (1) delegation to a superordinate organization (to a global/intergovernmental Internet governing organization), (2) subordinate delegation to formal constituents of the superordinate organization and finally (3) deregulation as we have consecutively seen in the development of state based governance. The findings in the ICANN case strongly suggest that the development of governance on the Internet will take another course. Instead of superordinate delegation of regulation we see the extension of the life cycle of self regulation by introduced and reinstated self regulation.

Secondly, the *dynamics of self regulation* can only be described and explained adequately if we account for the continual changing power relations and the accompanying continual changing locus of *regulation*. The ICANN example (amongst others) shows that the dimensions and composition of the self regulating group continuously changes and with it the locus of regulation. This change is brought about by changes of the *actual balance of powers*, not primarily by changes of the formal authority to regulate. The ICANN case furthermore showed that the change in power balance on the Internet, can best be explained by using a *'market' model* in which stakeholders, that is, the subjects of and therefore interested parties in the regulation, choose and consequently define the 'self' and the locus of regulation on the basis of changing circumstances.[63] If the 'customers', or 'electorate' in a state frame of reference, want the delegated task to be performed in another way they form new alliances and change delegates. As a consequence, self regulation and delegation on the Internet cannot be described as a top down intentional process. Actually, a bottom up unintentional[64] process is a better description of what we see on the Internet. We need concepts like *reinstated self regulation* and *introduced self regulation* to describe and explain these dynamics.

Thirdly, as a consequence of the actual state of self regulation on the Internet (mainly original self regulation, mainly coordinate delegation) and the described dynamics of self regulation the *introduction of accountability regulations* by a superordinate organization which is an essential feature of delegation theory, takes an unfamiliar shape, that of implicit accountability (to the stakeholders). Both stately and business organizations are used to hierarchic regulation processes that tend to be dominated by superordinate and subordinate delegation, and recently by reinstated (non original) self regulation (deregulation). Consequently they tend to be subject to intentional introductions of explicit accountability regulations. As we can see in the ICANN case the US (and indirectly other states) fail repeatedly in their attempts to introduce regulations to make ICANN more accountable to its global stakeholders, a phenomenon that can be attributed to 'conflict behavior' of states. Their behavioral repertoire is not adapted any more to a world of original self regulation. They continue to behave as conventional superordinate and subordinate delegators and delegates, unaware of the fact that they have become (be it large) stakeholders in conjunction with other producers and consumers of information on the Internet (i.e. *quasi* superordinates and subordinates*)*. This latter development renders the conventional (stately) explicit accountability mechanisms obsolete and has led to their replacement by *an implicit accountability mechanism* (once labeled the 'invisible hand').

63 Specifically, available services (technologies) and competition (alternative providers of services)

64 Actually the aggregation of many individual intentional processes determines the outcome (cf an election process), so one could speak of an aggregated or induced intentional process

A theory of self-regulation cannot afford to miss the insights rendered by a thorough investigation of the Internet. First, because the Internet has become an integral part of society at-large, and secondly, because it exemplifies a world characterized by global interdependence. Hence in addition to providing us with new insights relevant to a general theory of self-regulation, the Internet and its associated modes of organization and regulation may even provide us with the tools needed to address new developments in the regulatory configuration of the world. Consequently, this contribution, in providing new essential building blocks, reaches beyond the Internet context and is indispensable to the development of a sophisticated general theory of self regulation in a globalized context.

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