

ICANN or ICANN't Represent Internet Users

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ABSTRACT

The Internet Corporation for Assigned Names and Numbers (ICANN) is the organization that provides the technical support for the Internet. ICANN is a nonprofit organization based in California and is under contract to the United States Department of Commerce. It has come under attack from many sides because it is contracted through the U.S. government and it is a private entity. One of the main components of the controversy surrounding ICANN is whether it can represent a global society as a private entity and whether that private entity can represent Internet users. I focus my study on ICANN's Board of Directors. I evaluated the Board on the dimensions of descriptive, substantive, and formal representation (Pitkin 1967). Evaluation of ICANN's descriptive representation focused on the Board members' sex, educational backgrounds, and nationalities and compared the geographic representation on the Board to the global distribution of Internet users. The assessment of substantive representation looked at the Board members' votes to determine if patterns could be viewed based on members' descriptive characteristics. Finally, the evaluation of ICANN's formal representation examined its Bylaws, its 2006 contract with the U.S. Department of Commerce, and the California Nonprofit Public Benefit Corporations Code.

The analysis found that the descriptive representativeness was low. The ICANN Board does not mirror Internet users: few women have served on the Board, those with technical educational backgrounds dominated, and the regions were not represented proportionate to their use of the Internet. Analysis of substantive representativeness was

inconclusive and further investigation is needed. The formal representation analysis suggests that the ICANN Board has been formally representative.

CONTENTS

ACRONYMS.....	vi
FIGURES AND TABLES	vii
CHAPTER ONE INTRODUCTION.....	1
Introduction.....	1
ICANN.....	2
Significance of the Research.....	3
Thesis Research.....	5
Overview.....	6
CHAPTER TWO BRIEF HISTORY OF THE INTERNET AND THE CREATION AND IMPLEMENTATION OF ICANN.....	7
Introduction.....	7
History of the Internet.....	7
2.1 <i>ARPANET</i>	7
2.2 <i>Commercialization of the Internet</i>	11
2.3 <i>Creation and Implementation of ICANN</i>	13
ICANN.....	16
2.4 <i>From White Paper to ICANN</i>	16
2.5 <i>Representation Is Expected</i>	17
2.6 <i>A Series of Key Policy Decisions</i>	18
CHAPTER THREE REPRESENTATION AND METHODOLOGY.....	36
Introduction.....	36
Representation.....	36
3.1 <i>Board Emphasis</i>	36
3.2 <i>Descriptive Representation</i>	37
3.3 <i>Substantive Representation</i>	41
3.4 <i>Formal Representation</i>	42
3.5 <i>Other Criteria of Representativeness</i>	42
Methodology.....	43
3.6 <i>Descriptive Representation</i>	43
3.7 <i>Substantive Representation</i>	45
3.8 <i>Formal Representation</i>	48
CHAPTER FOUR RESULTS.....	56
Introduction.....	56
Descriptive Representation.....	56
4.1 <i>Sex</i>	57
4.2 <i>Educational Background</i>	58
4.3 <i>Region</i>	58
4.4 <i>Sex Composition of the Board over Time</i>	59
4.5 <i>Educational Background of the Board over Time</i>	60
4.6 <i>Regional Composition of the Board over Time</i>	61
4.7 <i>Regional Comparison</i>	62
4.8 <i>Limitations</i>	63

4.9 Summary.....	63
Substantive Representation.....	64
4.10 Sex.....	64
4.11 Educational Background.....	65
4.12 Regions.....	73
4.13 Limitations.....	77
4.14 Summary.....	79
Formal Representation.....	80
4.15 Limitations.....	82
4.16 Summary.....	82
CHAPTER FIVE CONCLUSION.....	84
Introduction.....	84
Summary of Findings.....	84
Future Studies.....	85
Recommendations and Suggestions for ICANN.....	87
Conclusion.....	89
APPENDIXES.....	90
A1: ICANN Organization.....	90
A2: Past and Current Board Members According to ICANN’s Website.....	91
A3: How I Determined Board Members and Terms.....	93
A4 : ICANN 1998-2008.....	95
A5: Board Members and Assumptions about Last Obtained Degrees.....	99
A6: Board Members’ Nationalities.....	100
A7: ICANN Placement of Countries into Regions.....	107
A8: Numbers of Internet Users by Country (CIA Fact Sheet).....	114
A9: Numbers of Internet Users by Country and ICANN Region.....	122
A10: Total Number of Board Resolutions Adopted, 1998 to 2007.....	128
A11: Adopted Resolutions Excluded from Analysis.....	129
A12: Non-Unanimous Adopted Resolutions Examined.....	131
A13: Total Number of Adopted Resolutions by Vote Category.....	133
A14: Board Duration (in days).....	134
A15: Members from the North American and Asian Pacific Regions by Nationality.....	135
A16: “Western” and “Non-Western” Board Members by Nationality.....	136
REFERENCES.....	137

Acronyms

ALAC- At-Large Advisory Committee
APNIC- Asia Pacific Network Information Center
ARIN- American Registry for Internet Numbers
ARPA- Advanced Research Projects Administration
BWG- Boston Working Group
ccTLD- Country Code Top Level Domain
DNS- Domain Name System
DNSO- Domain Name System Organization
GAC- Governmental Advisory Committee
GSI- Government Systems Inc
gTLD- Generic Top-Level Domain
gTLD- MoU- Generic Top-Level Domain Memorandum Understanding
IAB- Internet Activities Board
IAHC- International Ad Hic Committee
IANA- Internet Assigned Numbers Authority
IETF- Internet Engineering Task Force
IFWP- International Forum on the White Paper
INTA- International Trademark Association
IP- Internet Protocol
ISI- Information Sciences Institute
ISOC- Internet Society
ITAA- Information Technology Association of America
ITAG- IANA Transition Advisors Group
NIC- Network Information Center
NomCom- Nominating Committee
NSF- National Science Foundation
NSI- Network Solutions, Inc
NTIA- National Telecommunication and Information Administration
RFC- Request for Comments
RIPE NCC- Reseaux IP Europeen
RIR- Regional Internet Registry
RSP- Resolution Services Provider
SLD- Second-Level Domain
SPSS- Statistical Package for Social Sciences
SRI- Stanford Research Institute
sTLD- Sponsored Top Level Domain
TCP/IP- Transport Control Protocol/Internet Protocols
TLD- Top-level Domain
UDRP- Uniform Dispute Resolution Policy
URL- Uniform Resource Locator
WG-C- Open-Working Group
WIPO- World Intellectual Property Organization
WITSA- World Information Society
WWW- World Wide Web

Figures and Tables

Table 1: Boards' Terms..... 56

Figure 1: Males and Females on ICANN Board, 1998-2007..... 57

Figure 2: Education of ICANN Board Members, 1998-2007.....58

Figure 3: Regions Represented by ICANN Board Members, 1998-2007..... 58

Figure 4: Sex Composition of ICANN Boards over Time..... 59

Figure 5: Educational Backgrounds of ICANN Board Members over Time..... 60

Figure 6: Technical versus Non-Technical Educational Backgrounds of ICANN Board Members over Time.....60

Figure 7: Regional Composition of ICANN Boards over Time..... 61

Figure 8: Regional Representation: Comparing Internet Users with the Averages of Board Members from 2005 to 2007..... 62

Figure 9: Educational Background and Votes on Adopted Resolutions on gTLDs.. 65

Figure 10: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on gTLDs..... 65

Figure 11: Educational Background and Vote on Adopted Resolutions on ccTLDs 66

Figure 12: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on ccTLDs..... 66

Figure 13: Educational Background and Vote on Adopted Resolutions on sTLDs.. 67

Figure 14: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on sTLDs..... 68

Figure 15: Educational Background and Vote on Adopted Resolutions on Representation.....69

Figure 16: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on Representation..... 69

Figure 17: Educational Background and Vote on Adopted Resolutions on Appointments/Elections..... 70

Figure 18: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on Appointments/Elections.....	70
Figure 19: Educational Background and Vote on Adopted Resolutions on Verisign ...	71
Figure 20: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on Verisign.....	71
Figure 21: Educational Background and Vote on Adopted Resolutions on Bylaws.	72
Figure 22: Technical versus Non-Technical Educational Background and Vote on Adopted Resolutions on Bylaws.....	72
Figure 23: Region and Vote on gTLDs.....	73
Figure 24: Region and Vote on ccTLDs.....	74
Figure 25: Region and Vote on sTLDs.....	75
Figure 26: Region and Vote on Representation.....	76
Figure 27: Region and Vote on Appointments/Elections.....	76
Figure 28: Region and Vote on Verisign.....	77
Figure 29: Region and Vote on Bylaws.....	78

Chapter One
Introduction

“The Internet is fast becoming as important to our globalized economies and societies as water is to life” (“Internet Control,” 1). These are the words that Swedish Premier Carl Bildt used to stress the importance of the Internet in everyday life. Lately, the Internet has been surrounded by controversy both abroad and in the United States with respect to the Internet Corporation for Assigned Names and Numbers (ICANN). ICANN is the organization that provides the technical support for the Internet.

ICANN operates under contract to the U.S. Department of Commerce. ICANN has been attacked for being too U.S.-dominated. One example is that the U.S. Department of Commerce has the final authority on any decisions that involve the address system of the Internet (Schivatta and Komattis, 2003, 271). In addition, ICANN cannot make any changes or amendments to the root file without U.S. consent (Pal and Teplova, 50).

Some argue that ICANN has become a renegade. When it fails to meet certain contractual agreements with the U.S. Department of Commerce, the organization suffers no consequences (Feld 2003, 350). For example, ICANN was supposed to create an “independent review board” to ensure that it did not exceed its authority (Feld 2003, 350); it still has not formed such an entity. In addition, ICANN has surpassed the prescribed role of providing technical support, sometimes moving into policy areas and it has implemented many policies that affect nations and Internet users. One policy, for example, requires “any organization taking over a country code top-level domain to sign an agreement to comply with ICANN’s terms of interconnection” (King 2003, 244).

Nations also have criticized the U.S. government for not allowing ICANN to become an international entity. It was not until 2003, at the United Nations World Information Summit in Geneva, Switzerland, that many countries started to insist that ICANN be controlled by an international organization. However, the U.S. was able to defend its control with the European Union’s support (“Milestones,” 2005, 2). The E.U. reversed its position, however, in 2005, putting increasing pressure on the U.S. In November 2005, the U.S. House of Representatives unanimously passed a resolution stating that ICANN would continue to manage domain names and remain an American

entity (Caterinicchia 2005, 1). The Department of Commerce was supposed to relinquish control in 2007. Instead, the Department issued a statement saying that it intends to keep ICANN an entity under its control indefinitely. The U.S. did agree, however, to establish an international governance forum “to discuss Web issues, but it will not have any binding authority” (Caterinicchia 2005, 1). In January 2006 the U.N. formed the Internet Governance Forum (IGF). Currently, the IGF is powerless.

In the midst of all this controversy, the question is whether ICANN can effectively represent Internet users.¹ Can it represent a global society as a private entity, and will that private entity be able to represent all Internet users? This study focuses on ICANN’s Board of Directors. I evaluate the Board on the dimensions of descriptive, substantive, and formal representation (Pitkin 1967). Evaluation of ICANN’s descriptive representativeness focuses on the Board members’ sex, educational backgrounds, and nationality/nationalities. I also compare the proportion of Board members of particular nationalities to recent distributions of Internet users’ nationalities. The assessment of substantive representativeness looks at members’ voting behavior on a series of resolutions. Finally, the evaluation of the ICANN Board’s formal representativeness examines its Bylaws, its 2006 contract with the U.S. Department of Commerce, and California nonprofit law.

The next section briefly summarizes ICANN’s tasks and how they are directly related to the Internet. The Internet has become an important tool and has multiple purposes. After discussing the significance of the research, I briefly sketch the study’s design and provide an overview of the findings. A section of the study’s limitations follows, and the chapter concludes with an overview of the subsequent chapters.

ICANN

ICANN is a nonprofit organization based in the state of California that came into existence in 1998. It is contracted through the U.S. Department of Commerce to provide “full management of the Internet’s system of centrally coordinated identifiers” (Annual Report, 10). As already stated, the U.S. Department of Commerce has the final veto power over ICANN’s decisions, and it provides part of the funding for ICANN.

ICANN is an important entity to the Internet because it performs “many of the technical tasks of the Internet, such as serving as a root server, creating new uniform

resource locators (URL), having the capability of allowing a company/person/organization to register a website, having the ability to handle disputes over domain names” (“Internet Control,” 5). ICANN controls ten of the thirteen root servers in the world. It has control over top-level domain names (TLDs), including generic TLDs (gTLDs), which are global identifiers like *.com* and *.edu*, country code TLDs (ccTLDs), which are national identifiers (for example *.uk* and *.fr*). ICANN chose seven additional gTLD names out of a possible 42 in 2001.

ICANN is the organization that oversees the registration for websites. For example, whenever a new company wants to merge onto the web by having its own website, it must register with an ICANN authorized registrar and pay a small fee. ICANN provides the technical support. However, sometimes parties argue over the rights for a particular name of a website. These parties can have their grievances resolved by ICANN through the Uniform Name Dispute Resolution Policy (UDRP).

Significance of the Research

ICANN is vital to the Internet, and the Internet is vital to the world. Thus, the significance of this research focusing on the representativeness of ICANN’s board is directly linked to the importance of keeping the Internet running and linked to one Domain Name System (DNS). ICANN needs to maintain its legitimacy in order keep the Internet interconnected. Interconnectedness is important to economies, research, and ways of life. In my view the Internet should be regarded as a global resource, and all parts of the world should be involved in Internet governance (King 2003, 249). Without legitimacy there is no stability (Kjaer 2004, 12). One way that ICANN can achieve greater legitimacy is through greater representation.

Interconnectedness currently is in some jeopardy. Discontented with ICANN, China has been able to manipulate the DNS and create a hybrid form of its own. “China has asserted the rights over in any system of domain names using Chinese characters, and has acted unilaterally to redirect Internet traffic away from websites it does not want its citizens to see to ‘approved’ websites” (Feld 2003, 354). This operation threatens to end the interconnectedness of the worldwide web. More recently, President Putin has been accused of trying to create a “Russian computer network – one that would be separate from the Internet at large and, potentially, much easier for the authorities to control”

(Troianoviki and Finn 2007, A1). ICANN may well be crucial to preserving interconnectedness, and enhanced representativeness seems likely to strengthen ICANN.

Learning more about ICANN also is significant because of the very importance of the Internet. The Internet is growing at an exponential rate. An example of growth can be seen in the increases in .com websites. In December 1993 there were about 623 .com websites, and in January 2000 that number grew to 32,000,000 (Jose and Caral 2004, 28). Netcraft's latest web survey in November 2006, found 101,435,253 Internet websites, a 25% increase from 2005 (<http://www.useit.com/albertbox/web-growth.html>, 1). Along with the proliferation of websites, there has been an increase in economic transactions on the Internet, especially business to business exchange (B2B). The Gartner Group reported an increase in B2B spending worldwide from \$145 billion in 1999 to \$433 billion in 2000 (<http://ecommerce.hostip.info/pages/141/Business-Business-B2B-E-Commerce.html>, 1). Most recently, the 2006 Survey of Electronic Commerce and Technology found increasing B2B sales in Canada. B2B sales were \$46.4 billion in 2006 compared to \$32.8 billion in 2005 (<http://www.statcan.ca/Daily/English/070420/d070420b.htm>, 6).

Businesses are not the only source of online transactions. More and more Internet users are purchasing merchandise online. For example, the increase in online business can be seen by comparing Internet sales from October through December 2005 with those from October through December 2004. Consumers spent \$30 billion in 2005, about a 30 percent increase when compared to 2004 (Halpern 2006, 7). According to the U.S. Census Bureau, retail e-commerce for the first quarter of 2006 was an estimated \$25.2 billion, an increase of 7 percent from the fourth quarter of 2005 (www.sescommerce.com/pages/main_page.asp?nID=46, 1).

The Internet provides an outlet for many other purposes, such as serving as a tool for communicating, a resource for academic research, and a place to congregate. Communication can occur through e-mail, instant messages, and virtual classrooms. The Internet allows users to cross geographical/cultural barriers. In addition, a vast amount of postings of academic research is accessible through online search engines (for example, ProQuest, JSTOR, and LEXIS-NEXIS). Websites for congregation have grown substantially in popularity, allowing users from all over to express themselves and

communicate with friends and strangers. An indication of the value of such websites is Rupert Murdoch's purchase of MySpace.com in 2005 for \$580 million (Levy and Stone 2006, 50). MySpace.com boasts a membership of about 65 million users, most of whom are young people (Levy and Stone 2006, 47). Levy and Stone sum up what the Internet is becoming: "MySpace, Flickr [a photo-sharing site] and all the other newcomers aren't places to go, but things to do, ways to express yourself, means to connect with others and extend your horizons. Cyberspace was somewhere else. The Web is where we live" (Levy and Stone 2006, 53).

Thesis Research

I applied quantitative and qualitative methods in this study. I gathered data on Board members' descriptive characteristics and analyzed them to determine the ICANN Board descriptive and substantive representativeness from 1998 to 2007. I used a qualitative technique, textual analysis, to gauge the Board's formal representativeness, examining ICANN's Bylaws, the California Nonprofit Public Benefit Corporations Code, and ICANN's 2006 contract with the U.S. Department of Commerce.

Does the ICANN Board represent internet users? The results generally were inconclusive. Overall, the Board's descriptive representativeness was low, with males and members with technical backgrounds dominating. The Board over-represented Internet users from the regions of North America and Europe. There was no evidence that ICANN Board members' voting behavior was influenced by their descriptive characteristics. Nonetheless, the evidence suggests that the ICANN Board was formally representative. More investigation and future studies are needed to determine whether ICANN represents Internet users.

The study has several limitations. No statistics are available on world Internet users' sex or educational backgrounds, allowing me only to compare the nationalities of Internet users to those of Board members. There could easily have been other influences beyond descriptive characteristics that influenced Board members' voting behavior. In addition, the study only examined resolutions that were adopted by non-unanimous votes. Also examining resolutions that did not pass might have been able to explain more about voting behavior because these were probably controversial issues, but the complexity of

finding such information and time constraints did not permit doing so. Human error also could have skewed the results because I could have mistyped or coded the wrong data.

Overview

In what follows, Chapter Two serves both as a historical perspective on the Internet and as a review of the existing literature on ICANN. The historical perspective provides a brief overview of how the Internet started and the technological advances that allowed the Internet to bloom into a global resource. As the Internet grew, so did concern for its stability. The U.S. Department of Commerce sought an organization to take charge of the technical features of the Internet. ICANN won the contract in 1998. The chapter then switches the focus to ICANN and explores how ICANN has become more than a technical body.

Chapter Three discusses the study's methodology. It begins by explaining the emphasis on the ICANN Board of Directors. However, the chapter's main emphasis is on defining, explaining, and operationalizing the representational dimensions the study examines—descriptive, substantive, and formal representation. The last section of the chapter describes the methods I used to collect data on and analyze each dimension.

Chapter Four presents the results and elaborates on the study's limitations. Chapter Five draws the discussion to a close, briefly summarizing the findings, suggesting future research on the Board's representativeness, and proposing recommendations to ICANN.

Endnote

1. An internet user is a person who has access to a computer that is connected to a worldwide network. This computer network enables the person to engage in electronic communication and to facilitate transmissions worldwide.

Chapter Two

Brief History of the Internet and the Creation and Implementation of ICANN

Introduction

Understanding the history of the Internet is important because it helps explain the controversy that surrounds ICANN, especially as it pertains to representation. Some of the Internet architects' influence has had long lasting effects, which can still be felt within ICANN and thus by Internet users. The history explains the transformation of the Internet from a research and military network to a popular medium for business and citizen use. The transformation exposed structural cracks in the Internet, which eventually led to the creation of ICANN. ICANN was not widely accepted, in part because it was created behind closed doors. ICANN insisted that it was a technical body; however, after examining several policy decisions it becomes clear both that ICANN is considerably more than a technical body and that it can impact Internet users. The impact that ICANN has over the Internet justifies the importance of looking at Board representation.

The history recounted here does not address the evolution of technical features or offer details about computer network engineering. Discussion begins with a brief description of ARPANET, then explains how the commercialization of the Internet impacted its infrastructure, and concludes with an analysis of the events leading up to the creation and implementation of ICANN. The second section shifts the focus to ICANN, explaining the transition from the Department of Commerce's White Paper to ICANN. The next section justifies why ICANN is supposed to have international representation. The following section highlights certain key policy decisions with a short analysis, followed by a brief description and history of representation as it relates to the ICANN Board. The chapter concludes with a summary of the main points.

History of the Internet

2.1 ARPANET

In 1964 the Second Congress on the Information System Sciences held in Hot Springs, Virginia concluded that the most important problem in the computer field was computer networking (Roberts 1986, 51).¹ Earlier experiments showed that the telephone network was too slow and unreliable, which meant that a new data communication

network was needed to have a successful computer network (Roberts 1986, 52). In 1967, ARPANET was planned to link researchers' project computers (Roberts 1986, 52). ARPANET was an experimental project headed by Lawrence Roberts and funded by the United States Defense Department's Advanced Research Projects Administration (ARPA). In 1968, ARPANET's purpose "called for the construction of a packet-switching device called an interface message processor (IMP), the development of software, and the design of a physical network to connect them" (Mueller 2002, 74).² ARPANET was not easy to use, and in the early 1970s (Abbate 1999, 78) at most 200 people at 21 nodes could communicate (Mueller 2002, 74).³ Other packet-based networks could not communicate with each other because they used different and incompatible networks (Mueller 2002, 75). ARPANET was mainly used by academic researchers and military personnel. It is important to realize that the ARPANET was not the Internet, but the "original ARPANET grew into the Internet" (Liener et al. 1997, 3).

It was not until 1972 that Robert Kahn, a computer scientist, organized a successful public demonstration of ARPANET at the International Computer Communication Conference (Liener et al. 1997, 3). In that same year electronic mail was introduced (Liener et al. 1997, 3). In the spring of 1973, Kahn approached Vinton Cerf, another computer scientist, about developing a system of internetworking (Abbate 1999, 122). Kahn and Cerf started to develop a universal protocol and a common addressing scheme that would link separate networks, which would be called the Transport Control Protocol/Internet Protocols (TCP/IP) (Mueller 2002, 74-76). Major Joseph Haughney of the Defense Communication Agency (DCA) announced in March 1981 that all ARPANET hosts would implement TCP/IP by January 1983 (Abbate 1999, 140).⁴ To support an internetworking system, there was a need for a name server (Abbate 1999, 141).

During the implementation of the Internet protocols, Jon Postel, a faculty member at the University of Southern California, gained recognition as the person responsible for address and number assignments. In 1981, Postel published the concepts for the Domain Name System (DNS) in Request for Comments (RFC) 819 (Mueller 2000, 76-78). The ARPANET community decided in 1982 that the name server would be serviced at the Network Information Center at the Stanford Research Institute (SRI) (Abbate 1999, 141).

SRI had a contract with the U.S Defense Department to administer the root (Goldsmith and Wu 2006, 35).⁵ Postel was responsible for assigning names and numbers at the University of Southern California's Information Sciences Institute (ISI), while at the same time the U.S Defense Communications Agency decided to split ARPANET into two. ARPANET would continue to connect academically supported researchers and the MILINET would connect military users (Mueller 2002, 82).

To better understand these developments, it is important to know the differences among Internet Protocol (IP) addresses, domain name, the Domain Name System (DNS), the root, and root servers. An IP address is a "unique numeric identifier" that "is responsible for distinguishing individual computers directly connected to the Internet" (Pare 2003, 8). Domain name is the symbolic representation of an IP address (Pare 2003, 8). Take, for example, the website *music.com*. *Music.com* is a domain name and its machine-readable identifier is *df5k67tlh.com* (Mueller 2002, 21). The domain name allows the Internet to be user-friendly. The DNS is the system that does the "mapping of these alphanumeric strings to IP addresses... through the use of a hierarchically structured, distributed architecture" (Pare 2003, 10). The hierarchy of the DNS has been compared to a tree structure.⁶ The "DNS is a database" (Mueller 2002, 41).⁷ The name server is at the top of the hierarchical structure of the Internet, which makes the Internet function. The root is responsible for data packets finding their destinations (Mueller 2002, 6). In addition, the root encompasses the management of several important functions.⁸ It consists of 13 servers that "contain information about the domains below the root and the location of name servers containing additional information about the contents of specific domains" (Pare 2003, 13).⁹

The first temporary top-level domain (TLD) of the DNS implementation was "arpa" (Mueller 2002, 78). Deciding the first TLDs was difficult because many Internet users expressed the desire for TLDs to be a sort of directory (Mueller 2002, 80). Postel was concerned about the implementation of the DNS, not the semantics. The controversy over TLDs would continue and will be discussed later. In 1985, the DNS was formally implemented on ARPANET (Pare 2003, 13). Postel continued to run the naming and numbering system of the Internet, and it was not until 1988 that the U.S. Department of Defense formally contracted with Postel's employer, ISI, which gave Postel authority to

run the naming and numbering system (Goldsmith and Wu 2006, 35). In addition, the contract established the Internet Assigned Numbers Authority (IANA) (Mueller 2003, 93).

Postel relied on help from the Internet architects to manage IANA because the Internet continued to grow during the 1980s. The Internet architects included Robert Kahn, Vinton Cerf, Steve Crocker, David Clark, and others (Muller 2003, 89). These colleagues who had prior professional links formed “formal organizations to maintain their position as stewards of the Net” (Mueller 2003, 90). Two of these formal organizations are the Internet Engineering Task Force (IETF) and the Internet Activities Board (IAB); through these early organizations members would play a direct role in forming ICANN.¹⁰

In 1990, SRI’s contract with the U.S. Department of Defense expired (Goldsmith and Wu 2006, 35).¹¹ The U.S. Defense Information System Agency wanted to place Internet control into a commercial entity rather than in an education/research entity (Pare 2003, 19) because it wanted civilian agencies to financially support the nonmilitary Internet (Mueller 2002, 100-101). Thus, the Network Information Center (NIC) was created (Pare 2003, 19). Government Systems, Inc. (GSI) won the contract to manage NIC. GSI subcontracted the civilian management of NIC to Network Solutions, Inc. (NSI). “NSI became the sole registrar for [the] main nonmilitary domains (.com, .net, .org, and .edu). But, Postel retained policy authority: the power to decide, for example, the number and content” of the TLDs (Goldsmith and Wu 2006, 35).

IANA and NSI did not have a contractual relationship (Pare 2003, 19). Nor did NSI and Postel agree on the direction that the Internet should take. NSI was a commercial entity, and it sought the opportunity to charge registration fees in 1995. Postel viewed the Internet as a noncommercial network that should be run by selfless experts to benefit all (Goldsmith and Wu 2006, 30). During this time, the Internet Society (ISOC) was formed, which incorporated the IAB into its formal organization.¹²

As the Internet grew more popular, more domain names were registered with NSI. For example, 75 percent of total domains registered throughout the world by mid-1995 were completed by NSI (Pare 2003, 21). In addition, NSI’s revenues were increasing.¹³ Postel and other Internet architects thought of the NSI as greedy and monopolistic. The

growth and the commercialization of the Internet only exacerbated the cracks in the infrastructure of a decentralized Internet between IANA and NSI.¹⁴

2.2 Commercialization of the Internet

The World Wide Web (WWW) and Mosaic (a web browser) helped to create a user-friendly Internet that could be accessed by workstations and personal computers, which helped popularize the Internet. The Web was created in 1990 (Abbate 1999, 214). It “was a client-server software application that made the Internet easier to navigate and more fun to use by linking and displaying documents by means of a graphical user interface” (Mueller 2002, 107). Multiple resources could be displayed on the Web, such as documents, images, and downloadable files (Mueller 2002, 108). In addition, the Web relied on its own addressing standard, the uniform resource locator (URL), to take advantage of the global connectivity of the Internet (Mueller 2002, 107).¹⁵ The URL made second-level domains (SLDs) more important as the global identifiers (Mueller 2002, 105).¹⁶

In addition, Mosaic popularized the Internet. Mosaic was an improved web browser that could run on most workstations and personal computers and was available for free on the Internet (Abbate 1999, 217). Mosaic allowed colored images to appear on web pages, and images could be used as links (Abbate 1999, 217). The browser helped to transform the Internet from a research tool to a popular medium (Abbate 1999, 217). For example, there were 20 million users of the Web in 1994, with 95 percent of them using Mosaic (Mueller 2002, 107). The popularization of the Internet also can be seen in the number of computers connected to it. In 1990 there were 376,000 connections, which jumped to 5,846,000 in 1995 (Pare 2003, 20).

Due to second level domains (SLDs) becoming the global identifiers in the Internet, they started to carry commercial value and rights. There was and still is a conflict of rights. Some of the conflicts with SLDs include typo-squatting, name speculation, individuals’ names versus copyrighted trademarks, and competitor’s edge. Typo-squatting refers to using variants of name or misspellings of popular or company websites (for example, *outbak.com* for *outback.com*), and name speculation is when an individual registers a domain name for its resale value (Mueller 2002, 116-117). Individual name versus copyrighted trademark refers to having a person’s name as a

domain name that is also a company's copyrighted name. Competitor's edge refers to a company registering a domain name of a competitor. An example of this could be when Sprint held the registration for *mci.com* (Mueller 2002, 119).

These concerns raised questions, such as who should have the right to register a certain domain name, and whether Network Solutions Inc. should preview requests for domain names and adhere to protecting trademarks. At first, NSI had a policy of "first come, first served."¹⁷ Yet companies believed that NSI should take a more active role in stopping infringement rights because the companies had to bear the resulting litigation costs. In addition, the origin of a registered domain name depended on whether a company could legally seek an infringement suit. In response to pressures from companies, NSI did change its policy and released the "Domain Dispute Resolution Policy Statement" in 1995. However, the NSI policy did not satisfy companies because it did not cover typo-squatting. In addition, the NSI policy alienated many small businesses and individual users because they lost their rights to trademark holders.¹⁸ Lawsuits were filed against NSI, many accusing it of having an illegal monopoly over domain names.

Adding to the dispute was that many businesses and individual users wanted the Internet to add new top-level domains (TLDs). At the time there were only three top-level domains. Businesses and Internet users had to compete for web addresses. However, NSI was unable to add new TLDs without IANA. IANA refused to add the new TLDs because Postel and other Internet architects were upset with the commercialization of the Internet and with NSI's domain name resolution policy, which was decided without any consultation of the broader community (Mueller 2002, 127). This showed the cracks in the Internet infrastructure because there was no central authority over the Domain Name System (DNS). Postel alluded to the problem in a Request for Comments (RFC) draft in 1994: "it was unclear who actually controls the name space and what fair procedure is" because both NSI and IANA had root authority (Mueller 2002, 134).¹⁹ Postel and other Internet architects grew more disgruntled. In an RFC draft in 1996, Postel clarified that IANA would become part of the Internet Society (ISOC), which would provide it a "legal and financial umbrella" (Mueller 2002, 129).

2.3 Creation and Implementation of ICANN

ISOC attempted to take the Internet away from the U.S. government and NSI.²⁰ ISOC, however, lacked support and legitimacy for its plan. It decided to put together a “blue ribbon panel” to resolve the debate over global registries and TLDs in 1996 (Pare 2003, 27). The panel was an 11-member group called the International Ad Hoc Committee (IAHC). IAHC consisted of members from the Internet Architecture Board (IAB), IANA, ISOC, the International Trademark Association (INTA) and the World Intellectual Property Organization (WIPO). No NSI representatives were on the panel. The panel’s resolution for an “overarching framework of governance” for the Internet was released in 1997; the document became known as the Generic Top-Level Domain Memorandum of Understanding (gTLD-MoU) (Mueller 2002, 145). The gTLD-MoU targeted NSI, and it was signed by Donald Heath and Jon Postel on March 1, 1997 (Pare 2003, 30). However, the U.S. government did not approve it, because the gTLD-MoU stated that the root would be in a Switzerland-based nonprofit organization called the Council of Registrars (CORE).²¹ Ira Magaziner, a senior presidential aide, met with Cerf and convinced him that the CORE proposal would not work (Goldsmith and Wu 2003, 42). In the meantime, NSI was working on its own resolution, known as the American Registry for Internet Numbers (ARIN).

Before long, the U.S. government had to intervene because the gTLD-MoU and other developments, such as the Name.Space litigation and the expiration of IANA’s funding, made it impossible for the government to remain silent; thus it had to assert authority (Mueller 2002, 154). Magaziner, who “headed the Interagency Task Force created in December 1995 to develop policy on Global Electronic Commerce,” was concerned about the stability of the Internet (Mueller 2002, 156). Without stability big businesses would not invest in the Internet (Goldsmith and Wu 2006, 41). Under Magaziner the task force decided that the U.S. Department of Commerce would take over as the lead agency of the Network Information Center (NIC) because the National Science Foundation (NSF) did not want to renew its contract for the NIC.²² The IAHC viewed U.S. government intervention as unwarranted and sought support from foreign governments (Mueller 2002, 157). NSI considered the intervention to be positive because its contract would expire in September 1998. The National Telecommunications

and Information Administration (NTIA) in the U.S. Department of Commerce released a Green Paper on January 1, 1998, which established U.S. authority and announced that the U.S. government was open for comments and discussion concerning Internet governance (Mueller 2002, 161). The Green Paper stated that the U.S. government would relinquish authority to a nonprofit entity controlled by Internet stakeholders. The U.S. government wanted the entity to develop new TLDs, to have a dispute resolution policy, to have competing registries, and to have international representation on its Board (Mueller 2002, 161).

Postel was upset with the Green Paper because it denied the gTLD-MoU. He flexed his power within IANA by emailing eight of the 12 root servers and asking them to recognize IANA as having a root authority, not root server A (the master root owned by the U.S. government) on January 28, 1998 (Goldsmith and Wu 2006, 43-44). Having the root servers recognize IANA instead of root server A demonstrated that Postel could modify or break the network (Goldsmith and Wu 2006, 45).²³ Magaziner threatened to use legal force if Postel did not restore root A as the master root (Goldsmith and Wu 2006, 46). In a week, Postel had restored the root.

As a result, in February 1998 Postel and Brian Carpenter formed a new organization called the IANA Transition Advisors Group (ITAG).²⁴ ITAG was to prepare the transition of the root from the U.S. government to an international organization. On June 3, 1998, the U.S. Department of Commerce released a White Paper. The White Paper retracted some of the requirements for the new entity. Due to the reaction to the Green Paper, the Department decided to stay in the background, and the White Paper imposed more basic principles (Mueller 2002, 172). For example, no longer would the new organization have to add new TLDs or have competing registries. The White Paper, however, added new demands, including that the new entity be headquartered in the U.S., be built around the existing IANA, and have a Board with international representation (Mueller 2002, 173). Unlike the Green Paper, the White Paper did not provide a specific procedure for assuring international representativeness. Both the White Paper and the Green Paper stressed that the key values guiding the “evolution of the DNS should be stability, competition, private-bottom-up coordination, and representation” (Pare 2003, 33).

Joe Sims and Postel started to draft the Bylaws and Articles for the new corporation that would include the IANA.²⁵ The two decided unilaterally whether to amend the Bylaws based on comments (Mueller 2002, 176). Sims thought it best to have a “closed corporation dominated by the technical community” (Mueller 2002, 176). The new corporation would be a California nonprofit organization. In the Articles and Bylaws, Sims and Postel defined the procedure for selection of Board members with a significant amount of power located within the Board. The first half of the Board would be selected by the initial Board members, and the other half would be chosen by functional constituencies called Supporting Organizations (Mueller 2002, 176). Two out of the three Supporting Organizations were to be controlled by the technical community (Mueller 2002, 176).

Many were upset with the White Paper and with Sims and Postel. For example, non-U.S. actors were unhappy because the White Paper demanded that the new entity be located within the U.S. and thus would be under U.S. jurisdiction (Pare 2003, 31). The International Forum on the White Paper (IFWP) and the Boston Working Group (BWG) criticized Sims and Postel because they did not try to reach an open consensus from Internet users when writing the Articles and Bylaws for the new entity (Pare 2003, 35).²⁶ In addition, both IFWP and the BWG disagreed with Sims’s and Postel’s method for selecting Board members, arguing that Board members should be elected. Due to Mike Roberts’s comments condemning the IFWP, the forum was unable to complete its final draft policy (Mueller 2002, 9).²⁷ Roberts could be perceived as an interested player, especially since he was promised and served as first president of what would become Sims and Postel’s new organization, the International Corporation for Assigned Names and Numbers (ICANN) (Mueller 2002, 179).²⁸

Clinton aide Magaziner was concerned because the IFWP was unable to ratify its final draft, and Network Solutions Inc.’s contract was soon to expire. Thus, he urged IANA and NSI to reach an agreement (Mueller 2002, 179).²⁹ On September 17, 1998, the draft Articles for the new corporation, ICANN, were released, and on September 30 they were submitted to the U.S. Department of Commerce (Mueller 2002, 179). On October 5, 1998, Sims and Postel released the names of nine Board members that were non-negotiable (Mueller 2002, 180).³⁰ This shocked both Magaziner and Internet users

because the White Paper required international representation and open consensus for the new corporation. On February 26, 1999, the U.S. Department of Commerce officially recognized ICANN as the “White Paper’s private sector, not-for-profit entity” (Mueller 2002, 184).

From the start, ICANN was not consistent with the idea of representation. Sims and Postel created the Bylaws and Articles behind closed doors. This was only compounded by a list of selected, non-negotiable Board members. This led outsiders such as the Boston Working Group to view ICANN as illegitimate. In Chapter One, I described how the international community still expresses the need to change ICANN.

By exploring the history of Internet one can see its transformation from a computer networking system for researchers and military personnel into an expanded popular and commercial medium. The exponential growth was not expected and resulted in power struggles among NSI, the Internet architects including IANA, and the U.S. government. These power struggles only deepened given the decentralized character of the Internet’s infrastructure as well as its commercialization. Commercialization of the Internet brought new issues to the forefront, such as users’ versus trademark holders’ rights, whether and how new TLDs should be added, and the need to protect booming e-commerce markets. In the struggle, NSI lost this battle, and the U.S. government and ICANN remained. Postel flexed his muscles with an email, and the U.S. government threatened legal force (Goldsmith and Wu 2003, 46). In the end, it seemed that the U.S. government, the Internet architects, and certain businesses and organizations came to a compromise. Today, ICANN is located in the U.S. and works under contract with the U.S. Department of Commerce. Postel and Sims chose ICANN’s initial Board, and Board members still are selected from within ICANN.³¹

ICANN

2.4 From White Paper to ICANN

The U.S. Department of Commerce’s White Paper, issued in 1998, was a “statement of policy” on “how to handle the transition from a U.S. government-funded set of functions to a new international nonprofit corporation with a formal Board of directors” (Mueller 2002, 171-173). One of the White Paper’s goals was to build a corporation upon a consensual foundation (Mueller 2002, 180). In 1998, the U.S.

Department of Commerce announced its intention “to recognize, by entering into agreement with, and to seek international support for, a new not-for-profit corporation to administer policy for the Internet name and address system” (Mueller 2002, 173)

After ICANN was officially recognized as the White’s Paper private sector-entity in February 26, 1999, there was a transition process involving the root (Mueller 2002, 184-185). The U.S. government established ICANN as a contract-based and private sector holder of the root, which would act like a public organization. For example, the White Paper stipulated that “the new corporation should operate as a private entity for the benefit of the Internet community as a whole” (Franda 2001, 60). In addition, the U.S government insisted that ICANN was only a technical coordinating body (Feld 2003, 347). Originally, ICANN was created to represent interested constituencies such as “domain name registrars, other Internet bodies concerned with technical matters such as protocols and addresses,” and sovereign countries (Hunter 2003, 1155-1156). However, during the transition process ICANN had to develop policies concerning domain name dispute resolution, new generic top-level domains (gTLDs), accountability/transparency, country code top-level domains (ccTLDs) and regional Internet registries (RIRs), and representation.³² These policies suggest ICANN is acting as more than a technical body, and they help explain why representativeness is an important aspect for ICANN’s Board. If ICANN is not representative, then its policies can be perceived as illegitimate.

2.5 Representation Is Expected

Representation can be expected from ICANN because the White Paper outlined four guiding principles: stability, competition, bottom-up coordination, and representation (“White Paper” 1998, 18-19). The White Paper defined representation:

The new corporation should operate as a private entity for the benefit of the Internet community as a whole. The development of sound, fair, and widely accepted policies for the management of DNS will depend on input from the Board and growing community of Internet users. Management structures should reflect the functional and geographic diversity of the Internet and its users. Mechanisms should be established to ensure international participation in decision making (“White Paper” 1998, 19).

In addition, the White Paper prescribed that ICANN should have international representation. It also stated that legitimacy would be derived from the “participation of key stakeholders,” which included “Internet users (commercial, not-for-profit, and individuals)” (“White Paper” 1998, 20). Thus, ICANN should develop structures to ensure representation.

2.6 A Series of Key Policy Decisions

ICANN has been involved in a series of key policy decisions: domain name dispute resolution, new generic top-level domains (gTLDs), accountability/transparency, country code top-level domains (ccTLDs) and regional Internet registries (RIRs), and representation. Each is examined below.

A. UDRP

Handling domain name disputes was a priority in the White Paper because without a dispute resolution policy businesses could consider the Internet to be unstable.³³ The U.S Department of Commerce relied on the World Intellectual Property Organization (WIPO) to develop a dispute resolution process that would contain “policies to protect famous trademarks in new top-level domains” (Mueller 2002, 174). In April 1999, the WIPO released its final report on the dispute resolution process (“The Management of Internet Names and Addresses: Intellectual Property Issues”), and ICANN used the report to develop its “Uniform Dispute Resolution Policy” (UDRP). The UDRP was released on October 24, 1999 and went into effect on December 1, 1999 (Thornburg 2001, 8).

The UDRP is supposed to resolve international Internet disputes in a quick and inexpensive manner (Thornburg 2001).³⁴ ICANN itself does not settle UDRP cases, but rather authorizes independent dispute resolution services providers (RSPs) (Mueller 2002, 192). These RSPs act as regulatory agents to protect intellectual property rights, and they have global jurisdiction. RSPs handle UDRP cases online, and decisions are posted on the web (Kleinwachter 2000, 558). RSPs hear grievances concerning trademark infringement. The UDRP states that if a “domain name is identical or confusingly similar” to a trademark, a “domain name holder has no legitimate interest,” and the “domain name has been registered in bad faith,” then the UDRP can terminate the domain name (paragraph 4a of UDRP Policy).

RSPs establish panels of arbitrators and compete with each other. Complainants are able to choose the RSP (also known as forum shopping), which gives the complainant an upper hand. RSPs do differ in judgments. For example, the WIPO (an RSP) had cancelled or transferred the domain name in more than 80 percent of its cases, whereas eResolution (another RSP) had cancelled or transferred the domain name in about 55 percent of its cases (Geist 2000, 2). In addition, the complainant can choose the type of panel. The panel can be a single arbitrator or have three members (Geist 2002, 922). Over 90 percent of UDRP cases are decided by a single panel member, and complainants win 83 percent of the time when decided by a single panelist (Geist 2002, 922).³⁵ Once an RSP has decided a case, a defendant and/or complainant has 20 days to file an appeal (Thornburg 2001, 35). The UDRP has been called biased, since its structure gives the complainant significant and often predictable advantages (Thornburg 2001, 34). The UDRP is mandatory, and ICANN removes or transfers a domain name within ten days of a decision from an RSP (Thornburg 2001). ICANN created the final version of UDRP; however, it is not responsible for the RSP decisions (Schiavetta and Komaitis 2003, 275).

Some argue that ICANN is able to control the speech content and freedom of expression on the Internet through the UDRP (Schiavetta and Komaitis 2003, Kleinwachter 2000). For example, many “dot-sucks” domains have transferred to trademark holders because RSP panelists view dot-sucks as having been registered in bad faith, even if they were not established for commercial gain (Schiavetta and Komaitis 2003, 276).³⁶ Another example could be a register’s name that conflicts with a trademark.³⁷ The UDRP is therefore not just a technical policy. ICANN created the UDRP, and it chooses the RSPs. Many Internet users view ICANN’s UDRP as biased because it favors trademark holders, and thus, they view the UDRP as illegitimate.

B. New gTLDs

In addition to establishing the UDRP, ICANN is responsible for creating new gTLDs.³⁸ The U.S. government hoped ICANN would be able to add new gTLDs in 1998.³⁹ However, ICANN took nearly three years to authorize new gTLDs (Mueller 2002, 202). The gTLDs were delayed because many trademark holders feared misuse of domain names in the new gTLDs (Kleinwachter 2000, 559). In response, ICANN created an open-working group (WG-C) devoted to the new gTLDs (Mueller 2002, 202).

WG-C decided in 2000 that there would be six to ten new gTLDs and that they would be defined and operated by chosen prospective registries (Mueller 2002, 202). To be considered for the prospective registries, applicants had to be well-connected to ICANN officials, be perceived as unthreatening by those officials, and pay nonrefundable fees of US \$50,000 (Mueller 2002, 202). ICANN received 47 applications for nearly 200 gTLDs and fees totaling about US \$2.5 million, which increased its total budget by approximately half (Mueller 2002, 203). “The ICANN Board selected seven winners on November 16, 2000” (Mueller 2002, 203). It is important to note that the Board excluded the new five at-large elected members from the voting by altering its Bylaws. The newly elected Board members could not vote on the winning gTLD applicants, each of which was connected to ICANN (Mueller 2002, 203).⁴⁰ The seven new gTLDs were: *.biz*, *.info*, *.pro*, *.name*, *.aero*, *.coop*, and *.museum*.

Some Internet users were upset that ICANN did not select *.sex* or *.xxx* for adult sexual material and *.kids* for children’s material. ICANN did not want to be responsible for regulating or filtering Internet addresses to the corresponding material (Mueller 2002, 203). In 2005 the idea of *.xxx* was again raised; however, the U.S. Department of Commerce vetoed *.xxx* or *.sex* after it received over 6,000 letters and emails objecting to the new gTLD (“Feds” 2005, 1). ICANN again discussed the possibilities of *.xxx*, but the Board officially voted it down in Lisbon in March 2007.

Creating new gTLDs under ICANN has become a political process. ICANN could have created as many as 150 new gTLDs (Kleinwachter 2000, 559). Instead, it decided to have paying applicants with credentials that were concerned with preserving trademark holders’ interests. The gTLD process is another example of ICANN moving beyond the boundaries of technical coordination.

C. Transparency/Accountability

Under pressure from the U.S. Department of Commerce and others, ICANN sought to become more open. It did this by “developing an open membership and agreed in the summer of 1999 to open its Board meetings to the public” (Franda 2001, 62). In addition, ICANN adopted other “sunshine” practices to achieve more “transparent consensual decisions” (Franda 2001, 62). However, ICANN was and still is criticized for not being accountable to the U.S. government, Internet users, and other national

governments. In June 2002, Alan Davidson testified before the U.S. Senate Commerce, Science, and Transportation Committee that ICANN needed to improve its accountability by having a better independent review process, fair administrative procedures and reporting, and Board and staff codes of conduct (Davidson 2002, 10-11). ICANN's accountability and transparency have been main concerns among Internet users, including the U.S. Department of Commerce. In 2002, the Department stated that one of ICANN's challenges is the lack of mechanisms for accountability ("DOC Statement Regarding Extension of Memorandum of Understanding with ICANN," 2002, 3).

ICANN has sought to become more transparent and accountable. One of the changes has been to its website. ICANN now has a more user-friendly website where users can voice their concerns through a public comments section and a blog. In addition, it commissioned the One World Trust to review its transparency and accountability ("Response to One World Trust Review" 2007, 1).⁴¹ The Review was published in March 2007; it "contained an action plan with 39 recommendations intended to further improve standards of accountability and transparency within ICANN" ("Response to One World Trust Review" 2007, 1).

Some argue, however, that it is hard to judge ICANN's accountability since "it was never clear who or what ought to control ICANN... [because of the]...lack of any precedents to guide behavior,...constituency is deeply divided,... [and] it is unclear whether ICANN should be judged by standards applicable to public or private organizations" (Koppel 2005, 104). In addition, the ambiguity surrounding ICANN's structure and performance can be scrutinized under U.S. federal law. Some studies have focused on whether ICANN is constitutional. It has come under attack due to allegations that the organization is either (1) an administrative agency that is failing to follow federal statutes in accordance with the guidelines of the Administrative Procedure Act (APA), or (2) a private entity that is unconstitutional due to the non-delegation doctrine (Boyle 2000, Froomkin 2000).⁴²

Lower levels of accountability and transparency affect ICANN's representativeness because the Board decisions are supposed to "depend on the Board and on the growing community of Internet users" ("White Paper" 1998, 19). Among the criticisms of ICANN is that the "process by which ICANN arrives at decisions remains

inscrutable to outsiders and participants alike” (“Policy,” 2006, 1). How can ICANN have representation without having structures that bridge the Board and other Internet users? The Board should be aware of Internet users’ interests and demands. The At-Large Advisory Committee is supposed to serve this function; however, according to the document, “At-Large Framework Formation,” the committee is only supposed to provide Internet users’ input to ICANN (2003, 1). Notice the document does not specify the ICANN Board. In addition, the Nominating Committee selects five of the 15 members who serve on the At-Large Board. The other ten members are chosen by the Regional At-Large Organizations.

D. RIRs/ccTLDs

The regional Internet registries (RIRs) and country code top-level domains (ccTLDs) registries both are operated by private individuals or entities. The RIRs are root servers that “make specific numeric address allocations to network service providers and other sub-regional Internet registries located in the geographical regions they service” (Pare 2003, 10).⁴³ ICANN has central control over the root. The IP number space is “coordinated on the basis of [a] hierarchical distribution model” (Pare 2003, 9). ICANN is at the top, distributes to RIRs, which in turn distribute to local Internet registries that distribute to Internet service providers and other end users (Pare 2003, 9). The ccTLDs are country code top-level domains that are associated with geographical regions. The “geographical regions are based on a list of two-letter country abbreviations promulgated by the United Nations’ International Standards Organization, the ISO 3166-1 list” (Feld 2003, 338).⁴⁴ Within each ccTLD, a country can decide how to organize the second-level domain; each country has a monopoly within its territory (Kleinwachter 2000, 558).⁴⁵

During the transition period ICANN sought to rein in DNS asset managers, RIRs and ccTLD registries (Feld 2003, 349). However, RIRs and ccTLD registries “refused to sign binding contracts with ICANN” because of two main structural issues (Feld 2003, 349-350). First, RIRs and ccTLD registries viewed ICANN as expanding its authority beyond technical coordination to industry regulation (Feld 2003, 350).⁴⁶ Second, there seemed to be no limits to ICANN’s authority (Feld 2003, 350).⁴⁷ Since its creation, ICANN has sided with sovereign governments in its decisions, and it has redelegated

ccTLD registries. For example, ICANN redelegated the Australian-government code, *.au*, from Robert Elz to an Australian government-approved nonprofit entity (Feld, 2003, 350).⁴⁸ However, the ccTLD registries do have power because they can split the root, whereas RIRs cannot do so because they cannot move their services elsewhere (Feld 2003, 351-352).⁴⁹

ICANN could not force RIRs or ccTLD registries to comply. It turned to sovereign governments that could pressure RIRs and ccTLD registries within their borders to submit (Feld 2003, 354), threatening such RIRs and ccTLDs with jail time.⁵⁰ One of the first policies ICANN's Governmental Advisory Committee (GAC) passed was a statement dictating the relationship between ccTLDs registries and sovereign states (Feld 2003, 354-355).⁵¹ The GAC's new policy gave sovereign states control over ccTLD delegation and redelegation decisions, which meant that ICANN could not assign new TLDs that referred to countries, regions, languages or people without relevant government approval (Mueller 2002, 206). Thus, ICANN has allowed the GAC to have greater influence in order to regulate the ccTLD registries and RIRs.⁵²

In addition, the GAC has become even more powerful under "ICANN 2.0."⁵³ Under these reforms, it is the only committee whose liaison cannot be removed from the Board, and it is the only committee for which the "Board is required to take their recommendations 'duly' into account" (King 2003, 250). This means that the GAC has more influence than the At-Large Advisory Committee (ALAC). The ALAC is the main committee that is supposed to represent Internet users. With ccTLD registries and RIRs, ICANN has taken more than a technical coordination approach and has turned to the GAC. The GAC currently has more power than the ALAC, which contradicts the White Paper's expectations about representation.

*E. Representation*⁵⁴

As already stated, the White Paper stipulated that ICANN "should reflect the functional and geographic diversity of the Internet and its users" ("White Paper" 1998, 19).⁵⁵ Even the temporary Board was to help "establish a system for electing a Board of Directors for the new corporation that ensures that the new corporation's Board of Directors reflects the geographical and functional diversity of the Internet" ("White Paper" 1998, 20). Yet, as noted above, Jon Postel and Joe Sims chose the members of the

temporary Board behind closed doors. Their selections did not include any members from Latin America, Africa, or the Middle East (Mills 1998, 2). In defense, temporary Board member Esther Dyson explained, “this is an interim Board. Our job is to figure out how to create a permanent system with a permanent Board” (Mills 1998, 3).

The White Paper placed other restrictions on the interim Board, including that no government officials could serve on it, that the interim Board members would serve for a fixed period, and that they could not serve on the permanent Board of Directors (“White Paper” 1998, 20-21). ICANN’s Bylaws agreed that the interim Board would serve until September 30, 1999, and it could extend the term to September 30, 2000 with two-thirds approval of all interim members (ICANN Bylaws 1998, 3). The interim Board did extend its term.

The ICANN Bylaws stipulated that the At-Large Membership Board should serve as an electoral college for the Board of Directors (Franka 2003, 64). In August 1999 at the first ICANN meeting in Santiago, Chile, elections were held for the At-Large Membership Board. ICANN received a barrage of criticisms from Internet users who could not afford to attend the meeting; the meeting largely was attended by “representatives of large corporations, trademark firms, and professional associations” who had the resources to travel (Franda 2003, 64). Yet, ICANN was severely criticized when the interim Board tried to retract the direct election of At-Large Board members and sought instead to hold direct election of an At-Large council that would appoint members of the At-Large Board (Murray 2007, 114).⁵⁶

Faced with a near rebellion at the Cairo meeting in March 2000, the ICANN Board announced that in the fall of 2000 it would hold direct elections for one Board member in each of the five geographical regions, meaning that only five out of the 15 Board members would be elected (Mueller 2002, 200). These elections would take place before November 1, 2000 (Franda 2003, 64). In the July 2000 meeting in Yokohama, Japan, the Board agreed that four of the interim Board members would remain until an election could be held for those seats in 2001 (Froomkin 2000, 2); in a later meeting the Board postponed these remaining elections to 2002 (Franda 2003, 64).⁵⁷

The winners of the October 2000 election all were opponents of ICANN (Mueller, 2002, 200).⁵⁸ They made it obvious that ICANN did not have consensus in the Internet

community (Mueller 2002, 200). The Board tried to contain the newly elected members by excluding them. For example, the newly elected Board members could not vote in the selection of new gTLDs (Mueller 2002, 200-201). The problems, however, did not end there. Karl Auerbach, the newly elected Board member for the North American section, filed a lawsuit against ICANN, alleging that it had denied him access to financial data (Murray 2007, 116).⁵⁹ The Los Angeles County Superior Court ruled in Auerbach's favor and ordered ICANN to make all financial records available to him (Murray 2007, 117).

Hans Klein examined the October 2000 election process and concluded that it met the preconditions of a political community, which are "membership, communication, interest aggregation, and culture" (Klein 2001, 336). Yet, election turnout was only .01% -- 34,000 Internet users voted (Emmanuel and Caral 2004, 19). Low voter turnout could be attributed to several factors: Internet users did not know about ICANN, some Internet users who knew about ICANN did not care to vote, and parts of the election took place offline (Hunter 2003, 1179).⁶⁰

Others claimed that the election was tainted with errors. For example, Froomkin argues that an "extraordinary large number of people who attempted to register, especially towards the end of the registration period, were not able to do so due to ICANN's computer problems. It appears also that when ICANN became aware of the issue it did nothing. We know, at least anecdotally, that some people who registered never received PIN numbers" (2000, 1). Froomkin's accusation that people did not receive their PIN numbers might be valid, because more than 158,000 people registered and only 21.5 percent of those voted (Franda 2003, 65). In addition, many votes might have been lost because those registered needed to activate their ICANN memberships by entering a personal identification number that was sent via surface mail (Franda 2003, 65).

Stuart Lynn, President of ICANN, viewed the organization as failing and proposed changes. In addition, there were new challenges to Internet security after September 11, 2001.⁶¹ Lynn released the "President's Reform Proposal" on February 24, 2002. In the proposal he claimed that "ICANN has gone as far as it can without significant additional participation and backing from national governments." He believed

“that there is little time to make the necessary reforms. We must act now, or the ICANN experiment will soon come to grinding halt” (Lynn 2002, 7). In June 2002, ICANN released a “Blueprint of Reform,” which proposed changes to the Bylaws. The reforms were passed in October 2002.

With the reforms, ICANN was dubbed “ICANN 2.0.” The ICANN Board of Directors would be legally responsible for ICANN policy and decisions (King 2004, 247). ICANN 2.0 changed the “organizational structure by revising its Supporting Organizations and reducing the number of Board members—and by dropping the effort to elect at-large Board members from the Internet community” (Johnson, Post, and Crawford 2003, 1132).⁶² Other reforms included the new position of the GAC, mentioned above.⁶³ The Board must take GAC recommendations “duly into account,” explain when it does not follow GAC’s advice and try to find a “mutually acceptable solution” with the GAC (Kleinwachter 2003, 1122). The GAC also is allowed to send two non-voting liaisons to other advisory committees and supporting organizations, which allows it to be involved earlier in decision processes (Kleinwachter 2003, 1122).

In addition, the ICANN 2.0 reforms gave the GAC more influence over ccTLDs. Governments can impose a new level of censorship over ccTLD managers and second level domains (Kleinwachter 2003, 1123). An example could be *google.cn*, which is a search engine that is restricted to satisfy Chinese authorities (“Google” 2006, 1). Some fear that governments will try to pass legislation that will require official approval to register a domain name in a gTLD (Kleinwachter 2003, 1123).

Many have openly criticized ICANN 2.0. These criticisms include ICANN’s strong relationship with industries and governments, the lack of power in the At-Large Advisory Committee (ALAC), and the loss of bottom-up coordination. ICANN 2.0 has been criticized as looking like a “deal between (some) industries and (some) governments which sidelines the global Internet users” (Froomkin 2003, 1089). The process of leaving out most Internet users will not provide the solutions that ICANN needs (Kleinwachter 2003, 1124). In this view, more Internet users need to be part of the process because “stability and flexibility must include all interested parties—governments, industry, and the public” (Kleinwachter 2003, 1125). Hunter claims, however, that ICANN’s reforms are an improvement because ICANN is a corporation, and a corporation is “concerned

with responsible management and disclosure of meaningfully relevant material to stakeholders,” which include industries and governments (Hunter 2003, 1174).

ICANN 2.0 also might be leaving out Internet users’ input in decisions by leaving the ALAC less powerful. For example, the ALAC does not have a direct impact on the Board. The Board does not have to consider or explain why it did not consider ALAC recommendations (Kleinwachter 2003, 1124). In addition, ALAC members are not chosen by Internet users. Two of the members are selected by the Regional At-Large Organization, and the remaining five are selected by the Nominating Committee (Kleinwachter 2003, 1123). The ICANN 2.0 “Bylaws empower the Board to act without, or even against, a consensus of those affected by the decision” (Froomkin 2003, 1089). Indeed, some contend that ICANN 2.0 has created top-bottom consensus (Johnson, et al. 2003). The ICANN 2.0 structure contradicts the original intentions of the White Paper in terms of representation, and many believe that it leaves ICANN vulnerable to criticism from Internet users. ICANN’s decisions are no longer made collectively, and they can be perceived as illegitimate. As Johnson, Post, and Crawford put it, “we fear for ICANN’s future in an increasingly litigious world” (2003, 1147).

Conclusion

History reveals the beginnings of the Internet were chaotic and dominated by the technical architects. There was a vacuum of control and a quick jump in Internet use in the mid-1990s. Nobody expected the exponential growth, with its intertwined economic, social, and political aspects. The architects, afraid of losing control, wanted to keep the root within the technical community, and they had a very important role in the formation and implementation of ICANN. The Commerce Department’s White Paper set boundaries and guidelines for the new entity. The White Paper claimed that the ICANN was only a technical coordinating body; however, within its first year ICANN made policy decisions that affected all Internet users.

Currently, six members of the Board are elected by ICANN Supporting Organizations, and the remaining eight are elected by the Nominating Committee. There are six non-voting liaisons on the Board.⁶⁴ This study focuses on the voting Board members because the Board is the “ultimate decision-making body,” and “it alone has the legal responsibility to make and be legally accountable for all policy and other decisions”

(Johnson, et al. 2003, 1134). No current work has examined the extent to which the ICANN Board represents Internet users. In Chapter Three, I define representation in the context of this research and describe the indicators that I used to tap representativeness.

Endnotes

1. Computer networking is “the ability to access one computer from another easily and economically to permit resource sharing” (Roberts 1986, 51).
2. “A typical packet switching network is composed of a set of computer resources called HOSTS, a set of one or more packet switches, and a collection of communication media that interconnect the packet switches. Within each HOST, we assume that there exist processes which must communicate with processes in their own or other HOSTS” (Cerf and Kahn 1974, 637).
3. A node is the name of a single computer workstation or other device that is connected to the Internet.
4. Before TCP/IP, ARPANET had a “host-layer protocol, implemented by a piece of software called the Network Control Program (NCP)[that] was responsible for setting up connections between hosts” (Abbate 1999, 67).
5. The root is the primary name server.
6. The DNS has a hierarchical structure of name space that consists of different domains. It starts with an unnamed root that has authority to assign top-level domains (TLDs) such as .com or .edu.; the second-level domains (SLDs) or hosts, such as vt.edu or cnn.com, have the right to assign third level domains to users (Mueller 2002, 42). For example, a third-level domain could be psci.vt.edu. This can continue to go down the hierarchy (Mueller 2002, 42).
7. The database consists of stored lists of domain names and associated IP addresses, and resource records that match the domain names to IP addresses (Mueller 2002, 43).
8. Mueller summarizes these as “the authority to set policy for and to manage the allocation and assignment of Internet Protocol addresses, the authority to add new names to the top level of the Internet domain name hierarchy, [and] the responsibility for operating root servers that distribute authoritative information about the content of the top level of the domain name space” (2002, 6).

9. The thirteen root servers are: A, B, C, D, E, F, G, H, J, and L, which are located in the United States. K is located in the United Kingdom, I is in Sweden, and M is in Japan (Pare 2003, 12).
10. IAB and IETF were funded by the U.S. government (Mueller, 2003, 92).
11. SRI's services included "hosting distributions of RFCs and Internet-Drafts, registration of network numbers, and help services" (Mueller 2002, 101).
12. "The Internet Society is an independent international nonprofit organization founded in 1992 to provide leadership in Internet related standards, education, and policy around the world" ("Internet Society," 2008, 1). The ISOC Board of trustees included Bob Kahn, Vinton Cerf, Mike Roberts, Charles Brownstein, Lawrence Landweber, Layman Chapin, Geoff Huston, Frode Griesenm and Juergen Harms (Mueller 2002. 95). Cerf, Roberts, and Chapin were all members of ICANN's Board of Directors.
13. NSI revenues in 1996 were US \$19 million, and in 1998 they were US \$24 million (Pare 2003, 23).
14. The IANA was a technical body, and NSI was a commercial entity.
15. A URL is a "standard address format that specifies both the type of application protocol being used and the address of the computer that has the desired data" (Abbate 1999, 215).
16. For example, milk is the second-level domain in www.milk.com.
17. From January 1993 to March 1996, NSI registered 89 percent of all domain names worldwide (Pare 2003, 21).
18. For example, pokey.com was taken away from a 12 year old boy because the domain name infringed the right of Perma Toy Company, the producer of Gumby and Pokey (Mueller 2002, 121).
19. NSI controlled root server A, which was considered the main address root, even though there are 12 other root servers. Root A still is considered the "central point of coordination" (Mueller 2002, 48).
20. ISOC efforts included "formally backing a plan to assign commercially valuable property rights in top-level domains competing registries, collect fees from

- licensees, and in the process establish itself as the manager of the DNS root—all without any formal governmental authorization” (Mueller 2002, 136).
21. Andrew Sernovitz, the president of the Association for Interactive Media, testified before the U.S. Congress that there was a “Swiss conspiracy” to seize the Internet (Goldsmith and Wu 2003, 42).
 22. NIC was contracted through NSF and had a cooperative agreement with NSI. NSF wanted to extract itself from the NSI controversy (Mueller 2002, 154-155).
 23. Postel demonstrated that he could have eliminated *.com* or *.net* by a few key strokes (Goldsmith and Wu 2003, 45).
 24. At the time, Carpenter was an IBM Internet employee and chair of IAB. There were six members of ITAG, including “Carpenter, Randy Bush of Verio (an Internet service provider), David Farber, Geoff Huston of Telestra (the dominant Australian telecommunication provider), John Kelnsin of MCI, and Steve Wolff, former director of NSF’s Computer and Information-Sciences and Engineering Division” (Mueller 2002, 171).
 25. Sims at the time was a prominent Washington, D.C. antitrust lawyer at Jones, Day, Reavis and Pogue (Mueller 2000, 176).
 26. “The IFWP was a series of international workshops designed to bring together the various diverse stakeholder groups and experts in corporate law and trusts to: identify and articulate the parties, issues, and views; and prepare a model, set of common principles, structure and general charter provisions for the formation of an Internet Assigned Numbers Corporation (IANA) or Trust to meet the specifications of the June 5, 1998 U.S. Department of Commerce of Statement of Policy on the Management of Internet Names and Addresses” (International Forum on the White Paper, 2008, 1). “The Boston Working Group is a group of experienced internet experts who helped add aspects of transparency and include voting into early mandates of ICANN” (Boston Working Group, 2008, 1). It is important to note that BWG was formed after the IFWP was unable to ratify its draft policy.
 27. Mike Roberts was the director of Educom (Mueller 2000, 86) and a member of ISOC (Mueller 2000, 95).

28. Roberts was a member of the ISOC, a supporter of gTLD-MoU, and an opponent of NSI (Mueller 2002, 181). Some view him as sabotaging the IFWP because he sent a highly publicized email, “Ratification—the IFWP Emperor Has No Clothes, which announced that his “refusal to participate in the ratification meeting signaled the demise of the final meeting”” (Mueller 2002, 292).
29. The NSI contract was extended to September 2000 because the deadline for creating a new entity was September 30, 1998. ICANN was not officially recognized until February 26, 1999.
30. The selected Board members were from ISOC, IAB, IBM, GIP, the European Commission, and the Australian government (Mueller 2002, 180).
31. ICANN did have an election in 2000 for five Board positions. However, it changed its policy after this election due to low voter turnout. Thus, only five Board members have ever been elected.
32. Technical decisions also involve politics and ICANN’s first priority was to negotiate with NSI. I will not cover these negotiations because they do not relate to representation per se, and the White Paper stated that the negotiations were a main priority and obligation. A detailed account of the negotiations can be found in the article, “ICANN and Internet Governance,” by Milton Mueller. In 2000, Verisign purchased NSI. Verisign is the registry for *.com* and *.net*.
33. “To ICANN and the Commerce Department, protecting trademark holders was the second-highest priority” (Mueller 2002, 192).
34. One reason that the UDRP process is cheap is because there are no attorneys, and it is fast. In its first year the UDRP handled over 2,500 cases involving 4,000 domain names (Mueller 2002, 193).
35. “Paragraph 15a gives panelists the discretion to apply any rules and principles of law they deem applicable to the dispute. Subsequently, panelists can effectively formalize radical decisions as to what constitutes bad faith and what legal system can be used and hence the possibility for inconsistency and wide interpretations is rife” (Schiavetta and Komaitis 2003, 274).
36. An example of such an address could be *walmartsucks.com*.

37. For example, Madonna (the pop icon, also known as “the material girl”) filed a complaint with the WIPO (RSP) against the domain name holder of *Madonna.com* and won (“Domains” 2000, 1).
38. Internationally, there were only three gTLDs- *.com*, *.org*, and *.net*. The other gTLDs (*.edu*, *.mil*, and *.gov*) were for U.S. use only (Kleinwachter 2000, 6).
39. In 1998, Magaziner argued that ICANN should be making the final decisions for the new gTLDs (Kleinwachter 2000, 559).
40. For further information on how each operator was affiliated with ICANN, refer to Milton Mueller, *Ruling the Root*, 2002, 204.
41. One World Trust is a nongovernmental organization that researches global organizations and proposes practical methods for organizations to become more efficient and effective.
42. Some argue that ICANN violates the APA, which is a federal statute, because ICANN is not a private entity and it acts on behalf of the Department of Commerce. If ICANN is a private entity, then the organization is unconstitutional because it is breaking the non-delegation doctrine by engaging in policymaking that is usually entrusted to the U.S. government (Fuller 2001).
43. There are three Regional Internet Registries: the American Registry for Internet Numbers (ARIN), Reseaux IP Europeens (RIPE NCC), and the Asia Pacific Network Information Center (APNIC). ARIN serves North, South and Central America and Africa. RIPE NCC serves Europe, and APNIC serves the Asia-Pacific region (Held 2003, 339).
44. For example, the ccTLD for Canada is *.ca*.
45. For instance, Canada decided that second-level domains are restricted to provincial and territorial abbreviations, whereas the United Kingdom decided that second-level domains are to reflect the use of the registered name (Pare 2003, 12).
46. For example, ICANN placed a freeze on registering country codes after the terrorist attacks of September 11, 2001 because it extended its authority to include Internet security (Feld 2003, 350).
47. One way to view this argument is by noting is that ICANN still has not created an independent review board. The U.S. Department of Commerce wanted ICANN to

- create an independent review board to ensure that ICANN would not expand its authority (Feld 2003, 350).
48. Robert Elz administered *.au* since its creation (Feld 2003, 350).
 49. “Splitting the root” refers to a situation in which ICANN’s root competes with an alternative; this “would decentralize control of the DNS” (Feld 2003, 351).
 50. For example, the South African government made it illegal to operate its ccTLD, *.za*, except in a manner it prescribed (Feld 2003, 354).
 51. The GAC was constituted March 2, 1999, with Australia’s Paul Twomey as chair (Mueller 2002, 206). According to the 1998 ICANN Bylaws, GAC members are “representatives of national governments, multinational governmental organizations, and treaty organizations” (Kleinwachter 2003, 1115). “The GAC was designed to establish an informal mechanism for communication between private Internet stakeholders and governments without clarifying the legal relationship” (Kleinwachter 2003, 1116).
 52. The GAC has a representative on the nominating Board, and it can initiate policy by requesting that the Board take action (Feld 2003, 356).
 53. “ICANN 2.0” refers to the new Bylaws “that were adopted in October 2002 in Shanghai [China] by the ICANN Board” (Johnson, Post, and Crawford 2003, 1132).
 54. Since this study focuses primarily on representation and ICANN, this section will be more in-depth than earlier sections.
 55. I will be looking only at the Board. The Domain Name Supporting Organization (DNSO) was supposed to represent the “domain name stakeholder communities”; however, after several meetings the DNSO emerged “controlled by leaders of the dominant coalition: Information Technology Association of America (ITAA) and its international sister organization, the World Information Society (WITSA), the Internet Society, the International Trademark Association (INTA), and the Policy Oversight Committee of the gTLD-MoU” (Mueller 2002, 198). Five of seven DNSO constituencies represented business interests (Mueller 2002, 198). Additional information about the DNSO can be found in Mueller 2002.

56. Some believe that ICANN contrived a complex electoral structure as an attempt to create a closed and undemocratic organization (Franda 2003, 64).
57. The October 2000 election was funded by the Markle Foundation for about US\$500,000. Election.com administered the ballots and announced voter eligibility, which was anyone over 16 years of age with a valid email address before July 31, 2000 (Franda 2003 65).
58. The winners were Nii Quaynor for the African section, Masanobu Katoh for the Asian/Australian/Pacific section, Andy Mueller-Maguhn for the European section, Ivan Moura Campos for the Latin American/Caribbean section, and Karl Auerbach for the North American section. Both Mueller-Maguhn and Auerbach were strongly critical of ICANN. Interestingly, the press described Mueller-Maguhn as an anarchist hacker, and Auerbach was closely associated with the Boston Working Group (Mueller 2002, 200).
59. Auerbach “petitioned the Superior Court for the County of Los Angeles under § 6334 of the California Corporations Code requesting a Writ Order to the Respondent, ordering and directing the Respondent immediately to make available to the Petitioner for inspection and copying all corporate records of the Respondent which Petitioner sets forth in this Petition, or which may request access to from time to time” (Murray 2007, 116).
60. For example, voters received their voter identification through the mail.
61. Kleinwaetcher contended that “ICANN moved from an experiment in cyber-democracy into a mechanism for cyber-security” (2003, 1121).
62. The five elected Board members’ terms lasted until June 26, 2003, and two of the members whose terms ended were not reappointed, Andy Mueller-Maguhn and Karl Auerbach (Murray 2007, 117). Three others, Ivan Moura Campos, Masanobu Katoh, and Nii Quaynor, were kept on because they had been selected by the newly formed Nominating Committee (NomCom), which is responsible for selecting ICANN Board members except for the president and those selected by supporting organizations (Murray 2007, 117).
63. In addition, the new reforms allowed increases to the ICANN staff (by about 50 percent) and to the budget (Johnson, et al. 2003, 1132).

64. One from each committee is selected. The committees are the GAC, the Root Server System Advisory Committee, the Security and Stability Advisory Committee, the Technical Liaison Group, ALAC, and the Internet Engineering Task Force.

Chapter Three
Representation and Methodology

Introduction

Representation is associated with governments, businesses, and other organizations; however, it is important to define the concept in the context of this study because of the complexity surrounding it. In section one, I will provide several reasons why it is important to examine representation in ICANN and why I examine and evaluate patterns on the extent and nature of representation across Boards. In section two, I describe the methodological approach I used in this study.

Representation

Hanna Pitkin's classic work, The Concept of Representation, provides a general definition of representation. Representation "means the making present in some sense of something which is nevertheless not present literally or in fact" (Pitkin 1967, 7-8). To understand the multiple meanings of representation, Pitkin analyzes it focusing on four dimensions: formal, descriptive, symbolic, and substantive. Some scholars argue that a fifth dimension should be included, participatory representation (Guo and Musso 2007). In this study I evaluate the ICANN Board's descriptive, substantive, and formal representativeness.

3.1 Board Emphasis

Before describing the dimensions of representation, it is important to clarify why this study focuses on the ICANN Board of Directors. The Board members oversee the organization, from its mission to its fiscal responsibilities. Boards are necessary to the survival of organizations. Nonprofit organizations' ability to be effective has been continuously linked to effective boards. Herman and Renz's analysis supports a strong link between an organization's effectiveness and board effectiveness (Herman and Renz 2000, 158). Similarly, Pfeffer relates organizational effectiveness to boards' function and composition (Pfeffer 1973).¹

It makes sense to look at the representativeness of the ICANN Board because the organization itself is large and the Board is the final authority. The larger an organization is, the greater need there is to have more members who can relate to its different stakeholders and legitimize it in the external environment (Pfeffer 1972, 223). ICANN's

Board consists of 21 members; however, only 15 of them can vote (ICANN Bylaws, 2007, 11).² This research focuses only on the voting members. Most corporate boards range in size from ten to 15 members (Ostower and Stone 2006, 614). In addition to its somewhat larger Board, ICANN has committees that provide outreach to different interests and communities.

Four committees report directly to the Board, although several other committees do not report (“Structure,” 2007).³ In addition, three supporting organizations, the president, and the Ombudsman report to the Board.⁴ The organizations and committees that do report to the Board are not independent from the Board. Several Board members serve on multiple committees and supporting organization, and some Board members chair these committees and organizations. (See Appendix One for a diagram of ICANN’s structure.)

3.2 Descriptive Representation

Pitkin defines descriptive representation as resemblance, likeness, or reflection of the community being represented (Pitkin 1969, 11). In this view, when board members “mirror” their stakeholders, the board is representative. The board should be a condensation, or a miniature of the whole (Pitkin 1967, 73). In the research here descriptive representation goes beyond the physical characteristics of Board members (Dovi 2007, 29). The aspects of descriptive representation considered include member characteristics such as their sex, education and nationality/nationalities. ICANN’s Bylaws stipulate that the Board will “display diversity in geography, culture, skills, experience, and perspective” (ICANN Bylaws, 2007, 12).

Jane Mansbridge contends that descriptive representation is significant when “(1) communication is impaired, often by distrust, (2) interests are relatively uncrystallized, (3) a group has once been considered unfit to rule, (4) de facto legitimacy is low within a group” (Mansbridge 1999, 652). It can be argued that each one of those situations can be applied to ICANN.

First, some Internet users distrust ICANN. One reason for distrust is that it is tied to the U.S. government, which controls the root servers. Thus, non-U.S. countries are dependent on the U.S. This dependency creates distrust among many Internet users. For example, a Brazilian Internet user expressed his concern: “there has never been a

dependency of that kind between nations. The autonomy of one depends on the good will of the other” (Engebretson 2006, 31). Another reason why some Internet users distrust ICANN is because they see it as tending to favor the trademark industry rather than independent Internet users. For example, “sunrise” or “daybreak” procedures “allow all the world’s trademark holders the privilege of pre-registering their names in a new TLD before the domain is opened up to anyone else” (Mueller 2002, 193).

Second, Internet users’ interests are not crystallized. There are many different interests and various issues, as can be seen on the ICANNWatch website. This website allows Internet users to submit stories about the “way in which ICANN performs its role as manager of the Domain Name System (DNS)” (“Our Mission,” 2008, 1). The individual postings on the website highlight numerous issues and differing interests. For example, they range from expressions of the desire for a multilingual country code top-level domain (ccTLD) in Russia to concerns about abuses of resolution authority in the name of Internet security to questions about the potential new process of selecting the chair of the ICANN Nominating Committee.

Third, some of ICANN’s actions might be perceived as considering Internet users unfit to rule the organization. One such action was getting rid of elections. In 2002, the president of ICANN, Stuart Lynn, announced that ICANN would no longer have elections because an election in a “private sector body, based on consensus and consent, has been shown to be impractical” (Lynn 2002, 1). Another Board action involved “reforms” to the At-Large Advisory Committee (ALAC) under “ICANN 2.0.” These changes took away some of the ALAC’s powers in favor of the Governmental Advisory Committee, even though the ALAC is supposed to be the focal point for Internet users.

Fourth, it can be argued that ICANN’s *de facto* legitimacy is low among Internet users because the body contradicts the original intentions of the White Paper in terms of representation. Many believe that this leaves ICANN vulnerable to criticism from Internet users. ICANN’s decisions are no longer made collectively.

If ICANN wants to gain greater legitimacy, then descriptive board representation is one mechanism because diverse outlooks can strengthen boards (Bere, 1991). I examine “diversity in geography, culture, skills, experience, and perspective” by investigating Board members’ sex, education and nationality/nationalities and comparing

them to those of Internet users. In the following discussion, the lines between substantive and descriptive representativeness sometimes are blurred when trying to describe the potential importance of ICANN Board members' descriptive characteristics and how these characteristics relate to Internet users. This is especially the case when examining how a particular characteristic might impact Board members' voting behavior and using this potential relationship to explain why a particular characteristic might be important to Internet users.

When there is diversity in ethnicity and in sex composition among legislators it has been shown to have a positive effect on their constituencies. Members of ethnic minority groups feel more empowered to participate and less politically alienated if there are minority representatives (Pantoja and Segura 2003). In addition, minority groups have a higher sense of trust and inclusion if there are minority representatives (Gay 2002).⁵ On the ICANN Board, nationality is an indicator of geographic diversity. According to the Bylaws, the ICANN Board is supposed to have international representation, but ICANN has been accused of being unrepresentative (King 2004). As the Internet has transformed into a global medium, it has become a "jurisdictional quagmire" for nations and numerous parties (Drissel 2006, 117). There are competing claims over the uncertainty of domain names and informational resources.⁶ Internet users presumably want the best services and informational resources for their countries; thus it might be expected that Internet users would want representatives from their countries representing their interests.

Having both male and female representation has been shown to improve an organization's ability to fulfill its social agency (Sicillano 1996). Having male and female representation on the Board is important as a basic issue of fairness; moreover, Board members decisions may be influenced in part by their sex. Whether and how sex affects behavior are still being discussed and investigated in many studies; however, studies indicate that sex is an important characteristic that could impact behavior. There are limitations when considering sex as a dimension, though, because there have to be both sexes in the pool of those likely to be selected for the Board (Rosenthal 1995, 600). Some might argue that female representation is low within ICANN because it is a technical entity; in the area of computer attitudes and experiences, females have been

found to be less interested and self-confident than males (Shashaani 1997). Yet, there are no differences between male and female attitudes toward simple computer tasks (Busch 1995), and there is no technical requirement, such as technical certification, degree, or experience, to be on ICANN's Board.⁷ Given roughly equal Internet use by women and men, then, full representation would mean generally equal number of male and female Board members.

Educational background is the last descriptive characteristic that I examined in this study. Just as Internet users include people of both sexes from countries around the world, they also likely encompass those with diverse educational backgrounds. Most likely all Internet users are literate; however, Internet users probably vary widely in their expertise, skill, and education. This variance should be reflected in the ICANN Board, especially if ICANN wants the Board to tap "culture, skills, and experience" ((ICANN Bylaws, 2007, 12). Education is an important representational dimension because it can provide different viewpoints. For example, a degree in a business/economics field may provide a person with understanding of management, operations, or accounting, whereas a degree in law arguably enhances understanding of contracts, trademark law, or trade law. Different educational perspectives arguably are vital to the ICANN Board. ICANN is an international entity that must be able to operate, maintain, and secure the Internet and its infrastructure in a nonprofit organizational business-like manner while adhering to the U.S. Department of Commerce's contract, California law, and contracts with gTLD and sTLD registries. Because ICANN must juggle various issues and interests, Board members with diverse educational backgrounds might be the most helpful.

In addition, Internet users might want a Board with diverse educational backgrounds, because then members might be more likely to consider a range of viewpoints. For example, Postel and Sims, who collaborated to create ICANN, insisted that ICANN is only a technical entity; as seen in Chapter Two, however, ICANN has made several social policy decisions. Internet users might feel more secure with the Board knowing that lawyers are on the Board who might speak to the ramifications of trademark infringement versus individual rights. In another scenario, Internet users might welcome a Board member with corporate experience to negotiate a Cisco System, Inc. loan.

In addition, several studies investigated whether education has an impact and these studies reached different results, suggests that there is perception that education does have an influence. For example, one study suggested that there are differences between technical supervisors and non-technical supervisors in terms leadership styles, indicating that education might dictate the ICANN members' leadership (Poon 2006).⁸

The approach to measuring the extent of descriptive representation was to compare ICANN Board members' sex, nationality, and type of education to those of Internet users. For example, if the composition of ICANN's Board is similar to the distribution of Internet users of ICANN's five defined geographic regions, then there is greater regional representation.

3.3 Substantive Representation

One of the arguments against descriptive representation is that it does not necessarily mean that actual interests are being represented (Mansbridge 1999, 630). Descriptive representation emphasizes the likeness of the representatives to those represented. Yet, likeness does not guarantee that a representative will act consistently or share the perspectives of his or her community/demographic group. That is why this study focuses on substantive representation. Substantive representation means that the representatives act "in the interest of the represented, in a manner responsive to them" (Pitkin 1967, 209). This study focuses on the voting behavior of ICANN Board members to see if members vote in patterns according to their descriptive characteristics. Finding patterns based on descriptive characteristics at least suggests a shared interest may be involved.

At the same time, there likely are other influences on members, which indicate problems of treating each Board member equally. The Board is selected through committees and organizations, with the Nominating Committee choosing eight of 15 voting members (ICANN Bylaws, 2007, 11).⁹ It seems that the Nominating Committee is the strongest committee within ICANN because it selects the majority of Board members. It is difficult to evaluate the Nominating Committee selections for the Board because the Nominating Committee meets in secret and it is "packed with members of [the] current dominant faction" (Palage 2003, 1).¹⁰ In addition, some of these Board members sit on other internal boards for various organizations. This might conceivably

give such members more influence than other Board members. The U.S. Department of Commerce has alluded to faults in the ICANN Board selection procedure.¹¹ It is possible that certain Board members might dominate the agenda, thus making the other members less significant. In addition, Board members might feel pressured to vote a certain way because of their professional careers. For example, Board member Michael Palage resigned, stating that “Although I came to the ICANN Board with a number of ties to the industry based upon my consulting arrangements with various registration authorities, over the past year it has become increasingly difficult for me to do the best job this organization deserves because of various professional relationships” (Palage 2006, 2-3). Thus, other factors might be hampering the substantive representativeness of the Board, and descriptive patterns might not reflect these factors.

This study investigated how Board members voted on certain types of issues, outlined below in the methodology section. It analyzed the Board members’ votes to see if two or more members from certain regions, of the same sex or similar educational backgrounds voted the same way.¹²

3.4 Formal Representation

The last dimension of representation this study examines is formal representation. Formal representation is when a “representative is someone who has been authorized to act, this means that he [or she] has been given a right to act which he [or she] did not have before” (Pitkin 1967, 38-39). Board members receive their authority from the ICANN Bylaws, ICANN’s contract with the U.S. Department of Commerce, and the California Nonprofit Public Benefit Corporations Code. I examined these documents looking for any guidelines about representation.

I expected that ICANN’s Bylaws would reflect any representational stipulations outlined in the U.S. Department of Commerce contract. Due to the decentralized U.S. federal system, nonprofit law is a state concern (Brody 2006, 244). ICANN must implement representational Bylaws that are consistent with California’s Nonprofit Public Benefit Corporations Code. I looked at the Code for any representational guidelines.¹³

3.5 Other Criteria of Representativeness

Thus far, I have described the kinds of representation that the study examined. Clearly, there are other types of representation. For example, I did not apply either

representative democracy or a market model to ICANN for reasons this section details. It also explains why I did not focus on participatory representation or symbolic representation.

A crucial criterion for representative democracy is the electoral process (Pitkin 1967, 43). Elections allow the grant of authority to pass from the constituents to the elected official and allow the constituents to hold their representative accountable for his or her actions (Pitkin 1967, 43 and 58). If a representative does not reflect the interests of his or her constituents, then he or she will not be re-elected. The model cannot be applied here, since ICANN no longer has direct elections for Board seats. It held direct elections for five Board members in 2000; only 34,000 ballots were cast. Due to the low voter turnout, ICANN considered the elections to be unsuccessful and very costly. As a result, in 2002, President Stuart Lynn proposed changes to ICANN's procedure. No longer would it hold elections for Board members, who would be appointed internally by sub-committees.

If one applied a market model to the Board's representativeness, service providers that represented the interests of Internet users presumably would triumph over other service providers. However, this reasoning cannot be applied to ICANN because it controls and regulates all of the service providers.

This study also did not focus on participatory representation since doing so would require the investigation of "constituent participation in organizational activities" (Guo and Musso 2007, 315). I focused instead on the Board members, not on the many sub-committees whose activities may facilitate participation from Internet users. Nor did this study investigate whether the ICANN members have symbolic representation. Symbolic representation "is kind of symbolization, so that a political representative is be understood on the model of a flag representing the nation, or an emblem representing a cult" (Pitkin 1967, 92). The study will not investigate whether Internet users view Board members as symbols for ICANN.

Methodology

3.6 Descriptive Representation

To examine descriptive representation, I had to gather data on the Board and on Internet users. I first focused on the Board and relied heavily on ICANN's website for

data (www.icann.org). On the front page of ICANN's website in the top tool bar was a link called "structure." This link produced a diagram of how ICANN was organized. At the top of the diagram is ICANN's Board of Directors. (See A1.) The diagram also had another purpose. Each title of the individual components of ICANN had a hyperlink. Clicking on the title "Board of Directors" provided a full list of both past and present members.¹⁴ (See A2.) Next to each current Board member was a link to their biography.

Before I collected the descriptive data on each Board member, I constructed a chart of the different Boards. It was important to document every time that new members joined or members left the Board, since the changing compositions could influence voting.¹⁵ This study relied on the dates provided by ICANN's website. However, specific dates were inconsistent. Some Board members had an exact date of arrival or departure from the Board; other members had only a month and a year listed.¹⁶ It was vital to have a specific date of arrival and departure for each Board member because sometimes multiple Board meetings were held within a month. Since I only knew some of the starting dates of key Board members, I decided to use the last meeting in the month as the end of their term and the first meeting of the month as the beginning of their term.¹⁷ I was able to access the dates of Board meetings through ICANN's website.¹⁸ From there I compiled starting and ending dates for each Board member who served from 1998-2007. (See A3.) ICANN had 53 members serving on 32 different Boards. (See A4.)

After arranging the Board members and the differing Boards on a spreadsheet, I examined the descriptive characteristics of the Board members, including their sex, education, and nationality/nationalities. I relied on the biographies that ICANN provided to acquire this information about the characteristics of members. Sex was the easiest characteristic to identify because each Board member was referred to by a subject-pronoun (she/he) and/or a possessive-pronoun (his/her).

For educational backgrounds, I decided that I would use only each Board member's last obtained academic degree, and I was interested only in the discipline or field of specialty of the degree.¹⁹ Most Board members' biographies included this information. However, about 22 percent (12) of the Board members' biographies did not. Some biographies only named the institution/college from which the Board member graduated, and other biographies did not mention educational background at all. Based

on the type of school that a Board member attended or their work experiences, I made assumptions about the type of degree that she/he possessed. (A5 contains a list of the Board members for whom I had to draw such conclusions.) I coded Board members' education into six categories: business/economics, law, science, technical, liberal arts, and other.²⁰

I also obtained information on Board members' nationalities. Not all of the members' nationalities were in their biographies. I searched ICANN's website: when the Board member was considered for nomination their nationality was reported. (See A6 for the sources relied on for this information.) Then I assigned the Board members to regions based on their nationality. ICANN divides the world into five regions: Africa, Asia/Australia/Pacific, Europe, Latin America/Caribbean Islands, and North America.²¹ ICANN's website includes a directory for every country in one of the five corresponding regions. (See A7.) Using ICANN's directory, I assigned each Board member to a region based on his/her nationality.

These data were then entered into SPSS, and I ran several cross-tabulations. I examined the composition of 32 Boards, looking at members' sex, education, and region.²² Then I switched the focus to Internet users. I looked at various websites to acquire information on world Internet users. However, most websites concentrated on particular countries, demanded high fees for access, or were not reliable.²³ The most dependable source for world Internet users that I found was the U.S. Central Intelligence Agency's (CIA) Fact Sheet, which lists the number of Internet users for each country along with the year that the data were collected. (See A9.) For most countries the data were collected in 2005 or 2006. The information for some countries is older because of hostile relations within the country, and other countries (e.g. North Korea) had no data reported. I then placed the countries with Internet user data into the regions that ICANN defined. (See A9.) I was unable to find any statistics on the sex or educational backgrounds of world Internet users.

3.7 Substantive Representation

To determine whether and how the three dimensions of representativeness were related to Board member behavior, I analyzed the resolutions adopted by non-unanimous votes.²⁴ I did not include resolutions that were defeated because no vote count was

provided in the minutes. There were 1199 adopted resolutions from 1998 to 2007; of these, 230 resolutions were not unanimous. (See A10 for the total number of adopted resolutions per year.) To find the votes, I depended on the minutes/transcripts from ICANN's website. Although the website supplied such information for most Board meetings, I encountered difficulties with some of the adopted resolutions. Some reports included only a list of adopted resolutions and did not provide vote counts; some of the transcripts did not document who voted on the adopted resolutions; some of the non-unanimous adopted resolutions had discrepancies between the recorded attendance and the vote count; some of the minutes recorded a Board member as present and voting in meetings before their term had formally started or after their term had formally ended.²⁵ Thus, I was unable to include all non-unanimous adopted resolutions in my analysis. (A12 contains charts for the votes I excluded along with the reasons for their exclusion.) Due to these conflicts there was a limited number of non-unanimous resolutions and I decided to include both abstaining and "no" votes in the analysis. I do acknowledge that there are differences between a "no" vote and abstaining.

Two hundred thirty non-unanimous adopted resolutions were undisputed. I put these resolutions on flash cards, with the number of the resolution, the date, vote count, and a brief summary of the adopted resolution.²⁶ The non-unanimous adopted resolutions then were grouped into categories related to representation. Those categories are: generic top-level domain names (gTLDs), country code top-level domains (ccTLDs), representation, ICANN Bylaws, sponsored top-level domains (sTLDs), Verisign, and appointments/elections. (See A12 for the non-unanimous adopted resolutions used in the substantive representation analysis.)

The generic top-level domain (gTLD) category included new stipulations on adjustments, amendments and negotiations to gTLDs and their registries. The gTLDs are important to Internet users because gTLD registries regulate and control the top-level domain names on the Internet. For example, the company Register.com controls the string *.info* gTLD. Internet users have to get access from these gTLD registries to obtain a website in a particular gTLD.²⁷

All of the non-unanimous adopted resolutions on country code top-level domains (ccTLDs) that I included in the analysis were related to ccTLD sponsorship agreements

with certain regions or countries. ICANN delegated and approved country codes for top-level domains that had not been created. For example, ICANN delegated *.ke* to Kenya's government in non-unanimous adopted resolutions 2002.138 and 2002.139. The delegation of ccTLDs affects Internet users because the sponsorship allows national governments to regulate and control the content on their ccTLDs.²⁸

The "representation" category included all non-unanimous adopted resolutions that referred to At-Large structures in ICANN and recommendations to increase participation from Internet users. Such resolutions directly affect Internet users. These resolutions ranged from defining the geographic regions to creating mechanisms to increase participation to planning budgets for At-Large structures.

The Bylaws stipulate the guidelines and principles that ICANN must follow. Thus, they serve as a source of regulation for the organization. Internet users rely on the Bylaws for ways to interact with the organization. The non-unanimous adopted resolutions in the Bylaws category focused only on amendments to the Bylaws. For example, 2003.023 created the Board Governance Committee as provided by Article XII, Section 1.

The sponsored top-level domains (sTLDs) are supposed to apply to user communities, whereas gTLDs focus more on business. According to ICANN, the purpose of sTLDs is "enrichment of the global community" ("New," 2003, 1). The sTLDs had similar application processes as gTLDs, and sTLDs directly involve Internet users. For example, any Internet user interested in registering a domain name in *.asia* must gain access through the *.asia* registry. Many non-unanimous adopted resolutions concerned sTLDs; however, 12 resolutions had to be excluded in 2005 because Demi Getschko was reported as voting before his term officially started. I did change Demi Getschko start date because I wanted to remain consistent by relying on the information provided by the ICANN website.

The U.S. Department of Commerce pressured Verisign and ICANN to negotiate agreements. Network Solutions, Inc. (NSI) was under contract to the U.S. Department of Commerce; in 1999, NSI agreed to run *.com*, *.net*, and *.org* in accordance with the provisions of a registry agreement with ICANN (Mueller 2002, 195). Verisign purchased NSI in 2001, and eventually Verisign agreed "to give up control of the *.org* registry in

exchange for a presumptive renewal right over the .com registry” (Mueller 2002, 196). In 2003, ICANN claimed that Verisign had overstepped its service boundaries and Verisign responded with a lawsuit in 2004. In 2006, ICANN and Verisign reached a settlement over .com (Wells 2006, 1). Verisign would be able to raise its prices four times with written approval by the Department of Commerce (Wells 2006, 1). Thus, this made Verisign an important actor to Internet users that have stakes in .com. ICANN’s Board of Directors reached several non-unanimous adopted resolutions, agreements, and arrangements concerning Verisign; it is these resolutions that were included in the analysis.

The appointments and elections category included the non-unanimous adopted resolutions that related to the appointment and election of candidates to internal ICANN committees and sub-committees. These committees and sub-committees report findings and make suggestions to the ICANN Board. Many of the candidates involved in the election or appointment processes were Board members. Perhaps since Board members were voting on their peers, there were not many non-unanimous adopted resolutions on appointments and elections.

After I categorized the non-unanimous adopted resolutions, I examined how many resolutions were in each category. When compiling the total number of unanimous and non-unanimous adopted resolutions for each category, I excluded adopted resolutions that were disputed. (See A13.)

I then entered the selected non-unanimous adopted resolutions into an Excel spreadsheet with the Board members’ names listed on the x-axis and the full resolution number and specified category placed on the y-axis. Board members who voted in favor of the resolution were coded “1,” those who voted against “0” and those who abstained “2”.

To find evidence of substantive representation, I looked for relationships between the descriptive variables (sex, education, and nationality) and the members’ votes on the non-unanimous adopted resolutions, using cross-tabulation analyses.

3.8 Formal Representation

To determine the extent of formal representation, I examined legal constraints on ICANN’s Board of Directors. My analysis focused on identifying representation

requirements stipulated in ICANN's Bylaws, the California Nonprofit Public Benefit Corporations Code, and ICANN's 2006 contract with the U.S. Department of Commerce.

The ICANN Bylaws contain Article VI, which deals with the Board of Directors and Article VI, Section Three, Number Three and Article VI, Section Five provide guidelines for the Board's representation.

ICANN also must abide by the California Nonprofit Public Benefit Corporations Code. The Code contains 19 chapters. Within those chapters I focused on the parts that were relevant to representation, which were: Chapter One, "Organization and Bylaws" Article IV, "Powers" (5140-5142) and Article V, "Bylaws" (5150- 5153), and Chapter Two, "Directors and Management Code," Article I, "General Provisions" (5210-5215), Article II, "Selection and Removal and Resignation of Directors" (5220-5227) and Article III, "Standards of Conduct" (5230- 5239).²⁹ Chapter One, Article IV outlines powers that can be contained an organization's bylaws, and the code highlights 13 powers. In addition, Article IV states that corporations can reprimand breaches of trust. Chapter One, Article V states the guidelines for organizations' bylaws. Chapter Two, Article I, provides general provisions for the conduct of board meetings and board members. Chapter Two, Article II outlines the procedures to select, remove, or force board members to resign. Chapter Two, Article III, describes the standards of conduct for board members.

ICANN is under contract with the U.S. Department of Commerce. I relied on the most recent contract signed on September 29, 2006, titled "Joint Project Agreement Between the U.S. Department of Commerce and the Internet Corporation for Assigned Names and Numbers." This contract was accessible through the Department's National Telecommunications and Information Administration (NTIA) website.³⁰ ICANN recognized the new agreement on its website, and stated that "In September 2006, ICANN signed a new agreement with the U.S. Department of Commerce, thereby taking a significant step forward towards full management of the Internet's system of centrality coordinated identifiers through ICANN's multi-stakeholder consultative mode" ("ICANN Bylaws," 2007, 10).

In each of these documents, I searched the text for key words. These key words included representation, represent, Board, and Board members.

Summary

To examine the representativeness of the ICANN Board of Directors from 1998 to 2007, I applied several of Pitkin's concepts of representation. After justifying why the descriptive, substantive, and formal dimensions of representation are relevant to ICANN and Internet users, I operationalized each dimension. For the descriptive analysis, I examined whether and how the ICANN Board mirrored Internet users. I relied on three descriptive characteristics in the analysis- sex, education, and nationality/nationalities- to compare Board members and internet users. For substantive representation, I examined non-unanimous adopted resolutions, looking for relationships between the descriptive characteristics and member votes. After reviewing the resolutions I grouped them into categories: sTLDs, ccTLDs, Bylaws, representation, Verisign, gTLDs, and appointments/elections. For formal representation, I focused on the representational stipulations that were outlined in the ICANN Bylaws, the California Nonprofit Public Benefit Corporations Code, and the most recent contract ICANN signed with the U.S. Department of Commerce. The next chapter will focus on the results of these analyses.

Endnotes

1. It is important to realize that these studies define effectiveness differently. Herman and Renz define effectiveness as goal achievement (2000, 149), while Pfeffer defines it as "the ability to obtain resources" (1973, 349).
2. The non-voting liaisons have dual purposes. First, the liaison serves as representative for his/her organization and second, the liaison can serve as a consultant for ICANN Board members on particular issues/concerns.
3. These are the Governmental Advisory, At-Large, Security and Stability, and Root Server System advisory committees. These committees are the Audit Committee, Board Governance Committee, Committee on Conflict of Interests, Committee on Reconsideration, Compensation Committee, Executive Committee, Finance Committee, Meetings Committee, President's IANA Consultation Committee, President's Strategy Committee, President's Standing Committee, President's Advisory Committee for IDNs, Nominating Committee, ICANN Governmental

Advisory Committee Working Group, Internationalized Domain Names Committee, and Committee on ICANN Evolution and Reform.

4. These are the Address, Generic Names, and Country Code Names supporting organizations.
5. Such studies refer to minorities as marginalized groups, including Asians, African Americans, Hispanics, and women.
6. For example, “China has complained about being allocated only nine million global Internet addresses, compared to almost twice as many for Stanford University in the US” (Drissel 2006, 117).
7. To have a technical requirement would likely severely hamper sex representation. It has been found, for example, “91 percent of technical supervisors are male, whereas the non-technical sector has more an even distribution between males and females” (Poon 2004, 107).
8. Education is an important aspect because it has been seen to impact leadership styles, perceptions (more specifically of information technology), and ethical decision-making. Poon’s study focused on leadership styles and found that the “leadership styles of technical supervisors is supportive, being sensitive to the needs of their subordinates. In contrast, non-technical supervisors display an achievement-oriented style, focusing more on setting and achieving targets” (Poon 2006, 108). Poon defined technical leaders as “those working in the industrial, mechanical, or applied sciences sectors and who are practical in their job approach” (Poon 2006, 91). Non-technical leaders are “those specializing in other general studies, and who practice abstract or creative thinking” (Poon 2006, 92). Poon thought that technical supervisors might be more sensitive to their subordinates because the supervisors tend to have more autonomy than their non-technical counterparts (Poon 2006, 108). In another study, Poon found that one’s education did not affect his/her perceptions of information technology. Poon found that “non-technical disciplines are fast catching up with the technical disciplines in the use of information technology,” which could be due to “the increasingly user-friendly computer interface and applications both in engineering and non-engineering courses” (Poon 2002-2003, 138).

9. The Address Supporting Organization selects two voting members, the Country-Code Names Supporting Organization selects two voting members, the Generic Names Supporting Organization selects two voting members, and the president of ICANN is the last voting member (ICANN Bylaws, 2007, 11-12).
10. Palage was referring to how the Nominating Committee replaced two directly elected Board members, Andy Mueller-Maguhn and Karl Auerbach, with “insiders.” Palage claimed these insiders were from the Internet Society (ISOC) (Palage 2003, 1).
11. “Identifying a mechanism that would enable all of ICANN’s constituents to participate in decision-making and ensure the public interest is represented has proven challenging. While there is general agreement concerning the need for such representation, ICANN has not been able to garner consensus regarding the level or best method for achieving it” (“Department of Commerce Statement Regarding Extension of Memorandum of Understanding with ICANN,” 2002, 4).
12. Other studies have focused on whether U.S. Congressmembers were acting for their constituents; these studies used roll-call votes (Herrick and Fisher, 2007, Cameron, Epstein, and O’Halloran, 1996, Miller and Strokes, 1963, Kerr and Miller, 1997). However, each study used a different approach to determine constituents’ interests. For example, Kerr and Miller relied on the Southwest Voter Research Institute scores (1067), whereas Herrick and Fisher relied on DW-NOMINATE scores (48).
13. I did not cover “duty to loyalty.” This requires that a board member “place the interests of the organization above his or her own” (Brody 2006, 247). The study did not examine Board members’ careers or affiliations with other organizations and compare them with members’ voting behavior.
14. Some ICANN Board members served several terms. For example, Ivan Moura Campos was elected in the at-large election and then was chosen by the Nominating Committee for another term, which extended his term to 2004.
15. The different processes for becoming a Board member were discussed in Chapters One and Two, as well as earlier in this chapter. Further information can be found in ICANN’s Bylaws.

16. For example, the website, www.icann.org/general/board.html, listed the departure date for Robert Blokzijl as December 15, 2002; his arrival date, however, was listed as October 1999 (2007, 1).
17. The at-large elected members-- Ivan Moura Campos, Karl Auerbach, Andy Mueller- Maguhn, Nii Quaynor, and Masanobu Katoh -- all started on November 16, 2000, and all of the interim Board members started on October 25, 1998. In addition, the ICANN website states that Thomas Niles's term started in June 2003 and lasted until December 2005. My chart lists Niles's starting date as June 2, 2003 and his ending date as December 4, 2005.
18. At the top of the tool bar was a link to "documents," and under documents was a link called "Board Meeting Transcripts, Minutes, & Resolutions." Once on the webpage I could access all of the Board meeting materials, including minutes, transcripts, and/or adopted resolutions from 1998 to March 2008.
19. Some Board members listed multiple academic credentials ranging from bachelors degrees to PhDs.
20. Board members who had their highest level of completed education in the area of business/economics (which included master degrees in business administration, economics, and mathematical economics) were coded "business/economics." Board members whose most advanced degree was a law degree were coded "law." Those whose highest level of completed education was in a non-engineering, non-computer based science field (including physics, chemistry, and mathematics) were coded "science." Board members with degrees in a technical field (including electronic engineering, electrical engineering, and computer science) were coded "technical." Board members with degrees in non-science/technical fields (here including international relations and journalism) were coded "liberal arts." Finally, Board members whose highest level of completed education was in multiple diverse fields or who could not be classified in any other category were coded "other." This last category included those with degrees in engineering physics or a combination of scientific and non-scientific/technical fields.

21. These abbreviations are: AF-Africa, AP- Asia/Australia/ Pacific, EU-Europe, LAC- Latin America/Caribbean Islands, and NA- North America
22. Sex was coded “0” for female and “1” for male. Educational background was coded “1” for business/economics, “2” for law, “3” for science, “4” for technical, “5” for liberal arts, or “6” for other. Regions were coded AF, AP, EU, LAC, or NA.
23. I searched the Internet and found other sites that reported Internet user statistics. Some of these sites included the Pew Internet and American Life Project, E-Consultancy, and Internet World Stats. I saw potential problems with each. The Pew Internet and American Life Project did not have statistics on world Internet users, but focused on U.S. Internet users’ demographics (such as their sex, age, race/ethnicity, geography, household income, and educational attainment) (“Demographics,” 2008, 1). The only non-American statistics that the Pew Project provided was for China (Fallows, 2008). E-Consultancy has a report on world Internet users, (“Internet Statistics Compendium- March 2008”) but I could not afford the fees to access the report. Internet World Stats provided free access to world Internet users’ statistics; however, I did not feel confident in the source. The Miniwatts Marketing Group Worldwide’s Internet Market Research compiled the statistics for the Internet World Stats. The Marketing Group did not disclose how it gathered the statistics; nor could I find information on the company, such as its purpose and funding source. In addition, the Internet World Stats only gave world Internet users’ statistics based on “world regions” (“Internet Usage,” 2008, 1). The CIA Fact Sheet was the website that had world Internet users’ statistics for particular countries.
24. I did not analyze resolutions that did not pass. There were several reasons why I did not examine these failed resolutions: lack of vote counts; failed resolutions are not numbered, and they are harder to identify within the minutes/transcripts.
25. For example, according to the ICANN website, Demi Getschko did not start his term until December 2005; however, he voted in meetings in January 2005 through December 2005. I excluded these votes because I relied on ICANN’s website to determine Board terms.

26. ICANN numbered every adopted resolution in chronological order. For example, an adopted resolution number is 2001.045, where 2001 indicates the year that this 45th resolution was adopted.
27. For more information on gTLDs, please refer to Chapter Two.
28. For more information on ccTLDs, please refer to Chapter Two.
29. These codes are available at <www.leginfo.ca.gov>.
30. The website address is http://www.ntia.doc.gov.ntiahome/domainname/agreements/jpa/ICANNJPA_09292006.htm.

Chapter Four

Results

Introduction

This chapter presents the study's findings on the ICANN Board's descriptive, substantive, and formal representativeness and offers tentative explanations. For each form of representation, the limitations of the analysis also are noted.

Descriptive Representation

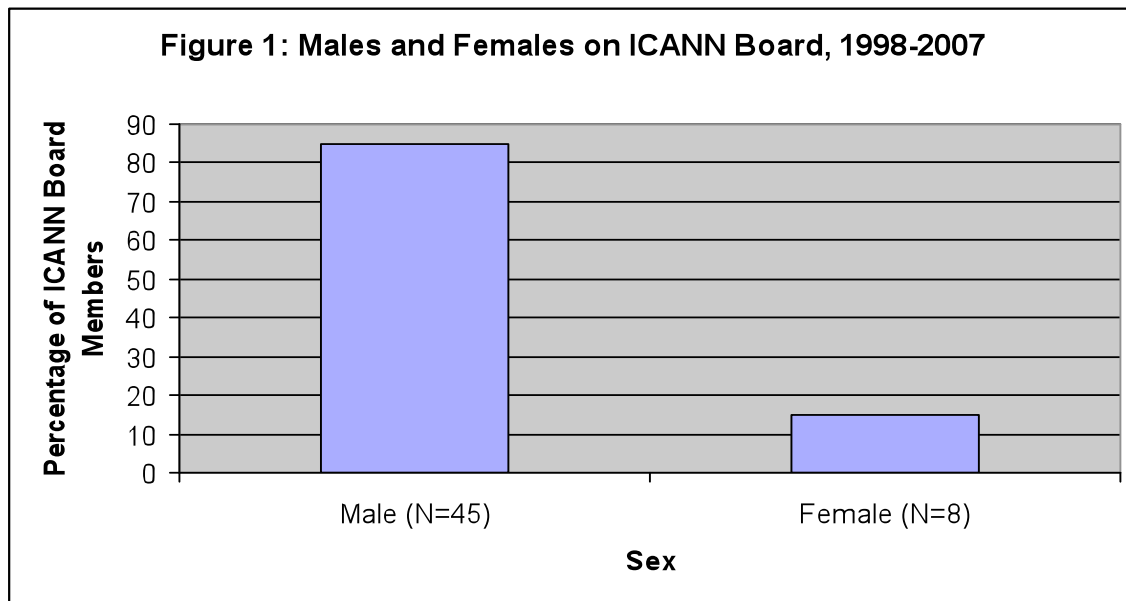
The descriptive representation analysis focused on ICANN Board members' sex, educational degrees, and region, examining Boards from 1998 to 2007. In those years, ICANN had 33 different Boards. (See A4.) Below, there is a table that provides the Boards' terms. First, I examined the sex, educational and regional compositions of all of the Boards; then I concentrated on whether or not the descriptive characteristics of each Board changed over time. Lastly, I compared the regional frequencies to Internet users' regional composition.

Table 1: Boards' Terms

Boards	Dates
Board I	Oct. 25, 1998 to Oct. 24, 1999
Board II	Oct. 28, 1999 to Sept. 30, 2000
Board III	Oct. 1, 2000 to Nov. 15, 2000
Board IV	Nov. 16, 2000 to Mar. 13, 2001
Board V	Mar. 14, 2001 to Sept. 20, 2001
Board VI	Oct. 1, 2001 to Apr 2, 2002
Board VII	Apr. 3, 2002 to Nov. 18, 2002
Board VIII	Dec. 2, 2002 to Dec. 16, 2002
Board IX	Dec. 16, 2002 to Mar. 27, 2003
Board X	Mar. 28, 2003 to Apr. 17, 2003
Board XI	Apr. 18, 2003 to June 1, 2003
Board XII	June 2, 2003 to June 26, 2003
Board XIII	June 27, 2003 to Oct 31, 2003
Board XIV	Nov. 1, 2003 to Jan. 8, 2004
Board XV	Jan. 9, 2004 to May 10, 2004
Board XVI	May 11, 2004 to May 24, 2004
Board XVII	May 25, 2004 to Dec. 3, 2004
Board XVIII	Dec. 4, 2004 to Jan. 23, 2005
Board XIX	Jan. 24, 2005 to Oct. 23, 2005
Board XX	Oct. 24, 2005 to Dec. 1, 2005
Board XXI	Dec. 2, 2005 to Dec. 3, 2005
Board XXII	Dec. 4, 2004 to Apr. 2, 2006

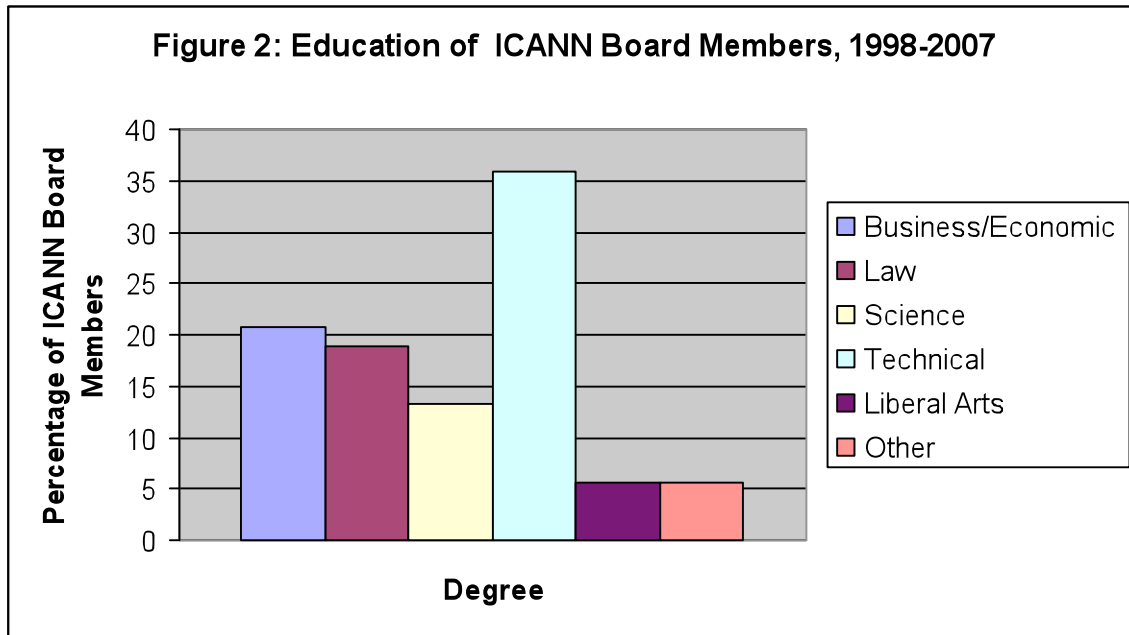
Board XXIII	Apr. 3, 2006 to June 1, 2006
Board XXIV	June 2, 2006 to June 7, 2006
Board XXV	June 8, 2006 to June 20, 2006
Board XXVI	June 21, 2006 to June 30, 2006
Board XXVII	July 1, 2006 to Dec. 7, 2006
Board XXVIII	Dec. 8, 2006 to June 17, 2007
Board XXIX	June 18, 2007 to June 28, 2007
Board XXX	June 29, 2007 to Sept. 24, 2007
Board XXXI	Sept. 25, 2007 to Nov. 1, 2007
Board XXXII	Nov. 1, 2007 to Nov. 19, 2007
Board XXXIII	Nov. 20, 2007 to Nov. 2008

4.1 Sex



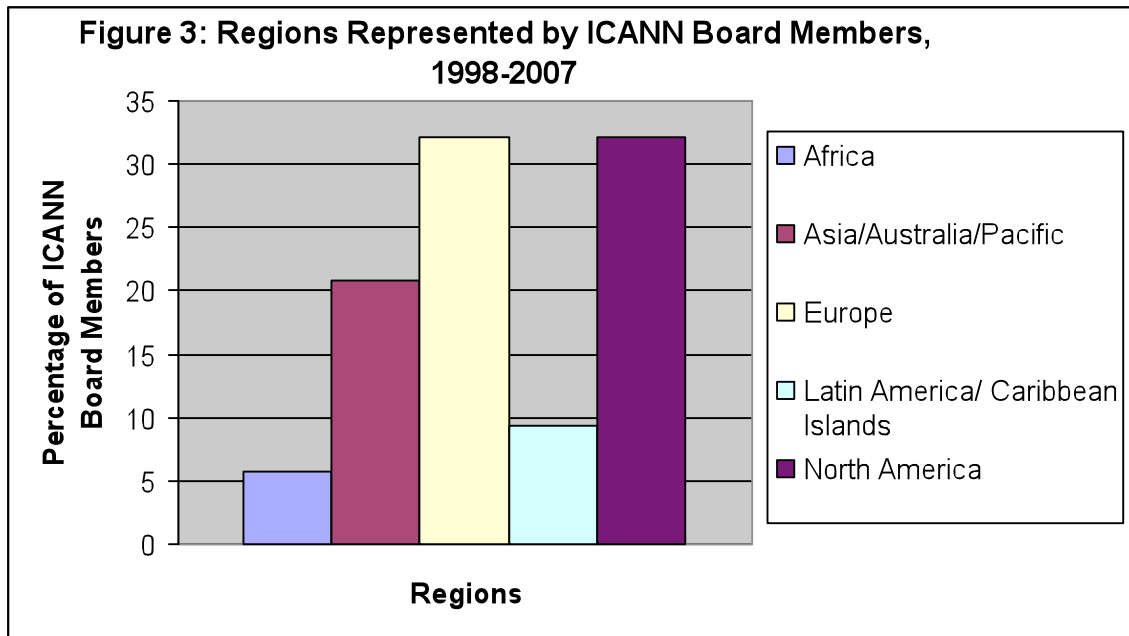
As Figure 1 shows, males dominated Board membership, composing 85% (53 out of 45) of the Board. There are three possible explanations for the low number of females on the Board. First, Board members must have reasonable incomes to afford the travel expenses to the Board meeting locations, and females typically make less than males. Second, possibly lower number of women with technical expertise. Third, there could have been biases in favor of men on the part of the Nominating Committee and other selection bodies.

4.2 Educational Background



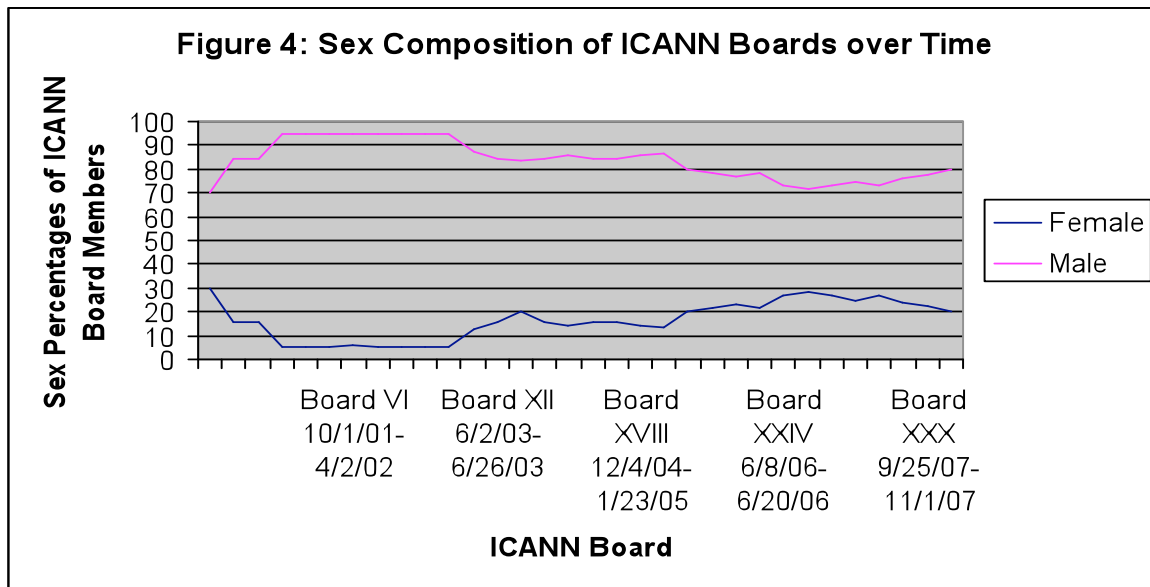
The educational backgrounds of ICANN Board members tended to be in technical fields, which was predictable because ICANN is considered a technical entity and the founders of ICANN tended to be more technically inclined. Thirty-five percent of Board members (19) had technical degrees; liberal arts degrees were least common, at 5.7 percent (3). (See Figure 2.)

4.3 Region



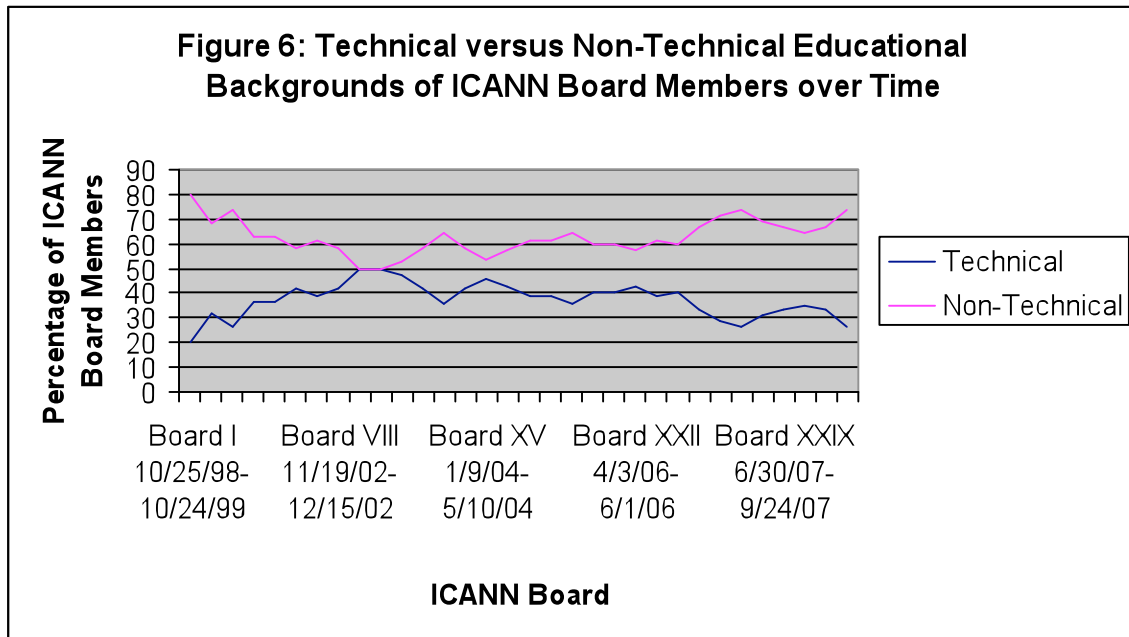
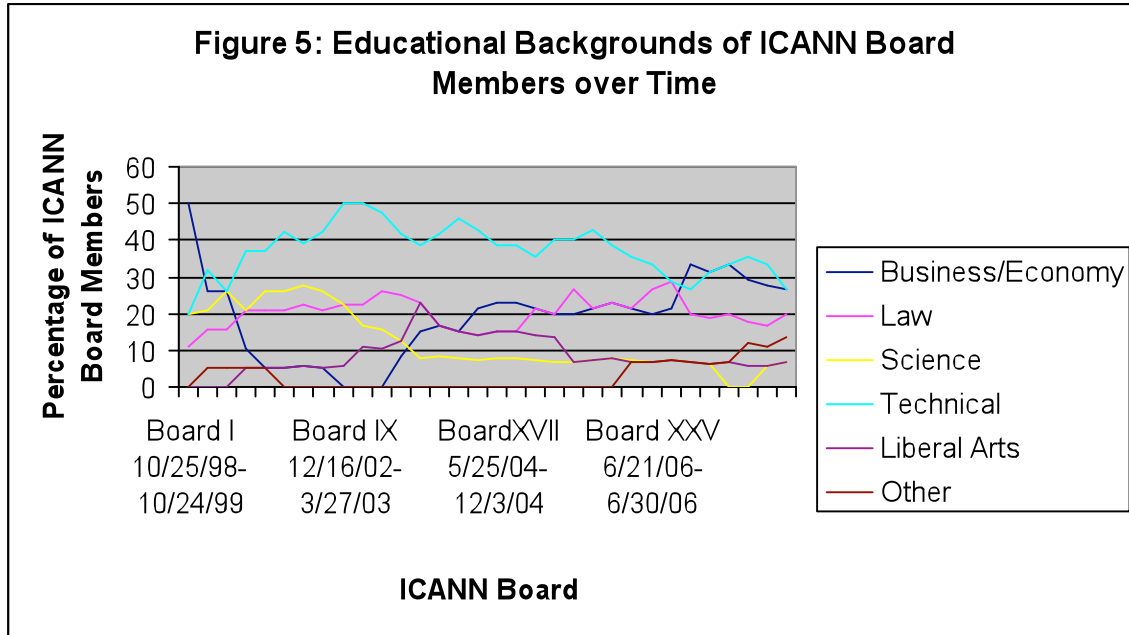
Most Board members came from North America and Europe (32.1%, 17, from each). The high percentages from these areas were expected because the most influential players in planning the Internet and creating ICANN came from these regions (see Chapter Two). Africa had the lowest percentage of Board members at 5.7% (3 individuals), which might be expected because much of Africa traditionally has not had significant access to technology; nor has it been known as a region for technological innovation.

4.4 Sex Composition of the Board over Time



The sex composition of ICANN Boards did not vary much over time. (See Figure 4.) The first Board had the greatest diversity with 30 percent female (3) and 70 percent male (7). The fourth through the sixth Boards were the least diverse with 95 percent male members (19). The interim Board probably had the greatest percentage of females because two individuals selected the ten members. As time passed, the various members were selected either by Internet users, supporting organizations, and/or the nominating committee, which might have been more concerned about a candidate’s position on certain policies than preserving sex diversity on the Board. Another possible explanation is the lack of women with the interest, expertise, or financial ability to serve on the Board. Meanwhile, some selection committee members might not have chosen female Board members due to stereotypes about women’s roles or capacities.

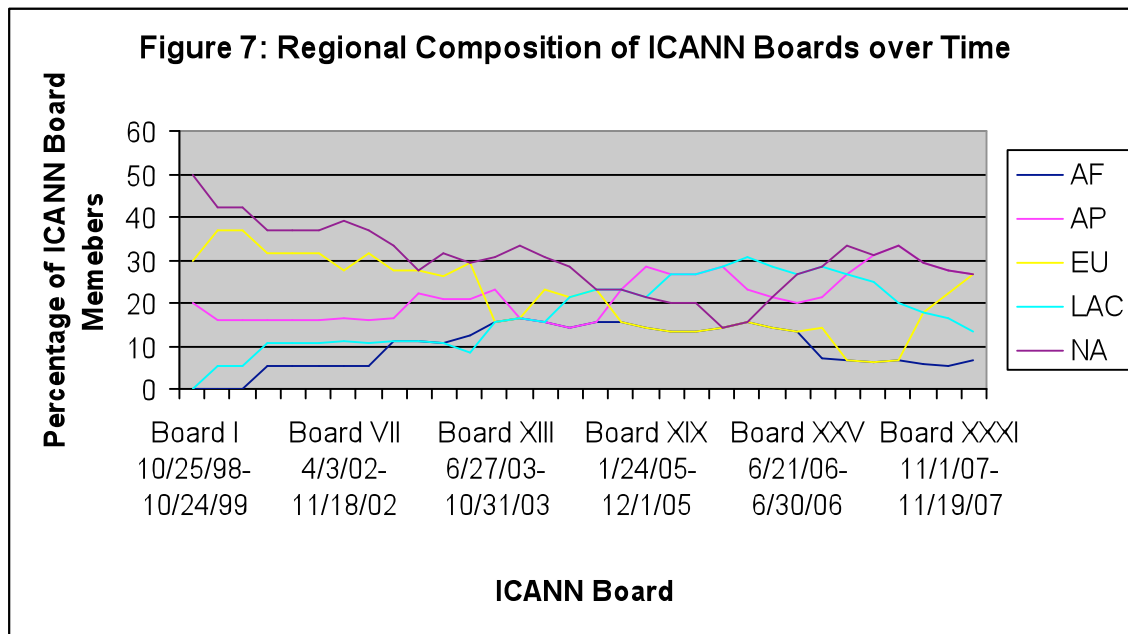
4.5 Educational Background of the Board over Time



As Figure 5 shows, the educational backgrounds of Board members varied over time. Even so, the numbers of Board members with liberal arts backgrounds have been persistently low, while those with technical backgrounds have been more common. The proportion of those with business and law backgrounds fluctuated. Figure 6 places educational backgrounds into just two categories. All non-technical backgrounds were combined (business/economics, law, science, liberal arts, and other) and technical

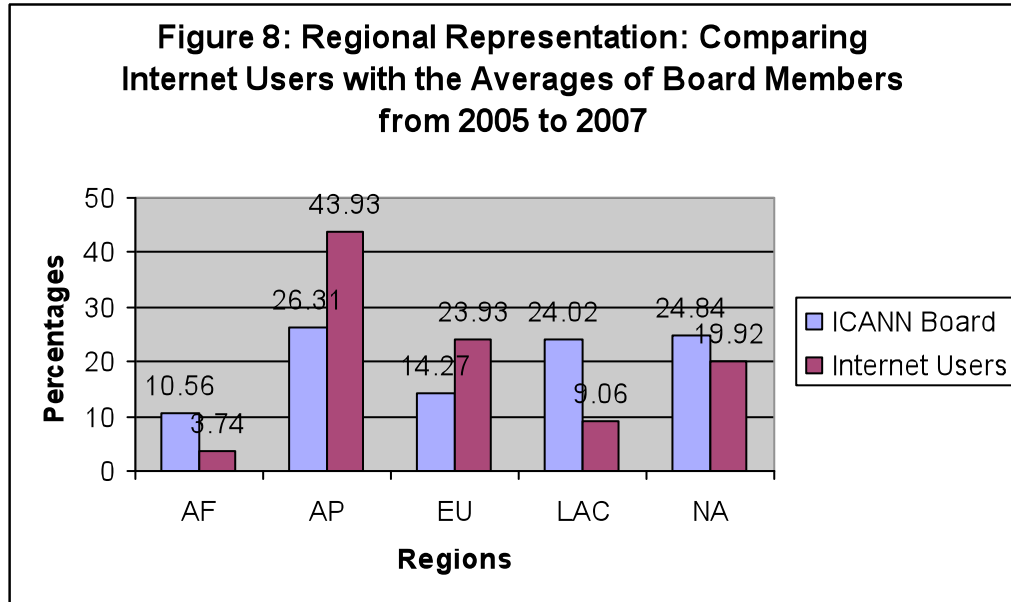
backgrounds were kept separate. Over time, the proportions of Board members with technical backgrounds declined and those of members with non-technical backgrounds rose. The prevalence of technical backgrounds might have declined because, as ICANN received more criticisms of its policies, it might have wanted to include different perspectives on the Board, especially as it tackled issues that went beyond its technical mandate. (Chapter Two discussed several such issues.) In addition, the method of selecting Board members has changed, thus Board might becoming more diverse because the supporting organizations are not strictly seeking candidates with technical backgrounds.

4.6 Regional Composition of the Board over Time



The regional composition of the members of the ICANN Boards also changed over time. The North American and Asia/Australia/Pacific regions had higher proportions of Board seats, while the percentage of Board members from the Latin America/Caribbean Islands regions decreased. ICANN is under contract with the U.S. Department of Commerce, and it may have increased members from North America to please the Department. The increased proportions of members from the Asia/Australia/Pacific region might be attributed to the region’s growing global influence, especially that of India and China.

4.7 Regional Comparison



As Figure 8 indicates, the regional composition of Internet users did not precisely mirror that of the ICANN Boards. In general, the ICANN Board most closely reflected the proportions of Internet users in the North American region. The Asia/Australia/Pacific region was least well represented, whereas the Africa and Latin America/Caribbean Islands regions were over-represented. I anticipated that North America be over-represented because the influential players in planning the Internet and creating ICANN came from these regions. There is no explanation why Latin America/Caribbean Islands and Africa were over-represented. It should be remembered that the nationality of ICANN members did change over the Boards whereas the proportions of Internet users around the world only have been calculated in more recent years.

This study could compare only the regional composition of Internet users to Board members because there were no reliable data on the sex or the educational backgrounds of world Internet users. However, the ICANN Board fared poorly on both dimensions. Sex composition did vary over time; but the percentage of females remained low and never rose above 30 percent. Although educational backgrounds fluctuated over time, those with technical degrees always have been more likely to be Board members when compared to those with business/economics, law, science, liberal arts, or other backgrounds. ICANN Board members with technical degrees had the dominant single

educational background. Only when all the non-technical backgrounds are combined were Board members with these characteristics in the majority.

4.8 Limitations

Some limitations to the descriptive representation analysis were human error and outdated and sometimes missing statistics on world Internet users. Possible areas for human error included mistyping data, inaccurate calculations when adding data for Internet users, and misinterpretation of data. For example, I might have made incorrect assumptions about Board members' educational backgrounds. Several of the Board members' biographies did not include information on their educational backgrounds, but they did provide material about previous careers or the schools from which they graduated. (See A5.)

The CIA Fact Sheet did not contain current statistics for all countries. The Internet statistics for some of the countries dated to 2000. (See A8.) Thus, many Internet users might have been excluded in the analysis.

4.9 Summary

Males dominated the ICANN Board, and there was not much variation over time. The number of female Board members remained consistently low, perhaps reflecting their different backgrounds, technological expertise, and incomes compared with males; gender bias also cannot be excluded as an explanation.

The educational backgrounds of Board members did vary somewhat over time: the number of those with technical backgrounds decreased when compared to the number of those with non-technical backgrounds; however, members with educations in technical fields tended to predominate when compared to the five other educational categories. The technical members probably have dominated the ICANN Board because the organization claims to be technical in nature.

The highest proportions of Board members have come from Europe and North America. Over time, however, these percentages fluctuated, with members from the Asia/Australia/Pacific region increasing. This could be explained by the region's growing global influence.

The analysis further showed that Internet users from the Asia/Australia/Pacific region have been underrepresented and those from the Latin America/Caribbean Islands

and North America regions over-represented, which probably reflects that individuals from North America were key players in the startup of ICANN. However, there is no explanation for the over-representation of Latin America/Caribbean Islands. No data were available on world Internet users' sex composition and educational backgrounds.

Substantive Representation

Analysis of substantive representation focused on ICANN Board members' votes on non-unanimous adopted resolutions from 1998 to 2007. As Chapter Three discussed, I placed resolutions in several categories: generic top-level domains (gTLDs), country code top-level domains (ccTLDs), sponsored top-level domains (sTLDs), representation, appointment/elections, Verisign, and Bylaws. The vote counts from these non-unanimous adopted resolutions were coded and entered into an SPSS data file that already contained the descriptive characteristics of ICANN Board members. I compared the votes in the various categories to the Board's descriptive characteristics by running cross-tabulations. In what follows, I first discuss the findings for each descriptive characteristic; and then acknowledge the limitations in this part of the analysis.

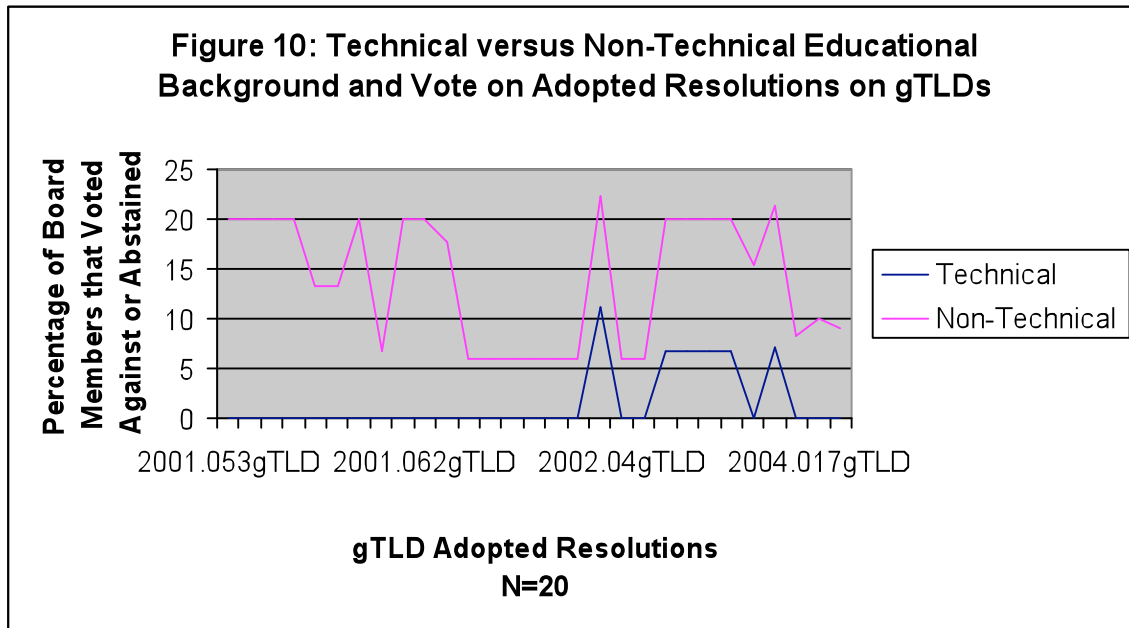
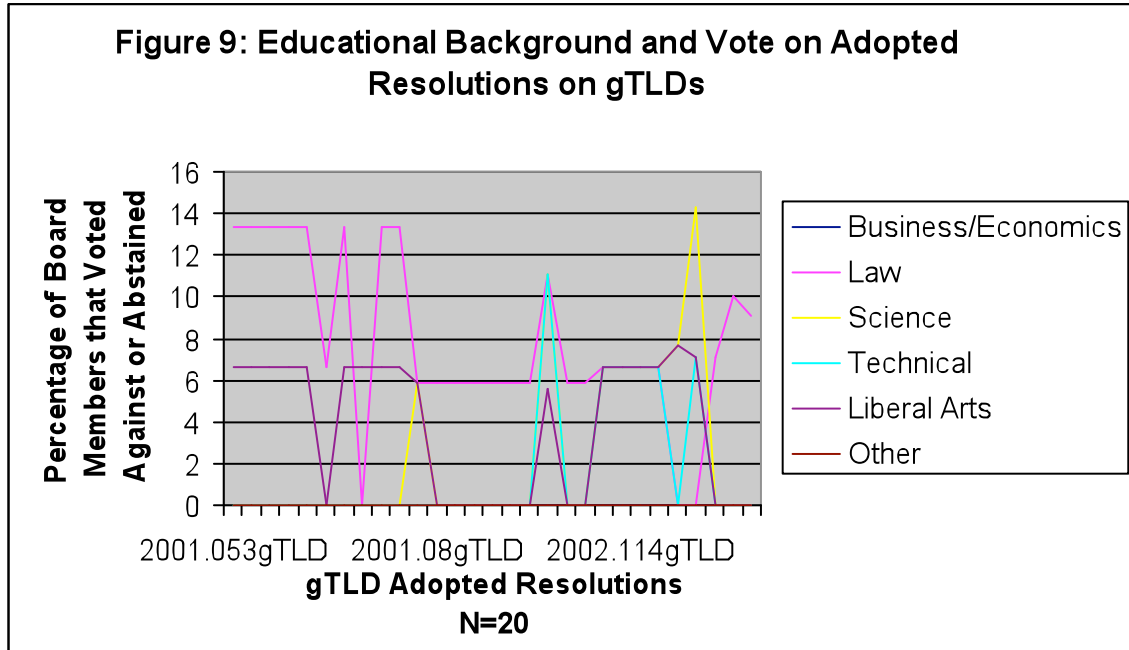
4.10 Sex

I initially examined how male and female Board members voted across all categories of the non-unanimous adopted resolutions. No females voted against or abstained from resolutions in the gTLD, ccTLD, Bylaws, representation, and appointments/elections categories. Women voted against or abstained in only three non-unanimous adopted resolutions: 2006.007Verisign, 2007.014sTLD, and 2007.018sTLD. On the 2006 Verisign resolution, both Susan Crawford and Neiji Rionge voted "no." (The vote passed 9 to 5.) Rita Rodin abstained from the 2007.014sTLD resolution (which passed with 12 yes votes and one abstention), and Susan Crawford voted against the 2007.018sTLD resolution (which passed on a 9 to 6 vote). Rodin and Crawford shared other characteristics: both are Americans with law degrees; Rionge is Kenyan and has an educational background in business. Not enough females voted against or abstained from resolutions to suggest that sex was an influence when ICANN Board members voted. The low amount of females voting against or abstaining from might be attributed to the fact that so few women ever have served.

4.11 Educational Background

Next, I looked for voting patterns based on ICANN Board members' educational backgrounds. Here, relationships are examined within each resolution category.

A. gTLDs

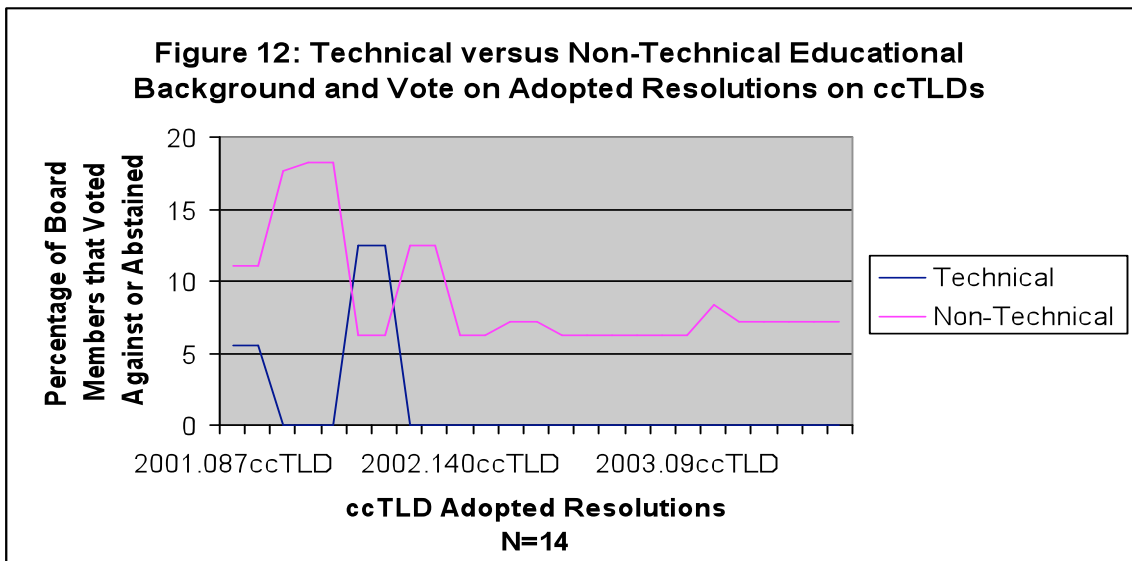
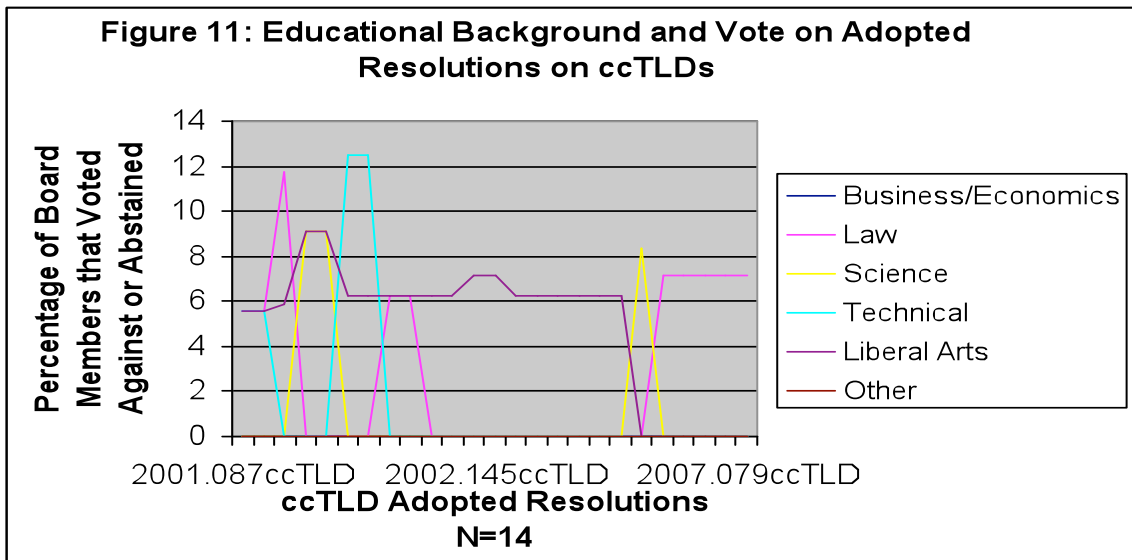


Educational background did not seem to have a consistent influence on ICANN Board members' voting behavior on twenty non-unanimous adopted resolutions on gTLDs. Yet, Figure 9 shows that Board members with law degrees usually voted against

or abstained from such resolutions. This might have been because members with law degrees better understand the legal complications of gTLD resolutions. For example, businesses were allowed to register domain names in the gTLDs before other Internet users; some questioned, however, why ICANN, a technical entity, should be able to decide who the privileged would be.

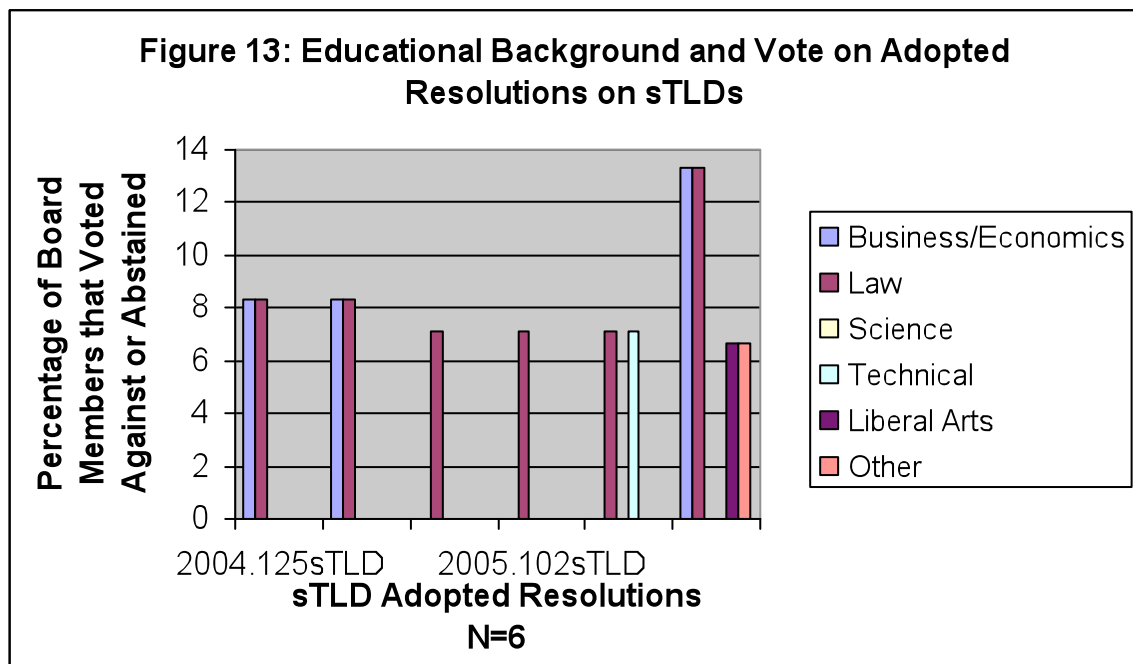
The votes of ICANN Board members with other educational backgrounds show few patterns. Yet Figure 10 indicates that members with non-technical backgrounds were somewhat more likely to vote “no” or abstain when compared to those with technical backgrounds.

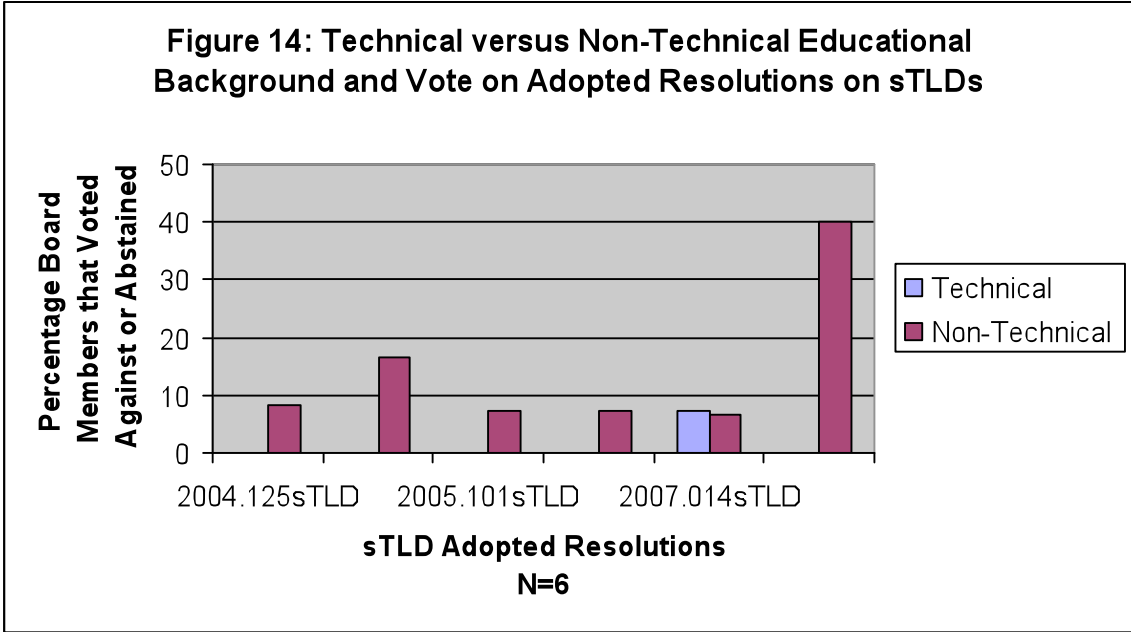
B. ccTLDs



As Figure 11 shows, Board members' educational backgrounds did not consistently influence their votes on fourteen ccTLDs resolutions. However, Figure 12 suggests that Board members with non-technical backgrounds had a stronger tendency to vote "no" or to abstain when compared to members who had technical backgrounds. The delegation of country codes allowed a national government to have more control over its ccTLD, such as for controlling content on the country code's websites. For example, the Brazilian government has been accused of only allowing businesses to register. Perhaps Board members with non-technical backgrounds voted "no" or abstained because they were more concerned with possible social and political ramifications than were those with technical backgrounds, who may have placed greater emphasis on issues like Internet stability.

C. sTLDs

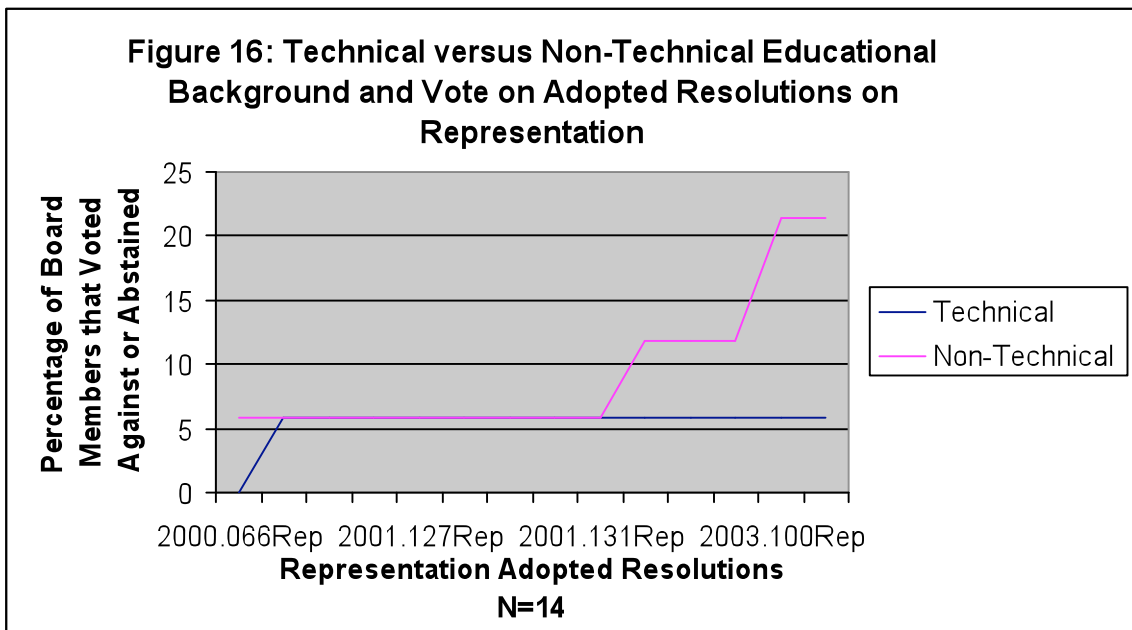
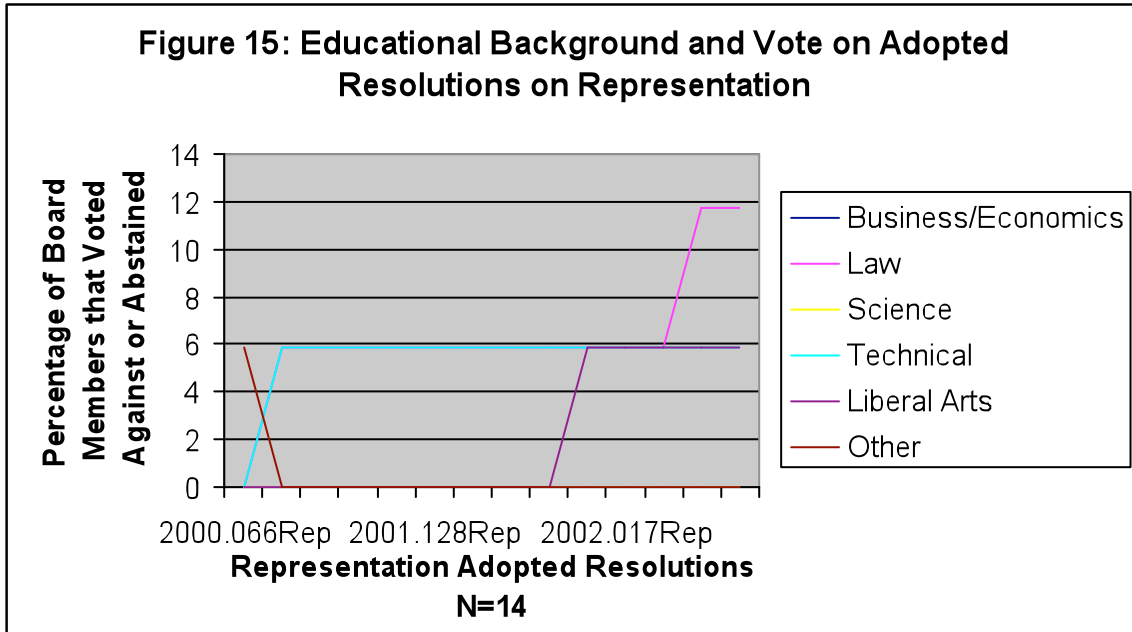




Members’ educational backgrounds also did not consistently influence voting on sTLDs. The only pattern that can be seen in Figure 13 is that the 8-10% of ICANN Board members with law degrees had stronger tendencies to vote against or abstain from the six sTLD adopted resolutions. This might be because of the legal complications surrounding these resolutions. For example, the Board gave permission to certain sTLDs to increase the fees that they charge Internet users and businesses to register. Members with legal training might interpret sTLDs as public places because the sTLDs are supposed to be community oriented unlike gTLDs, which are supposed to be for businesses.

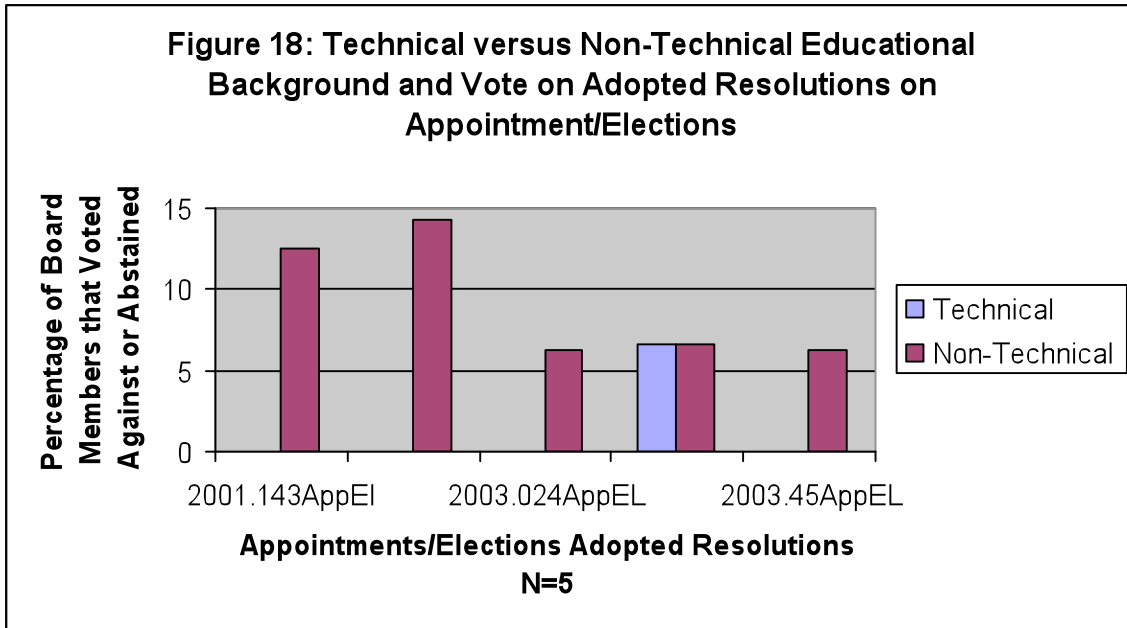
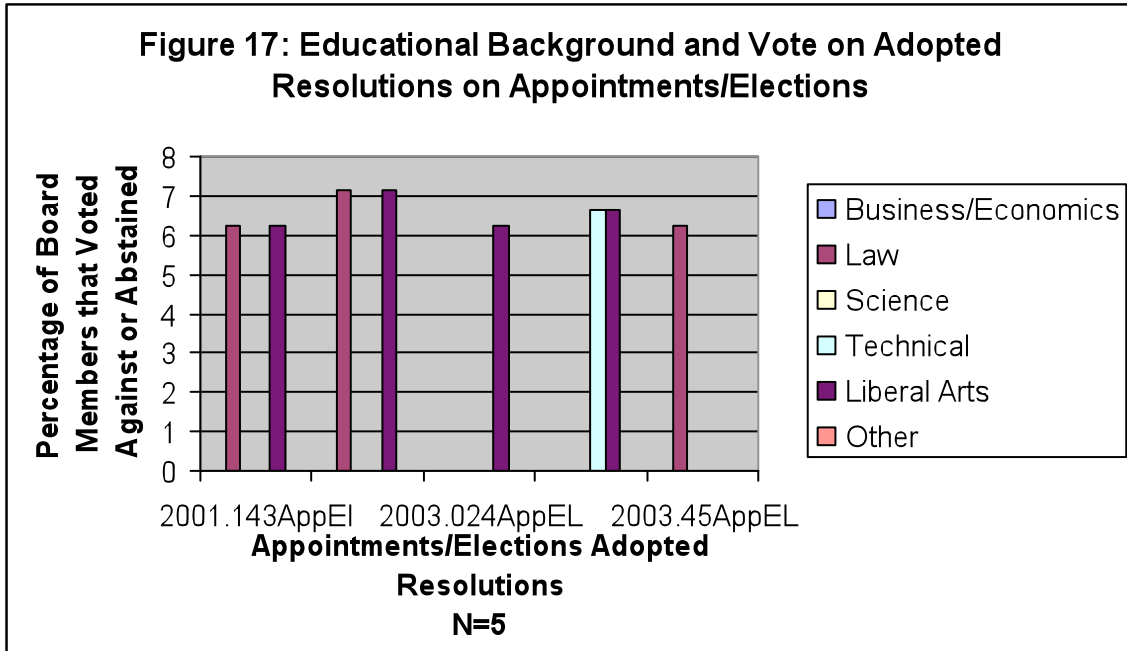
Figure 14 shows that when those with technical and non-technical backgrounds are compared, the latter were more likely to vote “no” or abstain. Members with non-technical backgrounds might pay more attention to the social, political, or economic ramifications of a particular policy compared to members with technical backgrounds. However, only six resolutions appear in this category, making any generalization quite tentative.

D. Representation



Once again, educational background evidently did not have a consistent influence on ICANN Board members' voting behavior on the fourteen non-unanimous adopted resolutions concerning representation, even when comparing those with technical and non-technical backgrounds.

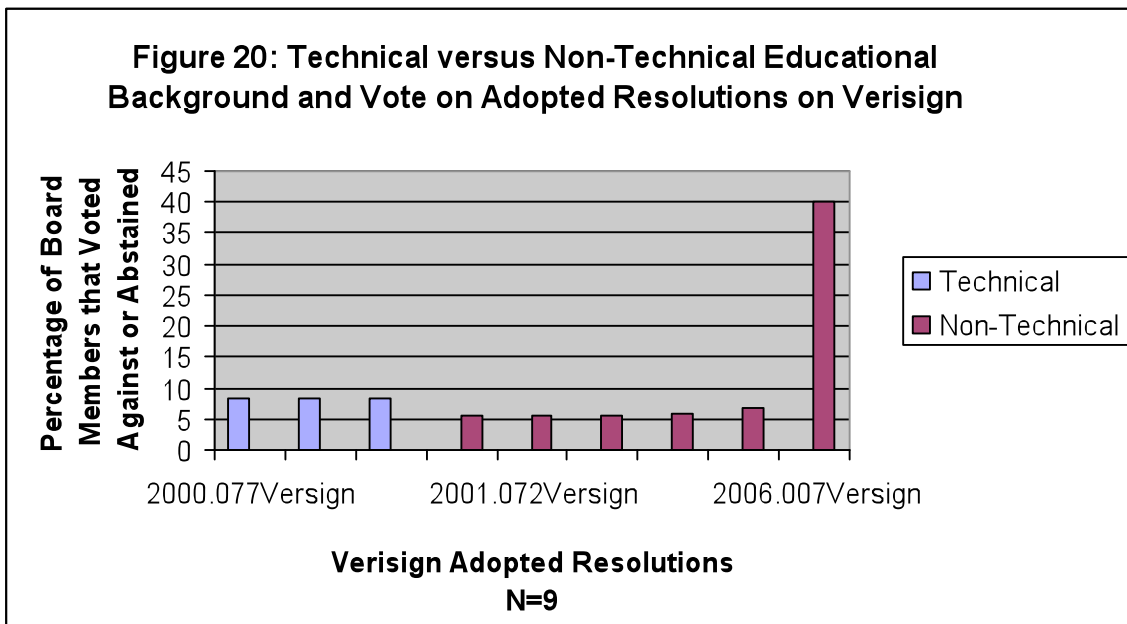
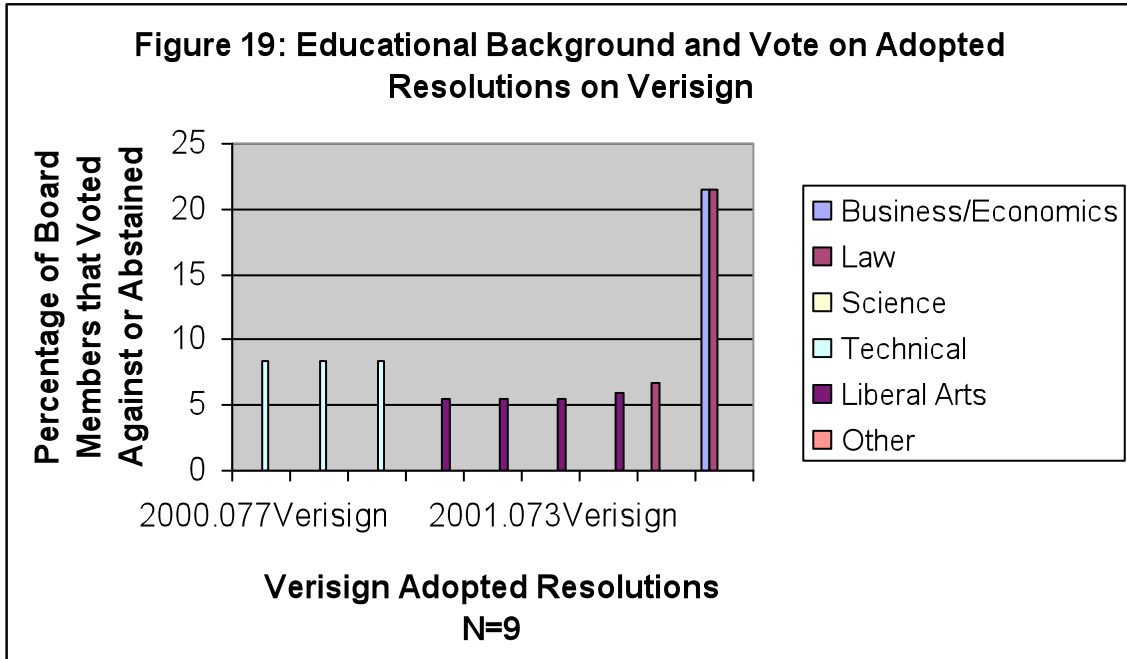
E. Appointments/Elections



Educational background also did not produce patterns in Board members' voting on appointments/elections resolutions (see Figure 17). However, it seemed that when categories of educational background were consolidated, Board members from non-technical backgrounds tended to vote "no" or abstain more often than those with technical backgrounds, as can be seen in Figure 18. However, only five resolutions were used in this analysis. The relatively limited number of these resolutions likely reflected

both: (1) these votes were open and recorded, and (2) most of the candidates that the Board members were appointing or electing to internal positions were their fellow Board colleagues.

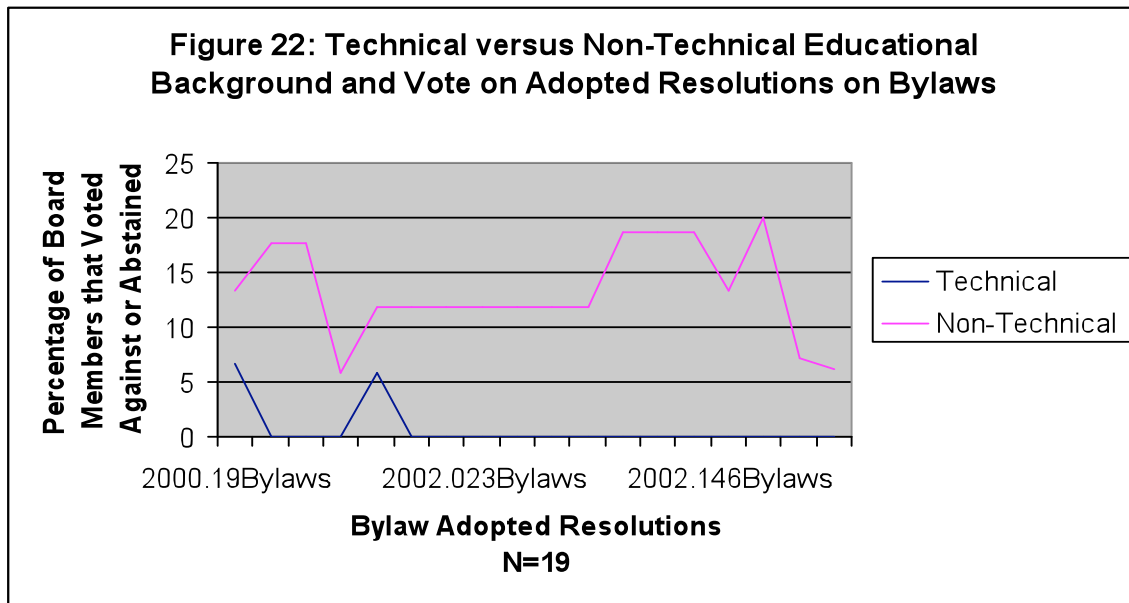
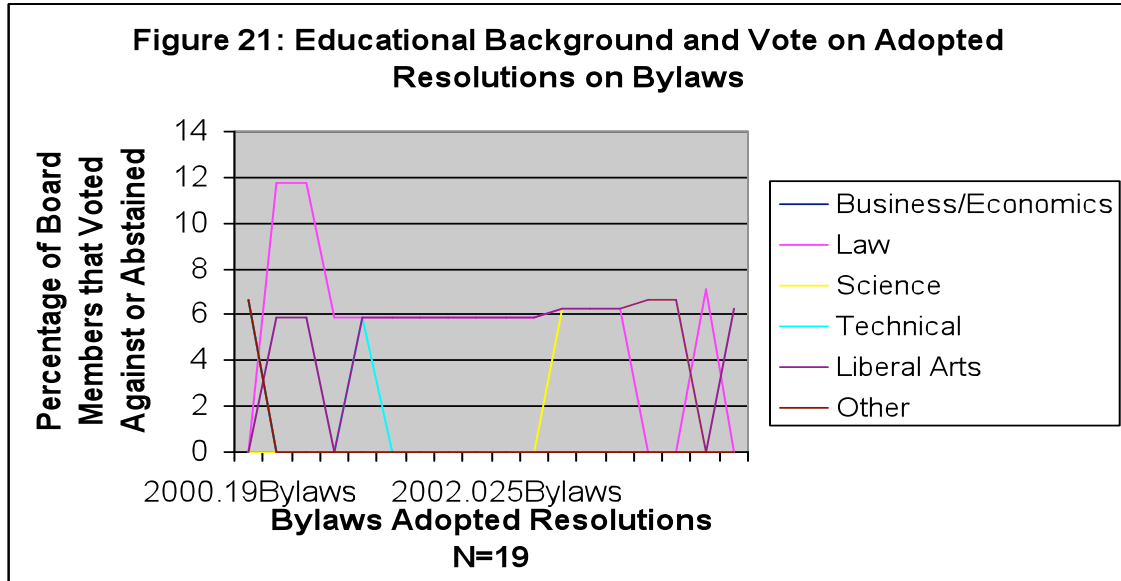
F. Verisign



Educational background also failed to be associated with Board members' voting behavior on Verisign resolutions. When the categories are collapsed, as shown in Figure

20, the findings remain inconclusive. I am unable to speculate about why the 9 votes were erratic; more investigation of each resolution is needed.

G. Bylaws



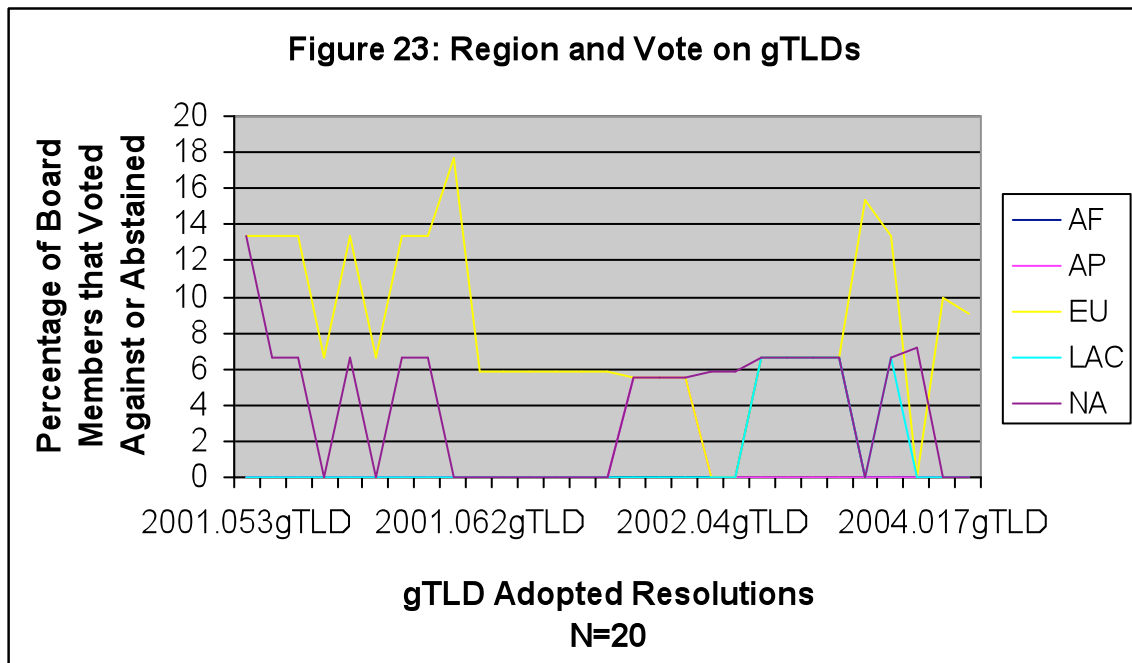
On non-unanimous adopted resolutions on bylaws, Figure 21 indicates that Board members with law degrees had a stronger tendency to cast “no” votes or to abstain than did those from other educational backgrounds. This might be expected because members with legal training might have greater concerns that Bylaws not conflict with other of ICANN’s contractual obligations or with certain statutes, and those members might be more concerned with internal consistency and coherence of the ICANN Bylaws. Figure

22 shows an even stronger tendency for members with non-technical backgrounds to vote “no” or abstain from nineteen adopted resolutions on Bylaws compared with those with technical backgrounds. Perhaps members with non-technical backgrounds had greater concerns about possible social, economic, and political implications of particular amendments to the Bylaws.

4.12 Regions

I also analyzed Board members’ voting behavior in each of the categories of non-unanimous adopted resolutions based on the regions of their nationalities to see whether and how votes varied by regions.

A. gTLDs



Region did not have a consistent influence on ICANN Board members’ voting behavior in votes on twenty gTLD resolutions. The only pattern that appears in Figure 23 is that Board members from Europe had a stronger tendency to vote against or abstain from adopted resolutions on gTLDs than did members from other regions. However, there is no evident reason why members from Europe tended to vote no or abstain on such resolutions. Again, further investigation of the specific resolutions is needed.

B. ccTLDs

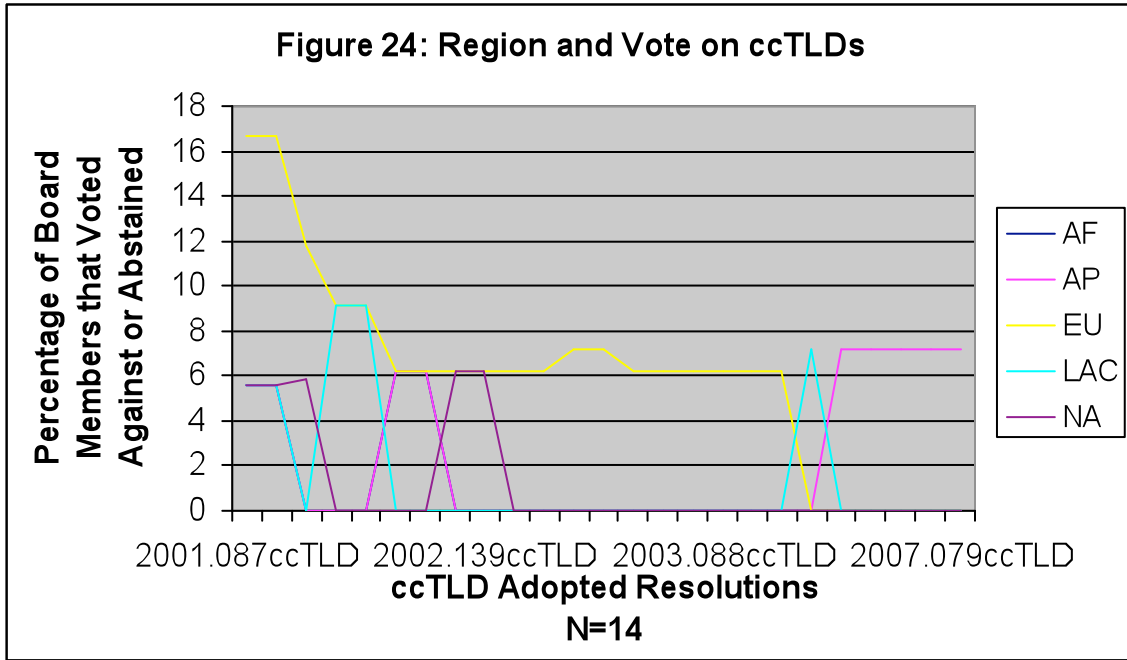
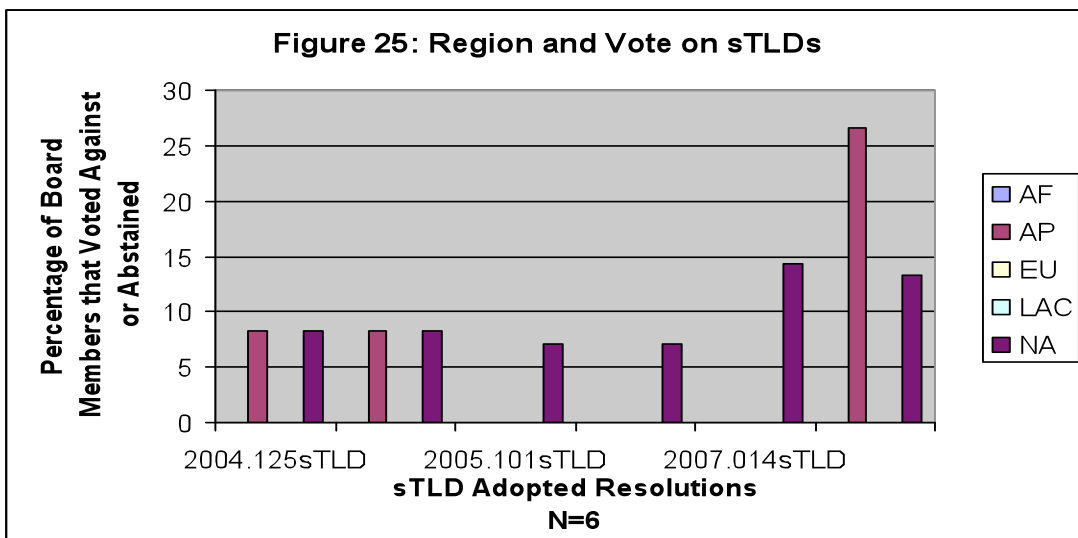


Figure 24 also shows no evidence of regional influence on Board members' voting behavior on fourteen non-unanimous adopted resolutions dealing with country code TLDs. This might have been because the delegation of country codes was for various countries/territories, such as the Falkland Islands, Kenya, and Siberia. Geopolitics might explain why some members from different regions voted "no" or abstained. For example, Europe might support the Falkland Islands being delegated a ccTLD, whereas members from Latin America/Caribbean Islands might disagree.

C. sTLDs



In contrast, two patterns in votes on sTLDs resolutions can be identified in Figure 25. First, Board members from North America tended to vote “no” or abstain on such resolutions. Second, Board members from the Asia/Australia/Pacific region more recently had started to vote no or abstain. However, no patterns appear for members from the other regions. Less clear is why members from North America and Asia/Australia/Pacific voted “no” or abstained on sTLD votes, although their concerns may have involved the groups requesting separate domains. With only six resolutions in this category, any generalization is difficult.

D. Representation

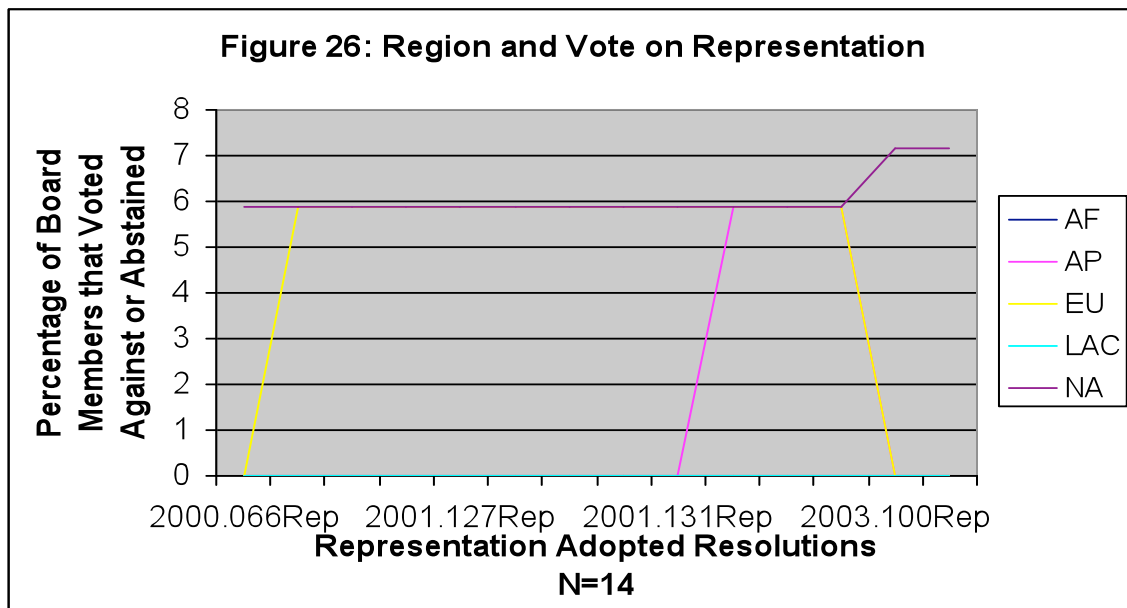
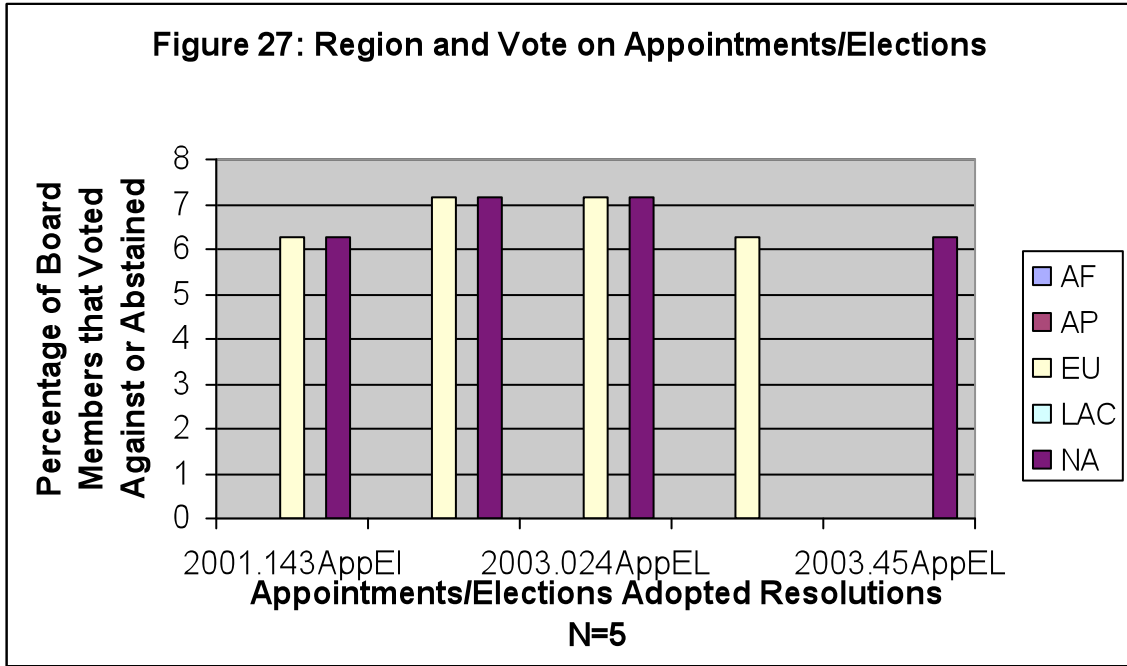


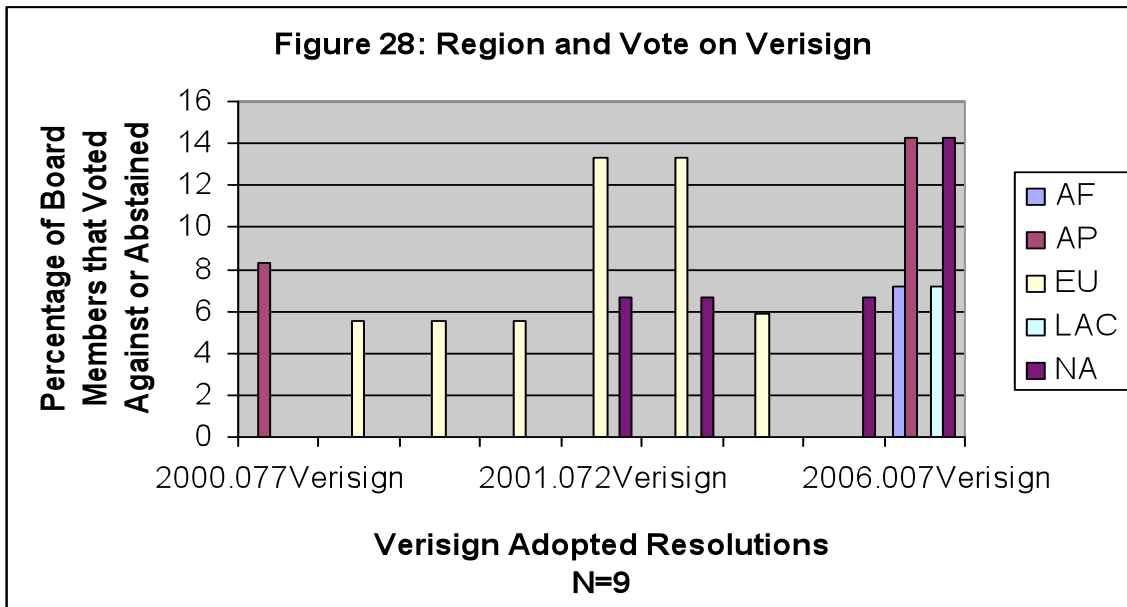
Figure 26 suggests that ICANN Board members from North America were especially likely to vote “no” or abstain on the fourteen non-unanimous adopted resolutions that dealt with representational issues. No clear pattern appeared for Board members from the other regions. I am unable to provide reasons why members from North America trended to vote “no” or abstain to representational resolutions.

E. Appointments/Elections



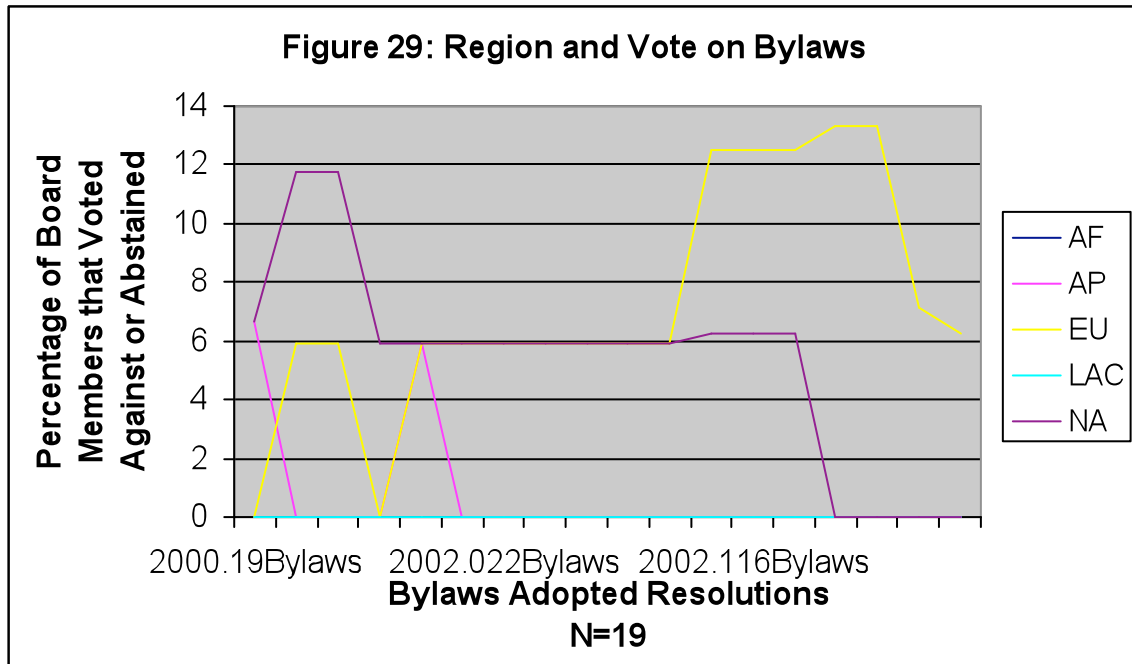
Region had no consistent influence on ICANN Board members' votes on non-unanimous resolutions dealing with appointments/elections. As already stated only five resolutions appear in this category. Members may not have wanted to vote "no" or abstain from appointing/electing candidates because their votes were recorded and they were deciding on their colleagues.

F. Verisign



When attention turns to Board members' votes on non-unanimous Verisign resolutions (see Figure 28), one pattern emerges. ICANN Board members from Europe had a stronger tendency to vote against or abstain. This seems likely to be due to Verisign's status as a commercial entity that is the registry for .com and .net and Verisign's location in the United States. European members may well not have felt comfortable with both ICANN and Verisign being located in the United States, perhaps especially because of Verisign's significance for e-commerce.

G. Bylaws



Finally, the regions Board members represented did not have a consistent influence on their voting behavior on the nineteen non-unanimous adopted resolutions on Bylaws. This is a broad area, which includes various amendments to the Bylaws. Thus, given their likely diversity, votes on these amendments might be anticipated to produce few clear voting patterns.

4.13 Limitations

Even though I suggested some explanations about why members with certain educational backgrounds or from particular regions tended to vote “no” or abstain in votes in the specific categories, these explanations clearly are tentative and need further investigation. It is important to acknowledge as well the limitations of the analysis of

substantive representation. First, the size of the Board fluctuated from 1998 to 2007, from 10 to 22 members. The change in size makes it harder to meaningfully compare impact across boards using either percentages or numbers. Fifty-three people served on 32 different Boards from 1998 through 2007. As the results show, the geographic regions they represented and their educational backgrounds did vary. Such variation complicated trying to trace the possible influence on voting of descriptive characteristics because those characteristics also were changing. At times Boards did not contain members with widely varied educational backgrounds. Although there always was at least one Board member from each region after the interim Board, the numbers changed over time.

In addition, there might have been other characteristics that influenced the Board members' voting behavior that this study did not tap. Other possible influences might include members' employers or the members' positions on other internal or external committees/organizations.

Moreover, some of the categories of resolutions did not contain sizeable numbers. Categories that contained fewer than ten non-unanimous adopted resolutions were those on Verisign, appointments/elections, and sTLDs. (See A12.) This limited analysis by making it harder to distinguish patterns, especially since the Verisign and appointments/elections resolutions were adopted over different years. In addition, some of the non-unanimous adopted resolutions were excluded from the study for various reasons; including them might have yielded different results. (See A11.)

Only relatively small percentages of Board members voted against or abstained on any single resolution. The percentage never rose above 20 percent. This complicated explanations since two members may continually have voted no or abstained. When I was collecting the data, for example, I noticed that two Board members, Karl Auerbach and Andy Mueller-Maghun, tended to vote no or abstain; whether appropriate explanation of votes when they were on the Board involves idiosyncratic or more generalizable factors deserves further examination. In addition, my explanations for no votes and abstentions tend to be broad and clearly speculative. I did not know the extensive backgrounds for each vote.

Several human errors also could have occurred in examination of substantive representativeness. These include errors in recording who voted, missing non-unanimous

adopted resolutions that should have been included, and mistyping information into SPSS.

4.14 Summary

The first descriptive dimension, sex, did not have an impact on the ICANN Board members' voting behavior. There were only three votes where females voted "no" or abstained, which could be related to the overall low number of females on the Board.

The analysis of educational background yielded different results depending on how education was measured. When Board members' educational backgrounds were placed into six categories, they did not appear to be related to voting against or abstaining on ccTLDs, representation, appointments/elections, and Verisign resolutions; ICANN Board members with law degrees tended to be more likely to vote against or abstain on resolutions concerning gTLDs, sTLDs, and Bylaws. However, when education was dichotomized into technical and non-technical, Board members with non-technical backgrounds were more likely than those from technical backgrounds to vote "no" or abstain on adopted resolutions concerning gTLDs, ccTLDs, sTLDs, appointments/elections, and Bylaws.

The explanations offered for relationships between education and votes on gTLDs, sTLDs, and Bylaws were similar: Board members with law degrees tended to vote against or abstain from these resolutions due to their possible legal ramifications and the members with non-technical backgrounds may have voted against or abstained on these resolutions due to their possible social, political, or economic implications. In addition, members with non-technical backgrounds may have voted "no" or abstained on ccTLD adopted resolutions because of possible implications that extended beyond technical concerns with Internet stability. Other likely explanations differed for the other categories. Representation probably was too broad a category to yield interpretable findings. The appointment/ elections category perhaps exhibited few patterns due to peer pressure, and the very nature of the Verisign issue made it difficult link with educational background.

Region was not associated with members voting no or abstaining on resolutions concerning ccTLDs, appointments/elections, or Bylaws. Some patterns appeared, however, for certain regions. ICANN Board members from Europe tended to vote

against or abstain on resolutions on gTLDs and Verisign; members from North America tended to vote against or abstain on resolutions on sTLDs and representation. Board members from the Asia/Australia/Pacific region more recently started to vote or abstain on sTLDs adopted resolutions. However, these patterns did not appear to be very significant.

Overall, I found relatively little evidence to support possible relationships between Board members' regions and their votes on resolutions involving gTLDs, ccTLDs, sTLDs, representation, appointments/elections, and Bylaws. Some of the explanations offered included that the Bylaws category probably encompassed too broad an area to produce regional patterns, and votes on appointments/elections resolutions may have been associated more with peer pressure. The votes for ccTLDs also exhibited few regional patterns, perhaps due to geo-political reasons. There was no explanation offered for members from North America tending to vote "no" or abstain on representation adopted resolutions. No explanations could be formulated for members from certain regions voting "no" or abstaining on gTLDs and sTLDs adopted resolutions.

The limitations in the substantive representation section had four main foci. The first focus was the Board and its changes in size and members. The second main limitation centered around the way the categories were defined and the resolutions classified. A third focus was the actual voting of Board members and the generally limited numbers of no votes and abstentions; there also likely are other characteristics that influenced Board members' voting behavior. Lastly, I discussed possible human errors.

Formal Representation

To examine the extent of the Board's formal representativeness, I focused on identifying the representation requirements for the ICANN Board of Directors that are stipulated in ICANN's Bylaws, the California Nonprofit Public Benefit Corporations Code, and ICANN's 2006 contract with the U.S. Department of Commerce.

I focused on Article VI of the ICANN Bylaws, which deals with the Board of Directors. Article VI, Section Three, Number Three and Article VI, Section Five provide guidelines for the Board's representation. Article VI, Section Three, Number Three stated that the Board should include:

Persons who will produce the broadest cultural and geographic diversity on the Board consistent with meeting the other criteria set forth in this Section (“ICANN Bylaws,” 2008, 15).

Article VI, Section Five elaborated:

In order to ensure broad international representation on the Board, the selection of Directors by the Nominating Committee and each Supporting Organization shall comply with all applicable diversity provisions of these Bylaws or of any Memorandum of Understanding referred to in these Bylaws concerning the Supporting Organization. One intent of these diversity provisions is to ensure that at all times each Geographic Region shall have at least one Director, and at all times no region shall have more than five Directors on the Board (not including the President). As used in these Bylaws, each of the following is considered to be a "Geographic Region": Europe; Asia/Australia/Pacific; Latin America/Caribbean islands; Africa; and North America. The specific countries included in each Geographic Region shall be determined by the Board, and this Section shall be reviewed by the Board from time to time (but at least every three years) to determine whether any change is appropriate, taking account of the evolution of the Internet (“ICANN Bylaws,” 2008, 16).

The Bylaws stipulate that “each Geographic Region shall have at least one Director” on the ICANN Board (ICANN Bylaws, 2008, 16). The first Board was an initial interim Board and did not have to meet such a requirement. Since then, every Board has complied with this requirement. In addition, the ICANN Board has complied with the stipulation that “at all times no region shall have more than five Directors on the Board” (ICANN Bylaws, 2008, 16). Figure 7 showed the regional composition of the Board over time, and no region ever has more than five directors. The ICANN Bylaws also stipulate that the Board should be of the “broadest cultural and geographic diversity” (ICANN Bylaws, 2008, 15). ICANN did not provide any more details about what such diversity might entail. It can be concluded that members of the ICANN Board have had diverse educational backgrounds and come from varying areas as Figures 5 and 6 show. However, Figure 4 indicates that ICANN Boards have not scored high on sex diversity.

The California Nonprofit Public Benefit Corporations Code has no representational stipulations, probably because the state does not want to regulate the boards of nonprofit corporations. Rather, the state is more concerned about policing the fiscal aspects of nonprofit corporations, since they receive state tax exemptions. The only requirement that could be linked to ICANN's Board in terms of representation appears in Chapter One, Article V. According to Article V, ICANN must follow its own Bylaws. The California Nonprofit Code states: "the bylaws shall set forth the number of directors of the corporation; or that the number of directors shall be not less than a stated minimum nor more than a stated maximum with the exact number of directors to be fixed, within the limits specified, by approval of the Board of the members" ("Corporations Code Section 5151," 2007, 1). ICANN has followed its Bylaws; thus under the California Nonprofit Public Benefit Corporations Code, it is formally representative.

ICANN's 2006 contract with the U.S. Department of Commerce also did not have any representational requirements. The contract focused on transparency/accountability, root server security, provisions for the Governmental Advisory Committee (GAC), and monitoring ("Joint Project Agreement" 2006, 1). Possible reasons why the Department did not include representational requirements are that (1) it did not see international representation as a priority, (2) it approved of ICANN's current standard, or (3) the Department did not want ICANN to have international representation. For example, if the Department did not stipulate international representational requirements, then there could be more Board members from the U.S.

4.15 Limitations

There are two limitations to the formal representation analysis. One again is human error: I might have misinterpreted the meaning of some of the relevant documents. Another limitation is that I might have included other documents in the analysis, such as earlier contracts that ICANN had with the U.S. Department of Commerce.

4.16 Summary

ICANN's formal representativeness is high. It has complied with the representational requirements stated in its Bylaws. No representational stipulations appear in either the California Nonprofit Public Benefit Corporations Code or ICANN's

2006 contract with the U.S. Department of Commerce. The limitations of this part of the analysis are human error and not including other documents.

Conclusion

The descriptive representativeness of the ICANN Board is low. Its members do not mirror Internet users in their regional composition. It also can be inferred, even though exact statistics are not available, that the sex ratio of ICANN Board members does not reflect that of Internet users. As for educational background, it was clear that technical backgrounds have dominated the ICANN Board when compared to backgrounds in business/economics, law, science, liberal arts, and a category called “other.”

The results from the substantive representation analysis did not provide enough evidence to suggest that ICANN Board members’ voting behavior was influenced by their descriptive characteristics. Although some patterns emerged, more research is needed to explore the significance and possible explanations for such results.

However, sufficient evidence did appear to indicate that ICANN’s Board of Directors met formal representation criteria from 2000 to 2007 under the Bylaws, the California Nonprofit Public Benefit Corporations Code, and the 2006 contract with the U.S. Department of Commerce.

Chapter Five
Conclusion

Introduction

The Internet has proliferated into a global medium. As of 2008 there are 175 million websites (Netcraft 2008). The Internet originally started as a research project to transmit data, and it has transformed into a multi-faceted resource. The more the Internet appears indispensable, the more emphasis and scrutiny it will receive. ICANN has been the target of much of the scrutiny because it is the international organization that controls the technical aspects of the Internet. Among other charges, ICANN has been accused of being unrepresentative of Internet users. The study here mostly supports such views. After briefly summarizing the findings on the representativeness of the ICANN Board, this chapter suggests possible areas for future research and offers recommendations that might improve ICANN's representativeness.

Summary of Findings

The study's purpose was to determine the extent to which the ICANN Board of Directors represents Internet users. To assess the Board's descriptive representativeness, the research looked at Board members' sex, educational backgrounds, and nationalities. It was only possible, however, to compare this information to the nationalities of Internet users because no statistics could be found on world Internet users' sex and educational backgrounds. Overall, the Board's descriptive representativeness was low. Male members with technical educational backgrounds dominated the Board from 1998 to 2007. In addition, the analysis indicated that Internet users from the Asia/Australia/Pacific region were under-represented and those from North America and Latin America/Caribbean Islands were over-represented.

The second dimension of representativeness examined was substantive representativeness, whether relationships existed between the Board members' descriptive characteristics and their votes. Using the Board votes on non-unanimous adopted resolutions on gTLDs, ccTLDs, sTLDs, representation, Bylaws, Verisign, and appointments/elections, I found little evidence that suggested descriptive characteristics influenced members' voting behavior.

Finally, examination of formal representation relied on textual analysis of ICANN's Bylaws, the California Nonprofit Public Benefit Corporations Code, and ICANN's 2006 contact with the U.S. Department of Commerce. Here the findings support the ICANN Board's formal representativeness.

Does ICANN represent Internet users? Although the evidence suggests that the ICANN Board is formally representative following the stipulations of the ICANN Bylaws, it fares rather poorly on the descriptive and substantive representation criteria. Few women have served on the Board despite their substantial presence among Internet users. The educational backgrounds of Board members did vary somewhat. Although no statistics are available on the educational backgrounds of world Internet users, it can be assumed that they are literate even if not always highly educated or possessing sophisticated technical training: at that minimal level, then, the Board is representative. Nor does the ICANN Board fully mirror the global geographic regions. Insufficient evidence is available to draw conclusions about the Board's substantive representativeness.

Thus, the study cannot fully answer the question of whether the ICANN Board represents Internet users. At least based on the research here, the tentative answer has to be that it does well on formal representation and rather poorly on descriptive and substantive representation. Clearly, however, more research is required.

Future Studies

Future studies might want to consider investigating additional characteristics of ICANN Board members, doing cluster analyses of voting, tracing the process of resolution consideration, looking at resolutions that did not pass and examining why the U.S. Department of Commerce no longer includes international representation as a guideline for ICANN. Each of these is discussed below along with its possible significance.

The study here only looked at a handful of descriptive characteristics of Board members. Other characteristics also might influence members' voting behavior, such as Board members' current and past employers or their membership in other organizations, or in other internal positions in ICANN. ICANN has had some dealings with other private organizations, such as receiving a loan from Cisco Systems. These dealings

might seem suspicious to some and could present a conflict of interest if Board members are voting on loan agreements with a company that might be their employer. One Board member, Michael Palage, resigned from the Board due to a conflict of interest with his job. In addition, it seems that memberships in other organizations might play a role both in becoming a Board member and in affecting particular votes. As Chapter Two noted, certain organizations played an important part in creating ICANN. For example, the Internet Society supported the creation of ICANN, and several of its members also have served on the ICANN Board (e.g., Vinton Cerf, Mike Roberts, and Layman Chapin). Lastly, other positions that Board members hold within ICANN might have influenced their votes; perhaps a few Board members have dominated the agenda. Board members are allowed to serve on the governing bodies of other ICANN committees and supporting organizations. Board members might be encouraged to vote a certain way if the resolution is related to that particular committee or supporting organization. For example, the ICANN Board approves the funding and can extend deadlines of projects for committee and organizations. When studying ICANN, I noticed that certain members were on several committees, including the Nominating Committee, which not only nominates Board members but also appoints members of several internal boards.

Another area of research could be performing cluster analyses of voting on non-unanimous adopted resolutions. Such analyses might help to identify voting clusters. I noticed when collecting the vote counts that some of the same members tended to vote no or abstain on multiple issues. Due to my inexperience with the technique and time restraints I was unable to conduct such cluster analyses.

In addition, due to time restraints and feasibility I was unable to look at several adopted resolutions through process tracing—to see where the resolution originated and how it proceeded through the consideration process, who was for and against it, and if any businesses were pushing for it. When I was collecting the data for the analysis, I noticed Board members voting patterns. It seemed that Mueller-Maguhn and Auerbach voted “no” or abstained on many resolutions. A future study could examine the reasons why these Board members tended to abstain or vote “no.” For example, one recent study traced three issues: the International Domain Name Project, Verisign, and .xxx as a domain name. It found that the Board members’ voting behavior was influenced by a

concern with Internet “stability,” yet each Board member might have a different interpretation (Lee 2008). For example, Lee examined the 2006.007 Verisign resolution and found various reasons why ICANN Board members Beca, Crawford, Ito, Thrush, Rionge, and Palage voted “no” or abstained. These reasons ranged from concern over Verisign’s ability to raise fees, the resolution’s conflicting with ICANN’s mission, and the Internet Community being against the agreement (Lee 2008, 143).

Should the At-Large Advisory Committee (ALAC) have participatory representation? Should Board members vote in favor for resolutions that ALAC benefits? This probably would require doing interviews or surveys, attending meetings, and investigating documents beyond the ICANN website.

The ICANN minutes only provide resolution numbers and vote counts for adopted resolutions, which makes investigating other resolutions more difficult. It would have been useful to include defeated resolutions in the analysis, but doing so would have required more time. It would have required getting in contact with ICANN; even then some of the vote counts for non-adopted resolutions may have not been recorded. Still, resolutions that were not passed might provide more information on voting patterns because such resolutions were more controversial.

Both the Green Paper and the White Paper stipulated that international representation was a key element; however, the U.S. Department of Commerce did not highlight international representation as a guideline for ICANN in the 2006 contract. Why did this change occur? Was the Department satisfied with ICANN on this standard, or is it no longer a concern in a Republican administration?

Recommendations and Suggestions for ICANN

In the process of investigating the complex organization known as ICANN, I thought of several recommendations and suggestions that might bridge existing gaps between the ICANN Board and Internet users. These include instituting longer Board terms, dividing and creating new geographic regions, expanding the Board with the ALAC appointing members, and posting more accurate and easier to read information on the ICANN website.

ICANN had 32 different Boards from 1998 to 2007. The median time period for a natural Board was 78 days. (See A14.) Some Board members are nominated for one

year terms and others for three year terms. Constantly changing Boards must be hard for Internet users; it also might increase the influence of ICANN's permanent staff. How can users start and build a relationship with a Board member if the member is gone in a year? There needs to be communication about values and concerns between Board members and Internet users, and one step in enriching that process might be having longer terms for Board members.

Another step that might improve communication between Internet users and Board members would be to revisit the five existing geographic regions. Perhaps there should be more regions or a method to ensure that one particular country does not dominate a region's representation. Even though this study only looked at nationality by region, descriptive representation could compare Internet users' nationalities to Board members' nationalities. For example, between 1998 and 2007, a majority of Board members from the Asia/Australia/Pacific region came from Japan or Australia. In addition, in the North America region, most members came from the United States. (See A15.) China, Indian, and South Korea are experiencing exponential growth in Internet users, yet the Japanese and Australians tend more often to be the representatives. There seems to be a bias in ICANN's policy of picking Board members from certain countries. In addition, the number of "Western" Board members versus "non-Western" Board members was not expected. (See A16.) More members came from Anglo-American and European countries (the "West") than from other parts of the world. Again, ICANN is isolating a large group of Internet users that are growing. ICANN might want to change its international representation by creating new regions or setting stipulations to ensure that Board members do not only come from one country in a region. This might mean splitting the Asia/Australia/Pacific region. In addition, ICANN should strive to include members from "non-Western" areas to have more descriptive representativeness. By making these changes, ICANN might be able to engage more with Internet users.

Currently, only certain internal committees select Board members.¹ The ALAC is not one of these privileged committees. Yet, this At Large Advisory Committee is supposed to represent Internet users, and currently Internet users cannot even select one Board member. Perhaps ICANN should have a larger Board and allow other committees,

such as the ALAC to select members. This way the Board might be seen as more diversified.

ICANN could improve the transparency and accessibility to its website. I found at times that the ICANN website provided inaccurate information and some documents were not easy to read. The inaccurate information included the dates for Board members' terms. For instance, I believe that Gemi Detschko's start date was wrong on the website because his votes were recorded before his term is claimed to have started. (See A11.) In contrast, for some Board members, ICANN provided the exact date. The transcripts or adopted resolutions from Board meetings also were sometimes difficult to read. (See A11.) The transcripts were not organized for easy reading; they fail to tell the reader who was in attendance, who voted on certain resolutions, or the subjects of the resolutions. Sometimes, the site only provided the adopted resolutions, which again did not tell the readers who voted for or against the resolution.

Conclusion

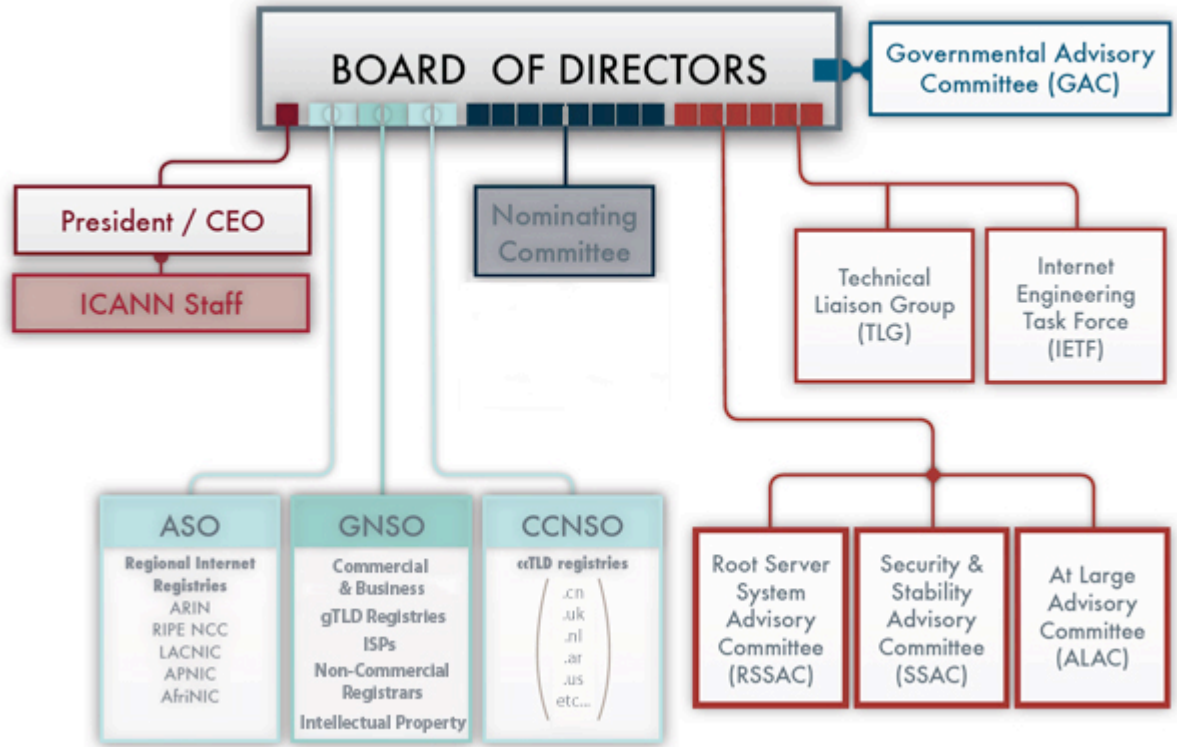
Even though the ICANN Board is formally representative, it evidently fails on other dimensions. An extremely low number of women have served on the Board, and the Asia/Australia/Pacific region is underrepresented when compared to the proportion of Internet users in the region. ICANN should strive to improve Board representativeness. By increasing Board representativeness of Internet users, ICANN might be able to maintain legitimacy. Currently, some nations are creating their own Domain Name Systems (DNS), which could jeopardize the interconnectedness of the Internet and thus hurt economies, research, and ways of life. Descriptive, substantive, and formal representation are all important to ICANN maintaining its legitimacy. ICANN should be more representative on all three dimensions in order to gain the trust of world Internet users, who already feel uneasy about an international organization that is private, located in the U.S., and contracted through the U.S. Department of Commerce.

Endnote

1. The Address, Country, Code Names, and Generic Names supporting organizations each select two voting members to the ICANN Board; the president of ICANN is the last voting member (ICANN Bylaws, 2007, 11-12).

Appendixes

A1: ICANN Organization



(Source: ICANN. "Structure." 3 April 2008. < <http://www.icann.org/structure/>>.)

A2: Past and Current Board Members According to ICANN's Website

<u>Member</u>	<u>Term</u>
Abramatic	Oct 99- Sep 00
Abril Abril	Nov 99- 26 Jun 03
Alvestrand	Nov 2007- Oct 2010
Auerbach	Until Jun 03
Beca	May 2004- Apr 2010
Blozjil	Oct 99- 15 Dec 02
Campos	Until Dec 04
Capdeboscq	Oct 98- Nov 00
Cerf	Nov 99- No 2007
Chapin	Oct 01- May 04
Cohen	Nov 99- Jun 03
Conrades	Oct 98- Nov 00
Crawford	Dec 2005- Nov 2008
Crew	Oct 98- Nov 00
Davidson	Oct 99- 2 Apr 02
Diop	Until Jun 06
Drakes	Jun 03- Dec 04
Dyson	Oct 98- Nov 00
Fitzsimmons	Oct 98- 15 Dec 02
Fockler	Oct 98- Sep 01
Gaetano	Dec 2006- Oct 2009
Getschko	Dec 2005- May 2009
Goldstein	Dec 2006- Oct 2009
Hultsch	Until Dec 06
Ito	Dec 04- Nov 07
Jennings	Nov 2007- Oct 2010
Katoh	Nov 00- Oct 03
Kraaijenbrink	Oct 98- Jun 03
Kyong	Until Jun 03
Lynn	Mar 01- Mar 03
Markovski	Jun 03- Dec 06
MuellerMaguhn	Nov 00-June 03
Murai	Oct 98- Jun 03
Niles	Jun 03- Dec 05
Palage	Apr 03- Apr 06
Pisanty	until Jun 07
Qian	Jun 03- Dec 06
Quaynor	Oct 00- Jun 03
Ramaraj	Dec 2006- Oct 2009
Rionge	Jun 2003- Nov 2008
Roberts	Oct 98- Mar 01
Rodin	Jun 2006- 2010
Scartezini	Dec 04- Nov 07
Schink	until Jun 03
Silva	Until Jun 03
Subrenat	Nov 2007- Oct 2010
Thrush	Jan. 2005- 2010
Tonkin	Jun 2007- Apr 2010

Triana	Oct 98- Nov 00
Twomey	27 Mar 03- until
Wilson	Oct 98- Jun 03
Wodelet	Jun 2006- May 2009
Wong	until Sep 00

(Source: ICANN. "Board of Directors." 6 June 2008 <<http://www.icann.org/general/board.html>> .)

A3: How I Determined Board Members and Terms

<u>Board Names</u>	<u>Terms</u>
Jean-Francois Abramatic**	Oct. 28, 1999- Sept. 30 2000~
Amadeu Abril I Abril**	Oct. 28, 1999- June 26 2003~
Harald Tveit Alvestrand**	Sept. 25 2007- Oct. 2010●
Karl Auerbach ■■	Nov. 16, 2000- June 26 2003~
Raimundo Beca*	May 11, 2004- April 2010●
Robert Blozjil**	Oct. 25, 1999- Dec. 15, 2002~
Ivan Moura Campos ■■	Nov. 16, 2000- Dec. 4 2004~
Geraldine Capdeboscq ♦	Oct. 25 1998- Nov 16 2000~
Vint Cerf**	Oct. 28, 1999- Nov 20 2007 ◇
Lyman Chapin*	Oct. 16, 2001- May 25 2004 ◇
Jonathan Cohen**	Oct. 28, 1999- June 26 2003~
George Conrades ♦	Oct. 25 1998- Nov 16 2000~
Susan Crawford*	Dec. 4, 2005- Nov. 2008●
Greg Crew ♦	Oct. 25 1998- Nov 16 2000~
Philip Davidson**	Oct. 28, 1999- April 2 2002~
Mouhamet Diop**	Dec. 16, 2002- June 30, 2006 ◇
Tricia Drakes*	June 2, 2003- Dec. 5, 2004~
Esther Dyson ♦	Oct. 25 1998- Nov. 16 2000~
Frank Fitzsimmons ♦	Oct. 25, 1998- Dec. 15 2002~
Ken Fockler**	Oct. 25, 1999- Sept. 30 2001~
Roberto Gaetano*	Dec. 7, 2006- Oct. 2009●
Demi Getschko**	Dec. 2, 2005- May 2009●
Steve Goldstein*	Dec 7 2006-Oct. 2009●
Hagen Hultzsch*	Jan. 9, 2004- Dec. 8, 2006 ◇
Joichi Ito *	Dec. 5, 2004 - Nov. 20, 2007 ◇
Dennis Jennings*	Nov.2, 2007- Oct. 2010●
Masanobu Katoh ■■	Nov. 16, 2000- Oct 31, 2003~
Hans Kraaijenbrink ♦	Oct. 25, 1998 June 26 2003~
Sang-Hyon Kyong**	Oct. 1,2000 -June 26, 2003~
M. Stuart Lynn ▲	March 13, 2001- March 27, 2003~
Veni Markovski*	June 2, 2003- Dec. 8 2006 ◇
Andy Mueller- Maguhn ■■	Nov. 16, 2000- June 26, 2003~
Jun Murai ♦	Oct. 25, 1998- June 26, 2003~
Thomas Niles*	June 2, 2003- Dec.4, 2005 ◇
Michael D. Palage*	April 18, 2003- April 3, 2006~
Alejandro Pisanty**	Oct. 28, 1999- June 29, 2007 ◇
Hualin Qian*	June 2, 2003- Dec. 8 2006 ◇
Nii Quaynor ■■	Nov. 16, 2000- June 26, 2003~
Rajasekhar Ramaraj*	Dec.7, 2006- Oct. 2009●
Njeri Rionge	June 2, 2003- Nov 2008●
Micheal Roberts ♦	Oct. 25, 1998- March 13, 2001~
Rita Rodin**	June 21, 2006- May 2008●
Vanda Scartezini*	Dec. 5, 2004- Nov. 20 2007 ◇
Helmut Schink**	Oct. 1, 2000- June 26, 2003~
Francisco de Silva*	Dec. 2, 2002- June 26, 2003 ◇

Jean-Jacques Subrenat**	Sept. 25, 2007- Oct. 2010●
Peter Dengate Thrush*	Jan.24, 2005- May 2008●
Bruce Tonkin*	June 18, 2007- April 2010●
Eugenio Triana ♦	Oct. 25, 1998- Nov. 16, 2000~
Paul Twomey▲	March 27, 2003- future date
Linda Wilson ♦	Oct. 25, 1998- June 26, 2003~
David Wodelet*	June 9, 2006- May 2009●
Pindar Wong**	Oct. 25, 1999- Sept. 30 2000~

Key
* Date is the earliest meeting for that month
** Date is the official selection date for that director
■ Nov. 16, 2000 is the date for all elected officials
♦ First board meeting and members selected by Postel and Sims
▲ Beginning date is provided by ICANN board website
~ Ending Date is provided by ICANN board website
◇The last meeting in the month
● Term has not ended

A4 : ICANN 1998-2008

Board I Oct.25, 98- Oct. 24 99	Board II Oct. 28 99- Sept. 30 00	Board III Oct, 1 00- Nov. 15 00	Board IV Nov.16, 00- Mar. 13, 01	Board V Mar. 14, 01- Sept. 30, 01
Geraldine Capdeboscq	Geraldine Capdeboscq	Geraldine Capdeboscq	Frank Fitzsimmons	Frank Fitzsimmons
George Conrades	George Conrades	George Conrades	Hans Kraaijenbrink	Hans Kraaijenbrink
Grew Crew	Grew Crew	Grew Crew	Jun Murai	Jun Murai
Esther Dyson	Esther Dyson	Esther Dyson	Micheal Roberts	Stuart Lynn
Frank Fitzsimmons	Frank Fitzsimmons	Frank Fitzsimmons	Linda Wilson	Linda Wilson
Hans Kraaijenbrink	Hans Kraaijenbrink	Hans Kraaijenbrink	Amadeu Abril I Arbil	Amadeu Abril I Arbil
Jun Murai	Jun Murai	Jun Murai	Robert Blozijl	Robert Blozijl
Micheal Roberts	Micheal Roberts	Micheal Roberts	Vint Cerf	Vint Cerf
Eugenio Triana	Eugenio Triana	Eugenio Triana	Jonathan Cohen	Jonathan Cohen
Linda Wilson	Linda Wilson	Linda Wilson	Philip Davidson	Philip Davidson
	Jean-Fransios Abramatic	Amadeu Abril I Arbil	Ken Fockler	Ken Fockler
	Amadeu Abril I Arbil	Robert Blozijl	Alejandro Pisanty	Alejandro Pisanty
	Robert Blozijl	Vint Cerf	Helmut Schink	Helmut Schink
	Vint Cerf	Jonathan Cohen	Karl Auerbach	Karl Auerbach
	Jonathan Cohen	Philip Davidson	Ivan Campos	Ivan Campos
	Philip Davidson	Ken Fockler	Masanobu Katoh	Masanobu Katoh
	Ken Fockler	Alejandro Pisanty	Andy Mueller-Maguhn	Andy Mueller-Maguhn
	Alejandro Pisanty	Helmut Schink	Nii Quaynor	Nii Quaynor
	Pindar Wong	Sang-Hyon Kyong	Sang-Hyon Kyong	Sang-Hyon Kyong
Board VI Oct. 1, 01- Apr. 2, 02	Board VII Apr. 3, 02- Nov. 18, 2002	Board VIII Dec. 2, 02- Dec.16, 2002	Board IX Dec. 16, 02- Mar. 27, 03	Board X Mar. 28, 03- April 17, 03
Frank Fitzsimmons	Frank Fitzsimmons	Frank Fitzsimmons	Hans Kraaijenbrink	Hans Kraaijenbrink
Hans Kraaijenbrink	Hans Kraaijenbrink	Hans Kraaijenbrink	Jun Murai	Jun Murai
Jun Murai	Jun Murai	Jun Murai	Stuart Lynn	Linda Wilson
Stuart Lynn	Stuart Lynn	Stuart Lynn	Linda Wilson	Amadeu Abril I Arbil
Linda Wilson	Linda Wilson	Linda Wilson	Amadeu Abril I Arbil	Vint Cerf
Amadeu Abril I Arbil	Amadeu Abril I Arbil	Amadeu Abril I Arbil	Vint Cerf	Jonathan Cohen
Robert Blozijl	Robert Blozijl	Robert Blozijl	Jonathan Cohen	Lyman Chapin
Vint Cerf	Vint Cerf	Vint Cerf	Lyman Chapin	Alejandro Pisanty
Jonathan Cohen	Jonathan Cohen	Jonathan Cohen	Alejandro Pisanty	Helmut Schink
Philip Davidson	Lyman Chapin	Lyman Chapin	Helmut Schink	Karl Auerbach
Lyman Chapin	Alejandro Pisanty	Alejandro Pisanty	Karl Auerbach	Ivan Campos
Alejandro Pisanty	Helmut Schink	Helmut Schink	Ivan Campos	Masanobu Katoh
Helmut Schink	Karl Auerbach	Karl Auerbach	Masanobu Katoh	Andy Mueller-Maguhn
Karl Auerbach	Ivan Campos	Ivan Campos	Andy Mueller-Maguhn	Nii Quaynor
Ivan Campos	Masanobu Katoh	Masanobu Katoh	Nii Quaynor	Sang-Hyon Kyong
Masanobu Katoh	Andy Mueller-Maguhn	Andy Mueller-Maguhn	Sang-Hyon Kyong	Paul Twomey
Andy Mueller-Maguhn	Nii Quaynor	Nii Quaynor	Francisco de Silva	Francisco de Silva
Nii Quaynor	Sang-Hyon Kyong	Sang-Hyon Kyong		
Sang-Hyon Kyong		Francisco de Silva		

Board XI April 18,03- June 1, 03	Board XII June 2, 03- June 26, 03	Board XIII June 27, 03- Oct. 31, 03	Board XIV Nov. 1 03- Jan 8, 04	Board XV Jan. 9, 04- May 10, 04
Hans Kraaijenbrink	Hans Kraaijenbrink	Micheal Palage	Micheal Palage	Micheal Palage
Jun Murai	Jun Murai	Paul Twomey	Paul Twomey	Paul Twomey
Linda Wilson	Paul Twomey	Vint Cerf	Vint Cerf	Vint Cerf
Amadeu Abril I Arbil	Linda Wilson	Lyman Chapin	Lyman Chapin	Lyman Chapin
Vint Cerf	Amadeu Abril I Arbil	Alejandro Pisanty	Alejandro Pisanty	Alejandro Pisanty
Jonathan Cohen	Vint Cerf	Ivan Campos	Ivan Campos	Ivan Campos
Lyman Chapin	Jonathan Cohen	Masanobu Katoh	Tricia Drakes	Tricia Drakes
Alejandro Pisanty	Lyman Chapin	Tricia Drakes	Veni Markovski	Veni Markovski
Helmut Schink	Alejandro Pisanty	Veni Markovski	Haulin Qian	Haulin Qian
Karl Auerbach	Helmut Schink	Haulin Qian	Njeri Rionge	Njeri Rionge
Ivan Campos	Karl Auerbach	Njeri Rionge	Thomas Niles	Hagen Hultzs
Masanobu Katoh	Ivan Campos	Thomas Niles		Thomas Niles
Andy Mueller-Maguhn	Masanobu Katoh			
Nii Quaynor	Andy Mueller-Maguhn			
Sang-Hyon Kyong	Nii Quaynor			
Micheal Palage	Tricia Drakes			
Paul Twomey	Veni Markovski			
Francisco de Silva	Haulin Qian			
	Njeri Rionge			
	Sang-Hyon Kyong			
	Thomas Niles			
	Micheal Palage			
Board XVI May 11,04- May 24,04	Board XVII May 25-04- Dec.3, 04	Board XVIII Dec.4 04- Jan. 23, 05	Board XIX Jan. 24, 05- Oct. 23, 2005	Board XX Oct. 24,05- Dec. 1, 05
Micheal Palage	Micheal Palage	Micheal Palage	Peter Dengate Thrush	Peter Dengate Thrush
Paul Twomey	Paul Twomey	Paul Twomey	Micheal Palage	Micheal Palage
Vint Cerf	Vint Cerf	Vint Cerf	Paul Twomey	Paul Twomey
Lyman Chapin	Alejandro Pisanty	Alejandro Pisanty	Vint Cerf	Vint Cerf
Alejandro Pisanty	Ivan Campos	Joichi Ito	Alejandro Pisanty	Alejandro Pisanty
Ivan Campos	Tricia Drakes	Vanda Scartezini	Joichi Ito	Joichi Ito
Tricia Drakes	Veni Markovski	Veni Markovski	Vanda Scartezini	Vanda Scartezini
Veni Markovski	Haulin Qian	Haulin Qian	Veni Markovski	Veni Markovski
Haulin Qian	Njeri Rionge	Njeri Rionge	Haulin Qian	Haulin Qian
Njeri Rionge	Hagen Hultzs	Hagen Hultzs	Njeri Rionge	Njeri Rionge
Hagen Hultzs	Raimindo Beca	Raimindo Beca	Hagen Hultzs	Hagen Hultzs
Raimindo Beca	Thomas Niles	Thomas Niles	Raimindo Beca	Raimindo Beca
Thomas Niles			Thomas Niles	Mouhamet Diop
				Thomas Niles
Board XXI Dec. 2, 05- Dec. 3. 05	Board XXII Dec.4, 04- Apr. 2, 06	Board XXIII Apr. 3, 06- June 1, 06	Board XXIV Jun 2,06- Jun 7 06	Board XXV June 8,06- June 20, 06
Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush
Micheal Palage	Micheal Palage	Paul Twomey	Paul Twomey	Paul Twomey

Paul Twomey	Paul Twomey	Vint Cerf	Vint Cerf	Vint Cerf
Vint Cerf	Vint Cerf	Alejandro Pisanty	Alejandro Pisanty	Alejandro Pisanty
Alejandro Pisanty	Alejandro Pisanty	Joichi Ito	Joichi Ito	Joichi Ito
Joichi Ito	Joichi Ito	Vanda Scartezini	Vanda Scartezini	Vanda Scartezini
Vanda Scartezini	Vanda Scartezini	Veni Markovski	Veni Markovski	Veni Markovski
Veni Markovski	Veni Markovski	Haulin Qian	Njeri Rionge	Njeri Rionge
Haulin Qian	Haulin Qian	Njeri Rionge	Hagen Hultzs	Hagen Hultzs
Njeri Rionge	Njeri Rionge	Hagen Hultzs	Raimindo Beca	Raimindo Beca
Hagen Hultzs	Hagen Hultzs	Raimindo Beca	Mouhamet Diop	Mouhamet Diop
Raimindo Beca	Raimindo Beca	Mouhamet Diop	Demi Getschko	Demi Getschko
Mouhamet Diop	Mouhamet Diop	Demi Getschko	Susan Crawford	Susan Crawford
Demi Getschko	Demi Getschko	Susan Crawford		David Wodelet
Thomas Niles	Susan Crawford			
Board XXVI June 21, 06- June 30, 06	Board XXVII July 1, 06- Dec. 7, 06	Board XXVIII Dec. 8 06- June 17, 07	Board XXIX June 18, 07- June 28, 07	Board XXX June 29, 07- Sept. 24, 07
Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush
Paul Twomey	Paul Twomey	Paul Twomey	Paul Twomey	Paul Twomey
Vint Cerf	Vint Cerf	Vint Cerf	Vint Cerf	Vint Cerf
Alejandro Pisanty	Alejandro Pisanty	Alejandro Pisanty	Alejandro Pisanty	Joichi Ito
Joichi Ito	Joichi Ito	Joichi Ito	Joichi Ito	Vanda Scartezini
Vanda Scartezini	Vanda Scartezini	Vanda Scartezini	Vanda Scartezini	Roberto Gaetano
Veni Markovski	Veni Markovski	Roberto Gaetano	Roberto Gaetano	Njeri Rionge
Njeri Rionge	Njeri Rionge	Njeri Rionge	Njeri Rionge	Steve Goldstein
Hagen Hultzs	Hagen Hultzs	Steve Goldstein	Steve Goldstein	Raimindo Beca
Raimindo Beca	Raimindo Beca	Raimindo Beca	Raimindo Beca	Demi Getschko
Mouhamet Diop	Demi Getschko	Demi Getschko	Demi Getschko	Susan Crawford
Demi Getschko	Susan Crawford	Susan Crawford	Susan Crawford	Rita Rodin
Susan Crawford	Rita Rodin	Rita Rodin	Rita Rodin	David Wodelet
Rita Rodin	David Wodelet	David Wodelet	David Wodelet	Bruce Tonkin
David Wodelet		Bruce Tonkin		
Board XXXI Sept. 25, 07- Nov. 1, 07	Board XXXII Nov.1, 07- Nov. 19, 07	Board XXXIII Nov. 20, 07- Nov. 08		
Peter Dengate Thrush	Peter Dengate Thrush	Peter Dengate Thrush		
Paul Twomey	Paul Twomey	Paul Twomey		
Vint Cerf	Vint Cerf	Roberto Gaetano		
Joichi Ito	Joichi Ito	Njeri Rionge		
Vanda Scartezini	Vanda Scartezini	Steve Goldstein		
Roberto Gaetano	Roberto Gaetano	Raimindo Beca		
Njeri Rionge	Njeri Rionge	Demi Getschko		
Steve Goldstein	Steve Goldstein	Susan Crawford		

Raimindo Beca	Raimindo Beca	Rita Rodin		
Demi Getschko	Demi Getschko	David Wodelet		
Susan Crawford	Susan Crawford	Bruce Tonkin		
Rita Rodin	Rita Rodin	Harald Alvestrand		
David Wodelet	David Wodelet	Jean-Jacques Subrenat		
Bruce Tonkin	Bruce Tonkin	Dennis Jennings		
Harald Alvestrand	Harald Alvestrand			
Jean-Jacques Subrenat	Jean-Jacques Subrenat			
	Dennis Jennings			

(Source: ICANN. "Board of Directors." 6 June 2008 <<http://www.icann.org/general/board.html>> .)

A5: Board Members and Assumptions about Last Obtained Degrees

A. Members' educational backgrounds based on schools attended and career experience:

<u>Member</u>	<u>School</u>	<u>Career Experience(s)</u>	<u>Coded</u>
Capedeascq	Ecole Nationale d'Administration	Finance and MIS Director for the French Network	1
Kraaijenbrink	Delft University	Dutch Ministry of Economic Affairs	1
Alvestrand	Norwegian Institute of Technology	EDB Maxware, Google, Cisco	4

B. Members' educational backgrounds based only on career experience(s):

<u>Member</u>	<u>Career Experience(s)</u>	<u>Coded</u>
Chapin	Chief Scientist at the NextHop Technologies	4
Drakes	Past Chair of the Foreign Bankers Director in the Computer and Information Sciences and Engineering (CISE)	1
Goldstein	(CISE)	4
Hultsch	Member of the Management Board of Deutsche Telekom	1
Muller-Maguhn	Professional journalist as a Chief Designer, he finished the design of the computer network system	5
Qian		4
Rionge	CEO and founder of Ignite Consulting and Investment Limited	1
Thrush	Specializes in intellectual property, competition, and Internet law	2
Niles	U.S. Ambassador to Canada	2

Key

- 1 business/economics
- 2 law
- 3 science
- 4 technical
- 5 liberal arts
- 6 other

A6: Board Members' Nationalities

<u>Member</u>	<u>Nationality</u>
Abramatic	French
Abril Abril	Spanish
Alvestrand	Norwegian
Auerbach	American
Beca	Chilean
Blozjl	Dutch
Campos	Brazilian
Capdeboscq	French
Cerf	American
Chapin	American
Cohen	Canadian
Conrades	American
Crawford	American
Crew	Australian
Davidson	British
Diop	Senegalese
Drakes	British
Dyson	American
Fitzsimmons	American
Fockler	Canadian
Gaetano	Italian
Getschko	Brazilian
Goldstein	American
Hultzs	German
Ito	Japanese
Jennings	British
Katoh	Japanese
Kraaijenbrink	Dutch
Kyong	South Korean
Lynn	American
Markovski	Bulgarian
MuellerMaguhn	German
Murai	Japanese
Niles	American
Palage	American
Pisanty	Mexican
Qian	Chinese
Quaynor	West African
Ramaraj	Indian
Rionge	Kenyan
Roberts	American
Rodin	American
Scartezini	Brazilian
Schink	German
Silva	Portuguese
Subrenat	French
Thrush	New Zealander

Tonkin	Australian
Triana	Spanish
Twomey	Australian
Wilson	American
Wodelet	Canadian
Wong	Hong Kongese

Sources for Board Members' Nationalities

Board Member	Source
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Abril Abril	"ICANN Profile: Structure, Personnel, Review." <u>Carlson Analytics</u> . Dec. 2004 < http://www.caslon.com.au/icannprofile2.htm >.
Alvestrand	ICANN. "Nominating Committee Announces New Board Members and Supporting Organisation Roles." 25 Sept. 2007. < http://www.icann.org/announcements/announcement-25sep07.htm >.
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A7: ICANN Placement of Countries into Regions

Key

AF = Africa

AP = Asia/Australia/Pacific

AQ = Antarctica

EU = Europe

LAC = Latin America/Caribbean islands

NA = North America

Country or Territory	Physical Region	ICANN Region
Ascension Island	AF	EU
Andorra	EU	EU
United Arab Emirates	AP	AP
Afghanistan	AP	AP
Antigua and Barbuda	LAC	LAC
Anguilla	LAC	EU
Albania	EU	EU
Armenia	AP	AP
Netherlands Antilles	LAC	EU
Angola	AF	AF
Antarctica	AQ [*]	AP
Argentina	LAC	LAC
American Samoa	AP	NA
Austria	EU	EU
Australia	AP	AP
Aruba	LAC	EU
Azerbaijan	AP	AP
Bosnia and Herzegovina	EU	EU
Barbados	LAC	LAC
Bangladesh	AP	AP
Belgium	EU	EU
Burkina Faso	AF	AF
Bulgaria	EU	EU
Bahrain	AP	AP
Burundi	AF	AF
Benin	AF	AF
Bermuda	NA	EU

Brunei Darussalam	AP	AP
Bolivia	LAC	LAC
Brazil	LAC	LAC
Bahamas	LAC	LAC
Bhutan	AP	AP
Bouvet Island	AF*	EU
Botswana	AF	AF
Belarus	EU	EU
Belize	LAC	LAC
Canada	NA	NA
Cocos (Keeling) Islands	AP*	AP
Congo, The Democratic Republic of the	AF	AF
Central African Republic	AF	AF
Congo	AF	AF
Switzerland	EU	EU
Cote d'Ivoire	AF	AF
Cook Islands	AP	AP
Chile	LAC	LAC
Cameroon	AF	AF
China	AP	AP
Colombia	LAC	LAC
Costa Rica	LAC	LAC
Cuba	LAC	LAC
Cape Verde	AF	AF
Christmas Island	AP*	AP
Cyprus	AP	AP
Czech Republic	EU	EU
Germany	EU	EU
Djibouti	AF	AF
Denmark	EU	EU
Dominica	LAC	LAC
Dominican Republic	LAC	LAC
Algeria	AF	AF
Ecuador	LAC	LAC
Estonia	EU	EU
Egypt	AF	AF
Western Sahara	AF	AF
Eritrea	AF	AF

Spain	EU	EU
Ethiopia	AF	AF
Finland	EU	EU
Fiji	AP	AP
Falkland Islands (Malvinas)	LAC	EU
Micronesia, Federated States of	AP	AP
Faroe Islands	EU	EU
France	EU	EU
Gabon	AF	AF
Grenada	LAC	LAC
Georgia	AP	AP
French Guiana	LAC	EU
Guernsey	EU*	EU
Ghana	AF	AF
Gibraltar	EU	EU
Greenland	NA	EU
Gambia	AF	AF
Guinea	AF	AF
Guadeloupe	LAC	EU
Equatorial Guinea	AF	AF
Greece	EU	EU
South Georgia and the South Sandwich Islands	LAC	EU
Guatemala	LAC	LAC
Guam	AP	NA
Guinea-Bissau	AF	AF
Guyana	LAC	LAC
Hong Kong	AP	AP
Heard Island and McDonald Islands	AP*	AP
Honduras	LAC	LAC
Croatia	EU	EU
Haiti	LAC	LAC
Hungary	EU	EU
Indonesia	AP	AP
Ireland	EU	EU
Israel	AP	AP
Isle of Man	EU	EU
India	AP	AP
British Indian Ocean Territory	AP*	EU

Iraq	AP	AP
Iran, Islamic Republic of	AP	AP
Iceland	EU	EU
Italy	EU	EU
Jersey	EU*	EU
Jamaica	LAC	LAC
Jordan	AP	AP
Japan	AP	AP
Kenya	AF	AF
Kyrgyzstan	AP	AP
Cambodia	AP	AP
Kiribati	AP	AP
Comoros	AF	AF
Saint Kitts and Nevis	LAC	LAC
Korea, Democratic People's Republic of	AP	AP
Korea, Republic of	AP	AP
Kuwait	AP	AP
Cayman Islands	LAC	EU
Kazakhstan	AP	AP
Lao People's Democratic Republic	AP	AP
Lebanon	AP	AP
Saint Lucia	LAC	LAC
Liechtenstein	EU	EU
Sri Lanka	AP	AP
Liberia	AF	AF
Lesotho	AF	AF
Lithuania	EU	EU
Luxembourg	EU	EU
Latvia	EU	EU
Libyan Arab Jamahiriya	AF	AF
Morocco	AF	AF
Monaco	EU	EU
Moldova, Republic of	EU	EU
Madagascar	AF	AF
Marshall Islands	AP	AP
Macedonia, The Former Yugoslav Republic of	EU	EU
Mali	AF	AF
Myanmar	AP	AP

Mongolia	AP	AP
Macao	AP	AP
Northern Mariana Islands	AP	NA
Martinique	LAC	EU
Mauritania	AF	AF
Montserrat	LAC	EU
Malta	EU	EU
Mauritius	AF	AF
Maldives	AP	AP
Malawi	AF	AF
Mexico	LAC	LAC
Malaysia	AP	AP
Mozambique	AF	AF
Namibia	AF	AF
New Caledonia	AP	EU
Niger	AF	AF
Norfolk Island	AP	AP
Nigeria	AF	AF
Nicaragua	LAC	LAC
Netherlands	EU	EU
Norway	EU	EU
Nepal	AP	AP
Nauru	AP	AP
Niue	AP	AP
New Zealand	AP	AP
Oman	AP	AP
Panama	LAC	LAC
Peru	LAC	LAC
French Polynesia	AP	EU
Papua New Guinea	AP	AP
Philippines	AP	AP
Pakistan	AP	AP
Poland	EU	EU
Saint Pierre and Miquelon	NA	EU
Pitcairn	AP	EU
Puerto Rico	LAC	NA
Palestinian Territories	AP	AP
Portugal	EU	EU

Palau	AP	AP
Paraguay	LAC	LAC
Qatar	AP	AP
Reunion	AF	EU
Romania	EU	EU
Russian Federation	EU	EU
Rwanda	AF	AF
Saudi Arabia	AP	AP
Solomon Islands	AP	AP
Seychelles	AF	AF
Sudan	AF	AF
Sweden	EU	EU
Singapore	AP	AP
Saint Helena	AF	EU
Slovenia	EU	EU
Svalbard and Jan Mayen	EU	EU
Slovakia	EU	EU
Sierra Leone	AF	AF
San Marino	EU	EU
Senegal	AF	AF
Somalia	AF	AF
Suriname	LAC	LAC
Sao Tome and Principe	AF	AF
El Salvador	LAC	LAC
Syrian Arab Republic	AP	AP
Swaziland	AF	AF
Turks and Caicos Islands	LAC	EU
Chad	AF	AF
French Southern Territories	AP [*]	EU
Togo	AF	AF
Thailand	AP	AP
Tajikistan	AP	AP
Tokelau	AP	AP
Timor-Leste	AP	AP
Turkmenistan	AP	AP
Tunisia	AF	AF
Tonga	AP	AP
Turkey	AP	AP

Trinidad and Tobago	LAC	LAC
Tuvalu	AP	AP
Taiwan	AP*	AP
Tanzania, United Republic of	AF	AF
Ukraine	EU	EU
Uganda	AF	AF
United Kingdom	EU	EU
United States Minor Outlying Islands	AP*	NA
United States	NA	NA
Uruguay	LAC	LAC
Uzbekistan	AP	AP
Holy See (Vatican City State)	EU	EU
Saint Vincent and the Grenadines	LAC	LAC
Venezuela	LAC	LAC
Virgin Islands, British	LAC	EU
Virgin Islands, U.S.	LAC	NA
Viet Nam	AP	AP
Vanuatu	AP	AP
Wallis And Futuna	AP	EU
Samoa	AP	AP
Yemen	AP	AP
Mayotte	AF	EU
Yugoslavia (Serbia and Montenegro)	EU	EU
South Africa	AF	AF
Zambia	AF	AF
Zimbabwe	AF	AF

(Source: ICANN. "ICANN Montreal Meeting Topic: Review of ICANN's Geographic Regions." 5 June 2003. <<http://www.icann.org/montreal/geo-regions-topic.htm>>.)

A8: Numbers of Internet Users by Country (CIA Fact Sheet)

Rank	Country	Internet users	Date of Information
1	<u>World</u>	1,018,057,389	2005
2	<u>European Union</u>	247,000,000	2006
3	<u>United States</u>	208,000,000	2006
4	<u>China</u>	162,000,000	2007
5	<u>Japan</u>	87,540,000	2006
6	<u>India</u>	60,000,000	2005
7	<u>Brazil</u>	42,600,000	2006
8	<u>Germany</u>	38,600,000	2006
9	<u>Korea, South</u>	34,120,000	2006
10	<u>United Kingdom</u>	33,534,000	2006
11	<u>France</u>	31,295,000	2007
12	<u>Italy</u>	28,855,000	2006
13	<u>Russia</u>	25,689,000	2006
14	<u>Canada</u>	22,000,000	2005
15	<u>Mexico</u>	22,000,000	2006
16	<u>Spain</u>	18,578,000	2006
17	<u>Iran</u>	18,000,000	2006
18	<u>Vietnam</u>	17,870,000	2007
19	<u>Indonesia</u>	16,000,000	2005
20	<u>Australia</u>	15,300,000	2006
21	<u>Netherlands</u>	14,544,000	2006
22	<u>Taiwan</u>	13,210,000	2005
23	<u>Turkey</u>	12,284,000	2006
24	<u>Pakistan</u>	12,000,000	2006
25	<u>Malaysia</u>	11,292,000	2006
26	<u>Poland</u>	11,000,000	2006
27	<u>Thailand</u>	8,466,000	2006
28	<u>Argentina</u>	8,184,000	2006
29	<u>Nigeria</u>	8,000,000	2006
30	<u>Sweden</u>	6,981,000	2006

31	<u>Colombia</u>	6,705,000	2006
32	<u>Morocco</u>	6,100,000	2006
33	<u>Peru</u>	6,100,000	2006
34	<u>Egypt</u>	6,000,000	2006
35	<u>Ukraine</u>	5,545,000	2006
36	<u>Belarus</u>	5,478,000	2006
37	<u>South Africa</u>	5,100,000	2005
38	<u>Romania</u>	5,063,000	2006
39	<u>Belgium</u>	4,800,000	2005
40	<u>Saudi Arabia</u>	4,700,000	2006
41	<u>Philippines</u>	4,615,000	2005
42	<u>Switzerland</u>	4,360,000	2006
43	<u>Austria</u>	4,200,000	2006
44	<u>Chile</u>	4,156,000	2006
45	<u>Venezuela</u>	4,140,000	2006
46	<u>Norway</u>	4,074,000	2006
47	<u>Hong Kong</u>	3,770,000	2006
48	<u>Czech Republic</u>	3,541,000	2006
49	<u>Hungary</u>	3,500,000	2006
50	<u>Sudan</u>	3,500,000	2006
51	<u>Portugal</u>	3,213,000	2006
52	<u>New Zealand</u>	3,200,000	2006
53	<u>Denmark</u>	3,171,000	2006
54	<u>Finland</u>	2,925,000	2006
55	<u>Kenya</u>	2,770,000	2006
56	<u>Algeria</u>	2,460,000	2006
57	<u>Slovakia</u>	2,256,000	2006
58	<u>Greece</u>	2,048,000	2006
59	<u>Israel</u>	1,899,000	2006
60	<u>Bulgaria</u>	1,870,000	2006
61	<u>Singapore</u>	1,717,000	2006
62	<u>United Arab Emirates</u>	1,709,000	2006

63	<u>Uzbekistan</u>	1,700,000	2006
64	<u>Croatia</u>	1,576,000	2006
65	<u>Ecuador</u>	1,549,000	2006
66	<u>Syria</u>	1,500,000	2006
67	<u>Ireland</u>	1,437,000	2006
68	<u>Serbia</u>	1,400,000	2006
69	<u>Guatemala</u>	1,320,000	2006
70	<u>Tunisia</u>	1,295,000	2006
71	<u>Slovenia</u>	1,251,000	2006
72	<u>Kazakhstan</u>	1,247,000	2006
73	<u>Dominican Republic</u>	1,232,000	2006
74	<u>Jamaica</u>	1,232,000	2005
75	<u>Zimbabwe</u>	1,220,000	2006
76	<u>Costa Rica</u>	1,214,000	2006
77	<u>Lithuania</u>	1,083,000	2006
78	<u>Latvia</u>	1,071,000	2006
79	<u>Bosnia and Herzegovina</u>	950,000	2006
80	<u>Lebanon</u>	950,000	2006
81	<u>Puerto Rico</u>	915,600	2005
82	<u>Azerbaijan</u>	829,100	2006
83	<u>Kuwait</u>	816,700	2006
84	<u>Jordan</u>	796,900	2006
85	<u>Estonia</u>	760,000	2006
86	<u>Uruguay</u>	756,000	2006
87	<u>Uganda</u>	750,000	2006
88	<u>Moldova</u>	727,700	2006
89	<u>Benin</u>	700,000	2006
90	<u>Haiti</u>	650,000	2006
91	<u>Senegal</u>	650,000	2006
92	<u>El Salvador</u>	637,000	2005
93	<u>Ghana</u>	609,800	2006
94	<u>Bolivia</u>	580,000	2006

95	<u>Afghanistan</u>	535,000	2006
96	<u>Albania</u>	471,200	2006
97	<u>Bangladesh</u>	450,000	2006
98	<u>Sri Lanka</u>	428,000	2006
99	<u>Tanzania</u>	384,300	2005
100	<u>Cameroon</u>	370,000	2006
101	<u>Cyprus</u>	356,600	2006
102	<u>Luxembourg</u>	339,000	2006
103	<u>Honduras</u>	337,300	2006
104	<u>Zambia</u>	334,800	2005
105	<u>Georgia</u>	332,000	2006
106	<u>Togo</u>	320,000	2006
107	<u>Oman</u>	319,200	2006
108	<u>Cote d'Ivoire</u>	300,000	2006
109	<u>Macau</u>	300,000	2007
110	<u>Kyrgyzstan</u>	298,100	2006
111	<u>Qatar</u>	289,900	2006
112	<u>Yemen</u>	270,000	2006
113	<u>Mongolia</u>	268,300	2005
114	<u>Macedonia</u>	268,000	2006
115	<u>Montenegro</u>	266,000	2006
116	<u>Paraguay</u>	260,000	2006
117	<u>Nepal</u>	249,400	2006
118	<u>Gaza Strip</u>	243,000	2005
119	<u>West Bank</u>	243,000	2005
120	<u>Cuba</u>	240,000	2006
121	<u>Libya</u>	232,000	2005
122	<u>Panama</u>	220,000	2006
123	<u>Iceland</u>	194,000	2006
124	<u>Mauritius</u>	182,000	2006
125	<u>Congo, Democratic Republic of the</u>	180,000	2006
126	<u>Mozambique</u>	178,000	2005

127	<u>Armenia</u>	172,800	2006
128	<u>Brunei</u>	165,600	2006
129	<u>Ethiopia</u>	164,000	2005
130	<u>Trinidad and Tobago</u>	163,000	2005
131	<u>Barbados</u>	160,000	2005
132	<u>Guyana</u>	160,000	2005
133	<u>Bahrain</u>	157,300	2006
134	<u>Nicaragua</u>	155,000	2006
135	<u>Malta</u>	127,200	2005
136	<u>Madagascar</u>	110,000	2006
137	<u>Papua New Guinea</u>	110,000	2006
138	<u>Bahamas, The</u>	103,000	2005
139	<u>Eritrea</u>	100,000	2006
140	<u>Mauritania</u>	100,000	2006
141	<u>Somalia</u>	94,000	2006
142	<u>Angola</u>	85,000	2005
143	<u>Gabon</u>	81,000	2006
144	<u>Namibia</u>	80,600	2005
145	<u>Fiji</u>	80,000	2006
146	<u>Burkina Faso</u>	80,000	2006
147	<u>New Caledonia</u>	80,000	2006
148	<u>Congo, Republic of the</u>	70,000	2006
149	<u>Mali</u>	70,000	2006
150	<u>French Polynesia</u>	65,000	2006
151	<u>Guam</u>	65,000	2005
152	<u>Rwanda</u>	65,000	2006
153	<u>Turkmenistan</u>	64,800	2006
154	<u>Botswana</u>	60,000	2005
155	<u>Burundi</u>	60,000	2006
156	<u>Chad</u>	60,000	2006
157	<u>Malawi</u>	59,700	2006
158	<u>Gambia, The</u>	58,000	2005

159	<u>Saint Lucia</u>	55,000	2004
160	<u>Lesotho</u>	51,500	2005
161	<u>Guinea</u>	50,000	2006
162	<u>Cambodia</u>	44,000	2005
163	<u>Bermuda</u>	42,000	2005
164	<u>Swaziland</u>	41,600	2005
165	<u>Niger</u>	40,000	2006
166	<u>Greenland</u>	38,000	2005
167	<u>Guinea-Bissau</u>	37,000	2006
168	<u>Guernsey</u>	36,000	2005
169	<u>Iraq</u>	36,000	2004
170	<u>Belize</u>	34,000	2006
171	<u>Faroe Islands</u>	34,000	2006
172	<u>Antigua and Barbuda</u>	32,000	2006
173	<u>Suriname</u>	32,000	2005
174	<u>Burma</u>	31,500	2005
175	<u>Bhutan</u>	30,000	2006
176	<u>Virgin Islands</u>	30,000	2005
177	<u>Cape Verde</u>	29,000	2005
178	<u>Seychelles</u>	29,000	2006
179	<u>Jersey</u>	27,000	2005
180	<u>Dominica</u>	26,000	2005
181	<u>Laos</u>	25,000	2005
182	<u>Aruba</u>	24,000	2005
183	<u>Andorra</u>	23,200	2006
184	<u>Sao Tome and Principe</u>	23,000	2005
185	<u>Liechtenstein</u>	22,000	2006
186	<u>Comoros</u>	21,000	2006
187	<u>Maldives</u>	20,100	2005
188	<u>Monaco</u>	20,000	2006
189	<u>Tajikistan</u>	19,500	2005
190	<u>Grenada</u>	19,000	2003

191	<u>Micronesia, Federated States of</u>	16,000	2006
192	<u>San Marino</u>	15,400	2006
193	<u>Central African Republic</u>	13,000	2006
194	<u>Djibouti</u>	11,000	2006
195	<u>Northern Mariana Islands</u>	10,000	2003
196	<u>Saint Kitts and Nevis</u>	10,000	2002
197	<u>Sierra Leone</u>	10,000	2005
198	<u>Saint Vincent and the Grenadines</u>	10,000	2005
199	<u>Cayman Islands</u>	9,909	2003
200	<u>Solomon Islands</u>	8,000	2006
201	<u>Equatorial Guinea</u>	8,000	2006
202	<u>Samoa</u>	8,000	2006
203	<u>Vanuatu</u>	7,500	2004
204	<u>Gibraltar</u>	6,200	2002
205	<u>British Virgin Islands</u>	4,000	2002
206	<u>Cook Islands</u>	3,600	2002
207	<u>Tonga</u>	3,100	2006
208	<u>Anguilla</u>	3,000	2002
209	<u>Marshall Islands</u>	2,200	2006
210	<u>Kiribati</u>	2,000	2006
211	<u>Netherlands Antilles</u>	2,000	2000
212	<u>Falkland Islands (Islas Malvinas)</u>	1,900	2002
213	<u>Tuvalu</u>	1,300	2002
214	<u>Liberia</u>	1,000	2002
215	<u>Timor-Leste</u>	1,000	2004
216	<u>Saint Helena</u>	1,000	2003
217	<u>Niue</u>	900	2002
218	<u>Wallis and Futuna</u>	900	2002
219	<u>Norfolk Island</u>	700	2002 est.
220	<u>Christmas Island</u>	464	2001
221	<u>Nauru</u>	300	2002

222	<u>Holy See (Vatican City)</u>	93	2000
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This page was last updated on 15 May, 2008

(Source: Central Intelligence Agency. "Rank Order- Internet Users." The World Factbook 15 May 2008.
<<http://www.cia.gov/library/publicaitons/the-world-factbook/rankorder/2153.html>>.)

A9 : Numbers of Internet Users by Country and ICANN Region

ICANN's Europe	Physical Region	Number of Internet users	Year collected
Ascension Island	AF	no data	no data
Andorra	EU	23,200	2006
Anguilla	LAC	3,000	2002
Albania	EU	471,000	2006
Netherlands Antilles	LAC	2,000	2000
Austria	EU	4,200,000	2006
Aruba	LAC	24,000	2005
Bosnia and Herzegovina	EU	950,000	2006
Belgium	EU	4,800,000	2005
Bulgaria	EU	1,870,000	2006
Bermuda	NA	42,000	2005
Bouvet Island	AF	no data	no data
Belarus	EU	5,478,000	2006
Switzerland	EU	4,360,000	2006
Czech Republic	EU	3,541,000	2006
Germany	EU	38,600,000	2006
Denmark	EU	3,171,000	2006
Estonia	EU	760,000	2006
Spain	EU	18,578,000	2006
Finland	EU	2,925,000	2006
Falkland Islands	LAC	1,900	2002
France	EU	31,295,000	2007
Faroe Islands	EU	34,000	2006
French Guiana	LAC	no data	no data
Guernsey	EU	36,000	2005
Gibraltar	EU	6,200	2002
Greenland	NA	38,000	2005
Guadeloupe	LAC	no data	no data
Greece	EU	2,048,000	2006
South Georgia and South Sandwich Islands	LAC	no data	no data
Croatia	EU	1,576,000	2006
Hungary	EU	3,500,000	2006
Ireland	EU	1,437,000	2006
Isle of Man	EU	no data	no data
British Indian Ocean Territory	AP	no data	no data
Iceland	EU	194,000	2006
Italy	EU	28,855,000	2006
Jersey	EU	27,000	2005
Cayman Islands	LAC	9,909	2003
Liechtenstein	EU	22,000	2006
Lithuania	EU	1,083,000	2006
Luxembourg	EU	339,000	2006
Latvia	EU	1,071,000	2006
Monaco	EU	20,000	2006
Moldova	EU	727,700	2006

Macedonia	EU	268,000	2006
Martinique	LAC	no data	no data
Montserrat	LAC	no data	no data
Malta	EU	127,200	2005
New Caledonia	AP	80,000	2006
Netherlands	EU	14,544,000	2006
Norway	EU	4,074,000	2006
French Polynesia	AP	65,000	2006
Poland	EU	11,000,000	2006
Saint Pierre and Miquelon	NA	no data	no data
Pitcarin	AP	no data	no data
Portugal	EU	3,213,000	2006
Reunion	AF	no data	no data
Russia	EU	25,689,000	2006
Sweden	EU	6,981,000	2006
Slovenia	EU	1,251,000	2006
Saint Helana	AF	1,000	2003
Svalbard and Jan Mayen	EU	no data	no data
Slovakia	EU	2,256,000	2006
San Marino	EU	15,400	2006
French Southern Territories	AP	no data	no data
Ukraine	EU	5,545,000	2006
United Kingdom	EU	33,534,000	2006
Vatican City State	EU	93	2000
Wallis and Futuna	AP	900	2002
Mayotte	AF	no data	no data
Yugoslavia (Serbia and Montenegro)	EU	1,666,000	2006
British Virgin Islands	LAC	4,000	2002
Turks and Caicos Islands	LAC	no data	no data
Romania	EU	5,063,000	2006
ICANN's Asia/Australia/Pacific			
United Arab Emirates	AP	1,709,000	2006
Afghanistan	AP	535,000	2006
Armenia	AP	172,800	2006
Antarctica	Antarctica	no data	no data
Australia	AP	15,300,000	2006
Azerbaijan	AP	829,100	2006
Bangladesh	AP	450,000	2006
Bahrain	AP	157,300	2006
Brunei Darussalam	AP	165,600	2006
Bhutan	AP	30,000	2006
Cocos (Keeling) Islands	AP	no data	no data
Cook Islands	AP	3,600	2002
China	AP	162,000,000	2007
Christmas Island	AP	464	2001
Cyprus	AP	356,600	2006
Fiji	AP	80,000	2006

Federated States of Micronesia	AP	16,000	2006
Georgia	AP	332,000	2006
Hong Kong	AP	3,770,000	2006
Heard Island and McDonald Islands	AP	no data	no data
Indonesia	AP	16,000,000	2005
Israel	AP	1,899,000	2006
India	AP	60,000,000	2005
Iraq	AP	36,000	2004
Iran	AP	18,000,000	2006
Jordon	AP	796,900	2006
Japan	AP	87,540,000	2006
Kyrgyzstan	AP	298,100	2006
Cambodia	AP	44,000	2005
Kiribati	AP	2,000	2006
Democratic People's Republic of Korea	AP	no data	no data
Republic of Korea	AP	34,120,000	2006
Kuwait	AP	816,700	2006
Kazakhstan	AP	1,247,000	2006
Lao People's Democratic Republic	AP	25,000	2005
Lebanon	AP	950,000	2006
Sri Lanka	AP	428,000	2006
Marshall Islands	AP	2,200	2006
Myanmar (Burma)	AP	31,500	2005
Mongolia	AP	268,300	2005
Macao	AP	3,000	2007
Maldives	AP	20,100	2005
Malaysia	AP	11,292,000	2006
Norfolk Island	AP	700	2002
Nepal	AP	249,400	2006
Nauru	AP	300	2002
Niue	AP	900	2002
New Zealand	AP	3,200,000	2006
Oman	AP	319,200	2006
Papua New Guinea	AP	110,000	2006
Philippines	AP	4,615,000	2005
Pakistan	AP	12,000,000	2006
Palestinian Territories (Gaza Strip and West Bank)	AP	486,000	2005
Palau	AP	no data	no data
Qatar	AP	289,900	2006
Saudi Arabia	AP	4,700,000	2006
Singapore	AP	1,717,000	2006
Solomon Islands	AP	8,000	2006
Syrian Arab Republic	AP	1,500,000	2006
Thailand	AP	8,466,000	2006
Tajikistan	AP	19,500	2005
Tokelau	AP	no data	no data
Timor-Leste	AP	1,000	2004
Turkmenistan	AP	64,800	2006

Tonga	AP	3,100	2006
Turkey	AP	12,284,000	2006
Tuvalu	AP	1,300	2002
Taiwan	AP	13,210,000	2005
Uzbekistan	AP	1,700,000	2006
Viet Nam	AP	17,870,000	2007
Vanuatu	AP	7,500	2004
Samoa	AP	no data	no data
Yemen	AP	270,000	2006
ICANN's Africa			
Angola	AF	85,000	2005
Burkina Faso	AF	80,000	2006
Burundi	AF	60,000	2006
Benin	AF	700,000	2006
Botswana	AF	60,000	2005
The Democratic Republic of Congo	AF	180,000	2006
Central African Republic	AF	13,000	2006
Congo	AF	70,000	2006
Cote d'Ivoire	AF	300,000	2006
Cameroon	AF	370,000	2006
Cape Verde	AF	29,000	2005
Djibouti	AF	11,000	2006
Algeria	AF	2,460,000	2006
Egypt	AF	6,000,000	2006
Western Sahara	AF	no data	no data
Eritrea	AF	100,000	2006
Ethiopia	AF	164,000	2005
Gabon	AF	81,000	2006
Ghana	AF	609,800	2006
Gambia	AF	58,000	2005
Guinea	AF	50,000	2006
Equatorial Guinea	AF	8,000	2006
Guinea-Bissau	AF	37,000	2006
Comoros	AF	21,000	2006
Kenya	AF	2,770,000	2006
Lesotho	AF	51,500	2004
Liberia	AF	1,000	2002
Libyan Arab Jamahiriya	AF	232,000	2005
Morocco	AF	6,100,000	2006
Madagascar	AF	110,000	2006
Mali	AF	70,000	2006
Mauritania	AF	100,000	2006
Mauritius	AF	182,000	2006
Malawi	AF	59,700	2006
Mozambique	AF	178,000	2005
Namibia	AF	80,600	2005
Niger	AF	40,000	2006

Nigeria	AF	8,000,000	2006
Rwanda	AF	65,000	2006
Sudan	AF	3,500,000	2006
Seychelles	AF	29,000	2006
Senegal	AF	650,000	2006
Sierra Leone	AF	10,000	2005
Somalia	AF	94,000	2006
Sao Tome and Principe	AF	23,000	2005
Swaziland	AF	41,600	2005
Chad	AF	60,000	2006
Togo	AF	320,000	2006
Tunisia	AF	1,295,000	2006
United Republic of Tanzania	AF	384,300	2005
Uganda	AF	750,000	2006
South Africa	AF	5,100,000	2005
Zambia	AF	334,800	2005
Zimbabwe	AF	1,220,000	2006
ICANN's LAC			
Antigua and Barbuda	LAC	32,000	2006
Argentina	LAC	8,184,000	2006
Barbados	LAC	160,000	2005
Bolivia	LAC	580,000	2006
Brazil	LAC	42,600,000	2006
Bahamas	LAC	103,000	2005
Belize	LAC	34,000	2006
Chile	LAC	4,156,000	2006
Colombia	LAC	6,705,000	2006
Costa Rica	LAC	1,214,000	2006
Cuba	LAC	240,000	2006
Dominica	LAC	26,000	2005
Dominican Republic	LAC	1,232,000	2006
Grenada	LAC	19,000	2003
Guatemala	LAC	1,320,000	2006
Guyana	LAC	160,000	2005
Honduras	LAC	337,300	2006
Haiti	LAC	650,000	2006
Panama	LAC	220,000	2006
Mexico	LAC	22,000,000	2006
Peru	LAC	6,100,000	2006
Paraguay	LAC	260,000	2006
Jamaica	LAC	1,232,000	2005
Nicaragua	LAC	155,000	2006
Saint Kitts and Nevis	LAC	10,000	2002
Saint Lucia	LAC	55,000	2004
Suriname	LAC	32,000	2005
Trinidad and Tobago	LAC	163,000	2005
Uruguay	LAC	756,000	2006

Saint Vincent and the Grenadines	LAC	10,000	2005
Venezuela	LAC	4,140,000	2006
Ecuador	LAC	1,549,000	2006
El Salvador	LAC	637,000	2005
ICANN's North American			
American Samoa	AP	8,000	2006
Canada	NA	22,000,000	2005
Guam	AP	65,000	2005
Northern Mariana Islands	AP	10,000	2003
Puerto Rico	LAC	915,600	2005
United States Minor Outlying Islands	NA	no data	no data
United States	NA	208,000,000	2006
Virgin Islands US	LAC	30,000	2005

Key:

AF Africa

AP Asia/Australia/Pacific

EU Europe

LAC Latin America/Caribbean Islands

NA North America

A10: Total Number of Board Resolutions Adopted, 1998 to 2007

Board Meeting Year	Total Adopted Resolutions
2007	120
2006	108
2005	123
2004	127
2003	174
2002	164
2001	144
2000	97
1999	142
Resolutions Total	1199

A11: Adopted Resolutions Excluded from Analysis

1. Board Meetings Without Minutes or Transcripts	Adopted Resolution Numbers	Total Resolutions Passed in Board Meeting
Oct. 29-Nov. 2 2007	07.88- 07.113	25
Dec. 5 2004 -Org. Meeting	04.114- 04.122	8
Aug. 30 2004	04.78-	1
June 29 2004	04.45- 04.55	10
May 24 2004	04.41- 04.44	3
May 11 2004	04.40-	1
April 19 2004	04.25- 04.39	14
	Total	62
2. Board Meetings Without Resolution Numbers	Adopted Resolution Numbers	Total Resolutions Passed in Board Meeting
Dec. 18 2007	07.117- 07.120	3
Nov. 20 2007	07.113- 07.116	3
Dec. 8 2006	06.88- 06.108	20
Oct. 18 2006	06.76- 06.80	4
Sept. 7 2006	06.68- 06.70	3
July 11-15 2005	05.46- 5.60	14
Dec. 20 2004	04.127-	1
Dec. 4 2005	05.46- 05.63	17
	Total	65
3. Board Meetings with only Transcripts	Adopted Resolution Numbers	Total Resolution Passed in Board Meeting
June 25-29 2007	07.41- 07.58	17
March 26-30 2007	07.17- 07.33	16
July 11-15 2005	05.46- 5.60	14
Dec. 5 2004 Sixth Annual Meeting	04.97- 04.113	16
July 23 2004	04.56- 04.77	21
March 6 2004	04.18- 04.31	13
Oct. 31 2003	03.160- 03.174	14
	Total	111
4. Inaccurate Vote Counts	Non-Unanimous Adopted Resolution Numbers	Total Resolutions Passed in Board Meeting
March 13 2001	01.24-01.29 and 01.37	6
April 2 2001	01.47-01.48	2
May 7 2001	01.52-	1
July 31 2001	01.76- 01.77	2
January 21 2002	02.02- 02.08	6
February 12 2002	02.13- 02.14	2
August 23 2002	02.98- 02.100	3

Oct. 31 2002	02.130-	1
Dec. 20 2004	04.127-	1
March 13 2006	06.19- 06.20	2
Total		26

5. Getschko Reported as Voting Before His Term Started	Non-Agreed Adopted Resolution Numbers	Total Resolutions Passed in Board Meeting
February 18 2005	05.09- 05.11	3
May 3 2005	05.29-	1
June 1 2005	05.32- 05.33	1
June 28 2005	05.43- 05.45	3
July 28 2005	05.69- 05.70	2
Sept. 15 2005	05.74- 05.75	2
Oct. 12 2005	05.76-	1
Nov. 8 2005	05.96-	1
Total		14

6. Fockler Reported As Voting After His Term Ended	Non- Agreed Adopted Resolution Numbers	Total Resolutions Passed in Board Meeting
Nov. 15 2001	01.104-01.108, 01.111, 01.118	6
Total		6

A12: Non-Unanimous Adopted Resolutions Examined

<u>Type of Vote</u>	<u>Non-Unanimous Adopted Resolution</u>
gTLD	2001.06
gTLD	2001.061
gTLD	2001.062
gTLD	2001.082
gTLD	2001.083
gTLD	2001.084
gTLD	2001.085
gTLD	2001.086
gTLD	2001.092
gTLD	2002.04
gTLD	2002.041
gTLD	2002.11
gTLD	2002.113
gTLD	2002.114
gTLD	2002.115
gTLD	2002.142
gTLD	2002.143
gTLD	2003.042
gTLD	2004.017
gTLD	2006.084
ccTLD	2001.087
ccTLD	2001.088
ccTLD	2002.043
ccTLD	2003.086
ccTLD	2003.087
ccTLD	2003.088
ccTLD	2003.089
ccTLD	2003.09
ccTLD	2005.003
ccTLD	2007.075
ccTLD	2007.076
ccTLD	2007.077
ccTLD	2007.078
ccTLD	2007.079
Rep	2000.066
Rep	2001.124
Rep	2001.125
Rep	2001.126
Rep	2001.127
Rep	2001.128
Rep	2001.129
Rep	2001.13
Rep	2001.131
Rep	2002.016
Rep	2002.017
Rep	2002.018
Rep	2003.1

Rep	2003.101
Bylaws	2000.019
Bylaws	2001.109
Bylaws	2001.11
Bylaws	2002.012
Bylaws	2002.019
Bylaws	2002.021
Bylaws	2002.022
Bylaws	2002.023
Bylaws	2002.024
Bylaws	2002.025
Bylaws	2002.026
Bylaws	2002.047
Bylaws	2002.116
Bylaws	2002.117
Bylaws	2002.146
Bylaws	2002.147
Bylaws	2003.018
Bylaws	2003.023
sTLD	2004.125
sTLD	2004.126
sTLD	2005.101
sTLD	2005.102
sTLD	2007.014
sTLD	2007.018
Verisign	2000.077
Verisign	2000.078
Verisign	2000.08
Verisign	2001.071
Verisign	2001.072
Verisign	2001.073
Verisign	2002.084
Verisign	2003.078
Verisign	2006.007
AppEI	2001.143I
AppEI	2003.008I
AppEI	2003.024
AppEI	2003.026
AppEI	2003.045

A13: Total Number of Adopted Resolutions by Vote Category

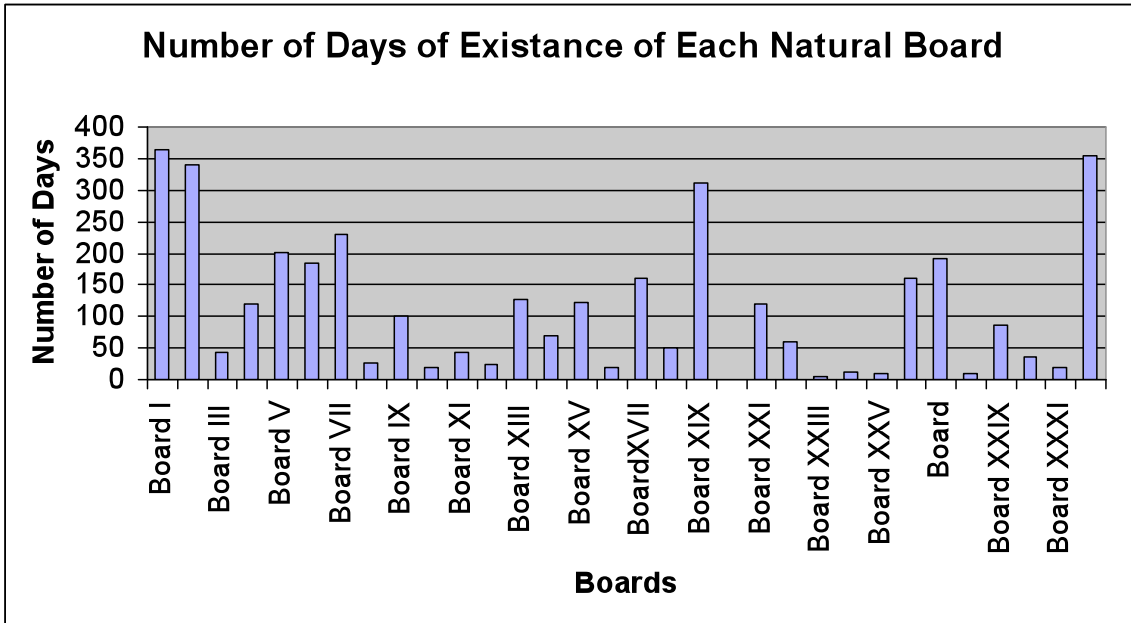
Year	Categories						
	ccTLD	gTLD	Bylaws	Rep	sTLD	Verisign	App/EI
1998	0	0	3	0	0	0	4
1999	0	0	8	12	0	0	16
2000	3	12	3	11	0	0	6
2001	2	3	5	10	0	6	11
2002	8	9	3	0	0	1	3
2003	6	8	3	5	0	1	16
2004	4	6	1	0	4	0	0
2005	0	0	1	0	2	1	1
2006	7	4	0	0	12	0	1
2007	9	2	0	0	2	0	1
Total	39	44	27	38	20	9	59

Excluded Adopted Resolutions*

Year	Categories						
	ccTLD	gTLD	Bylaws	Rep	sTLD	Verisign	App/EI
1998	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0
2001	1	6	5	0	0	2	6
2002	2	2	1	0	0	1	0
2003	0	0	0	0	0	0	0
2004	8	3	0	0	4	1	9
2005	9	3	2	0	12	0	1
2006	0	0	0	0	0	1	0
2007	0	6	1	0	2	0	0
Total	20	20	9	0	18	5	16

*Reasons for exclusion in A11.

A14: Board Duration (in days)



A15: Members from the North American and Asian Pacific Regions by Nationality

Members From NA	Nationality	Members From AP	Nationality
Goldstein	American	Ito	Japanese
Lynn	American	Katoh	Japanese
Niles	American	Murai	Japanese
Palage	American	Tonkin	Australian
Roberts	American	Twomey	Australian
Rodin	American	Crew	Australian
Dyson	American	Thrush	New Zealander
Fitzsimmons	American	Wong	Hong Kongese
Wilson	American	Kyong	South Korean
Auerbach	American	Qian	Chinese
Cerf	American	Ramaraj	Indian
Chapin	American		
Conrades	American		
Crawford	American		
Wodelet	Canadian		
Fockler	Canadian		
Cohen	Canadian		

A16: “Western” and “Non-Western” Board Members by Nationality

Western		Non-Western	
Member	Nationality	Member	Nationality
Abramatic	French	Beca	Chilean
Abril Abril	Spanish	Campos	Brazilian
Alvestrand	Norwegian	Diop	Senegalese
Auerbach	American	Getschko	Brazilian
Blozijl	Dutch	Pisanty	Mexican
Capdeboscq	French	Qian	Chinese
Cerf	American	Quaynor	West African
Chapin	American	Ramaraj	Indian
Cohen	Canadian	Rionge	Kenyan
Conrades	American	Ito	Japanese
Crawford	American	Katoh	Japanese
Crew	Australian	Kyong	South Korean
Davidson	British	Murai	Japanese
Drakes	British		
Dyson	American		
Fitzsimmons	American		
Fockler	Canadian		
Gaetano	Italian		
Goldstein	American		
Hultsch	German		
Jennings	British		
Kraaijenbrink	Dutch		
Lynn	American		
Markovski	Bulgarian		
MuellerMaguhn	German		
Niles	American		
Palage	American		

1. As it is used here. “Western” is shorthand for representatives from Anglo-American and European countries.

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