

THE TAXONOMY OF INTERNET GOVERNANCE ¹

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Internet governance is an example of a new and complex phenomenon requiring an initial conceptual mapping and classification. The more complex the field, the greater is the need for its classification. The complexity of Internet governance is related to its multidisciplinary character, which encompasses a variety of aspects such as: technological, social, economic, developmental, legal and political. There is both a theoretical and a practical need for an initial mapping of the Internet governance field. With regard to theory, it is obvious that in spite of the recent growth in the volume of academic research in the field of Internet governance, a clear delimitation in this field of research is still lacking. The practical need for a taxonomy of Internet governance was clearly demonstrated during the WSIS process. Many players, including nation states themselves, faced a considerable challenge in grasping the complexity of Internet governance. A conceptual mapping of the Internet governance field should contribute towards more efficient negotiations in the context of the WSIS as well as other multilateral negotiation processes. This can be achieved through: 1) the clearer identification of the main issues; 2) the articulation of national interests; and 3) the reduction of negotiation “noise” caused by disparate interpretations of the main concepts. This proposed taxonomy of Internet governance is only a tool. It should not be regarded as being “true” or “false”, but as just one of the possible approaches to organising this field.

Terminology

The term “classification” refers to a logical organisation of information, ideas and events. It is used to describe both the process and the end result. Another related term, used in our research, is “taxonomy”. The word taxonomy derives from the two Greek

¹ This paper is the summary of a research project on the taxonomy of Internet governance. The current text is open for hypertext discussion on Diplo’s hypertext server. Hypertext-based discussion is one of Diplo’s methodological tools. It is used in both teaching and research activities. One of its key features is that texts always remain open for comments and discussions. “Traditional text versions”, such as academic papers and official reports, reflect the status of hypertext interaction at a certain point in time. This version of the text reflects hypertext interaction as of 16th February 2004.

words *taxis* (“arrangement”) and *nomos* (“law”). The closest literal translation of taxonomy would be “the law of arrangement”. The most developed use of the term can be found in biology. There, it is used to describe the classification of various plants and animals into various types. In our research, we use the term classification to describe the process and the term taxonomy to describe the end result.

Evolution of Research on the Taxonomy of Internet Governance

In introducing Diplo’s taxonomy research, there follow a few comments about Diplo’s overall methodology. Our methodology consists of three main pillars: training/education, research and development of tools. First, in the fields of training and education, Diplo focuses on the requirements of modern diplomacy, emphasising Internet governance training. Second, our research addresses the question of modern diplomacy from a theoretical perspective. Third, Diplo develops practical ICT-based tools for diplomats, such as negotiation software and applications for the analysis of diplomatic documents. The need for the first classification of ICT/Internet issues was triggered in the preparation of our first course on ICT and Internet policy, held in 1997. The main aim of the course was to introduce diplomats from developing countries to ICT and Internet policy issues. The classification scheme was the basis of the course curriculum. Since 1997, six academic courses and a number of short courses have been held involving more than 200 participants, mainly diplomats from developing countries.² Course participants acquired both theoretical knowledge about ICT/Internet governance and practical negotiation skills. The practical training is implemented through a simulation exercise based on the drafting of global instruments for Internet governance. Since 1997, the initial ICT/Internet governance taxonomy has been adjusted through an iterative process based on feedback from students and experience gathered from the courses.

A new phase in the development of a taxonomy started in 2002 with the WSIS process. This research has been conducted in parallel with the WSIS process. Taxonomy research is one of three projects initiated by Diplo in the context of the WSIS. The other two are titled “Research on the Emerging Language for ICT Diplomacy” and “Research on a Multi-stakeholder Approach”. The taxonomy research project has benefited from

² The list of participants in the postgraduate diploma and short courses in the field of the Internet and Diplomacy is available at: <http://www.diplomacy.edu/Edu/Alumni/map.htm>.

findings of the other two projects. For example, the language project provided useful information about document analysis and underlying rhetorical patterns. This information was used to identify the key classification concept for the taxonomy research.

Development of the Taxonomy of Internet Governance

Our research on the taxonomy of Internet governance consists of two phases: the creation of an initial taxonomy and a comparative analysis of other taxonomies/classifications of Internet governance.

First Phase – Creating an Initial Taxonomy

As was previously indicated, the initial taxonomy is the result of Diplo's combined training and research activities since 1997. In order to construct an appropriate level of generalisation capable of accommodating all the specific issues, the field of Internet governance is divided into five main baskets: infrastructure and standardisation, legal, economic, development and socio-cultural. The term "baskets" was introduced in diplomatic practice during the OSCE negotiations.³ Since the taxonomy is used for a simulation exercise in multilateral diplomacy, the term "basket" is appropriate as a reflection of the real diplomatic world and its activities.

³ The OSCE (initially CSCE) process consisted of three baskets: politico-military, economic-environmental and human rights.

Table: The Initial Taxonomy of Internet Governance

INFRASTRUCTURE & STANDARDISATION BASKET	LEGAL BASKET	ECONOMIC BASKET	DEVELOPMENT BASKET	SOCIO-CULTURAL BASKET
Technical Infrastructure	Copyright	Electronic Commerce	Digital Divide	Content Control
Technical Standards	Trademarks	Taxation	Technology Transfer	Privacy Protection
Content Standards	Labour Law	Market and Pricing Regulation	Financial Support - Public and Private Sources	Human Rights
Interconnection & Interoperability	Dispute Resolution - Arbitration	Investment	Migration - Brain Drain	Education
Doman Name System (DNS)	Cybercrime	Electronic Money	Access and Telecommunication Policy	Moral and Cultural Values
Security of Information Systems	Jurisdiction	Online Banking		Multilingualism & Cultural Diversity
Encryption	Digital Signature	Customs		Common Heritage of Mankind - Knowledge & Information on the Internet
		Data and Consumer Protection		

The Infrastructure and Standardisation Basket

This basket incorporates the basic issues related to the running of the Internet. A multilayer approach is used very often to describe the operations of computer networks. Professor Benkler has divided the Internet structure into three "layers": the "physical infrastructure layer", the "code" or "logical layer" and the "content layer".

The infrastructure and standardisation basket focuses on all three layers. It deals with the "physical infrastructure layer", which comprises all physical facilities capable of transporting digital signals, including telephone copper wire, fibre-optics and cables. This also includes non-physical media such as satellite, micro-wave and wi-fi. A special emphasis in the field of **technical infrastructure** is placed on the standards and regulations that facilitate the normal functioning of the global telecommunication system, which, in addition to other services, is also used in Internet communication. Most international standards and regulations in this field are managed by the International Telecommunication Union. The global management of the technical infrastructure will be increasingly affected by the liberalisation of the telecommunication market and increasing competition.

The existence of physical connectivity is a pre-condition, but the Internet "came into being" due to Benkler's second, "logical", layer, which controls the network. The cornerstone of the "logical" layer is TCP/IP and other Internet-specific protocols, which are grouped under the title of **technical standards**. Numeric addresses, handled by TCP/IP, are translated into familiar Internet addresses (e.g. www.diplomacy.edu) through the use of the **Domain Name System (DNS)**. The management and coordination of DNS is one of the key issues of Internet governance. This issue gained even higher importance during the recent WSIS. The restrictive use of the term "Internet governance" focuses solely on the issue of the management of DNS and the basic Internet infrastructure. With the introduction of TCP/IP, the traditionally important question of the **interconnectivity and interoperability** of various networks became less important than in the past.

The third layer is the "content layer", which regulates the organisation of content and information. The World Wide Web "takes shape" on this layer through the use of HTML. The development of **content standards** is carried out mainly within the context of W3C.

The infrastructure and standardisation basket contains two additional topics: information system security and encryption. The increasing dependence of modern society on ICT and the Internet has led to increased vulnerability and potential risks. Particularly relevant is the vulnerability of the critical infrastructures of modern society, including electricity grids, transport systems and health services. As damage to these systems causes enormous problems and high costs, hackers often target them. The question of **information system security** is identified as one of the issues in the taxonomy of Internet governance.

Encryption deals with the tools and other means necessary for the protection of data communications. The discussion on encryption has swung between two extremes. On the one hand, governments and others are concerned that strong encryption could be used by terrorists and criminals to avoid detection. On the other hand, restricted encryption protection - combined with excessive government control - will erode the right to privacy of information. Beside the privacy/national security dilemma, another facet is the linking of the need for stronger encryption to the development of e-commerce. With a growing number of financial transactions being performed online, the question of the protection of communication is of paramount importance.

Legal Basket

Almost every issue related to the Internet Governance has a legal component. Security, content control and e-commerce are all matters requiring legal regulation. A topic is placed in the legal basket if it is predominantly legal in nature. For example, various aspects are associated with cybercrime, including social values, security and e-commerce, but cybercrime remains primarily a legal concept. Similar reasoning is applied to the other topics found in the legal basket.

The shaping of a legal response to the development of the Internet is still in its infancy. The two prevalent views about the way in which laws should be adopted are listed below:

- a) “New wine in old bottles” – there is nothing conceptually new about the Internet. Existing legal systems in the fields of telecommunications, intellectual property and jurisdiction could be applied to most issues related to the Internet.
- b) “New wine in new bottles” – the Internet effectuates new social realities that cannot be regulated by existing legal rules. There is a need to introduce new laws – cyberlaws.

As is usually the case in such matters, the most viable option will be found somewhere in the middle. While many existing rules could be applied to the Internet governance, there is still a need to introduce new rules to regulate specific features of the Internet - especially borderless communication.

Knowledge and ideas are becoming one of the key resources of the global economy. Their protection is exercised through the system of **intellectual property rights (IPRs)**. The most important IPRs for Internet governance are trademarks and copyrights. **Trademarks** are closely linked to the regulation of domain names. The Uniform Dispute Resolution Policy (UDPR) for solving trademark disputes in the field of domain names is an example of a multi-stakeholder initiative (WIPO, ICANN, ISPs) employing a variety of innovative techniques (arbitration, use of online tools). With the wide distribution of information, the question of the protection of **copyrights** has gathered additional importance on the international level. Copyrights have a variety of

economic, social, cultural and developmental aspects. Copyrights are becoming one of the most important issues in the field of Internet governance.

Technology is developed to be *used*, but it is very often also (mis)*used* or even (ab)*used*. In general, **cybercrime** deals with the abuse of technology. While the “crime” part of the term has been clearly defined (e.g. theft, distribution of pornography), various opinions about the meaning of “cyber” do exist. Some authors argue that cybercrime is merely traditional crime committed via computers. Others argue that the **unique elements of cybercrime warrant special treatment, especially when it comes to enforcement and prevention.**

The relations between **jurisdiction** and the Internet have a built-in ambiguity. On the one hand, jurisdiction is based predominantly on the geographical division of the globe into national territories. Each national territory forms a state, with the sovereign right to exercise jurisdiction over its territory. On the other hand, the Internet has no such borders. The question of jurisdiction on the Internet exposes one of the key dilemmas associated with it: how is it possible to “anchor” the Internet in legal and political geography?

Although the question of **digital signatures** is classified in the legal basket it has many “cross-basket” aspects. First, it is related to the broader question of anonymity/authenticity on the Internet, which influences many aspects of Internet governance (cybercrime, taxation, etc.). Second, digital signatures are often used within a very specific framework of e-commerce as a way of demonstrating the authenticity of online transactions.

Dispute resolution on the Internet involves many legal issues. The main dilemmas are related to the two aspects of procedure (jurisdiction) and content (choice of law). The obvious limitations of using national courts (jurisdiction, slow and costly process) led towards the increasing use of arbitration. The dispute resolution mechanisms adopted in the field of domain names could be further used in other fields related to the Internet.

The observation that the Internet is changing “the way we work” is frequently highlighted. Some of these changes, such as teleworking, challenge some of the basic elements of **labour law**. The main challenge is the alteration of the standard routine of

work, free time and sleep (8+8+8 hours). It is increasingly difficult to distinguish where work starts and where it stops. Changes in labour laws should reflect these changes.

The Development Basket

The history of human society provides many examples of technology empowering some individuals, groups and nations, but excluding others. The Internet is no different in this respect. From an individual to a global level, a profound change has occurred in the distribution of wealth and power. The impact of ICT on the distribution of power and development has given rise to many questions. Will the ICT-accelerated affect the already formidable development divide that exists between the rich North and poor South. Will ICT reduce or broaden the existing divide?

The key challenge of any development policy is to reduce the **digital divide** between those who have the access and capability to use ICT, and those who are either unaware or cannot use it for a lack of resources and/or training. The digital divide is not merely confined to the gap in technological access between the developed and developing worlds, but can also readily be found within developed countries across different ethnic and socio-economic groups. The digital divide could be reduced through the achieving of universal access. The ambitious objective of providing **universal access** is contingent on various developmental aspects including the development of infrastructure, education, changes of policy, etc. One of the problems related to universal access is the limitation of the last mile or local loop. How could home computers be connected to the local exchange or backbone? The attainment of universal access is also linked **to the access and telecommunication policies** of developing countries. Their lower levels of monopoly in the field of telecommunications could lead towards both cheaper and more efficient access to the Internet.

Developmental possibilities in many developing countries are limited by the “**brain drain**” – a movement of high-skilled labour from developing to developed countries. The loss to developing countries can be identified in many fields including: the loss of skilled labour and the loss of investment in the education of skilled labour. The rapid development of ICT has increased the demand for skilled labour in developed countries. Besides this development that could further accelerate the brain drain, there are possibilities that could reverse the brain drain too. Modern communication facilities enable many professions, especially in the service field, to be performed online. For example, many companies from developed countries have back offices in developing countries.

Transfer of technology is a traditional developmental issue that gained a new relevance with the development of ICT and the Internet. The core question is how should intellectual property rights (IPRs) be used in the context of transfer of technology. The link between IPRs and the transfer of technology is discussed within the context of many international initiatives and negotiations.

Financial support from both public and private sources is an important component of development assistance. Various multilateral and bilateral mechanisms facilitate financial support for development in the field of ICT. One of the key issues of the WSIS Geneva stage was the establishment of a fund that would facilitate ICT development.

The Economic Basket

This basket contains all the aspects of economic life affected by the use of ICT and the Internet. The core issue is e-commerce, which could be defined as the process of carrying out business transactions online. **E-commerce** takes three main forms: business-to-consumer (B2C) transactions, business-to-business (B2B) transactions and business-to-government (B2G) transactions. The US government highlights “the online commitment to sell goods or services” as the key element distinguishing traditional commerce from e-commerce. This means that whenever a commercial deal is concluded online it should be considered an e-commerce transaction, even if the realisation of the deal involves physical delivery. The potential for the fast growth of e-commerce on a global level depends, to a large extent, on the establishment of a proper regulatory framework that would facilitate online transactions. One important issue of the emerging regulatory framework is **consumer protection**. In the past, customers rarely needed international protection. With e-commerce an increasing number of international transactions are taking place. This increases the need for international consumer protection. Payment procedures are the key to the faster development of e-commerce. **Electronic money and payments** should facilitate a more secure and easier transfer of funds. A further facilitation to e-commerce would be provided by the use of **online banking**.

The **taxation** of e-commerce transactions is one of the most highly debated issues in this field. One school of thought argues that there is no difference between traditional and electronic commercial transactions. Thus, e-commerce taxation does not require special rules. Others argue that the taxation of e-commerce requires a special status of its own. On the international level, the latter approach has been adopted. WTO introduced a temporary Internet tax moratorium, rendering international e-commerce transactions tax free. Besides taxation, **customs** are also affected by the development of e-commerce. The transaction of digital goods over international borders cannot be controlled in the same way as the transaction of material goods. This opens many issues related to the applicability of the existing concept of custom control as well as the introduction of some new procedures.

The economic basket includes an additional two issues. The first is **investment**, especially the regulation of specific features of ICT-related investment such as venture capital. The second is the **market and pricing regulation** of e-commerce.

The Socio-cultural Basket

The socio-cultural basket includes some of the most controversial issues in the field of Internet governance, such as content control, privacy protection and multilingualism. Perceptions of the socio-cultural impact of the Internet usually reflect national, religious and cultural differences. One of the main issues in this basket is content control. Content control initiatives are instigated for various reasons. The most controversial reason is controlling access to politically and ideologically sensitive information. Another reason for content control is related to the access of websites that could affect the moral and cultural values of a particular society. The last group of content control initiatives deals with the control of content accessed by children. Interrelated with some aspects of content control are various human rights including the right to freedom of expression and the right to access to information.

Privacy, commonly interpreted as the “right to be left alone,” is considered to be one of the most important rights of modern society. Information technology has provided powerful tools for gathering and analysing enormous amounts of information. These tools are used both by government departments (tax, social security, health, property, criminal records) and the business sector, which gathers assorted information about its customers. Privacy protection is gaining more attention on the international stage as was demonstrated in the recent data protection negotiations between the EU and the USA.

The global impact of the Internet has threatened many languages and cultures.. The growing importance of English in Internet life requires concentrated efforts towards the protection of linguistic diversity on the Net. The protection of **multilingualism** and **cultural diversity** is becoming an important issue. The question of the **common heritage of mankind** comprising the knowledge and information found on the Internet also needs to be addressed.

Education is another important issue which is gaining international relevance. The Internet makes online learning possible. With the growing number of individuals participating in courses delivered via the Internet arises a need to address the international aspects of these developments.

SECOND PHASE – COMPARING THE INITIAL TAXONOMY WITH OTHER SIMILAR INITIATIVES AND PROJECTS

In the second phase of our research, after making an initial classification, we compare various classification schemes and methodologies with our initial taxonomy. A survey of other projects and initiatives results in the finding that the majority of projects focus on specific fields such as development, cybercrime, e-commerce and the digital divide. The comparative analysis included the following sources:

International legal and political documents. The main international legal document dealing exclusively with Internet-related issues is the Council of Europe Convention on Cybercrime.⁴ Although they are not legally binding, the OECD Guidelines have a high importance too, most of them having been implemented in the domestic laws of member states. Most international official sources dealing with Internet governance issues are non-binding documents – resolutions, declarations and statements. Their international legal importance lies in their being considered a part of “soft law” or establishing practices that could lead to customary international law. These international political documents are adopted within the framework of the United Nations, regional organisations and initiatives as well as some global political initiatives such as G7/G8.⁵ The most relevant international documents for taxonomy research are those adopted in the context of the WSIS process, including the final declaration, the action plan and the regional declarations. Most of these documents boast broad coverage, providing some elements for the conceptual mapping of the field of Internet governance. Our taxonomy research tries to identify the underlying classifications in those documents.

Research and policy papers. A second important source includes the various research and policy papers prepared as part of the various multilateral and research initiatives. The most relevant report for taxonomy research is the “Louder Voices”, conducted by a group of experts within the framework of the Commonwealth Telecommunication Organisation and Panos Institute. One of the objectives of the “Louder Voices” project was to map the international decision-making structure in the field of Internet and international telecommunications.

⁴ The Convention on Cybercrime is open for signing. It has not yet entered into force.

⁵ Okinawa Charter on Global Information Society (2000), Report of the Digital Opportunity Task Force (*DOT Force*).

Academic publications – books and papers. Internet governance is becoming an increasingly important issue in the academic field. Most publications are focusing on the issues related to the position and role of ICANN. For our taxonomy research, the most interesting studies were those covering a broader framework, such as Marcus Franda's book "Governing the Internet: The Emergence of an International Regime". The underlying methodology of the academic studies is extracted in order to be compared with Diplo's initial taxonomy.

Information available on websites. The last source for the taxonomy research included the websites of organisations dealing with Internet governance issues. 53 websites dealing with some aspects of Internet governance were identified. This included the websites of the EU, international organisations (WIPO, UNDP, OECD, UNESCO, UNCTAD, WTO, the World Bank, the UN ICT Task Force, ASEAN and APEC), national organisations such as USPTO and various non-governmental organisations such as the Internet Society, GKP, GIPI and EFF.

Data from these four sources was collected, analysed and compared with Diplo's initial taxonomy, which is the starting framework for our research. The comparative analysis resulted in:

- a) identifying the similarities between Diplo's initial taxonomy of Internet governance and other taxonomies/classifications;
- b) identifying any missing dimensions in Diplo's initial taxonomy structure;
- c) checking the validity of the overall taxonomy framework consisting of the five baskets (infrastructure-standardisation, legal, economic, development and socio-cultural).

The first report on the Taxonomy of Internet Governance Project should be presented at the Global Forum on Internet Governance (New York, 25-26 March 2004).