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## **D4.1 Outline Overviews of Tasks R4.1-R4.4: Regulatory and governance methodologies**

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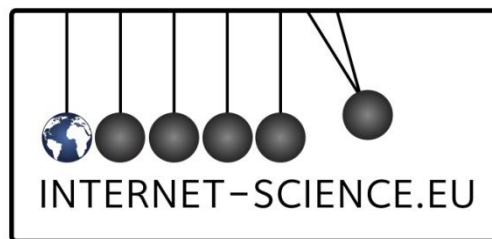
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## **D4.1. Outline Overviews of Tasks R4.1- R4.4.: Regulatory and governance methodologies**

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<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>1. INTRODUCTION .....</b>	<b>6</b>
<b>2. REGULATION AND GOVERNANCE .....</b>	<b>9</b>
<i>Introduction: defining regulation .....</i>	<i>9</i>
<i>Examining the origins of Internet regulation .....</i>	<i>10</i>
<i>Co-Regulation Defined .....</i>	<i>11</i>
2.1. TYPOLOGY OF CO-REGULATION .....	12
2.2. INTERNET SCIENCE CONTRIBUTION TO WIDER REGULATORY STUDIES.....	13
<b>3. GOVERNANCE.....</b>	<b>15</b>
3.1 DEVELOPMENT OF MULTIPSTAKEHOLDERISM.....	20
<b>4. SOCIAL SCIENTIFIC METHODOLOGIES .....</b>	<b>23</b>
4.1 NORMATIVE VALUE OF COMMUNICATION AND IG .....	23
4.2 THE NETWORK IDEA.....	25
4.3. KEY FRAMEWORK CONCEPTS .....	25
4.3.1 <i>The network society.....</i>	<i>25</i>
4.3.2 <i>Network Governance .....</i>	<i>26</i>
4.3.3 <i>Peer to peer processes and governance .....</i>	<i>28</i>
4.4. CRITIQUES OF NETWORKED GOVERNANCE ARRANGEMENTS AND OF INTERNET EFFECTS.....	29
<b>5. GOVERNANCE INSTITUTIONS AND MECHANISMS .....</b>	<b>31</b>
5.1. ANALYSIS OF MULTISTAKEHOLDER PROCESSES .....	31
5.1.1 <i>Privatized Governance .....</i>	<i>32</i>
5.1.2 <i>Code and Design as Governance Mechanisms .....</i>	<i>32</i>
<b>6. CRITICAL PERSPECTIVES .....</b>	<b>35</b>
6.1 FOUCAULT AND CRITICAL CONCEPTS OF 'ORDERING' .....	35
6.1.1 <i>Galloway and critical perspectives on the network via the 'exploit' .....</i>	<i>35</i>
6.1.2 <i>Open-sourcing governance.....</i>	<i>36</i>
6.2 TAXONOMY.....	36
<b>7. CATALOGUING GOVERNANCE TOOLS FOR STANDARDS.....</b>	<b>39</b>
7.1 TOWARDS CASE STUDY EXPLORATION .....	39
<b>8. STANDARDS BODY CASE STUDIES.....</b>	<b>41</b>
8.1 DELIVERABLE 4.3: STRAWMAN FOR CASE STUDY SELECTION .....	41
8.1.1 <i>Strawman in detail - A Methodology Template for Case Study Authorship.....</i>	<i>41</i>
<b>9. TOWARDS DELIVERABLES D4.4.1 AND D4.4.2.....</b>	<b>44</b>
<b>APPENDIX 1: D13.1 SUMMARY OF STANDARDS POLICY.....</b>	<b>46</b>
<b>APPENDIX 2: MERZOUKI ON IG AS A POLITICAL CONSTRUCT .....</b>	<b>49</b>
<b>BIBLIOGRAPHY.....</b>	<b>57</b>

Deliverable 4.1: Overview of regulatory and governance methodologies

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**Editor's Note:** As this deliverable takes a broad social scientific approach to examining regulation and governance, it is referenced very fully, using Social Science referencing with a full bibliography. This required adaptation by both lawyers (accustomed to voluminous footnotes) and computer scientists (accustomed to numbered references). The two appendices provide background on [1] prior work by this JRA for D13.1; [2] an analysis of Internet Governance [IG] as a political construct by Dr Merzouki, adapted from recently published research.

## Executive Summary

This document is the first formal deliverable from JRA4: Regulation, Governance and Standards. It was written by social scientists: an interdisciplinary legal scholar (Marsden), a political scientist (Merzouki), and two communications scholars with broad socio-political expertise (Powell and Pavan). Background material was provided by economists (Cave), computer scientists (Conti and Passarella, Salamatian), lawyers (Bygrave) and communications experts (Brown: Stockholm). It is a contingent dynamic draft document, expressing an evolving interdisciplinary understanding between the research team members, and growing interaction with the wider regulatory and governance communities. It will evolve and deepen as the JRA progresses.

The document has five parts, focussing on an overview of regulatory and governance methodologies drawn from several disciplines and multidisciplinary approaches.

Following a short Introduction, the first part is a summary of regulatory literature, including co-regulation, explaining the dynamic nuanced multi-faceted approach, which is becoming more common than a static regulated/self-regulated dichotomy. It also briefly describes the nascent Internet Science contribution to wider regulatory studies, which we may expect to increase as the subject matures.

Part 2 then examines Internet governance (IG), with focus on the growing role of multistakeholder processes.

There is extended discussion of critical social scientific methodologies in Part 3: focussing on examining norms, networks, code and regulation, and governance institutions. Critically, it also analyzes the normative value of communication and IG, which extends critical examination far beyond the limits of graph theory. Key Frames assessed are: networks as analytic tools for the study of communication and IG dynamics, critiques of networked governance arrangements and of Internet effects.

There is then brief examination in Part 4 of governance institutions and mechanisms, which will lead into the later tasks of drawing lessons from case studies.

Finally, Part 5 explains further critical perspectives, notably Foucault and critical concepts of 'ordering'. Note that a further detailed political scientist's assessment on governance is provided in Appendix 2.

Task R4.2 is outlined, which will catalogue governance tools for standards. It provides tools to aid towards case study selection from standards body case studies. Then under description of Task R4.3 we provide a strawman for a methodology template for case study authorship, and detail the three case studies selected.

There follows brief introductory consideration of case study application to our final deliverables D4.4.1 and D4.4.2, supported by Appendix 1, which explains the D13.1 summary of standards policy, and the framework put forward in Appendix 2, which explores new form of legitimacy; fragmentation, co-elaboration and re-ordering of norms; and the normative consequences of privatization and proceduralization.

## 1. Introduction

This is the full first overview of regulatory and governance methodologies, and testing of candidate case studies for further examination in M13-24. Tentative hypotheses as to a governance and regulation taxonomy will be presented as a strawman for further refinement and analysis in the second year of the project, moving from Task R4.1/4.3 to explore within Task 4.2, leading to conclusions in Task 4.5 in the final year of the project.

This deliverable engages with the various governance and standards communities. That is the study of a complex inter-relationship of communities which demands an interdisciplinary approach – an ‘Internet science’ approach<sup>1</sup>. The main task here is to develop a multi-disciplinary catalogue of methodologies that can aid better understanding of goals and challenges to better participative decision-making, including but not limited to consideration of: open-source governance approaches such as the efforts to establish open-source standards for hardware as well as software.

In this report, we study specific aspects of the Internet, rather than a broader approach more suited to JRA1 or JRA6. We examine regulation, and more particularly, governance as applied to the Internet environment, and go on to consider how a multi-faceted multidisciplinary methodological approach can help to critically examine existing Internet standard-setting. We then examine in depth the challenge of multi-stakeholder participation (MSP) as an element which has been claimed to bring greater pluralism and responsiveness to societal aims into standard setting organisations (SSOs).

We briefly outline in introduction why our approach is international and dynamic. Discrete analysis of the Internet is becoming much more difficult, as digital information exchange diffuses throughout the economy and society. Interoperability makes Internet markets particularly susceptible to both failure and remedy as they tip towards a dominant product, firm or standard. Path dependency and network effects can have long-term effects in code solutions, and raise a serious regulatory problem when dealing with communication networks. Maintaining unstudied indifference or attempting to retrofit telecoms or utilities regulation and standards onto the fundamentally different Internet environment are not workable solutions. Code changes quickly, user adoption of standards more slowly, legal contracting and judicial adaptation to new technologies slower, and regulation via legislation slowest of all. Regulators need to be made aware that their actions can and almost certainly will have unintended consequences. The public interest is not always well represented by the government or corporate interest, especially in as dynamic and generation-dividing a set of technologies as those considered here. This suggests the need for multi-stakeholder participation (MSP) to increase the range of voices engaged in Internet Governance (IG).

McCahery et al. (1996) set out a three point “primary and interrelated concerns” in study of regulation with a globalization agenda:

1. Institutional response to dynamic economic change;
2. The “functional policy concern” regarding the utility and geometry of regulation;
3. The democratic deficit, resulting from the institutional (i.e. constitutional) under-development of the regimes formed to regulate international economic actors.

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<sup>1</sup> Buchanan (2003) defines the scientific meaning of networks thus: “The study of networks is part of the general art of science known as complexity theory. In an abstract sense, any collection of interacting parts - from atoms and molecules to bacteria, pedestrians, traders on a stock market floor, and eve nations - represents a kind of substance... That substance satisfies certain laws of form, the discovery of which is the aim of complexity theory.” This should be based on previous insights from complexity and chaos theory. The systematic study of complexity, also known as complexity theory, is a wide-ranging field encompassing mathematics, physics, chemistry, biology, economics, computer science and sociology. Complex systems produce surprisingly simple predictable behaviour that is impossible to forecast though they feature simple laws and fewer actors. Normal science shows how complex effects can be understood from simple laws; chaos theory demonstrates that simple laws have complicated, unpredictable consequences; and complex theory describes how complex causes can produce simple effects.

These questions of how, where and with what tools to regulate in an increasingly complex and interdependent environment are vital:

- How do regulatory institutions respond to dynamic change in economic conditions?
- How are these governance reforms influenced by political (social, cultural and ideological) and economic factors?
- To what extent do national and regional regulators diverge in their response to global technological factors?

North (1990) acknowledges the contribution of sociological institutionalism within his historical institutional path dependency. He explains why the parameters of investigation must be broadened from narrowly neo-classical economic to encompass prior institutional structures and practices:

“Informal constraints matter. We need to know much more about culturally derived norms of behavior and how they interact with formal rules to get better answers to such issues... It is no accident that economic models of the polity developed in the public choice literature make the state into something like the mafia... the traditional public choice literature is clearly not the whole story.”

Minimal state involvement is most efficient, in dynamic innovative industries, but is challenged by three factors: technological, competition, and democratic. Technology is never neutral in its social impact, network and scale effects are driving massive concentration in information industries, self-regulation critically lack constitutional checks and balances for the private citizen, including appeal against corporate action to prevent access or remove materials. Finally government should ensure at least reserve statutory powers to oversee self-regulation, to ensure the effective application of due process and attention to fundamental rights in the measures taken by private actors. Government regulation has serious legitimacy deficits, with as much government as market failure in Internet regulation to date.

It is unfeasible to entirely map Internet regulation on a national basis, as a patchwork of national networks where international regulatory discussion centres on areas with overlapping jurisdictions or unclear jurisdiction. The comparison of Internet regulation with the Law of the Sea or medieval mercantile law ('Lex Mercatoria' as 'Lex Informatica': Reidenberg 1998) is untenable in practice, as unlike maritime transactions, Internet transactions commonly take place in real time in multiple jurisdictions, potentially using the same computer software worldwide. A further difference with traditional trade in goods is in the nature of those 'goods': information goods are often media or 'speech' products that carry an explicit political or ideological message. The idea that one can map Internet regulation based on the location of bits is therefore superficially attractive but essentially a technologically-determined attempt to reintroduce physical jurisdictional boundaries<sup>2</sup>. The Internet's highly-connected nature has enabled at least sophisticated users to route around censorship, protected by encryption.

If Internet transactions cannot be regulated in the same way as physical goods transactions, a second suggestion is that they be mapped using their nearest physical analogue: the geography of their routing through servers. There has been a growing realization that the Internet presents a complex series of challenges to existing laws, but that a nuanced and interdependent (if complex) relationship has emerged

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<sup>2</sup> An example might help to explain the fallacy of using geographical enforcement in many cases. The ability of the state to seize physical assets and interrogate evidence (such as data on servers) is at the centre of national enforcement. The Internet remains largely a 'dumb' network, which routes packets without examining their contents. This lies behind the so-called 'end to end' nature of the Internet. Attempts are being made to 'see' inside the packets to check their compliance with the law, governments still cannot very effectively act as custom officials and stop, check, deport, or import packets. Though this is a technological possibility in Internet design, it would create a significantly different environment where - for instance - anonymity of senders was removed or at least penalized.

between existing nationally based legal systems and a global (or at least multi-polar) Internet architecture based on code. Relatively fast and technologically dynamic development means that there is likely to remain a 'governance gap' between what the technologists and advanced users know of the medium, and political responses, as with many advanced technologies.

For this reason, we focus on more international solutions, especially as standards tend to be adopted and formed regionally or globally, rather than nationally (China provides a limited exception to this). The trans-disciplinary approach as urged by Clark et al (2002, 2005) offers a more holistic approach to regulatory design. The approach of using interlocking analysis taken from geographical, substantive and disciplinary examination of the Internet is that most commonly used by legal and social scientific analysts of Internet regulation.

We therefore adopt a nuanced approach, acknowledging that neither the state nor self-regulation has all the answers to Internet regulation, and that the concepts of governance and MSP are essential to a better understanding of future Internet design.

The growing societal importance of the Internet makes the policy challenge increasingly important. We need to reject simple "magic bullet" solutions based on the study of one discipline (whether computer science, law or economics), one industry sector (telecommunications or free software) or one solution (self-regulation or government control)<sup>3</sup>. To explain the survey of methodologies, we must first define regulation and Internet Governance [IG], and their application to the Internet.

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<sup>3</sup> Note the contribution of Guadamuz (2011), who explains that there has been a wealth of innovative and informative multidisciplinary research into the way the Internet works. Its architecture is now understood enough to claim that it represents many of the inherent characteristics of scale-free networks and, as a result, it can be said that it responds to power laws.

- Mapping the Internet shows that its architecture makes centrality of some nodes crucial to the whole.
- The Internet appears to be a scale-free network (some nodes considerably more links than others).
- One would expect that large networks such as the Internet display random features instead of power laws. However, looking at how the public Internet is organised, researchers have found that it exhibits scale-free characteristics in all of its components (page visits, incoming links, number of page visits, time spent on site, popularity and architectural structure).

He concludes that the architecture of the Internet is susceptible to subject to government control. He argues that whoever controls (the development of) these scale-free characteristics via such mechanisms as the standard-setting process, will be better able to control the Internet than more regressive and reactive censorship strategies using command-and-control legal methods

## 2. Regulation and Governance

Regulation is the exercise of control, a broad definition which means that it has applications across the sciences and social sciences. This does not necessitate the use of consistent rules or power, though in law and politics it is generally assumed that such is the case, as it is assumed in computer science. Such a broad means of control also permits – indeed encourages if not necessitating – a multidisciplinary or at least a less doctrinaire approach, which means that legal positivism or other mono-disciplinary approaches are often unhelpful. For instance, law, politics, economics and sociology are regular disciplines for collaboration in regulation in general (Baldwin and Cave 2001, Baldwin, Scott and Hood 1998). Law recognises the need for such approaches via scholarship on self-regulation, co-regulation and even ‘informal international rule-making’ (Braithwaite and Drahos 2000, Marsden 2011). Politics also recognises such non-state activities as involving the withdrawal or abstention from regulatory action on the part of the state or states. Buthe and Wlaser Mattli (2011) note:

“Th[e] internationalization and privatization of rulemaking has been motivated not only by the economic benefits of common rules for global markets, but also by the realization that government regulators often lack the expertise and resources to deal with increasingly complex and urgent regulatory tasks”<sup>4</sup>.

There are three existing conflicting approaches to Internet regulation, from a technical and legal policy perspective: continued technological and market- led self-regulation; reintroduction of state-led regulation; and multi-stakeholder co-regulation.

### *Introduction: defining regulation*

This section analyzes regulation, by defining and exploring its recent institutional history in the Internet environment. It then assesses the legal definitions and taxonomies of regulation before constructing a twelve-point scale of self- and co-regulation.

The term ‘co-regulation’ encompasses a range of different regulatory phenomena, which have in common the fact that the regulatory regime is made up of a complex interaction of general legislation and a self-regulatory body. Co-regulation has enriched conceptions of ‘soft law’ or ‘governance’ in the literature in the past ten years, but like those umbrella terms, refers to forms of hybrid regulation that do not meet the administrative and statute-based legitimacy of regulation, yet clearly perform some elements of public policy more than self-regulation, which is defined by the absence of formal roles for the nation-state or European law. Co-regulation is often identified with the rise of the ‘new governance’ in the 1990s, which is examined in the next section.

Without regulation responsive to both the market and the need for constitutional protection of fundamental rights, Internet regulatory measures cannot be self-sustaining.

Co-regulation constitutes multiple stakeholders, and this inclusiveness results in greater legitimacy claims. The state, and stakeholder groups including consumers, are stated to explicitly form part of the institutional setting for regulation. However, direct government involvement including sanctioning powers may result in the gains of reflexive regulation – speed of response, dynamism, international cooperation – being compromised. The growing gulf between states’ preference for regulatory and self-regulatory solutions, and citizens’ preferences for greater control if not ownership of vital regulated industries, has led to a crisis of legitimacy. We analyze co-regulation, by defining and exploring its recent

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<sup>4</sup> Their case studies are the International Accounting Standards Board, International Organization for Standardization and the International Electrotechnical Commission. They “find that global rule making by technical experts is highly political, and that even though rule making has shifted to the international level, domestic institutions remain crucial. Influence in this form of global private governance is not a function of the economic power of states, but of the ability of domestic standard-setters to provide timely information and speak with a single voice.”

institutional history together with that of Internet self-regulation. We then assess the legal definitions and taxonomies of co-regulation before constructing a twelve-point scale of self- and co-regulation (Cave, Marsden, Simmons 2008).

#### *Examining the origins of Internet regulation*

The modern state has faced twin demands for less, and better designed, regulation (Baldwin, Hood, Scott 1998: 3). This argued for an industry-led response to the complexity inherent in many modern regulated industries, notably the complexity associated with globalisation of businesses and the rise and ubiquity of modern (notably ICT) technologies. The trend towards co-regulation suggests involvement of public interest groups as well as government, to create greater representation in the co-regulatory bodies and therefore (it is hoped) greater transparency, internal due process and respect for fundamental rights (Williamson 1975, 1985, 1994). Responsive regulation describes a more complex dynamic interaction of state and market (Teubner 1986), a break with more stable previous arrangements (Baldwin and Black 2010, Black 2010). This applies to other globalising phenomena than the Internet, for instance financial and environmental law (Gaines and Klimber 2001), where negative externalities are highlighted for public concern (Gunningham and Grabowsky 1998, Gunningham and Rees 1997, Abbott and Snidal 2000).

Black (1996: 55) states that a taxonomy of self-regulation runs from:

- “mandated private regulation, in which a collective group, an industry or profession for example is required or designated by the government to formulate and enforce norms within a framework defined by the government, usually in broad terms (Ayres and Braithwaite 1992);
- sanctioned private regulation, in which the collective group itself formulates the regulation which is then subjected to government approval,
- coerced private regulation, in which the industry itself formulates and imposes regulation but in response to threats [of]... statutory regulation, and
- voluntary private regulation, where there is no active state involvement direct or indirect...”

Huysse and Parmentier (1990: 260) distinguish self-regulatory relationships: subcontracting in which the state sets formal conditions for rule making, but leaving it up to parties to shape the content; ‘concerted action’ in which the state sets both formal and substantive conditions for rule making; ‘incorporation’ in which existing but non-official norms become part of the legislative order by insertion into statutes.

The Internet developer community has cherished self-regulation based on Codes of Conduct (Helin and Sandstrom 2007, Higgs-Kleyn and Kapelianis 1999, Vrieling et al 2000, Abbott and Snidal 2009) and Terms of Use (Price and Verhulst 2000). Governments have broadly accepted that a more flexible and innovation-friendly model of regulation is required, particularly in view of the rapid growth, complex inter-relationships and dynamic changes taking place in Internet and games development (Goldsmith and Wu 2006). The application of criminal law in specific European cases has resulted in unintended consequences and content provider losses (Reidenberg 2001). Governments adopted self-regulation as a pragmatic policy, using both hard law and much softer forms of regulation (Lemley 2006, Senden 2005, Cosma and Whish 2003, Hodson and Maher 2003). The self-regulatory Internet is more adaptable than earlier technologies of radio, television, and the telegraph – not least because the medium itself can be used in a distributed networked governance structure.

Human rights can be maintained using market-based solutions, but there are bright lines of human rights protection that should not be traded for economic benefit. Such rights are backed by constitutions

from the US and French Bills of Rights forwards to the new European Charter of Fundamental Rights (Peers and Ward 2004). The Internet environment is a powerful technology for society and individuals to express their rights, as well as an environment in which such rights can be abused and curtailed due to legal, economic, technological, security and other incentives for powerful actors. Case law is now grappling with the market/rights balance.

### *Co-Regulation Defined*

Co-regulation is a relatively novel phenomenon, given that state regulation and self-regulation are as old as markets. Kleinstuber (2004) explained “If the State and the private regulators co-operate in joint institutions, this is called co-regulation. If this type of self-regulation is structured by the State but the State is not involved the appropriate term is regulated self-regulation.” It has been expanded on by Latzer et al (2003, 2006, 2007a, 2007b, 2010) who distinguished between different self-regulatory bodies’ establishment and development.

Co-regulation has been discussed since the late 1980s, in the Australian context as a hybrid of state and self-regulation. Within the European context, co-regulation was described by van Schooten and Verschuuren (2008: 2) as an element of ‘non state law’ backed by “some government involvement”. They see co-regulation as one of the emerging forms of ‘smart regulation’, alongside certification and audited standard making as an interim step between state-provided regulatory agency action and more self-regulatory forms. They explain that it has been recognised that what is of interest in regulation is generally secondary rules rather than primary legislation, and that what is of interest in this secondary rule-making is how much involvement government actually devolves to private actors. The variety of rules and rule-making in IG describes a law that is about compliance and negotiation rather than a monopoly of force. OECD (2006) has tried to detail the uses of co-regulation. Tambini et al (2007: 43) stated: “If part of the calculation of industry bodies involves awareness that the state might do something or be compelled to do something should they fail to take responsibility for self-regulation, then we can say that there is at least co-regulatory oversight.”

The European co-regulation approach was detailed in COM(2002)275 and COM(2002)704. It became official policy in the Inter-Institutional Agreement (2003) and defined co-regulation as: “the mechanism whereby a Community legislative act entrusts the attainment of the objectives defined by the legislative authority to parties which are recognised in the field (such as economic operators, the social partners, non-governmental organisations, or associations)...[parties] may conclude voluntary agreements for the purpose of determining practical arrangements... the Commission will verify whether or not those draft agreements comply with Community law (and, in particular, with the basic legislative act).” Paragraph 21 sets out in some detail the types of monitoring needed: “The competent legislative authority will define in the act the relevant measures to be taken in order to follow up its application.” This suggests substantial work programmes on compliance and adaptation of the legislative act in the case of co-regulation, where the Commission monitors co-regulation (e.g. Com[2009]504).

The Commission also sets out the circumstances in which forms of regulation short of state regulation will not be appropriate “where fundamental rights or important political options are at stake or in situations where the rules must be applied in a uniform fashion in all Member States.” Howells (2004: 119) asked: “who will decide what is so unimportant that it can be decided by co-regulation?” This is particularly the case where human rights law is increasingly being applied commercially in various forms. It is self-evident that the more supervision and review resembles that in full state regulation, the less the benefits of flexibility and industry participation. Self- and co-regulation must also not infringe principles

of competition or “the unity of the internal market”. Academic authors have been somewhat cynical about the legitimacy and representation in co-regulation (Scott and Trubek 2002), especially as regards industry Codes of Conduct that are supported by government agencies, but Collins maintains that the ‘Social Dialogue’ has helped create “labour law [as] the field in which co-regulation has been most successful” (Collins 2004: 38), explaining “self-regulation [success] has only been [under] the credible threat of imminent action by the [European] Council” (Joerges, Meny, Weiler 2001). Moreover, the Court of First Instance has established that co-regulation is only legitimate where the “representativeness” of relevant stakeholders is well displayed (UEAPME v. Council 1998). The European Commission in 2005 analyzed co-regulation in terms of ‘better regulation’(COM[2005]97). This was immediately made part of internal EC practice (SEC[2005]791) which the Commission must follow before bringing forward a new legislative or policy proposal.

### *2.1. Typology of Co-regulation*

Case studies suggest that co-regulatory success is mixed and many factors can jeopardise its success. Verhulst and Latzer (2007) provide excellent analysis of the types of co-regulation beginning to develop and their institutional path dependency. Self-regulatory bodies form as single issue bodies, often crisis-driven. There are different incentives for self-regulation, and economic as well as political analysis is needed, together with attention to the loss of constitutional guarantees (Ofcom 2001, 2004, Office of Regulatory Review 2008). Latzer identifies five types of regulation short of statutory agency-led regulation, the latter pair being prevalent in Internet content regulation:

1. Co-regulation,
2. State-supported self-regulation,
3. Collective industry self-regulation,
4. Single company self-organisation,
5. Self-help/restriction by users including rankings to impose restrictions on access to content.

He notes the direction of travel: both bottom-up transformations from self- into co-regulatory bodies, and top-down delegation from regulation into co- (but not self-) regulation. Price and Verhulst (2005) identified increasing realism in recognising competition problems, emerging monopolies and dominance. Baird (2002: 81) suggested that the ‘bottom-up’ approach from national regulation does not negate the vital role of government – in fact she suggests that they are clearly the leading policy player. Millwood-Hargrave (2007) also defines the progress from self- to co- to state regulation. The UK Better Regulation Executive (2005: 26) has claimed the advantage of co-regulation “is that it provides a degree of certainty due to the backstop legal provisions whilst also encouraging innovation by allowing a flexible approach to implementation” and claim that “Co-regulatory initiatives are more likely to be successful as those being regulated have scope to use their experience to design and implement their own solutions.” Ofcom’s regulatory analysis of co- and self-regulation (Ofcom 2008) arrives at similar conclusions.

Following a multi-year empirical investigation with a multinational research team, Marsden (2011) established twelve states of regulation from the ‘purity’ of standard setting self-regulation to a form so close to regulation that the regulator itself internally recognises the form as effectively regulation. Combining Latzer’s approach with Verhulst’s leads to Table 1 overleaf.

Note that these approximate classifications do not relate to degree of government funding – the relationship between direct or indirect government funding is not consistent with policy involvement. For instance, government may choose to support a self-regulatory standard-setting activity as a genuinely deregulatory policy, as in Scales 2 and 6. That may include government financial support or co-funding.

One can investigate whether such approaches are consistent with policy support via the success or failure of proposed policy interventions to extend the scope of such bodies.

Table 1: Ideal Types of Self- and Co-regulation (adapted from Cave, Marsden and Simmons 2008: xiii)

Regulatory Scheme	Scale	Government Involvement
'Pure' unenforced self-organisation	0	Informal interchange only - evolving partial industry forum building on players' own terms
Acknowledged self	1	Discussion but no formal recognition/approval
Ex post standards self	2	Ex post approval of standards
Standardised self	3	Formal approval of standards
Discussed self	4	Ex ante informal consultation -no sanction/approval/process audit
Recognised self	5	Recognition of body - informal policy role
Co-founded self	6	Ex ante negotiation of body; no outcome role
Sanctioned self	7	Recognition- formal policy role (contact committee/process)
Approved self	8	Ex ante informal negotiation with government -with recognition/approval
Approved compulsory co-regulatory	9	Ex ante negotiation with government -with sanction/approval/process audit
Scrutinised co-regulatory	10	As 9 with annual budget/process approval
Independent Body	11	Government imposed co-regulated with taxation/compulsory levy

## 2.2. *Internet Science Contribution to Wider Regulatory Studies*

We have thus far have focussed on regulation and governance applied to the Internet, but the Internet has also been used as an exemplar for what regulation in other networked environments may look like in future. We can describe two scientific approaches to Internet regulation, endogenous and exogenous (though we are conscious that the 'Internet' is not a self-referential system in itself, and includes scientific approaches taken from a variety or prior and current art in its various subfields). This section focuses on what we describe as 'exogenous' approaches - what Internet regulation and governance teaches other sectors of the economy.

Contributions here include the legal (Guadamuz 2011, Murray 2006), legal-political (Lessig 2008, Moglen 2003), institutional economic (Mueller 2010), and sociological (Castells 1996, 2012). Following Castells, some more popular work on globalisation and networks made ludicrously overblown claims about flattening of hierarchy and networked governance (notably Friedman 1999 et seq, Shirky 2003, Anderson 2005). Insights from network theory also inform the debate exogenously as well as endogenously. In addition to Guadamuz (2011), we can add contributions based on networked governance models (Marsden 2010) and systems theory (Spulber and Yoo 2009). Complexity theory has added to this stream of analysis, with contributions mainly from US legal-economic theorists (Bauer 2008, Cherry 2006) and economists. There is no one-way street from regulatory studies towards the Internet - Internet regulation itself feeds back into mainstream regulatory discussion.

However, regulation with its emphasis on hierarchy, legal process, government and enforcement is by no means the whole story in Internet design. The following section considers governance and a broader approach, which is more sympathetic to the range of actors and processes involved in Internet policy.

### 3. Governance

Governance is a more expansive term than regulation, describing the institutions and power relations in the regulatory ecosphere or environment, and encompassing environments that do not contain any formal or even informal control except via some normative value. Regulation as a rules-based field existing within a wider policy discussion of governance is the approach outlined for legal scholars (Scott 2004). Governance is further discussed in much of the political science literature in terms of networks and informal rule-making institutions such as multinational corporations and - particularly relevant for IG - standard-setting organisations (Christou and Simpson 2009). Governance as a concept explains the networked modes of regulating (Benkler 2006), by the governments concerned, by market actors in collaboration, by civil society stakeholders.

Discussions of ‘governance’ as distinct from ‘government’ arose in the late 1980s in political science literature, though earlier in organisational and business studies. The term ‘governance’ began to be used widely in political science literature in the 1990s, to describe intermediate forms of self-regulation in the post-Cold War globalization literature (Pierre 2000, Jones and Hesterly 1993). Varying definitions of governance have been adopted by practitioners and academics, falling into what might be termed ‘minimalist’ and ‘maximalist’ areas (Zysman and Weber 2000).

The position adopted by the United Nations (WGIG 2004) distinguishes direct IG mechanisms from those that more properly are placed within telecommunications or media law. The EC (2001) *Governance White Paper* intended to: “adopt new forms of governance that bring the Union closer to European citizens, make it more effective, reinforce democracy in Europe and consolidate the legitimacy of the institutions.” The politics of governance research accompany the legal study of co-regulation.

The term governance has been differently employed amongst different areas and action domains. In his review focused on challenges faced by the British government, Rhodes (1996) identifies six different uses of governance: as the minimal state; as corporate governance; as the new public management; as “good governance”; as a socio- cybernetic system; as self-organizing networks. More recently, and building on previous elaborations, Pattberg (2006) identifies TEN meanings of the term governance: as the minimal state; as the emergence of new commercial management strategies in the public sector; as corporate governance; as “good governance”; as coordination and cooperation efforts in decentralized networks; as multilevel governance within the European Union; as the second term of the legacy governance-govermentality elaborated by Foucault; as participatory governance; as socio-cybernetic steering processes; as that international order in international relations that focuses on inter- national institutions and regimes coping with transnational problems. In the attempt to find a working definition of (global) governance, Pattberg (2006:5) proposes to conceive it as “first occupied with rules, organization and the conditions for order in a broader sense. Secondly, [it] stipulates the existence, to various degrees, of new processes and mechanisms of problem-solving. Finally, it describes a qualitatively new relation between public and private actors and a broadening of governing capacities, often in the form of self-organizing networks”.

With the diffusion of the Internet as a communication tool outside laboratories and universities, concerns on its governance became a matter of interest for many others besides technicians (Hofmann 2006; Kleinwächter 2004, 2007). This entailed a necessary enrichment of the contents associated with the very idea of IG, to the point that IG has progressively become an umbrella concept gathering different perceptions, views and perspectives of Internet and its uses characterizing all stakeholders (e.g., users, institutions, standard setting bodies, Internet Service Providers etc.). On the one hand, this overall “thematic uncertainty” (Pavan 2012) has constituted over time one of the major hindrances to the

consolidation of IG beyond technical and academic environments as an issue of common concern and a relevant policy domain in the public discourse beyond technical. On the other, the fuzziness of the concept itself is inherently functional, as it allows a certain flexibility and the fluid adaptation of the IG agenda to changes brought by Internet evolution (Drake 2004; MacLean 2004a).

The idea that roles and responsibilities in the global and highly dynamic environment enabled by the Internet can be allocated on a temporary and contingent basis according to inclusive and non-hierarchical relationships is not new. Roles have often shifted among government, corporations and civil society, but it appears that the United Nations is underwriting a more durable multi-stakeholder relationship in regard to IG. So far, the boundaries of the IG domain have been set according to different perspectives, sometimes emphasizing technical/standard elements; some others including also a procedural/political dimension. One example of the first perspective is provided by Kleinwächter, for whom “the term ‘Internet Governance,’ while undefined, rather vague and partly confusing, stands mainly for the global technical management of the core resources of the Internet: domain names, IP addresses, Internet protocols and the root server system” (2004:233). Conversely, an example of a more holistic perspective encompassing social and political is provided by Drake, who defines IG as “the collective rules, procedures and related programs intended to shape social actors’ expectations, practices, and interactions concerning Internet infrastructure, transactions and content” (2004:125).

Discussing how globalization may affect the law, Frydman identifies five main features of a new model of global governance. These are: (1) a shift from institutional regulation to economic regulation; (2) a correlative shift from public regulators to private actors; (3) a shift from primary substantive rules to secondary procedural rules; (4) the increasing involvement of technical devices to implement regulations; and (5) a rhetoric emphasis put on basic human rights and fundamental liberties (Frydman, 2004). This model, which Frydman applies to systems apparently as different as global warming and tradable pollution permits, or Internet content regulation, also seems, at a more general level, a perfect description of the distributed characteristic of IG. They lead to identify three main sets of issues providing a framework for evaluating the problem of IG: regimes, domains and mechanisms.

The first set of issues relates to IG *regimes*. Who sets the rules? What are the actors involved? What are their respective sources of legitimacy, representation, and democracy? Which types of organization are set up for decision-making process and who are their main actors? How are partnerships being organized? What are the relationships between communities of Internet pioneers, NGOs and current networks of actors involved in IG?

Three main forms of governance regimes may be identified as ideal-types that define, rather than an actual form of government, the position of concerned actors *vis-à-vis* the state or the public authority, and individual users. The body setting and enforcing the rule within a given jurisdiction determines the form of governance regime. In government regulation, this body is the public authority (at national or supranational level). In the self-regulation regime, concerned actors organize governing rules and processes themselves. In the third governance regime, an independent regulation authority is recognized as such by the concerned actors and/or has received power delegation by the public authority.

As these three main forms of regimes are ideal-types, they may actually lead to any hybrid combination of governance regimes: multi-regulation, inter-regulation, co-regulation, etc. Positions taken in the public debate, or even actually adopted governance regimes in given jurisdictions, depend on whether concerned actors see the Internet as a common good (to be then governed in the public interest) or rather as a market place (to be then more or less regulated, depending on the visions of various actors, including the completely free-market option).

The second set of issues deals with *IG domains*. Which fields or dimensions are addressed by the governance efforts? What do we aim to rule? What is actually ruled? What is the substance of the resulting decision making process (what do they exactly address)? What is the scope of such decisions (are they restricted to the decision-making group or is their competence domain extended beyond the group)? Note that when research and discussions address the substance of a norm and its effects, they use the concept of regulation rather than governance, which remains mainly dedicated to institutional constructs or regimes. Three main domains of normative competence can be identified. They define the limits of what is allowed (by laws, contractual agreements, or professional norms), what is possible (determined by formatted technical norms), and what is civil or socially acceptable (defined through codes, contracts or etiquettes and communication practices). Each domain is set and bounded by different normative sources.

The third set of issues explores *IG mechanisms*. What are the mechanisms embedding the rule? What are the modalities and constraints ruling Internet exchanges? On which trust and confidence conditions do they rely? How are disputes and conflicts resolved? What is the role of technical artefacts in these processes? How do they allow for rule enforcement, circumvention and questioning? How are controversies dealt with? What are the modalities for extending deliberative mechanisms and processes?

Existing *IG mechanisms* are themselves hybrid, heterogeneous and proteiform. They may be assessed according to various dimensions and criteria. They may be implicit or explicit: some mechanisms do not even require any awareness of their existence, as they are transparent to the users, while some others are based on explicit knowledge and actions by the same user, like when setting preferences and thus exercising a given competence. They may be voluntary or obligatory, depending on optional consent by the user, either through opt-in or opt-out procedures, or may, on the contrary, be embedded into non-negotiable provisions in the terms of use of a certain service (or other contracts). They may be preventive or repressive, when they are implemented as and *ex ante* technical procedure or as an *ex post* penalty. Among the many available mechanisms, or combination of them, five appear as major *IG tools*: consensus finding, technical devices, arbitration procedures as alternative dispute resolution mechanisms, codes of conducts, and public authorities' delegation to private actors.

Underlying the predominance of the first set of issues over the last two in the general understanding on *IG*, van Eeten and Mueller (2012: 8) state:

“Internet Governance ...is routinely applied to the study of a few formal global institutions with limited or no impact on governance, but not to studies of the many activities that actually shape and regulate the use and evolution of the Internet, such as Internet service provider interconnection, security incident response or content filtering. Consequently, current conceptualizations of Internet Governance inflate the presence and influence of state actors. Furthermore, they undermine efforts to understand how large-scale distributed systems in the global economy can be governed in the absence of formalized international regimes... concepts of networked governance can be applied and extended to illuminate the study of Internet Governance.”

Thus the Internet Governance Forum (*IGF*), a discussion forum convened annually by the United Nations General Assembly under the auspices of the Secretary General, derives its authority only from that remit, with no power to make rules or even to agree formal positions on substantive issues - though ‘enhanced cooperation’ lead to the production of “public purpose” (Marcussen & Torfing 2003; Borgason & Zølner 2007; Sørensen and Torfing 2006), i.e., achieve policy outcomes of non-binding nature (e.g., shared frames and understandings; agenda settings; common definition of guidance principles etc.), as it is implied by the idea of “governance networks” (see Appendix 2 below). Thus

governance literature describes a yet broader range of socio-political issues, and there has been extensive analysis of governance as both corporate governance (Williamson 1985, 1994, 1996) and IG. Here, instead we focus on institutional aspects that pertain to IG.

In Internet regulation itself, the most important contributions are those taken from computer science and law, particularly focussing on standards formation (Clark, Reed, Saltzman 1984, Braman 2009), software code as a regulator (Lessig 1999, Wu 2003, Zittrain 2008), and regulation of software standards (Lemley and McGowan 1998, Brown and Marsden 2013). It is notable that all these contributions analyse law and computer science in full cognisance of each other, as well as socio-economic conditions, notably monopoly and oligopoly as well as social psychology in user behaviour (see further Noveck 2006). We can also describe more explicitly normative – or even oral philosophical – contributions to the argument, first for an open information commons (Berners Lee 2000, Benkler 1998, 2006, Lessig 2001, Boyle 2008), and second from a libertarian standpoint for minimal state interference (Post 2008, Post and Johnson 1996, Perry Barlow 1996), as well as more realist claims for resumption of state sovereignty (Marsden ed. 2000, Goldsmith and Wu 2006, Curran, Fenton, Freedman 2012, Mansell 2012).

The area of science and technology studies has also featured interdisciplinary examination of Internet standards, taken from a computer science basis informed by social science methodology. In addition to Braman's pioneering work, we can add van Schewick (2010) especially in her examination of net neutrality and the end-to-end principle, DeNardis (2009) on IG and civil society, Doria's continued work on standards and ICANN (2011), Abbate and Kahin on standards organisations and standard setting (1995), Blumenthal and Clark's many collaborations on quality of service and Internet design (2002, 2011), and Zittrain's work on 'generativity' (2008). Several analyses from political science and public policy take privacy as a focus for their examination of science policy, notably Bennett and Raab (2003), and Brown and Marsden (2013).

For many actors and commentators, IG tastes like an old wine in a new bottle (Brousseau, Merzouki, Meadel 2012) – to the extent that some consider, for instance, network neutrality more a matter of co-regulation than of IG (Marsden 2010). This experience of *déjà vu* occurs infrequently when we are dealing with network infrastructure and protocols; however, it is widespread when we address the regulation of content (Frydman 2004; Marzouki 2008a; Mopas 2009). Even after granting that the Internet is the target and not the means of the governance process,<sup>5</sup> actually delimiting the full scope and complexity of IG remains a work in progress—as attested by the efforts to define its contours as an academic research field (DeNardis 2010a, 2010b).

Despite its broad definition by the Working Group on IG (WGIG 2005) mandated during the World Summit on the Information Society (WSIS), the field remains amorphous. The meaning of the term “IG” varies according to the background and objectives of those who invoke it. The result is many ambiguities and misunderstandings in defining the field and the issues at stake. The differences pertain to all dimensions of IG, as summarized in the following list, resulting in a wide set of interrelated issues.

- The *What*: narrow or broad object? A first set of ambiguities arises with the definition of what, exactly, should be governed. Some would restrict the field to management of critical Internet resources, meaning infrastructure and protocols or, at the least, domain names (Mueller 2002; Paré 2003; DeNardis 2009). Others view IG as embracing any and all types of regulation—including that of content and behavior—provided only that the object of regulation is somehow related to electronic communications (Benedek et al. 2008).

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<sup>5</sup> In this sense, IG is a process that differs from e-government in both nature and objectives.

- The *Why*: particular or general interest? It is generally agreed that IG decisions affect—directly or indirectly, explicitly or implicitly—all current and future end users, which include individuals, private companies and organizations, and public institutions. However, a second set of ambiguities is related to the intentions and objectives of IG policies that stem from different visions of the network. Some view the Internet as a commons; it conveys services of general interest and thus should be governed as a public good and with a focus on human rights and democracy (Jørgensen 2006). Others see the Internet as a terrain for technical innovation and economic globalization, which leads to requirements (as driven by a market economy) concerning liberalization of services and fair competition. This perspective underlies analysis of how power configurations use diplomacy and negotiation to shape the Internet (Singh 2008) and how it is affected by global information and communication technology (ICT) policies (Cowhey and Aronson 2009).
- The *How*: infrastructure, protocol, application, or content layer? A third set of ambiguities regards the level at which IG applies. Of course, different layers entail different agents defining and implementing such governance policies. Some argue that the core of IG issues lies in the definition, operation, and political economy of the network infrastructure and protocols (DeNardis 2009). Others concentrate on the role of gatekeepers at application and content levels when defining the means and rules of access to information and communication (Deibert et al. 2008, 2010).
- The *Who*: public or private policy? A fourth set of ambiguities concerns which sectors should be in charge of the IG process. A report from the International Institute for Sustainable Development (IISD, a Canadian-based policy research institute) argues that it is inappropriate to consider issues that “fall primarily in other public policy arenas” as IG issues; instead, it suggests calling them “Internet public policy” issues (Souter et al. 2010). However, this claim fails to capture many of the areas touched by IG or the diversity of the stakeholders shaping the process. Moreover, it fails to acknowledge that the Internet is, for the most part, a privately ordered space and therefore one that must be able to take for granted a pluralistic policing environment (Stemming 2009).
- The *Where*: global, regional, national, or local levels? A fifth set of ambiguities arises when we seek to establish the political settings in which IG policies should be discussed, adopted, and implemented. The global and interconnected nature of the Internet obviously plays a major role in this discussion. Building on the theories of networked governance and cooperative production by peers, some argue that transnational institutions and forms of IG are more appropriate than sovereign modes. This perspective eventually leads one to argue in favour of denationalization of IG as an alternative to the nation-states model (Mueller 2010). Without following the libertarian path, others analyse the different intergovernmental institutions and specialized agencies that have been set up to deal with public policies in the sector (Drake and Wilson 2008). Regardless of the institution or forum addressing IG, any analysis must treat the legitimacy, transparency, accountability, and inclusiveness of that governance (Weber 2009).

The goal is to examine regulation of and on the Internet from both a technologically advanced and sophisticated regulatory perspective. The term “regulation” is used in the widest sense to refer to the control of the online environment, whether exercised by code, government, self-regulatory standards or private actors' commercial imperatives exercised largely through contract law as Terms of Use. A serious discussion of Internet regulation needs to examine the deficiencies and benefits of technical, political, legal and economic solutions based on a mix of self-, co- and state regulatory approaches.

### 3.1 *Development of Multipstakeholderism*

Multi-stakeholderism is held to reintroducing both state and citizen into IG areas such as standardisation. It is the approach that has the best chance to reconcile market failures and constitutional legitimacy failures in self-regulation. Though intended to increase inclusiveness by representation beyond the government-business dialogue, there are significant questions as to the effectiveness, accountability and legitimacy of civil society groups in representing the public interest. We examine these below.

Multistakeholder processes (MSPs) can be defined as processes that:

- a) aim to bring together all major stakeholders in a new form of communication, decision-finding (and possibly decision-making) structure on a particular issue;
- b) are based on recognition of the importance of achieving equity and accountability in communication between stakeholders;
- c) involve equitable representation of three or more stakeholders groups and their views;
- d) are based on democratic principles of transparency and participation; and
- e) aim to develop partnerships and strengthen networks between and among stakeholders”. (Hemmati 2002:19)

MSP represents a particular way of managing the complexity and thus taking advantage of the knowledge and resources possessed by the multiplicity of actors in the global context.

The history of MSPs within global governance dates back to arrangements adopted by the International Labour Organization in 1919 in order to achieve a tripartite representation of governments, employers, and unions. Nevertheless, MSP became more known much later on, in 1992, after the United Nations Earth Summit (United Nations Conference on Environment and Development, UNCED) and the adoption of the plan of action known as Agenda 21 (Dodds 2002). This document identified nine major stakeholder groups (youth, women, indigenous peoples, non-governmental organizations [NGOs], local authorities, trade unions, business and industry, science and technology, and farmers) whose actual involvement was perceived as fundamental to reaching the goal of sustainable development. In general, United Nations (UN) activity has been often accompanied by different multistakeholder commissions and group experiments, of which the Commission on Sustainable Development, created in 1993, is probably the best known.

More recently, information and communication issues have become another global field, beside environment and health, where MSPs have been experimented with and strongly supported. In particular, the UN General Assembly, in conveying the WSIS (Phase I: Geneva 2003; Phase II Tunis 2005) through Resolution 56/183, encouraged “intergovernmental organizations, including national and regional institutions, non-governmental organizations, civil society and the private sector to contribute to, and actively participate in, the intergovernmental preparatory process of the Summit and the Summit itself” (United Nations General Assembly Res. 56/183:para. 5). Since then, the multistakeholder approach to global issues has known a revived interest, and reflections on the actual realization of MSPs have multiplied.

Overall, MSPs aim at bringing together for various purposes all key stake-holders that have a specific interest in a particular issue. There are two main dimensions that determine MSPs’ structure and organization: (a) the range of stakeholders included; and (b) the scope of the interaction (Susskind et al. 2003). In regard to the first, MSPs distinguish themselves from experiments such as deliberative

democracy experiments, such as the collective and participatory definition of the community budget in Puerto Alegre; see Baiocchi 2003; Melo and Baiocchi 2006). They do not involve all actors (potentially affected by a certain policy but only representatives of the key stakeholders in the play (Susskind et al. 2003). The identification of key stakeholders in the play is a crucial element that often cannot be managed in the best way because structural limitations hamper the recognition of “less obvious” stakes (Susskind et al. 2003:242). Thus, participants in an MSP can participate in their personal capacity because of their particular knowledge and expertise in relation to the matter under discussion, or they can act as representatives of an institution or of a non-institutional group and can commit to a certain constituency. The actual participants can be selected directly from the community they represent or by conveyors themselves on the basis of the scope of the process.

As far as the goals that can be pursued through a multiactor process are concerned, Susskind et al identify five categories of aims: relationship building; gathering and exchanging of information; agenda setting; brainstorming; and consensus building. They point out that considerations regarding the scope of an MSP are crucial as they provide the starting point from which to shape the very structure of the process as well as to set a threshold for the level of commitment of single participants. Accordingly, to achieve a shared and consensual provision it is necessary to involve representatives that can speak for a certain constituency, whereas, in order to build bridges between hostile groups or adversaries, the involvement of committed individuals would be preferred.

There are several advantages in managing collectively common concerns through MSPs. Adam, James, and Wahjira (2007:8–10) identify that a multistakeholder approach can:

- promote inclusivity and equity in policy steering and implementing;
- expand analytical capabilities to address policy issues;
- sustain grassroots mobilization and participation as well as the development of focused and holistic action plans;
- foster the sharing of skills and innovations;
- facilitate training activities of new experts;
- create a balance between market-oriented and development-centered solutions;
- encourage good governance practices;
- enable participants to exploit their financial resources to good purpose;
- foster the creation of commitment both for leaders and for those individuals who are usually less active;
- promote and consolidate feelings of issue ownership and push for concrete action taking;
- help to develop trust among groups that are usually hostile to one another.

However, the concept of multistakeholderism has been also criticized, in practice. Systematic reflections, especially during and after the WSIS process, have uncovered difficulties and incoherencies hidden under the rhetoric of participatory arrangements, inclusivity, and democracy enhancement. In particular, doubts have been raised in relation to the processes of identifying key stakeholders (Bendrath 2005; Cammaerts and Carpentier: 2004; Cammaerts and Padovani 2006; Padovani and Pavan 2011). According to the theory of MSPs, stakes can be defined following institutional distinctions that often result in the tripartition into governments, the private sector, and civil society (Susskind et al. 2003). This

was precisely the case during the WSIS process. Alternatively, individuals can be free to decide to participate and under what constituency (personal capacity versus representative status). This is more the case of the Internet Governance Forum (IGF) process, in which interest in IG issues is a sufficient condition to be admitted to the discussion. It remains an open question whether these mechanisms actually ensure inclusiveness and the representativeness of all interests at stake. Moreover, in those MSPs that have been sponsored in the past by institutions such as the UN, it was quite common to consider different sectors of participants in monolithic ways, and this approach penalized in particular the heterogeneous universe made up by civil society entities as it minimized its inner variety and potential (Esterhuysen 2005).

Other questions have been raised regarding the legitimacy and representativeness of the actors involved (Busaniche 2006; Cammaerts and Padovani 2006; Padovani and Pavan 2011). There are currently no systematic processes for delegating the responsibility of representing certain views and interests. If self-selection, as in the IGF case, could raise the chances of achieving inclusive processes and thus overcoming formal representation logics, it also increases the risk of mistaking single opinions for collective statements and symbolic positions: “the normative values and democratic aspirations also tend to be easily lost in the translation of the concept [i.e., multistakeholderism] into concrete governance practices” (Padovani and Pavan 2011:546). The realization of MSPs does not maintain the legitimacy requirement outlined at its theoretical level.

In sum, rather than being an uncontested way of translating into practice global governance premises, multistakeholderism seems to be a “passe-partout concept” (Cammaerts and Padovani 2006:1), which has been understood and acted upon differently by various stakeholders on occasions. The concept is affected by the same vagueness that characterizes the discussion on global governance and the globalization process. Though MSPs might not be perfect ways of managing the diversity, dynamics, and complexity of contemporary globalized contexts, they nevertheless generate experiments that deserve to be systematically analyzed, keeping in mind that what is behind the surface of a largely employed label is always the same: interdependency between a plurality of actors.

## 4. Social Scientific Methodologies

Within the social scientific tradition, a set of methodologies emerges from the points of contact between sociology, media studies, Internet studies and critical theory. In this interdisciplinary space, we can outline at least three perspectives on Internet science. We begin with considerations of the normative value of communications, understood as a relevant policy domain at all levels – from the local to the global. This is at the centre of governance decisions relating to the Internet, especially decisions that evoke the public interest, and frame the Internet as a platform for communication as compared, for example, to framings of it as a data management infrastructure. Second, the structure of governance institutions has been greatly influenced by an overall shift in the way social arrangements are described – in particular, by a movement towards a supposed 'network society' (Castells 1996) that is the result not only of technological developments that support networked modes of work and engagement, but also social shifts. Third, this link between technological developments and social forms or norms invites analysis of the values associated with particular design choices. This is especially the case when considering how standards and protocols influence governance.

### 4.1 Normative value of communication and IG

Multidisciplinary interest in information and communication issues as a crucial global policy field, whose governance dynamics deserve specific and systematic attention, is cutting across social sciences at large, stimulating works and reflections from the domain of sociology, to that of political science, passing through international relations and media/communication studies (Padovani & Pavan 2011; 2012; Pavan 2012; Raboy and Padovani 2010). As noted by Braman, “information policy creates the communicative space within which all public and decision making discourses take place” (2006:78). Information and communication are also increasingly recognized as gaining relevance in the broader context of global governance. They are thus becoming “one of the newest and most internationalized areas of public policy and institutional change” (Mueller 2004: 186) within which new arrangements for multi-actor and multi-stakeholder collaboration are being experimented thus providing relevant precedents for a broader change in global politics dynamics (Singh 2002).

As suggested by Padovani and Pavan (2012:56-57), there are at least two ways in which ICTs are not neutral and, therefore, their governance dynamics deserve a systematic attention:

“In a first sense, ICT are not neutral because they are mediating infrastructures that contribute to change both societal perceptions of the world and of the role of human agency in it (...) in a second way, technology is not neutral because it constitutes a domain wherein different political interests and agendas are played out and because it has fostered change in (especially supra-national) governance practices (...) ICT are not neutral because they become enabling factors for citizens’ involvement, both as individuals and in their associational forms”.

The consolidation of a multistakeholder approach in the governance of information and communication issues at the supra-national level (and beyond), together with the realization of relevant and unprecedented institutional occasions to combine in this area governmental, non-governmental and private perspectives<sup>6</sup> has stimulated reflection on the normative value of IG processes.

Critical comments on the actual translation of a multistakeholder approach into actual and inclusive, representative and participative dialogue (see below), have been paralleled by collective-action and social movements inspired reflections on the progressive construction of an IG discourse grounded on human

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<sup>6</sup>For an overview on of approaches and methodologies see the section on multistakeholderism

rights and which was alternative to the mainstream governmental and private business visions (Pavan 2012). As more information and communication flow across networks, this perspective on “communication rights” as a contemporary extension of human rights (O’ Siochrú 2006) suggests that access to networks, and the fairness of protocols that regulate these networks, may become increasingly political. With reference to these internal organizational and identity-construction processes, reflections on the possible emergence of a transnational mobilization on “communication rights” (i.e., on information and communication issues understood beyond their technical aspects and at the service of human improvement) began to spread within and beyond the WSIS/IGF Summit spaces (Calabrese 2004; Hintz 2007, 2009; Milan 2006; Ó Siochrú 2004a; Padovani 2005b; Padovani and Pavan 2009a).

However, the idea of an emergent communication and information issues movement cooled down post-WSIS Phase I (2003). Reflections have focussed more on how a social-oriented vision of these themes was converging into the IG domain, which emerged during the WSIS process as the most relevant battle ground for multistakeholder collaboration within the larger communication governance field. Reflections on the normative dimension of IG and on Internet as a platform for social communication entwine deeply with reflections on governance arrangements, authority in the IG field, and possible ways to implement the existing governance structures, dealing with technical standards where the social dimensions of the IG are discussed.

Mansell (2012: 150) synthesizes these more focused perspectives on IG, drawing on McQuail's definition of governance taken from the field of media, writing that governance “refers to the institutions and practices that guide the development of the technological and human relationships involved in the innovation process, including the interests of the state, private-sector, and civil society and it is generally understood to be a broader concept than regulation”. Mansell frames the conflict between top-down and bottom-up governance, or between market-based self-governance and state-based governance, as being essentially about definitions of the public interest. This frame allows her to examine the long term consequences of paradoxes like the fact that telecommunications have been treated as critical economic resources, while broadcasting is linked with cultural values and rights such as freedom of speech (Mansell 2012: 152). This in turn has meant that the public interest aspects of communication have been contested: “there is no homogenous or universal conception of the public interest in the communication system” (Mansell 2012: 154). One of the barriers to understanding how to govern the Internet is not only the layered relationships between institutions, individuals and technologies, but also the contestations of power that are the result of conflicts over the control – but also the meaning – of Internet technologies. This means that a “complex matrix” of different private, public, commercial, civil society and state entities now struggles over IG. Many of these entities have no experience of multi-stakeholder decision-making. The enduring conflicts over the nature of the 'public interest' between the different stakeholders means that most governance solutions are unlikely to resolve the paradoxes at stake.

Starting from the continuity of multistakeholderism in the information and communication field from the WSIS to the IGF and adopting a constructivist approach to world politics, Pavan (2012) proposes to explicitly parallel the study of collaborations established between stakeholders in the IGF process with a systematic mapping activity of the semantic construction of the IG concept within such an official dialogue space. Here the normative dimension of the IG is approached through semantic networks in order to “map similarities among individuals’ interpretations” (Monge and Contractor 2003:173) and to uncover how extended multistakeholder collaboration translates into broader frames for the IG issues guiding standard production and Internet regulation. Through network analysis techniques, she highlights how MSP determined an expansion of the IG idea beyond the sole technical and standard core up to include issues such as freedom of expression, universal access, development etc. However,

this agenda enlargement hides a core of priorities constituted by the thematic triangle between Internet critical infrastructures; security and universal access. Thus she identifies the main challenge for IG dynamics in combining the opposite needs entailed by these three wide thematic categories and not by further enlarging the agenda.

#### 4.2 *The network idea*

For the very nature of Internet infrastructure, grounded in the decentralized connection of computers across traditionally defined boundaries (first and foremost political), the idea of network as a distributed form of social and political organization has been often called upon by different disciplines to describe organizational and governance processes deploying in this area. In fact, networks have consolidated well beyond Internet studies and science as a powerful image to depict the complexity of socio-political arrangements in the globalization era. This is characterized by the *diversity* of actors and issues involved, the *dynamic* evolution of issues at stake and the *complexity* of political arrangements that are required in order to properly face the challenges entailed by a global world (Kooiman 2003). The more the Internet has consolidated and diffused, the more the idea of network has risen to the main ideational frame to describe and discuss the very shape of our contemporary societies, as well as of socio-political dynamics deploying within them.

The prerogative of the network concept is to privilege *relations* actors engage in, over the specific attributes that define their personality and status (Wellman 2002). In this sense, the power to determine the outcomes of a negotiation or a policy-making process should be understood in *relational* terms, that is, not so much as an *a priori* condition characterizing actors in virtue of “who they are” but, rather, as the result of actors’ behaviours in relation to others in the same network. Such a view has proved particularly useful to depict all those forms of policy-making and governance mechanisms that have come to parallel conventional state-centred steering processes, building on the cooperative or confluctual set of relations established between institutional and non-institutional actors. Within this overall frame, the consolidation of the Internet as a communication platform has been put often in relation to the diffusion of organizational dynamics ruled by network logics (often understood as an alternative to hierarchies and markets). Moreover, in parallel with the consolidation of network analysis tools and techniques, networks have also been used as an analytic tool for uncovering hidden patterns along which politics and governance mechanisms are actually deploying, with some specific application to the IG case.

Both the network ideational and analytical potential have inspired social sciences research in the IG field. On the ideational side, networks have inspired reflections on distributed forms of socio-political arrangements that have provided the background key frames to discuss specific regulatory mechanisms in the IG domain. On the analytical side, networks have been employed as an alternative entry point for analyzing the arrangements through which the wide range of issues falling under the label of “IG” is currently dealt with.

#### 4.3. *Key Framework Concepts*

##### 4.3.1 *The network society*

The concept of the ‘networked society’ underpins methodologies from social science traditions. Pioneered in its contemporary form by Castells (1996; 1999; 2009) but grounded already in the classics of sociology (Simmel 1908) this frame argues that every aspect of social life is connected together in a network of power and influence. This “network” or “Information Society,” distinguishes the recent past from previous ages of society by the network structure that now reconfigures time, space, work and

being through their relationship with communication networks. Castells describes a culture of *real virtuality*: “a system in which reality itself . . . is fully immersed in a virtual image setting, in the world of make believe, in which symbols are not just metaphors, but actual experience” (Castells 2001: 370). This culture exists without reference to present or past, and transcends space and time. Linked together with capitalism, real virtuality creates a division between the “space of flows” and the “space of places,” so that those with better access to the network have higher mobility, influence, and wealth than those who do not. Castells still claims that “all societies in the Information Age are indeed penetrated, with different intensity, by the pervasive logic of the network society” (Castells 2001: 370). Although these descriptions of society focus on its global and networked aspect, primary power and influence seem to be accorded to the expansion of networked technology within capitalism. While Castells tells the stories of individual “Internet pioneers” it is clear that he sees the system of capitalism and technology, rather than the influence of individuals or groups, as being the primary force behind the development of the network society. The names of the innovators appear in a linear narrative of ‘revolution,’. Castells remains convinced that the form of the network has become determinate of new sets of relationships and indeed, new social engagements: “the challenges are induced by the characteristics of the network society and thus are sharply distinct from those of the industrial era” (370, 2001).

The limitations of this perspective for establishing working methodologies for understanding governance are twofold: one, it is a broad and relatively abstract framework that is often difficult to align with particular instances of social behaviour (although Castells (2008) attempts to focus more narrowly on how networked power influences Internet gatekeeping); two, it accords a large influence to technological forces as agents of change. Of the methodologies considered in this section, Castells cedes the most influence to technology itself and the least to the social, cultural, and economic forces that surround them.

#### 4.3.2 Network Governance

The intensification of globalization processes has fostered the formation of “transcontinental or interregional flows and networks of activity, interaction and the exercise of power” (Held et al. 1999:16), which inevitably challenge traditional decision-making and governance mechanisms centred on state actors. In the same way of the network society frame, but with a specific perspective on governing and ruling practices, Kenis and Schneider (1991:26) observe that society should be conceived in a decentralized way, in which control is not exerted by “a central intelligence (e.g., the state); rather controlling devices are dispersed and intelligence is distributed among a multiplicity of action (or ‘processing’) units”. Networks are not only a powerful image or portraying the growing complexity of contemporary societies: they represent the principal feature of a new “social morphology” (Castells 1996, 2000) for which policy outcomes are “generated within multiple-actor-sets in which individual actors are interrelated in a more or less systematic way” (Kenis and Schneider 1991:32). In some cases, the emergence of networks is considered a relevant outcome of political dynamics, as in the abovementioned social movements on communication rights.

In the study of political phenomena, Wellman (2002) points out that a relational approach (more or less metaphoric) has been applied to study two main orders of phenomena: formation of networks and coalitions within states; and to study asymmetric relations between states that can result in dependency systems. While for a long time there has been an overall tendency to adopt a generalist view of networks as an alternative to traditional state and market models, more recent approaches underline how they emerge under specific conditions of uncertainty (Powell 1990; Jones, Hesterly and Borgatti 1997) to *incorporate, supply or challenge* (not as a mere substitution for) market and hierarchies or other forms of regulation (Khaler 2009). Networked forms of governance are seen as the response to the challenges

posed by diversity, dynamics and complexity (Kooiman 2003) of contemporary global processes and as a suitable way to reorganize and revitalize traditional steering mechanisms centred on state actors or recognized authorities through a systematic and decentralized collaboration between institutional and non-institutional actors. In general, networks are preferred to markets and hierarchies as modes of organizing political processes with specific reference to three aspects:

1. the relations established between actors, which are pluricentric as opposed to mono-centric, entailed by state regulation and multi-centric arrangements characterizing market competition;
2. decisional mechanisms enacted, based on reflexive rationality rather than on substantial rationality characterizing state regulation or procedural rationality defined by markets;
3. level of compliance with collectively negotiated decisions, ensured not by the means of coercion typical of the state or by the “fear of economic loss” but the generation of trust and political obligation (Sørensen and Torfing 2007:11–12).

The idea of governance networks can be recalled to describe interaction between public and private actors with the general goal of producing different political outcomes (not only binding provisions) thus joining together structural, processual and cognitive elements. Governance networks can be defined as:

“1) a horizontal articulation of interdependent, but operationally autonomous actors; 2) who interact through negotiations; 3) transpiring within a regulative, normative, cognitive and imaginary framework; 4) that to a certain extent is self-regulating; and 5) which contribute to the production of public purpose within a particular area” (Marcussen & Torfing 2003:7).

Although governance networks are often studied in the context of policy production and coordination, their potential as analytical tools goes beyond conventional policy making to include “decision-finding rather than decision-making processes” (Hemmati 2002: 19). In this sense, governance networks are those networks sustaining political processes that are not necessarily finalized to the formulation of binding provisions but also to the final production of shared norms and knowledge. Moreover, the idea of horizontality inherently connected with network representations has to be understood here in relation to the overcoming of traditional, vertical bureaucratic arrangements for regulation and management of political issues, but is not synonymous with the idea of equality in power held by different actors. Dynamics deploying within governance networks are governed by asymmetry in power distribution but inequalities need to be re-contextualized in relational terms and in view of the production of a broadly conceived public purpose. This implies that differences between actors have not be evaluated simply in relation to a-priori categories (e.g. institutional/non-institutional character) but rather in relation to how much they can influence the production of public purpose that “is an expression of visions, understanding values and policies that are valid for and directed towards the public” (Marcussen & Torfing 2003:9). In other words, in relation to how much they can influence the production of norms.

And yet, despite their widespread adoption in the investigation of emergent governance arrangements, there is an overall lack of consensus on what networks really constitute for the study of politics: a mere metaphor, a method, an analytical tool, or a proper theory (Börzel 1998). In this context, the predominance of a generalist use of networks as synonymous for loose organizational structure hides some of the most relevant characteristics of networked politics because it conveys an artificial idea of powerless horizontality and assumes that network dynamics are aimed only at consensus building (Padovani and Pavan 2011). Moreover, metaphorical uses of networks keep paralleling the implementation of relational views into actual methods for analysis and research programs (Wellman 2002 [1988]; Diani 2003) thus hampering the consolidation of a clear-cut methodology which builds on the premise of a structural approach to the study of political phenomena.

#### 4.3.3 *Peer to peer processes and governance*

Linking reflections on networked governance with the element of ICTs, Benkler (2006) claims that the network form and peer production practices create a networked information economy that is distinct from previous economies based around the scarcity of goods or information. In this new economy, the ease of reproducing digital information combines with a new logic of peer-to-peer contribution. The result is a new kind of market. Such a networked information economy supports individual autonomy and other liberal values.

In the wake of Benkler's work, theoretical and empirical critiques have focused on the relationship between peer-to-peer processes, economic and organizational shifts and the value systems of liberal and neo-liberal capitalist systems. Benkler's methodology is also situated within the broad frame or metaphor of the network. He considers key examples that illustrate how markets shift when relationships between people become networked and when peer-to-peer labour becomes broadly accepted. A limitation of his methodology is that it tends to focus only on immaterial digital products, and on very specific forms of labour such as those that emerge around open-source software production, though his approach could be broadened to make it more useful (note that case studies examine open peer production approaches).

Shirky (2008) also assumes that features of technology, social organization and decision-making have been deeply influenced by an increasingly networked logic of relationships. Referring to the greater ease with which group associations can be created using the Internet including the move from broadcast to networked communication and from individual socializing to the friend-of-a-friend linkages facilitated by social networking, Shirky argues that the nature of collective action shifts. Open source software and other endeavors lower transaction costs and exploit power-laws to transform opportunities for collective action, making it easier to accept smaller contributions from a larger number of people. Shirky maps the individual social consequences of aggregation of user-generated content online. These consequences, in his opinion, include reconfigurations of collective action and decision-making because of the ease of associating in groups that vary in size and orientation. He is also convinced that the characteristics of technology make a difference, that “tools are tied to the modes of group interaction they need to support” (Shirky 2008: 268). Shirky's methodology encompasses both collective action and the Internet-based platforms on which this action takes place, but he remains primarily concerned with actions that take place mediated or facilitated by the Internet.

In the attempt to meet the challenges brought about by the diffusion of social media for the revamping of political participation (especially collective action) a whole strand of scholar work is progressively consolidating in a multidisciplinary fashion, mixing up social, political and technical elements to inquire into this complex domain with a proper conceptual and methodological equipment. Here, the most different case studies have been analysed in search for actual alterations of collective action dynamics generated by different uses of the Internet at all levels of collective action – from recruitment, to internal coordination, to repertoires elaboration and adoption, to impact generation. Earl and Kimport (2011) speak in this regard about the need for “Theory 2.0” which is able to analyse systematically the actual transformation, as opposed to the simple scaling, of dynamics underlying collective action. Bennett and Segerberg (2012), instead, propose to consider the emergence of a new “connective action” logic for political participation, which is grounded on individual inputs submitted via social media and bypasses the intervention of formal social movements organizations. Looking specifically at the changes in the role played by social movements organizations, some commentators speak about a compulsory contamination of organizational repertoires of action, aimed at enhancing organizational flexibility and responsiveness to individuals inputs (Bimber,

Flanagin and Stohl 2005; Chadwick 2006). More generally, Chadwick and Howard (2009:6-8) proposed to investigate the broader nexus between Internet and politics, at how the defining dimension of the Web 2.0 platform become benchmarks for the conducts of policy making and participatory dynamics (See further in this respect, the work of JRA6).

Moving beyond the analysis of information and communication governance dynamics according to a multistakeholder perspective, Padovani and Pavan (2011, 2012) propose to adopt networks not only as metaphors to depict the complexity of the global governance domain but as true analytic tool. This may uncover patterns of collaborations established between actors of different nature which can lead to the reorganization of (supra-national) political dynamics and redistribution of power amongst actors; and, to a collective and shared frame for information and communication issues. Rather than focussing on actors' attributes, they propose to focus on *interactions* established amongst stakeholders at two levels: the social, where relations are established amongst actors mobilizing in the communication governance field; and the semantic, where relations are established amongst actors' frames, perceptions and ideas of the domain within which they are mobilizing. Thus in due consideration of the impact of Internet and ICTs on the deployment of political dynamics (Bijkers 2006), the authors propose to trace social and semantic connections both online and offline. The joint interpretation of networks traced at the two levels and with regard to both social and semantic elements, can provide an alternative entry point to examine the different implication of enhanced openness of political processes in the field.

#### *4.4. Critiques of networked governance arrangements and of Internet effects*

In counterpoint to positions such as Castells' and Shirky's, some social scientists and researchers argue that the social and economic effects of networked organization supported by the Internet have been broadly overstated. With specific reference to the enhancement of the "collective" or "networked" dimension of social phenomena and with a specific eye on collective action and social movement dynamics, some authors have stressed how the use of the Internet for re-organizing collective dissent generate a simple "supersize effect", i.e., a simple scale shift which, nonetheless, does not entail a substantive change within organizational processes (for an overview see Earl and Kimport 2011:24-27). In the same vein, cautious approaches invite a diversified evaluation of computer-mediated communication modes (email, instant messaging etc.) on the various processes that sustain collective mobilization efforts (collective identity formation, exchange of resources, members' recruitment) (Diani 2000).

Curran, Fenton and Freedman (2012) use critical political economic approaches to critique the ongoing technocentrism of the Internet. They argue that the common belief that technology determines outcome, leads to a failure to understand its social and economic context. They note that rather than promoting global understanding, the Internet has actually amplified 'inequalities, linguistic division [and] conflicting values and interests' (Curran, Fenton and Freedman 2012: 179). However, they also examine how the Internet is less a product of its technology than its organization, design and use, not to mention the way it is imagined by the people responsible for these things. In a chapter reviewing the core literature in the area, Freedman reruns the history of IG, arguing that there are significant continuities between networked governance and more established forms of communication regulation. Reviewing how the IETF, ICANN, and the W3C have in the past been described as meritocratic, consensus-based or transnational, and how self-regulation has been positioned as the ideal form of governance for a supranational communications infrastructure, Freedman considers the challenges to this form of governance: regulation by code, capture of some IG institutions by states parties at the expense of other institutions, and the imposition of the 'shadow' of hierarchy on the communications environment. This

'shadow' reflects the way in which certain business models and production practices control the distribution of content over the Internet. Freedman concludes that states parties have become subsidiary to private economic interests in networked governance: far from a libertarian meritocracy, this means that multistakeholder processes are ripe for capture by state or private interests.

## 5. Governance Institutions and mechanisms

### 5.1. Analysis of multistakeholder processes

The fluidity of multistakeholder processes, and their potential for capture is reflected in a set of methodologies that consider the influence of multistakeholder institutions and processes. The two main processes under examination have been the WSIS and the IGF as the two principal institutional venues where information and communication issues at large, and IG amongst them, have been debated with the joint participation of governments, intergovernmental organizations, representatives of the private sector as well as of the wide universe of civil society.

The study of MSP has been conducted according to different methods and techniques and in response to different research questions. Beside the abovementioned network analysis conducted by Pavan on the IGF case (see section above on networks as analytic tools), Mueller (2010) suggests that the ideologies of IG can be mapped on two axes from state to network and from transnational to national. He argues that the Internet has introduced transnational aspects into communications regulation and governance, including more networks of transnational actors, such as civil society. This has nourished a move away from hierarchy and towards more networked forms of governance, in keeping with the networked society evoked earlier. This analysis of the shifting processes of governance argues that the global reach of the Internet as well as its capacity to mobilize issue-based networks has presented a new set of issues for multistakeholder governance, one that challenges as well as integrates state-level forms of governance.

In this sense, Mueller describes the shift from the state participation at WSIS in the early 2000s to the broader participation in the later IGFs. During the WSIS process, civil society actors, denied official voting status, pushed for the inclusion of issues beyond physical network access. Raboy and Landry (2005) and others have considered this participation, and the broader multistakeholder process it inspired, the IGF, as an illustration of the greater inclusion of civil society participants. Yet Mueller (2010: 264) also notes that the process-driven quality of these meetings can 'evade the key axes of national sovereignty and hierarchical power'. The IGF 'talking shop' was meant to discuss emergent issues, with a more balanced participation between states and civil society. This process was originally meant to shift the form and the process of governance from one based on confined, state-level decision making towards negotiation across a variety of levels (MacKinnon 2012). In a more positive vein, Raboy notes that these more open decision-making fora 'form[ed] the basis of a new model of representation and legitimation of non-governmental input to global affairs', and as a result, 'the rules and parameters of global governance. . . shifted' (Raboy 2004: 349).

With the aim of joining together the heuristic potential of a network approach and the study of multistakeholder dynamics, Pavan (2012) applies the overall analytic framework proposed by Padovani and Pavan (see section above) in her analysis of the online and offline social semantic networks developed around the IGF. The network analysis conducted at the four levels may permit us to uncover some of the different roles played by civil society and governmental actors within offline social networks - the former acting as catalysts of the discussion, linking themes together and promoting the enlargement of the agenda; the latter playing a more strategic role in setting up the condition for the actual multiactor collaboration to happen. Thus she emphasises that online discussion amongst stakeholders on the different issues of the IG agenda appears to be non- dynamic and quite fragmented, hardly reaching out beyond small groups of interlocutors. Finally, on the semantic side, Pavan points out that participation into the IGF process has led to an expansion, but not to a revolution in the IG agenda (see above the section on norms). Website linkage patterns reveal the existence of three main clusters of

websites which tend to recognize within but not between themselves: UN institutions, IG traditional bodies (ICANN; IETF etc.) and the broader universe of civil society. In between, the IGF website works as a bridge between loosely connected islands of discussions.

#### 5.1.1 *Privatized Governance*

Like Freedman, Mackinnon (2012) is also concerned with transformations of governance, but her methodology focuses on examining how private entities contribute to IG. She reveals how private entities, especially Facebook and Google, make governance decisions with significant consequences for people, especially activists working within repressive regimes. She criticizes existing multistakeholder processes as flawed because they institute 'pluralist politics' that allow stakeholders to speak for their interests provided they are able to find the time and money to attend meetings. She writes "the problem is that this multi-stakeholder political process takes place without a basic values framework - at a national level often called a constitutional framework - that would prevent political outcomes from violating the rights of some Internet users in various parts of the world, because either they are on the losing side of a bargaining process or their concerns are not even represented or understood" (p. 219). Instead, she argues in favour of pushing harder on the companies whose policy changes have such a great influence. She sees some potential in self- and co-regulatory mechanisms, but also calls for a citizen movement for communication rights in order to ensure that these regulatory processes do not overlook the people who depend on the Internet for their freedom of speech and personal safety.

#### 5.1.2 *Code and Design as Governance Mechanisms*

Privatized governance is possible because of the fact that Internet information systems are governed through a combination of architecture and design (including computer code), Histories of the Internet make clear that the decisions made about the technical aspects of the Internet, are also decisions made about standardization, interconnection or involvement of stakeholders in standardization decision-making.

Lessig's (2006) work on the way that computer code acts as 'law' drew from a fundamental insight about the way that technological governance is related to architecture and design. He noted that many ways of influencing the structure and function of the Internet can be controlled through code, rather than law. The defaults created by code-writers become de facto standards for the operation of the Internet and hence for the users' experience of it: code writers are able to influence what level of privacy will be experienced, what content can be accessed, or what remains firewalled. 'Open code' created by peer-to-peer networks and through free software may create transparency, but these are balanced with proprietary 'closed code' that becomes a commodity and hence, easier for governments to regulate.

Following Lessig's identification of the paradoxical nature of the Internet's open design and ability to be 'regulated' through code, Zittrain (2008) makes an argument that the values of the Internet are programmed into the Internet: he argues that the Internet, as well as the personal computer, are 'generative technologies'. Zittrain argues that one of the core historical and cultural assumptions about the Internet has been its generativity: "designed to accept any contribution that followed a basic set of rules" (Zittrain 2008: 3). The PC, and later the Internet, he claims, have been based on these generative ideals. The use of open-source software, open standards and protocols, as well as the culture of hacking and tinkering are the basis for this generativity, which is in turn the key aspect that distinguishes the Internet from other technologies. Generativity is largely focused on the capacities of a particular technology. Zittrain describes them as the following: "1. how extensively a system or technology leverages a set of possible tasks; 2. how well it can be adapted to a range of tasks; 3. how easily new contributors can master it; 4. how accessible it is to those ready and able to build on it; and 5. how

transferable any changes are to others” (Zittrain 2008: 71). Generativity, then, is a set of capacities inherent to a design of a technology that permit it to make a range of tasks possible. The generativity of the Internet is, however, a double-edged sword: the same features that permit the creative re-imagining of systems and the culture of tinkering are also the aspects that lead to the development of spam, malware and malicious hacking. Zittrain’s focus on the opportunities and risks of generativity leads him to observe that attempts to control the negative aspects of this phenomena will also short-circuit the positive ones (Gasser and Palfrey 2012). He identifies two separate trends that are enclosing the generative potential of the Internet: non-generative hardware devices such as locked-down iPhones and other ‘tethered appliances’ restrict the range of uses and connections and can constrain our behaviour (Zittrain 2008: 246); the flexibility inherent in the fact that Internet devices run on code, means that control can be embedded in code that is easily modifiable.

In this broader context, questions of governance are necessarily questions about technical, economic and normative standardization as well as being questions about decision-making. The idea that the Internet has some features, for example its interlinked network architecture, that make it impractical or ideologically problematic to regulate, has been remarkably persistent. Hoffman (2009: 2) identifies it as part of a ‘utopian vision of autonomy and creativity’ associated with the early Internet. This vision stressed the potential of the Internet to delegitimize the existing modes of telecommunications operations by creating autonomous networks that could interconnect in a network of networks: an Internet. This network of networks was meant to oppose a centralized telecommunication network, the organization of which Hoffman (2009: 5-6) describes as a “bureaucratic model which emphasizes collective security, stability and regularity”.

De Nardis also focuses on the ways that politics connect with design in her work on open standards. She argues that technical standards provide interoperability but also political and economic externalities. Conflicts over standards are sometimes motivated by market conflicts, but also influence competitiveness and opportunities for innovation. DeNardis (2009) identifies four areas in which questions about the openness of standards and standard-setting are most significant: the process of standards development; implementation; standards use; government involvement in standardization. We can see the significance of the first and second of these four areas through the attempts at expanding open source governance processes beyond the software development world. The success of the open-source movement has raised questions about whether open-source production is connected with a greater democratization of software production processes, in which a greater number of participants are able to contribute, and in which control of the production process is more broadly distributed, participatory and autonomous. Powell (2012) examines how the extension of open-source processes connects with attempts to extend the open governance of knowledge exchange. Open-source software developers maintain collective knowledge through code repositories outside of individual institutional control. Their own knowledge about how to use and apply code from these repositories is becoming increasingly more significant, destabilizing the in-house software design processes that used to characterize software development and inviting a more heterarchical organizational structure for software production.

The challenge comes when this attempt at radical open governance is applied elsewhere. In analyzing a proposal to create an open-source governance framework for electronic hardware, Powell discovers that the attempts by some hardware hackers to mimic the institutional structures of open source software (especially that descended from hacker culture) show the tensions inherent in attempts to democratize technology production. For example, there are a variety of ways that open hardware can articulate with the market: in some spheres it might be completely outside the market, for example when hardware designs are shared by artists or scientists as the result of publicly-funded work. In others it might create

markets like the niche markets for DIY electronics parts. In still other spheres existing markets could be disrupted. Because of this, open hardware licenses proliferate. Instead of working on one shared standard, the endeavour is marked by divisive posturing over the best possible licensing scheme to protect each different articulation. As a nascent phenomenon, open hardware is at risk of atrophying precisely because of a lack of standardization.

We briefly outline some of the competition issues that intrude on governance of code. The recent literature on competition policy has tended towards substituting economic judgments of consumer harm for political judgments, and the apparent triumph of the Chicago School of microeconomics and associated economic doctrines regarding the perfectability of competition. The notion of 'creative destruction' whereby a lazy monopolist is overwhelmed by an innovative flexible competitor has gained much ground, following the work of Joseph Schumpeter and the Austrian School. The Internet had appeared secure ground for Schumpeter's hypothesis. This should inform the thinking about regulation and standards which we pursue in later tasks. There is an extensive history of competition policy in favour of open technology standards that long predates the Internet, but the evidence of extensive network effects and innovation that can rapidly tip markets has helped focus policymakers' attention on the potential for using interoperability as a solution to the competition and innovation problems that emerge.

Encouraging open source and free software has had a powerful regulatory influence because its mere availability can sometimes constrain monopolistic commercial behaviour - it does not need to succeed always and everywhere to have a very significant impact. Unfortunately, open interoperable solutions have not entirely solved the market entry problem. The flexibility or 'fungibility' of code and the degree to which default settings can adjust user behaviour gives rise to one of the more interesting experiments we can conduct using Internet policy. Given the claim by behavioural economists and their supporters that signalling by government can adjust consumer and market behaviours, we can also examine the extent government actions can be characterised not as a 'nudge' but a much more complicit association with private actors. The two types are characterized as follows: 'Nudge' - where neither corporate nor government actions are carried out without mutual reinforcement, or at least joint dialogue; or 'Wink' where non-legislative solutions are adopted by corporate developers, but users decide whether to follow these 'nudge' signals (for instance including abandoning copyright enforcement by digital locks altogether, via P2P software). Internet regulation appears a particularly promising arena in which to explore the types of weak signalling and their effect, if any.

## 6. Critical Perspectives

Social scientific methodologies for understanding IG often oscillate between technical considerations and social considerations. In some cases, broader and more abstract perspectives can help to balance these tendencies. Methodologies in critical social theory frame governance decisions, including social processes like standardization, as reflective of larger processes of meaning making. They examine the influence of particular ways of thinking and the possibilities these create for social change.

### 6.1 Foucault and critical concepts of 'ordering'

Foucault (1972) argued that thinking 'archaeologically' reveals the logic behind how people have organized the things they think of as important. The focus on the 'network' as the metaphor of order of early 21st century, and the focus on developing standards to perpetuate this network, are evidence supporting the dominance of this model. The challenge that his work would pose in this context is how to work 'archaeologically' to determine the traces that help to define 'how things are known.' From a methodological standpoint, this implies a purposive examination of systems such as Internet standards, noting that meaning is made through and with the development of systems of knowledge. Thus the current system of knowledge of the network is likely to have an influence on how decisions are made with relation to standards and governance of critical resources, however those are defined. The value of this approach for our purpose is to illuminate the relationship between decision-making processes (including the cultures in which those processes take place) and frameworks for ordering knowledge.

Within science and technology studies, ordering processes are also the subject of analysis. Bowker and Star (1999), for example, consider the ordering of knowledge within structures such as library card catalogues to illustrate how two linked processes, classification and standards, combine in systems. They define standards in this way:

1. A 'standard' is any set of agreed-upon rules for the production of (textual or material) objects
2. A standard spans more than one community of practice (or site of activity). It has temporal reach as well in that it persists over time.
3. Standards are deployed in making things work together over distance and heterogeneous metrics...
4. Legal bodies often enforce standards, be these mandated by professional organizations, manufacturers' organizations, or the state...
5. There is no natural law that the best standard shall win - QWERTY, Lotus 123, DOS and VHS are often cited as examples in this contest (David 1984).
6. Standards have significant inertia and can be difficult and expensive to change (Bowker and Star 1999; 13-14)

While Bowker and Star consider all kinds of standards, the processes they describe are highly relevant to the standards-setting associated with IG processes. In particular, the current contests for setting standards about data sharing, accessibility (W3C) and metadata illustrate the social significance of standards setting processes.

#### 6.1.1 Galloway and critical perspectives on the network via the 'exploit'

Cultural theorist Alexander Galloway's theorization of the network helps to situate the methodologies of social and cultural analysis in relation to those from economics or network science. Rather than

standards, Galloway is centrally concerned with protocol, which he perceives as a technology of control that regulates flow, directs Internet space, codes relationships and connects life-forms. Galloway and Thacker (2007) identify some of the shortcomings of graph theory, the basis of understanding and modelling networks. It is good at descriptively modelling ‘connect the dots’ situations, yet omits the explanatory power of agency, time, and complexity. The idea of agency, of the power and ability to take action, is implied within graph theory, which seems to position nodes as ‘active’ without justifying how and why this happens. Likewise, the use of nodes and edges creates a geometrical bias that implies that relationships are synchronic.

From a governance perspective, the most relevant of Galloway and Thacker’s critique of graph theory has to do with the way that it represents only one aspect of a network at a time, so that little attention is paid to material knowledge. Rather than only working in one way at one time, they claim, networks actually contain incompatible sub-topologies. Networks co-exist simultaneously, so that distributed architecture of Internet supports file sharing while at the same time there is:

- a topology of motive, use and regulation
- an economic topology of commodity distribution and
- a legal topology of copyright.

The insight for governance researchers is that merely because they are working with a metaphor of a network and with tools from graph theory that represent a network, that does not mean that this network can be completely mapped. And if it cannot be mapped, can it be governed?

### 6.1.2 *Open-sourcing governance*

The MSPs described above are part of what is sometimes seen as a process of open sourcing governance: that is, opening the process to provide the ability of multiple parties to participate. This claim is often applied to the formal multi-stakeholder institutions such as the IGF, or to the ‘expert’ bodies such as the IETF. However, the concept of ‘open’ governance also includes many other aspects of Internet experience: the governance of government data or the open-sourcing of the software and hardware that underpins the Internet (which we examine further in case studies). These two examples illustrate how standard-setting can become a form of governance, and also suggest a relationship between the social practices of governance institutions and the technical, policy, or economic instruments that they employ.

## 6.2 *Taxonomy*

We can launch our taxonomic sub-task with Drake’s study of definitions of IG, and topics to be considered, as illustrated below. While it is not possible to provide an entirely comprehensive overview, we can use these as the basis for assessing the ‘state of the art’.

Table 2: Governance Propositions

Baseline Propositions	Summary
1. IG exists and is not inherently dangerous.	IG entails a heterogeneous and highly distributed array of prescriptions and processes that reflects the Internet’s core features, rather than centralized, “one size fits all” control over a singular system. There is no <i>a priori</i> reason why a collective inquiry of this kind would necessarily point to dangerous conclusions.

2. Technical and policy issues often cannot be neatly separated.	Issues concerning the constitution and management of the underlying infrastructure in particular should be insulated to the greatest degree possible from potentially troublesome and ill-informed policy discussions.
3. IG involves much more than ICANN and Internet identifiers.	When the Internet boom was taking off, many looked onto ICANN to regulate more than just the names and numbers resources it had restricted itself to previously. Growing recognition exists of the need for a more inclusive definition and approach.
4. The United Nations is not scheming to control the Internet.	The UN or ITU are not an autonomous entities whose secretariats can push through significant self-interested objectives.
5. IG involves array of public and private sector rules.	See Table 3 below and Marsden (2011) <i>Internet Co-regulation</i> ; Brown and Marsden (2013) <i>Regulating Code</i> .
6. Main definitional ambiguities concern informal rules and private sector governance	A contentious issue, where it is difficult to define principled criteria for distinguishing which types of business decisions by whom should be viewed as constituting IG.
7. Boundary lines between IG & wider ICT global governance universe blur over time.	Intergovernmental regime rules that helped nurture both governance denial and the ICANN-centric alternative will give way to a more densely populated policy space.
8. IG mechanisms vary widely in their institutional attributes.	IG mechanisms vary by institutional form, by function and by the domain of participants.
9. Efficiency concerns: form should follow function to the extent possible (optimal design choices not mechanistically derived from institutional attributes)	Optimise institutional forms so that they: <ul style="list-style-type: none"> <li>• match the issues to be managed while</li> <li>• maximising efficiency and flexibility and</li> <li>• facilitating collaboration and cooperation</li> </ul>
10. Social equity concerns with ubiquitous Internet	Specifying to whom the various governance mechanisms should be held accountable and via what methods.
11. Need: Effective inclusion of developing countries	Helps developing countries struggling with the substantive and architectural transformation of ICT governance.
12. Inclusion of civil society organizations, small and medium-sized enterprises, and individual users.	Stakeholders' technical expertise or human rights concerns <ul style="list-style-type: none"> <li>• proven worth in past,</li> <li>• clear interests in governance activities that are not well represented by other actors,</li> <li>• add legitimacy.</li> </ul>
13. A program of integrative analysis is needed and would reveal weaknesses, gaps and tensions in the governance architecture.	Approach which assesses the governance architecture as a whole and the parts in relation to both the whole and each other, to explore potentially instructive comparisons and generalizations and assess merits of alternatives.
14. The global community lacks an appropriate institution in which to pursue this integrative analysis and dialogue.	Develop mechanism for integrative mandate to overcome i) jurisdictional cracks between specialized mechanisms, ii) single point perspective of specialised organisations, iii) segmented approaches and iv) enable a one-stop shop for IG issues.
15. The WSIS process is	Because the WSIS was unlikely to make any significant headway in

unlikely to profoundly affect IG.	important IG issues due to its highly politicised nature, governments should attempt a described two-stage approach, improving procedural weaknesses.
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**Table 3: Selection from Drake's Taxonomy of IG Topics**

Drake also provides a summary of topics encompassing the whole of IG, from which our case studies are chosen.

Infrastructure	Governance Mechanisms	Organisational Settings
Internet Addressing	Internet addressing regime based on US law, contracts	ICANN, APNIC, ARIN, CENTR, LACNIC, RIPE-NCC, VeriSign, global and country-code registrars, etc.
Standardization	Diverse rules and procedures	ITU, ETSI, IETF, IAB, WC3, countless others
Intellectual Property	Treaty-based international regime, model laws	WIPO, WTO, US and EU laws, other regional bodies, ITA, MPAA, and other industry associations

The cataloguing will be achieved through a

- series of events and workshops with the relevant JRAs, but also
- with external communities both on and offline.

As with other JRAs, the goal is not only to

- present and understand the various methodologies, but also
- clarify their standing,
- the specific policy needs they address, and
- a gap analysis to better understand
  - the growing legitimacy problems (see further Appendix 2) and
  - their potential solution or bypass.
- This will lead to the definition of a regulatory governance taxonomy under which the various methodologies can be classified and understood.

This growing understanding drives the identification of governance tool development work in Task JRA4.2, based on dedicated use cases in Task R4.3, and their cross-mapping in Task R4.4.

## 7. Cataloguing governance tools for standards

Driven by Task JRA4.1, this task (JRA4.2) addresses the development of tools that help the wider multi-disciplinary community to go about its holistic challenge of scientifically designing legitimate governance solutions. Development of these tools moves beyond traditional 'dialogue of the deaf' interaction between nation states, civil society, and expert standards bodies (e.g., IETF, ETSI, W3C, ITU-T), towards a better understand of the needs and requirements for future Internet design based on broad socio-political buy-in (or at least better informed acquiescence) in the design process and outcomes.

- The key questions asked in each of the substantive case studies are:
  - Who were the key stakeholders (traditional and multi-stakeholder) and how far were they involved in policy debates, organizational design and operational issues associated with the regulatory processes or institutions adopted? What was the institutional political economy?
  - How far did 'solutions' have source, process or outcome legitimacy - including human rights compliance in the outcome? What influence did fundamental rights have in policy design? This is based on both documents relating to design and later judgments of human rights bodies e.g. national parliamentary scrutiny committees, Council of Europe.
  - How effective is the current and developing standards process solution? How might it have developed differently under different regulatory conditions?
  - In each case study, we examine whether governments have moved from 'sledgehammer' prohibition-based, enforcement-oriented regulation, to smarter regulation that works technically, with some degree of outcome legitimacy in terms of goals.

These might for instance support the creation of public goods and disruptive innovation in markets. A 'smart' solution in terms of code and regulation would provide effectiveness in enforcement (whether by law or code), technical efficiency (in an engineering sense) and legitimacy/transparency/ accountability (to allay rights-based concerns).

### 7.1 *Towards Case Study Exploration*

- The initial part of each case study sets out the policy environment and its drivers. These are firstly the social impact of technology and its adoption.
- We then consider the policy drivers of a socially successful technology: the entry barriers in its market; the network/scale effects that successful technologies deploy; and the competition in that market.
- We go on to consider fundamental rights in policy design for that technology, and lessons from the initial consideration of developments.
- The next section of each case study considers types of standard, and regulation of that standard. It considers the layer at which the standard is deployed according to the OSI layers model, the location at which it is deployed, whether by manufacturers of routers and other control devices, ISPs as access bottlenecks, servers located with application developers and in Content Delivery Networks, or software clients which operate on users' computers (for instance web browsers)

- This leads to analysis of the enforcement of standards by both authors and developers, and the role of governments in attempting to regulate standards in the public interest. We then consider the actors who are engaged in policy debate in each of our case studies.
- We first explore and identify the key actors: national, regional and global. We examine how legitimate and accountable they are, and particularly explore the role of multi-stakeholderism.
- Finally, we draw lessons from the political economy of each case study.
- A final section focuses on outcomes, assessed according to transparency of outcome; enforcement of regulatory goals; interoperability as a solution; and efficiency.
- The final challenge is to establish whether the regulation actually works.
- A smart solution in terms of code and regulation would provide effectiveness, efficiency and legitimacy.

## 8. Standards body case studies

In order to measure the success of governance design for future Internet standards, it is necessary to construct a living catalogue of standards bodies and their functions. These will encompass both telecoms and Internet standards, but also the complex interplays and trade-offs between the various institutions and their design choices relating to software and hardware, and also to privacy, security, and extensibility. Thus, an immediate contrast is evident between the IETF, ETSI and W3C models, for example.

It is these cases studies that represent the ability of an Internet Science discipline to not only push forward study of governance and regulation of the Internet as a whole, but also of other rapidly developing technology-led sectors with a potential legitimacy gap between best practice design and socio-political trust in expert design. Essential governance questions will be identified throughout the duration of this task with meaningful analysis based on the increasingly developing methodologies of this JRA.

This summary of the case studies in which consortium members are already expert, supports investigation into

1. 'code as law',
2. private governance mechanisms, and
3. multistakeholderism (whether myth or reality) as well as
4. broader user input (von Hippel's beta communities).

That helps us feed forward from this task into Tasks 4.3-4.4 (new constituencies in standard-setting in 2014, and a cross-cutting matrix of better governance design. Moreover, related work of this task will be provided in D4.3.

### 8.1 Deliverable 4.3: Strawman for Case Study Selection

1. Open hardware standards (Alison/LSE),
2. Internet addressing infrastructure: ICANN and DNS (Lec/Oslo),
3. Open data standards, science commons (NEXA).

#### 8.1.1 Strawman in detail - A Methodology Template for Case Study Authorship

Brown and Marsden (2013) developed a template designed to assess the socio-economic as well as technical efficiency of Internet design, based on a model termed EDEKO. It is policy value-chain driven, intended to capture the dynamic evolution of SSOs.

EDEKO is an acronym for Environmental Drivers-Details-Enforcement-Key Actors-Outcomes. Note that as a value chain can also represent a cycle, reform of the SSO (or individual standards where they form an important enough variable) can represent a sixth element that links back to the overall environmental drivers. There are similarities between this approach and many previous institutional policy approaches, notably Levy/Spiller (1994), Tambini, Leonardi/Marsden (2008) based on Price and Verhulst (2000), and the earlier refinements in Marsden, Cave et al (2008). We now summarise each step.

1. **Environmental Drivers:** The initial part of each case study sets out the policy environment and its drivers. These are firstly the social impact of standards and adoption. Then consider the policy drivers of a socially successful standards body:
  - a. entry barriers in its market;

- b. network/scale effects that successful technologies deploy;
  - c. user demand and creation of new markets/solutions;
  - d. competition for standards.
2. **Details** of that standards body's technical solutions:
  - a. layer at which standards solutions are deployed according to the OSI layers model,
  - b. location of deployment and identity of user constituency:
    - i. manufacturers of routers and other control devices, ISPs as access bottlenecks, servers located with application developers and in Content Delivery Networks, or software clients which operate on users' computers (for instance web browsers)
3. **Enforcement** of standards by authors, users and developers, and the role of governments in attempting to regulate standards in the public interest.
4. **Key actors:** national, regional and global. Examine how legitimate and accountable they are, and particularly explore the role of multi-stakeholderism.
5. **Outcomes** from the political economy of each case study, assessed according to
  - a. transparency of outcome;
  - b. enforcement of regulatory goals;
  - c. interoperability as a solution; and
  - d. efficiency.

The consideration of the SSO value chain is normative, and we are explicit in our hypothesis.

**Thesis:** A smart standards solution in terms of code and regulation would provide effectiveness, efficiency and legitimacy. This should be the primary public policy goal.

Our selection of case studies reflects the following:

1. The strategic importance of the sector to development of Information Society content/applications/services (as expressed under the Lisbon Agenda, Europe 2020, and elsewhere);
2. Any divergence in approach between schemes:
  - a. With apparently similar national, market or constitutional environments (which could include either differences in national markets or sectors within a national market);
3. The strategic importance of these schemes to other sectors/regions: notably in market actors and language/format<sup>7</sup>;
4. The possibility for adoption of pan-European schemes;
5. The availability of, and access to, key stakeholder and SRO interviewees;
6. The previous selection of the case study indicating enduring interest;
7. The changing nature of the SRO over time, indicating whether new findings are likely.

We can represent these common selection criteria in tabular form and apply across all selections, as seen in the Table below. Note that a case study need not fulfil all seven criteria in order to be selected, but the more criteria satisfied, the stronger the case for including the particular case study.

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<sup>7</sup> Video content that is pre-classified and formatted for one platform, such as mobile, has economies of scale for other platforms e.g. IPTV or PC

This list of criteria develops a strategic approach, but it must be based on prior art wherever possible, given the limited resource for each individual case study.

*Table 4: Case Study Selection Criteria*

Selection Criterion	Case Study Selected
1. Strategic importance	Based on standards adoption/influence
2. Divergence of Sectoral Practices	Demonstrating variable approaches
3. Policy Transfer capability/potential	Classified due to market size or innovative capacity
4. Scheme Suitability	Potential to meet public policy goals
5. Access to interviewees/documentation	Practical resources to undertake case study
6. Selection in previous studies	Demonstrating enduring policy interest
7. Reform proposals or developments	Value added in research building on previous studies

Policy transfer represents the extent to which the practices and processes of the SRO can be replicated elsewhere, and therefore how relevant the SSO can become to other SSOs and as a model for new SSOs emerging into policy gaps. Obvious prior art in this area includes IETF and ICANN.

We centre on:

[1] scalability – across sectors or geographies;

[2] leading practice – whether their goal is to disseminate such, or whether they have been identified as such by previous studies, interviewees or Commission and other official documents;

[3] whether reforms are currently in progress or proposals tabled.

Therefore, scalability is the first category, as its presence indicates a scheme that is capable of widespread adoption globally.

Best practice is rather an obvious category, and its identification by studies and experts makes it a self-selecting category. It will be nonetheless important to re-examine such examples to evaluate the evolution and sustainability of previously-identified good practices.

Reform of an institution requires formal consultation with membership and stakeholders, and reveals the institution’s capability of renewal and (often) expansion. In addition, reform generally requires re-examination of the institution’s *raison d’être* and its wider role in Internet regulation, including its relationship with government and user groups.

We can classified the SSOs by region (global, European, national) and also by pan-industry grouping. The most logical set of case studies are those relating to ‘core’ Internet standards issues (e.g. Wolf et al 2012). The choice of these case studies should be largely uncontroversial. Furthermore, because of the intricate and complex interdependencies and relationships between SSOs and the individual policy actors in this field, the cross-institutional analysis is very rewarding. The standards bodies are essentially self-selecting: the W3C and IETF are models often cited not merely as paradigms of Internet standardisation but also for broader ICT standard setting, and therefore have been exhaustively examined as exemplars (e.g. Marsden 2011) as has the International Standards Organisation itself (Boiral 2012, McGowan 2000). The choice of ICANN remains more rewarding as it is apparently endlessly controversial (Oslo), as an example of a private-led regulatory scheme replacing traditional intergovernmental fora (Slager, Gond and Moon 2012, Van Den Ende et al 2012).

## 9. Towards deliverables D4.4.1 and D4.4.2

Finally, there is a requirement to link forwards through our case studies into consideration of the issue areas examined in D4.4.1 (non-traditional multi-stakeholder participation in standards) and D4.4.2 (cross-analysis of issues for final recommendation/conclusion). This requires a future-oriented policy methodology, with which several consortium members are familiar (see also Kreibich, Wolk, Oertel 2011).

Note that the three standards cases are:

- open hardware (LSE),
- ICANN's deliberation process (Oslo) and
- open access to data (NEXA),

which expose several types of problem in standard setting which we identify below, and which formed the basis for choice of the case studies according to D4.3 criteria above.

Participation by NGOs and experts on non-traditional and non-market fields of expertise (what Brown and Marsden 2013 refer to as the 'prosumer law' advocates) can be achieved without altering the basic constitution of standard-setting organisations (SSOs). In process terms, the achievement of wider participation can be facilitated by government in the following ways, which conform to the standards life cycle (Botzem, Dobusch 2012, Brunsson, Rasche, Seidl 2012).

1. Research and development – government funding for basic research in future standards should be attached to requirements for public engagement and participation, with explicit socio-economic impact assessments of the impact of standards on environment, human rights, competition, interoperability and sustainability. This should include softer standards including corporate social responsibility (Haack, Schoeneborn, Wickert 2012, Reinecke, Manning, Von Hagen 2012)). This is exemplified by Notice-and-Take-Down standards set by content intermediaries (Brown and Marsden 2013). In many cases, this may be making explicit an implicit conversation amongst technical experts about the potential public benefit and impacts of such a standard (see generally for evolution of public interests in science, Feldman 2009). Public funds should be spent on innovation and standards formation that serves the public interest, including increasing the range of useful inputs to maximise the public good aspects of published [and adopted] standards.
2. Forum participation – as illustrated by ISOC and the European Parliament's (Brown and Marsden 2013) sponsorship of standards participation, SME and NGO stakeholders can be funded to attend and be trained to contribute to standards setting (Dokko, Nigam, Rosenkopf 2012). Braman (2013) has shown that privacy (Mantarelo 2012) – to take an outstanding example – has been an integral concern of Internet standard-setting in IETF since the 1970s (see also Doria 2011). ICANN uses several contested processes to encourage non-commercial stakeholder involvement. This wider participation can best be fostered within existing constitutional settlements. As Hirschman (1970) pointed out more broadly, the likelihood of SSOs continuing to be adhered to by the expert community depends on the extent to which Voice leads to Loyalty, instead of being denied and resulting in Exit – which applies to both existing expert communities and the incoming socio-politically engaged NGOs. It is important to increase participation without causing impatient technical experts to exit for less visible fora.
3. Publication of draft standards and other WIP documents – already routine in many Internet standards organisations, but poorly or unevenly implemented by more traditional bodies – for instance ITU. The free on-demand publication of standards documents is a basic consideration in

the 21st Century - as WCITLeaks demonstrated in the case of ITU ITR negotiations (Ryan and Glick 2012). More open access to data is a concern of our third case study (NEXA).

4. Granting of patent and licensing terms - here we enter the politically charged thicket of patent pooling and FRAND terms for patent standards (Carrier 2012). The smartphone wars are developing as this JRA continues, and its outcome may provide very strong indicators for the future of this legal-economic controversy (Lemley and McKenna 2012, Forwood 2009), which the JRA will monitor closely in the period to 2015.
5. Government can use its procurement power - which substantially outweighs in early-adopter weight (50% of ICT spending) and expertise (compared to most SMEs in any case) that of the private sector in many cases (Sandholtz 2012). If government buys interoperable software by default, or adopts procurement guidelines based on EIF2.0 standards for openness and transparency of standard-setting and standard availability, this creates a substantial commercial imperative to adopt more inclusive standard-setting and licensing (Mitchell and Mason 2011).
6. Reform of standards - or even SSOs. This can be judicial or other legal interventions to change the terms of standards licensing - e.g. legislative reform on a meta level to FRAND requirements on a micro-level. Consumer representatives sometimes - in the US - get to submit an amicus brief in cases.

SSO reform leads back to point [2] and can be influenced by new participants - for example attempts to reform ICANN or other SSOs. Government intervention can influence here e.g. W3C and IETF recognition under EIF2.0.

These six areas can be further subdivided into more specific areas for policy examination - for instance R&D is a complex and interconnected environment with several contested efficiency and accountability claims. Nevertheless, this framework provides a broad outline for further consideration in D4.4-4.5 of JRA4.

## Appendix 1: D13.1 summary of standards policy

### Standards Policy and Internet Science

Clark et al. (2005) recognise that struggle or “tussle” between different interests is as important in technology evolution as in economic and political systems, suggesting that “we, as technical designers, should not try to deny the reality of the tussle, but instead recognize our power to shape it.” As Greenstein (2011) advises standards bodies, “doing the tussle” can create more robust and widely adopted industry standards. Although a mandate for the technical community, this can be easily extended to the legal regulatory communities that directly shape the various aspects of Internet development, many of which already recognise that their shaping decisions are moves in a game rather than acts of sovereign design. Design choices in code can be as normative as law - decisions have to be made on the values that code embeds (Brown, Clark and Trossen 2011).

Most progress has happened with technical protocol development within companies (and arguably open source communities), where coordination (“tussle”) problems are less complex than in legislatures. Code has continued to morph rapidly even as legislation has tried to adapt. Investor certainty and democratic participation in legislative processes are arguably enhanced by the leisurely speed of legislation, contrasted with the rapid - but slowing - progress of Internet standards in which only technical experts can realistically participate.

There is an extensive history of competition policy in favour of open technology standards that long predates the Internet (Kahin and Abbate 1997), but the evidence of extensive network effects and innovation that can rapidly tip markets has helped focus policymakers’ attention on the potential for using interoperability as a solution to the competition and innovation problems that emerge. As competition policy provides for interoperable remedies, governments have set great store by the success of open standards as solutions for the well-known entrenchment of dominant Internet commercial actors using network effects (Pitofsky 1998, Lemley and McGowan 1999). Bar et al (1996) observed that “Interconnection is binary - you are either connected or not - but interoperability comes in degrees [and] presupposes a higher level of logical compatibility”: the higher the compatibility, the greater the interoperability.

What should an open standard contain? Dolmans (2010) suggests that an established ‘common standard’ which is truly open allows the “best of breed” components from different manufacturers to be combined, with maximum efficiency. To qualify as “open,” he argues that a standard must meet a number of open conditions:

- access to the decision-making process
- transparent and undistorted procedures
- published, pro-competitive goals
- published, objective, relevant criteria for technology selection
- no over-standardization

Most critical is access to the standard, which he argues includes open information on blocking patents (cause of much patent thicket litigation in smartphones and tablet computing); no unjustified refusal to license; fair reasonable and non-discriminatory (FRAND) pricing (Coates 2011, EC 2011: Paragraphs 285-291).

Dolmans suggests that royalty-free licensing is advisable in the software arena – allowing both open source and proprietary software to compete on quality and functionality. However, the telecommunications sector uses FRAND licensing, given the price and complexity of standard-setting efforts. He states that: “Mandating royalty-free licensing would likely recreate a tragedy of commons and discourage innovation, while allowing IPR owners to charge at will could create a tragedy of anticommons. To strike the right balance, therefore, a contract of mutual restraint is necessary.” This argues for a mixed market and against uniform royalty-free pricing (Lenley and McGowan 1998).

The European Commission’s thinking on interoperability and code has developed through the course of the Microsoft, Intel and Rambus cases (Coates 2011, chapters 5-6). Neelie Kroes was Competition Commissioner from 2005-9, and signalled more intervention on interoperability: “I will seriously explore all options to ensure that significant market players cannot just choose to deny interoperability with their product” (Kroes 2010). She argues that the lengthy Microsoft case has lessons for action: “Complex anti-trust investigations followed by court proceedings are perhaps not the only way to increase interoperability. The Commission should not need to run an epic antitrust case every time software lacks interoperability.”

Kroes’ solution to the Microsoft dilemma - solving the antitrust problem long after the competitors have died - is to require *ex ante* interoperability evidence, which had not previously been available except through antitrust suits: “Whereas in *ex-post* investigations we have all sorts of case-specific evidence and economic analysis on which to base our decisions, we are forced to look at more general data and arguments when assessing the impact of *ex-ante* legislation.” She argues for a potential future legislative proposal, which would impose an *ex ante* requirement imposed to publish interoperability information.

Microsoft and Intel’s settlements illustrate a general point about smart structural remedies under competition policy – network effects demand very effective trans-Atlantic cooperation plus policy formed from research into global information technology. This applies the Lessig ‘code is law’ analysis but with Braithwaite and Drahos’ international coordination regulatory approach applied to the overall information environment (Braithwaite and Drahos 2000, Drahos with Braithwaite 2002). Note the forerunners of the suggested policy direction are 1980s data protection and 1990s cryptography cooperation.

If free and open source software have not proved a significant competitive check on information monopolists, that raises a significant regulatory challenge which must be met by governments, to create interoperability in those dominant actors’ own software. Kroes (2010) set out a radical agenda to ensure interoperability in European ICT procurement and regulation, drawing on procedural frustrations in the Microsoft case. It is in five parts:

- a new standard setting framework;
- new horizontal agreement guidelines to establish more transparency in licensing standards (EC 2011: Chapter 7);
- a common framework for ICT procurement;
- a new European Interoperability Framework (EIF); and
- intervention in competition cases to establish a principle of interoperability, including via *ex ante* requirements.

The EIF is a second version of a much less ambitious 2003/4 first version of the framework. EIF Version 2.0 was adopted by the College of Commissioners, “as of a higher status and importance than

EIF version 1” which was more guidance than instruction. EIF2.0 has been very severely criticized by open source advocates, with the EC accused of regulatory capture by large software companies, and the interoperability requirements substantially watered down (Moody 2010).

The new standard-setting framework was established by end-2010, intended to result in a widening of participation from European telecoms standards body ETSI to more Internet-based standards bodies, W3C and IETF in particular, arguably about twenty years too late (ITU 2010). She explains that her proposal benefits these ‘truly open’ standards with two paths to approval: “via a fast-track approval of their standards through a process hosted by a traditional European standards body such as ETSI, or through the assessment of these bodies’ compliance with certain criteria regarding notably openness, consensus, balance and transparency.” On licensing standards, she notes the Commission draft horizontal agreements guidelines of 2009, which came into force in January 2011, and aid in allocating FRAND pricing for accessing essential technologies (EC 2011). Kroes does not argue for uniformity: “Standard-setting for software interoperability is not the same as setting a new standard for, say, digital television or mobile telephony.” She continues to suggest strategic action to encourage open standards. This suggests an additional legislative requirement that government support for standards must rely on best practice in licensing including royalty terms.

Kroes’ agenda embraces research funding and government IT procurement. European law requires governments to ensure they open public procurement contracts above a minimum size to all European firms, to encourage the development of the single European market (Directive EC/2004/18). As government spending is about half of European GDP, this opens the largest single information technology market to interoperability. Member states that fail to register procurement contracts with the European Commission are subject to infringement actions and ultimately court proceedings, though this implementation has not been as rigorous as it might be. Market-setting procurement European Commission policy can be used to pursue EIF2.0.

On IT procurement by European governments, Kroes suggests “detailed guidance on how to analyse a technology buyer’s requirements in order to make best use of ICT standards in tender specifications” (2010). Governments became unintentionally locked into proprietary technology for decades. An IT vendor ‘cartel’ was alleged by government buyers on both sides of the Atlantic in 2011, publicly voicing their frustration at the limited choices available. EIF 2.0 contains a ‘comply or explain’ requirement if government buyers do not adopt an available open standard, which follows the practice in Kroes’ own country, Netherlands.

In the first phase, the European Commission (2010) adopted the Communication, to “establish a common approach for Member States public administrations, to help citizens and businesses to profit fully from the EU’s Single Market.” The EC four prong strategy is [1] Common frameworks in support of interoperability, [2] “Reusable generic tools,” [3] “Common services” (operational applications and infrastructures of a generic nature to meet user requirements across policy areas), and [4] “Analysis of the ICT side in the implementation of new EU legislation.” As Ganslandt (2010) argues, the four prongs are not likely to be sufficient without a more effective enforcement strategy. The European Parliament (COD/2011/0150) responded to the standards strategy by proposing direct funding for SMEs (small and medium sized enterprises) and civil society to participate in the standards which underpin the entire strategy, confirming a multi-stakeholder approach to be adopted, though substantial disagreement ensued in Committee over whether ‘balanced’, ‘relevant’ or ‘appropriate’ representation be established and financially supported. These proposals are promising but no conclusions can be drawn, as they are both ambitious and yet to be implemented in practice.

## **Appendix 2: Merzouki on IG as a political construct**

The notion of IG did not emerge in a vacuum. On the contrary, it is largely rooted in long-standing (though still evolving) public policy discussions. However, IG is much more than a public policy issue in light of four characteristics that capture the essence of the Internet: (i) the interconnection is global; (ii) its management is distributed; (iii) historically, it has been privately coordinated and operated; and (iv) it is intended for the exchange of information and the sharing of capabilities. Other networks, including telecommunication networks, may share one or more of these characteristics, but none exhibits all of them at the same time. This unique nature of IG explains that its political construction has followed a reflexive process initiated to a large extent by WSIS, WGIG and IGF participants themselves.

### *Shaping the contours of the concept*

Discussions among the different stakeholder groups (whether occurring internally to a given group or in multistakeholder settings) have evolved from a narrow to a broad understanding of IG. During WSIS's first phase, the battle over IG was focused on the internationalization of domain names and other critical matters of Internet resources management policy (Raboy et al. 2010). The original idea was to organize a high-level international meeting aimed at "reducing the digital divide", through discussing and finding solutions to the global issues of deploying and financing the infrastructure for digital networks and, in particular, the problem of international interconnection costs and of interconnection agreements between intercontinental network operators (Abramson 2005; Badasyan and Chakrabarti 2005). In line with a concept of the "digital divide" that was limited to infrastructure issues and with a technocentric vision of the "information society" (Ksibi 2006), choices of having the WSIS organized by the ITU rather than by UNESCO hand held (in its second phase) in Tunisia, a country whose citizens were notably muzzled at that time, were, far from showing a paradox (Raboy and Landry 2006), not totally devoid of rationality (Jørgensen and Marzouki 2005).

During WSIS's First Phase, the diversity of civil society actors and of their interests and claims did not prevent them from reaching a consensus on some sectoral issues, mainly through a juxtaposition of specific and not antagonistic claims against positions of governments and of the private sector. However, points of conflict soon emerged among civil society actors over three main issues: multistakeholder partnership and IG (McLaughlin and Pickard 2005), human rights (Marzouki and Jørgensen 2005), and the financing of infrastructure (Peyer 2005). Clearly, these issues are less related to stakeholders' identities than to political choices.

The Second Phase of the WSIS took a different shape from the First Phase, as there was a major change in the typology of civil society participants (Marzouki 2008b). Some groups among the most organised ones, seeing little hope within this framework to advance their specific objectives, left the WSIS to concentrate their efforts on the UNESCO discussions in view of adopting the Convention on the Protection and Promotion of the Diversity of Cultural Expressions. On the other hand, the publicity surrounding the Geneva Summit led to an increased involvement by individual participants. In particular, academics and consultants joined WSIS on the basis of their specific interest in IG. This was especially true for many members of the technical community and also for political scientists.

The trend is most notably attested by the WGIG composition and by the related intense publication activity during this period under the auspices of international organizations, documenting IG and multistakeholder partnership discussions (MacLean 2004b; Drake 2005; Stauffacher and Kleinwächter 2005).

WGIG outcomes led to the creation of the global IGF (IGF). It was mandated to meet regularly in order to implement IG according to the principles, processes, and procedures defined by that agenda. Hence the IGF has been, since 2006, an annual international meeting that serves only as a discursive space to facilitate a “global conversation”. In particular, the IGF does not allow itself to make any decision or offer any recommendation; it thereby ensures its survival, which is constantly threatened by the power game between states (Malcolm 2008).

WSIS failed to resolve the very questions that led to its convening, though, which is the managing of the network infrastructure and financing. The financing of infrastructure was the topic of a different ad hoc working group than WGIG, whose final report raises more questions than it answers and has seen no follow-up. A global Digital Solidarity Fund (DSF) was created at the end of the Geneva Phase and was formally approved at the conclusion of the Tunis Phase. Unsuccessfully struggling to find a critical mass of support, this mechanism failed to convince of its relevance in political terms and especially in legal terms (Weber and Menoud 2008).

Given these developments, the WSIS ended without resolving two of the main issues that this UN World Summit sought to address: the financing and governance of the Internet. At this step, the concept of an “information society” was enshrined by the UN, without defining the fundamentals of its organization: neither the conditions of access and participation in this “society”, nor the articulation of powers governing it were elaborated.

#### *The role of civil society actors*

Civil society actors, from WSIS to WGIG to IGF, have played a major role in defining IG as a political construct, and the viability of this concept is evidenced by the high degree of interest it has raised in the academic literature. This literature typically analyses civil society participation in terms of NGOs and other civil society organizations (Cammaerts and Carpentier 2005; Raboy and Landry 2006) or in terms of individuals (Lakel and Massit-Follea 2007; Pavan and Diani 2008; Cammaerts 2010), but researchers have not analysed the evolution of participation from collective to individual civil societies. Detailing this evolution could however shed light on the political consequences of the progressive delegitimising and/or disqualifying of organized social actors. Indeed, doing so illuminates how the various civil society stakeholders understood and built expertise, in matters of IG, that reflected their visions, interests, and the game they played. Some empirical analyses have shown that establishment of the IGF, its advisory committees, and its rules of procedure have reinforced the participation and influence of various “experts” (academics and consultants) to the detriment of NGOs, trade unions, and social movements (Raboy et al. 2010). So-called policy entrepreneurs (Kingdon 1995) thus found their window of opportunity in the context of a weakened role of the state (Marzouki 2008b).

The transformation by which civil society perceived and presented itself as one of the three Internet stakeholders (with governments and the private sector as the other two) should also be analysed through the prism of an individual-centric vision of society, as theorized by Hegel building on the Scottish Enlightenment philosophers. The Gramscian perspective, which identifies “civil society” as an organized and autonomous sphere independent from the market and the state, may indeed no longer be relevant in light of the concept’s actual evolution.

Research linked to the WSIS second phase and subsequent to the establishment of the IGF shows that there has been a regression in prominence of the concerns related to socioeconomic and development or collective rights. Evidently, consensus can be reached only on individual rights such as freedom of expression and privacy. These developments are obviously in line with declines in traditional forms of representative democracy and with the crisis faced by nation-states in the context of globalization.

These transformations might pave the way to new global governance if not a new world order, and some see this as an opportunity to reduce further the role of governments (Mueller 2010). In any case, the evolution of civil society strongly affects our definition and understanding of human rights, democracy, and the rule of law. In such an unstable transition period—while the state’s role is being reconfigured from that of the “welfare state” to the “regulatory state” or even, as advocated at the national level by the New Public Management philosophy and practices, to simply the “steering state” (Bezes 2009)—governance developments might lead to uncertain implications, especially in the digital “territory” characterized by a high diversity of powerful gatekeepers and de facto regulators. Moreover, the non conclusive nature of the debates in many arenas, and especially within the IGF, should be contrasted with the operational pragmatism of those instances where de facto governance principles were implemented—often behind the veil of simple technical regulation, as is well illustrated by ICANN. IG is, indeed, developing, in search of new forms of legitimacy.

### *Exploring new form of legitimacy*

Transformations of governance tools and practices are not specific to the information society. They are driven and accompanied by larger societal trends showing the rise of new forms of democratic governance. From a political science point of view, the analysis of such trends could inspire IG research. Pierre Rosanvallon (Rosanvallon 2008), in particular, analyses the crisis of democratic legitimacy through the crisis of its two main bases so far, the majority and the general interest principles. He shows how they have been confusingly mixed up with the concept of democratic election, despite their difference in nature: the general interest being a “justification principle”, while the majority is a “decision-making technique” (p. 10). He further identifies and elaborates three new forms of legitimacy: the legitimacy of impartiality, of reflexivity, and of proximity, and proposes a “new grammar of democratic institutions” embodying them (p. 23).

The legitimacy of impartiality is embedded in the development of control, regulation and arbitration authorities. Their institutional form varies across countries (Board, Council, Commission, Independent Administrative Authority...), but their functions are similarly defined and the expectations they generate are equally high. Data protection authorities are the typical means used in the information arena, as they have gained a true legitimacy in the European Union (Burkert 2012). In some countries, their existence has even led to erosion of the sense of privacy in the population. Citizens entirely rely on them for the protection of their rights (Marzouki 2007).

The legitimacy of reflexivity has been theorized, mostly based upon the seminal works of Jürgen Habermas and Ulrich Beck. Society’s increasing complexity is preventing the establishment of a complete, just in time and direct democracy. Reflexive third parties and deliberative fora have developed to reflect the diversity or the fragmentation of the social reality. Rosanvallon identifies Constitutional Courts as the best embodiment of such third parties, with their “judicial review” capacities (p. 218). Although less institutionalized, other third parties, such as civil society organisations, social movements and scholarly associations, also play their role in the reflexive democracy field. However, such a reflexive democracy perspective shouldn’t be confused with the so-called “multistakeholderism”, as defined in the IG field during the WSIS and tentatively implemented by the IGF (Malcolm 2008; Mathiason, 2008), or even previously, with ICANN (Antonova, 2008). Multistakeholderism refers to stakeholders — understood as governments, business sector and civil society — entering into a bargaining game with their own stakes and policy priorities. Reflexivity instead refers to facilitators such as hybrid fora and other dialogic democratic tools (Callon et al., 2009). Thus, it is not restricted to experts, stakeholders and “policy entrepreneurs”: according to Rosanvallon, it should be understood as “a larger vision of citizen participation and public deliberation” (p. 237).

As a consequence of and in close relation with the participation issue, the third concept identified by Rosanvallon is the legitimacy of proximity (or “closeness”). It is characterized by citizens’ claims or communities calls for the recognition of their specific concerns. It comes together with a demand for greater transparency and accountability by the political institutions. Citizens’ adherence to public policies is hence directly related to their perceived equity, which means that everybody has a voice. This especially applies to normative institutions, and, as highlighted by Rosanvallon, to procedural justice (p. 270). Not only the content of the norm should be subject to social consent, but also its process of elaboration. On the one hand, there is an increasing need for participation, permanent deliberation and consensus building. On the other, transformations occur from a clear hierarchy of general norms (embedded in the principle of the rule of law; Chevallier, 2003) to a multiplicity of juxtaposed norms addressing various peculiarities, characterized by the plasticity of the forms they could take.

The conjunction of these evolutions, in line with globalization in all sectors, leads to the concept of multi-level governance. It should be understood not only from the local to the global levels, but also as new or recomposed connections between different actors. It implies the reshaping of an international relations system, with the increasing while sometimes re-defined role of intergovernmental organizations through specialized agencies (as thoroughly analyzed in the ICT sector by Drake & Wilson, 2008). Also, complex “trans-governmental networks” (Slaughter, 2004) develop. Beyond interactions among heads of state and ministries a dense web of governmental authorities and powers at all levels are re-building international relations, international norms and practices.

These macro-level transformations translate, in terms of domestic and infra-domestic regulations, with important roles played by non-state actors and non-democratically controlled entities. In particular, private actors are increasingly encouraged to meet and confront views, to coalesce, collude or compete through a number of tools. Discussion fora, public hearings, ad hoc expert groups, consultations organized on White or Green Papers tentatively framing a given issue, are open to various communities, interest, groups, lobbies and, more generally, all types of stakeholders, allowing them to contribute to these “open debates” and to participate to “collective” decision-making. Such tools and processes lead to information-sharing and capacity-building. At the global level, one example of such capacity-building is the IGF. On more focused domains of competence, but with the notable addition of recommendation or decision-making capacities, “The London Action Plan” dealing with Internet security issues (Brown & Marsden, 2007), or the French “Internet Rights Forum” (Marzouki & Méadel, 2006), constitute two good examples of this type of fora. This raises however a lot of question about the consequences on political life and democracy, the transformation of the public sphere, and the functioning of social movements. Some authors (Chadwick, 2006; Hindman 2008) warns about the myth of digital democracy, underlining the persistent role of the elite in the shaping of political information and debate. Others infer from this proliferation of “new” public policy instruments and arena that “it may relate to the fact that actors find it easier to reach agreement on methods than on goals – what are instruments for some groups might be goals for others” (Lascoumes & Le Galès, 2007).

These new public policy processes and instruments raise the fundamental issue of the political oversight of the design of the regulations they might define or induce (Coleman & Blumler, 2008). Mainly at stake is the need to take into account the general interest, and to avoid the capture of the regulatory game by the main economic players or by the technological experts. Although a sound system of checks and balance may help, political hazards and imbalances cannot be entirely avoided when traditional constitutional tools are relied upon. On the one hand, the executive shows a higher agility than both the legislature and the judiciary. On the other, private sector players and NGOs have gained influence in this game – though certainly not to the same extent.

A citizen's watchful eye over the information infrastructure of the society is in itself, however, a necessary condition for a real democratic oversight of the polity. A really open information society is, indeed, needed to guarantee freedom of speech and the actual freedom to access and release information. These rights and guarantees set the condition for a true citizen's control of politicians and of the formal and legal order. This requires that a certain effort be made in terms of empowerment and capacity-building.

### *Fragmentation, co-elaboration and re-ordering of norms*

Lessig showed how “architecture” or “code” needs to be considered as sources of regulation, together with legal, behavioral and market norms (Lessig 1999). Going further than Lessig's concept of code as a compliance mechanism to law and regulation, Wu argues that code could also be used for non-compliance or avoidance, in other words as an “anti-regulatory”, mechanism aimed at decreasing the costs encompassed by a given law to certain interest groups (Wu 2003b). He documents how technology and the law are instrumented by various groups. Intellectual property right holders, for instance, desperately try to maintain old economic arrangements despite the technological evolution leading to new social usages and thus, to possible new economic models. This has led users of protected works of authorship to develop strategies to by-pass legal lockers. P2P software and platforms, for instance, have been designed to exploit the loopholes, ambiguities and vulnerabilities of the copyright law. The legal regime based on intermediaries or gatekeepers allowed distribution of copyrighted work on a mass scale. The new software simply removed the need for such intermediaries, thus “leaving primary enforcement against end-users as the only option”. The same phenomenon is observed in the case of personal data protection where privacy rights are threatened by electronic commerce and advertising methods using personal data as the main resource (Rotenberg 2001). When a law is disagreeable to a stakeholders' group, and when the cost of legal and formal ways of amending it (e.g., through lobbying or other means of political influence) is high – either because compliance is based on social norms or because the group is disorganized (e.g., P2P users in copyright case) – then the “code” or the technology becomes a viable mean of law avoidance.

The technology being both a compliance and an avoidance mechanism, technical regulation defines the space where it applies as well as the space's gatekeepers. Addressing the specific question of legitimacy in IG and building on Bourdieu's theory of legitimation and domination, Mounier shows how the Internet is then fragmented into a myriad of small semi-private spaces where governance is dealt within restricted areas of legitimacy (Mounier 2012). This fragmentation is enabled and sustained by stakeholders' ability to self-regulate the semi-private space under their control, that is, to design norms and implement them at the same time. However, the underlying conditions for this ability to be realized are the existence of multiple legitimacies and multi-level governance capabilities, instead of a single global legitimacy that would exert a hierarchical power to organize them.

This fragmentation and absence of hierarchy do not mean anarchy, though. Self-regulated spaces and actors do interact, if only by their respective strategies of compliance/avoidance as discussed above. They thus constitute a heterarchical governance system (Jessop 1998). They cannot entirely escape from the law nor from other public regulations (Padovani, 2009). As shown by political science research on the development of private and mixed public/private networks, public authorities and formal regulations are not losing control (Mifsud Bonnici, 2008). They are rather exercising it through modified forms (Mayntz, 1998). They operate “in the shadow of hierarchy”, to use a popularized expression in the literature on governance (Scharpf, 1999).

Moreover, the networked heterarchy is not only composed of self-regulated spaces and actors. It also includes privately regulated public spaces. The particular and pivotal position of some actors as

gatekeepers makes them able to act as control points in the Internet space or as governments' instruments of law enforcement. ICANN, a key gatekeeper, has a central authority over the Internet through its management of the domain name system and IP addresses, a critical resource (DeNardis, 2009). Mueller comprehensively identifies and discusses the democratic issues involved with such a centralization of power and control exerted by a private organization under contract with a single government over all Internet users (Mueller, 2002). Other important gatekeepers include network operators, Internet service providers, search engines and, most recently, social networks owner companies.

The complexity of this heterarchy defines multiple orders, leading to the need for organizing their self-organizations (Jessop, 2003). This implies mutual recognition and mutual legitimation between all actors, leading to re-ordering the process of norm-making, and defining new patterns of interactions, through cooperation, co-elaboration, and other forms of interaction between the whole range of social and political actors (Kooiman, 1993; 2003).

In the field of IG, two main ordering principles are witnessed, through the acquisition of new legitimacies, and through reflexive governance. New forms of legitimacies are acquired or regained through mutual recognition of different actors or norms designers. Such a process has most notably been undertaken by intergovernmental organizations (IGOs) and NGOs. In a broader perspective than the sole regulation of the Information Society, both IGOs and NGOs are experiencing "the strength of being weak" in the current crisis of democracy, representation and legitimacy faced by Nation-States. While IGOs cannot claim representation and equal participation as Nation-States do, they stress accountability, transparency and openness as their main democratic principles. This allows them to continuously expand their domain of claimed competence. NGOs are demanding more consideration for their competence (Schemeil 2012).

Bob Jessop (2003) theorizes this understanding of governance as "the reflexive self- organization of independent actors involved in complex relations of reciprocal interdependence, with such self-organization being based on continuing dialogue and resource-sharing to develop mutually beneficial joint projects, and to manage the contradictions and dilemmas inevitably involved in such situations". Dialogue thus appears as essential in the governance process. Its reflexive and procedural rationality, the negotiated consent as its criterion of success, and the network as its typical form, make it the privileged principle for new ordering and for building new forms of legitimacy. This is perfectly illustrated through the post-WSIS process of the IGF.

### *Normative consequences of privatization and proceduralization*

Governance arrangements may thus encompass various and complex forms, especially when they are focused on technical regulations and the subsequent strategies of compliance/avoidance, leading to the fragmentation of the Internet. These fragmented spaces may redefine their own orders, and may interplay following different scenarii: antagonistic mechanisms of law compliance or avoidance, co-elaboration through mutual recognition, consensus building through rational dialogic processes, or power relations confronted in agonistic arenas. The resulting heterarchic system itself requires a meta-heterarchic level (Jessop, 2003) to manage interactions among components of this complex system. Such a meta-heterarchy is mainly - but not only - organized on the Internet by governments acting on the main control levers, which are the gatekeepers of the sub-spaces, especially Internet service providers (ISPs). Procedural arrangements with them have important normative consequences.

Actually, while IG is a concept that has rather recently emerged in the public sphere, many of its associated issues, policies and arrangements have been discussed since the mid-90s, when the Internet

became accessible to a larger and more heterogeneous public. This included discussions in various national, regional and international fora (Poulet, 2004), most notably on regulating content and identifying liabilities on the Internet (Marzouki, 2008a). The huge literature on Internet regulation regimes – including the grey literature – finally coined the concept of “co-regulation”, a regime where either regulation is co-elaborated and co-operated by a mix of public and private actors, or the state voluntarily delegates all or part of these activities to private parties. IG is thus an extension of the concept of Internet co-regulation in its first understanding. This has been summarized in the WSIS Tunis Agenda: “IG is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet” (WSIS, 2005). As so defined, the concept leads to three forms of meta-heterarchical arrangements: proceduralization, agencification, and privatization.

Proceduralization has been theorized by Habermas as the means to reach legitimate decision-making, grounded on rational discourse and deliberation (Habermas, 1996). It is also aimed at achieving the efficiency of law and regulation in the framework of a shift of legitimacy from an input – democratic conditions – to an output – efficient results – orientation (Scharpf, 1999). These output-oriented criteria characterize the concept of “good governance”, particularly as it has been defined at the European Union level, encompassing the five principles of “openness, participation, accountability, effectiveness and coherence” (EC, 2001).

Proceduralization is also a means to achieve impartiality (Rosanvallon, 2008), and thus goes hand in hand with agencification (Christensen & Lægveid, 2006) in the move towards the regulatory State. In the field of digital technologies and IG, such agencies have proliferated, either as purely public or more and more as co-regulation public-private agencies. One of the identified characteristics of law transformation in a globalization context is the increased use of procedural rules instead of substantive rules (Frydman, 2004). Such a proceduralization trend is particularly helpful for the analysis of the intermediary liability regime provisions introduced by the 2001 European Directive on Electronic Commerce. This delegation of law enforcement, once the state regulatory function of the State, to private parties, is also witnessed in other areas of IG, and has been identified, for instance, as one of the main trends in ICT-based public security policies (Marzouki, 2007). In the case of the Internet addressing system, the transfer of the control of the root of the system in 1999 from the US government through contractual agreement to a private entity, the ICANN, has been analysed as a delegation of powers violating the US Administrative Procedures Act and the US Constitution (Froomkin, 2000b).

This movement towards privatization is further developing in less public regulatory areas. There is an increasing promotion of alternative dispute resolution (ADR) mechanisms, especially when implemented in on-line form (e-ADR). While ADR traditionally concerns disputes that are not subject to judicial decisions, such mechanisms have proliferated, including in fields normally subject to legal litigation, with the aim of avoiding court battles (Schiavetta, 2004). Codes of conduct and other such incitements to specific behaviour have gone further than simple charters or the collections of “best practices”. They have become part of contractual obligations, especially for ISPs, promoted at the national level by law or at the regional level, for instance, through European Union directives (Marzouki, 2006). In the field of copyright law, access to user-generated content is more and more governed by various private licensing, such as the Creative Commons licenses. Such a development of private arrangements through contracting, sometimes without actual oversight by the legal authority, leads to a rise of private ordering in the governance of digital networks (Elkin-Koren 2012).

These developments induce important normative consequences (Marzouki, 2006). The weakening of

so-called “guarantee rights” – that is, the right to equality before the law, to an effective remedy, to a fair trial, to the habeas corpus, and the principle of no punishment without legal process – leads to serious impacts on the substance of fundamental rights and freedoms, on democracy, and on the rule of law. The massive use of technical mechanisms, in particular, the *ex ante* recourse to technical means to avoid infractions – and more generally speaking, to prevent any “deviating” behaviour before it can even be committed – instead of *ex post* enforcement leads to an entire reversal of perspective and values. It also increases the complexity of the architecture, with consequences in terms of costs, transparency, and reliability (Clarke 1997).

There is a noticeable novelty here with respect to early regulatory analyses, most notably those developed by Lessig. While we are witnessing the changing nature of the State and the rising importance of private orderings, these movements have encountered important technical progress, where gate-keeping mechanisms (not only of contents, but also of protocols, bandwidth, data packets, and other space gate-keeping means) have become central. Beyond the central role of gatekeepers, Williams (2004) highlights that “The effectiveness of technology as a regulator lies in its ability to alter behaviours, its ability to be shaped, its rapid adaptability, its *ex ante* approach, its wide reaching scope, its sensitivity towards criminal and sub-criminal activity, and its less visible approach to social control.” Gate-keeping and automated enforcement thus threaten democratic and legal means of control of public and private regulators that have been developed in most advanced countries for the last four centuries.

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