Introduction

1 *Governance, networks and digital technologies: societal, political and organizational innovations*

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1.1 Introduction

Digital technologies play a major role in the profound changes that characterize political and economic regulations both within nation states and in international relations. They often provide the conditions for these evolutionary processes by means of new modes of information circulation, of interactions between individuals and of collective organization. They have also prompted the emergence of new modes of regulation and governance.

In addition, they raise qualitatively new issues, since global information networks affect the performance of information-based activities, the organization of related industries and coordination between all kinds of stakeholders whose interests are impacted by the rise of the information society.

As a result, technical governance and political governance are becoming more and more intertwined. There is therefore a need to understand how technical, political, economic and social norms are articulated, as well as to understand who the main actors in this process of transformation are, how they interact and how these changes may influence international rulings in terms of individual rights, public liberties, property rights, economic competition, market regulation, conflict management, security, state sovereignty, etc.

This contributory volume aims to address these related issues from a truly international perspective, with views from different academic cultures and backgrounds. Although the role of digital technologies is highlighted, other factors that are driving our rapidly changing world are also considered. How collective regulations evolve is analyzed in the broader context of the development of postmodern

societies, of globalization, of the reshaping of international relations and of the profound transformations of nation states.

This book thereby aims to improve our understanding of the interactions between the evolution of collective governance principles (at all levels from community to global) and the diffusion of digital technologies, which lead on to the development of information-based activities, the initialization of new social practices and the rise of new modes of governance.

Indeed, on the one hand, digital technologies tend to influence governance mainly through two channels. First, digital technologies facilitate the management of the innovative processes of elaborating norms and standards. This is illustrated, for instance, by the practices of the World Social Forum (WSF). Information technology (IT) provides the flexibility to aggregate information without imposing the classical constraints of collective debates on the management of agendas and processes in order to reach consensus or a majority of votes. Digital technology makes possible the dynamic management of archives, tracks, forking (i.e. the emergence of new debates or a new line of analysis), etc. This may lead to new types of norms. Adhesion and compliance can be "negotiated," in the way that agents can decide whether they fully comply or not.

Second, as pointed out in particular by Lawrence Lessig (1999b), digital technology provides a relatively cheap and convenient means to implement norms. Indeed, the control of access and "code" makes it possible to monitor how information and virtual spaces are accessed and used. This is well illustrated by digital rights management (DRM) technology, which facilitates the implementation of barriers allowing owners to charge for or to control the uses of digitized works of creation. Users often challenge these technological hurdles. Regardless of whether they are considered as unfair, useless or more generally illegitimate, the mass of lay users may well overwhelm the barriers after "hackers" have broken through them. Technology provides most users of information systems with a relatively costless capacity to implement norms, however. Governance can thus be more decentralized – i.e. both in the hands of individuals and organizations – rather than being the unique prerogative of governments at various levels.

On the other hand, social changes are responsible for many of these new practices. The development of democratic forms of governance, even if they benefit only a minority of the global population, leads to

a more decentralized design of systems of norms. There is, in effect, a strong tendency to evolve from representative formal democracy, based on the delegation of regulatory power by citizens to representatives, toward multiple forms of more participative and more decentralized processes to elaborate norms. Different types of stakeholders (citizens, experts, professionals, organized groups, etc.) are included in the processes of ruling characterized by consensus-building and negotiations. The resulting norms range from self-regulations to public/state-backed regulations, but they are all characterized by a high degree of involvement on the part of "users" in the process of their elaboration.

This leads to the coexistence of different types of norms elaborated in contrasted types of forums at different levels. Such a trend is well illustrated by the emerging environmental regulations aimed at dealing with climate change. Indeed, legally enforced nationwide regulations result from the recommendations and analysis put forward by the experts of the Intergovernmental Panel on Climate Change (IPCC), on which potential intergovernmental agreements are based. Before becoming legally enforceable, implementation is "negotiated" with the various stakeholders at the national level. National legislation is therefore no longer the result solely of the process of discussion and negotiation in national parliaments.

The processes of the elaboration of norms go hand in hand with new forms of norms implementation. The state is no longer the monopolistic provider of the means of enforcement. Public–private partnerships characterize an increasing number of functions related to the provision of public order. In certain circumstances, the state even retreats from its core "regal" functions. This is well illustrated by the development of video surveillance, of security companies, of gated cities and, more generally, the "enclosure" of public areas. Of course, the magnitude of such trends differs from one country to another, and the ability of nation states to monopolize and take care of enforcement alone has proved far from perfect in many historic periods. In fact, it is largely a nineteenth- and twentieth-century phenomenon. There is unquestionably a move by the state to withdraw from trying to control enforcement alone, however, and to subcontract or negotiate enforcement with all types of stakeholders. For instance, it is clear that the European Union has been promoting "new" approaches to the regulation of economic activities, based not only on stakeholder involvement in the design of these regulations but also on self-enforcement.

In this context, what is happening with the governance of digital technologies in general, and of the internet more specifically, is of central importance – and is particularly radical. There are three reasons for this. First, the transborder nature of the internet and its integration have made it a global infrastructure around which all kinds of conflicts of norms – of legitimacy, of power, of culture – develop. These conflicts are either out in the open or hidden. There is, however, a sort of de facto multi-purpose competition between conflicting norms at the global level. Think of the principle of free speech, of the various interpretations of the public domain, of the right to privacy, of the right to voice by minorities or opponents, etc. The multifunctional nature of the internet has also enabled it to transform itself into an essential infrastructure for a wide set of social, cultural, economic and political activities and sectors. The stakes are huge, and exacerbate conflicts among nations and domains alike. Beyond the regulation of information flows and of access to network resources lies the actual content of civic rights, consumer protection and competition regulation, as well as the conditions by which knowledge is accessed, cultures are maintained and developed, communities are organized, individuals participate in collective decision-making, etc. Lastly, the "end-to-end" architecture of the network – i.e. its distributed architecture – favors the development of decentralized collective action, since the internet provides all kinds of communities and leaders with the ability to organize themselves and to benefit from the distributed intelligence that lies in the network's structure.

The regulation of the internet is, therefore, an arena in which all the technical and societal trends highlighted above are mutually reinforcing. Digital governance is thus an essential domain of interest, on account of the range and the centrality of human activities that are impacted by the internet, and because the regulation of the internet relies on innovations that turn its governance into a laboratory from which many lessons can be drawn.

This introductory chapter is structured along four tracks. First, we highlight how the technology, and beyond that the development of a knowledge-based society, are reshaping macro-governance. In a nutshell, the fast pace of innovation permanently challenges collective rules and norms while, at the same time, the information infrastructure provides society with enhanced capabilities to identify issues and manage them. Second, we focus on the mechanisms by which the

technology transforms the individual's capability to influence the building and the implementation of collective norms. We highlight, in particular, the fact that, in an increasingly complex world, technical capabilities are the source of new legitimacies and new capabilities, and, hence, new potentialities and needs in matters of the organization of governance. Third, we show how digital technologies impact self-governance capabilities. Indeed, self- and community-based governance is not new. Traditional societies and even modern societies rely extensively on the governance provided by all types of communities. What is new with the internet, and the underlying social trends, is the fact that these communities are loosely connected internally and based on non-exclusive membership. This results in a complex combination of fragmentation and general interdependence within society. Fourth, the technology impacts on the relative costs of private/self-regulation as compared to public/state-based regulation. A society increasingly based upon self-regulatory mechanisms raises new needs in matters of public governance, since the properties of private regulations differ from those of public ones.

As argued before, a backdrop to the analysis of all these issues is provided by the idea that major societal trends, and, in particular, the empowerment and autonomization of individuals, are drivers of the observed practices that are far from simple "impacts" of technological development.

1.2 Macro-level transformations: digital technologies and governance

1.2.1 Innovation, empowerment and collective decision-making capabilities

Innovation, empowerment and decision-making may be identified as the three fundamental processes in which digital technologies have been instrumental, leading to major transformations in the political, social, cultural and economic realms. Far from being technological determinisms – a point that has been refuted by Manuel Castells – these changes are themselves included in broader developments of the global polity at multiple levels, which impact in their turn the governance of digital technologies and networks (Castells, 2001; Cowhey and Aronson, 2009).

Permanent innovation characterizes the knowledge-based economy and the information society. Innovation operates at all levels: technological, industrial, organizational and commercial, as well as uses. Most of them are endogenous, as we are reminded by Milton Mueller (Chapter 2), in the context of the evolution of the nature of property rights over information and key network resources, and by Eric Brousseau and Jean-Michel Glachant (Chapter 3), in the context of network services. Constant innovation leads to an increased and renewed complexity of relationships and transactions between different actors and stakeholders, who are forced to develop agile strategies. Flexibility makes it possible to meet the new requirements permanently in matters of coordination.

Seen as knowledge management and coordination technologies, digital technologies are the means of *individual and collective empowerment*. They lower collective action costs and delays and overcome territorial boundaries, leading to changes in individuals' relations to authority, as well as political and social reconfigurations, as stated by James Rosenau and Miles Townes (Chapter 5). Although these skills and organizational revolutions are still far from permitting the formation of a global polity, or even of a "global civil society," some non-governmental actors – anti-globalization movements, as well as business networks – have been experimenting with new, alternative models of networked coordination at the global level.

The means of *collective decision-making* are also being transformed, and traditional political institutions are no longer the sole methods of managing such processes, which leads to a shift from government to governance – that is to say, the exercise of authority relies on informal instruments, tradition, norms, habits, etc. (Rosenau and Czempiel, 1992). As a result, the modalities of democratic control are themselves being reconfigured and restructured in the particular contexts of globalization and the development of a global information infrastructure. This leads to the need to reorganize appropriate checks and balances in the global information society, as analyzed by Herbert Burkert (Chapter 4), in a cyclic way, which may be summarized as follows: digital technologies allow for decentralized control and individual action, leading to more inclusive and participative policy-making; that technologies be open and neutral are necessary conditions, however, which in turn requires political oversight over networks and technological development.

This generic, cyclic process may be achieved through various global digital technologies and network governance dimensions – access, content, privacy, security, cultural and linguistic diversity, intellectual property, domain names, etc. – as can be seen in the discussions conducted during the two phases of the United Nations' World Summit on the Information Society (WSIS), in 2003 and 2005, and the subsequent follow-up processes. The three main governance issues regarding digital technologies are: the regulation of networks; the political oversight of this regulation; and the conditions for a democratic oversight.

1.2.2 The mutual dependence of democratic governance and the openness of networks

"Openness" is the keyword for the effective regulation of networks, defined as both openness of networks (see Chapter 2, by Milton Mueller) and openness of the regulation process (see Chapter 3, by Eric Brousseau and Jean-Michel Glachant).

One of the key elements for openness is *interoperability*, or the capacity to extend the network to new services and new players through a "plug-and-play" process. The main issue of network openness, however, is illustrated in the current fierce debate on the network neutrality principle. The debate, in a sense, may be seen as a "remix" of an earlier debate on the common carriage principle, which developed in the early 1990s after the break-up of public monopolies and the privatization of telecom operators. This principle, which played an important role in the development of transport and communication networks, implies that the licensed carriers provide "service on a non-discriminatory basis, neutral as to use and user" (Noam, 1994). Despite fundamental differences in the architectures and protocols of the internet and of the telecom networks, the network neutrality principle elaborated for the former corresponds to the common carriage principle applied to the latter.

Most vertical or quasi-vertical integration in the network industry (think of mobile phone operators, on the one hand, and Google, on the other) in terms of content and applications, coupled with the development of new technologies, protocols, services and applications – such as peer-to-peer (P2P), Voice over Internet Protocol (VoIP) or internet protocol television (IPTV), etc. – have raised concern about

the *openness of competition* in the internet industry. Following the idea that vertical integration threatens the internet "end-to-end" principle (Lemley and Lessig, 2001; DeNardis, 2009), many authors have elaborated on the network neutrality concept, a term coined by Tim Wu (2003a). Practical cases of network neutrality breaches by major network operators occurred, bringing the debate to the political arena, most notably in the US Congress and, more recently, within the institutions of the European Union or EU governments (Marsden, 2010). The non-discriminatory provision of services remains the main concern of network neutrality advocates, even if important nuances are still to be clarified (van Schewick and Farber, 2009).

Such debates are influenced by the uncertainties and risks characterizing this rapidly evolving domain. They need to involve many players, including the average user, both to take into account the multiple developments and because the interests and well-being of all are at stake. Regulators and other decision-makers therefore develop a multiplicity of *"participative debates"* and *"soft regulation"* instruments that might enrich or divert the production of public legitimacy, as highlighted by Eric Brousseau and Jean-Michel Glachant (Chapter 3).

Private actors and, to a certain degree, civil society are thus increasingly encouraged to meet and confront views, to coalesce, collude or compete through a number of tools.[1] Discussion forums, public hearings, ad hoc expert groups and consultations organized on white or green books tentatively framing a given issue are open to various communities, interests, groups, lobbies and, more generally, all types of stakeholders, allowing them to contribute to these "open debates" and to participate in "collective" decision-making.[2] Such tools and processes lead to information-sharing and capacity-building. At the

[1] This raises many question about the consequences for political life and democracy, the transformation of the public sphere and the functioning of social movements. Andrew Chadwick (2006) and Matthew Hindman (2008) warn about the myth of digital democracy, underlining the persistent role of the elite in the shaping of political information and debate.

[2] This proliferation of "new" public policy instruments and arenas has even led some authors to formulate the hypothesis 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 and Le Galès, 2007).