

The roles of transnational private regulation and EU law in regulating communications networks

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1 Introduction

If the bottom of two yoghurt pots are connected with a thin rope and distanced in a way that the rope is stretched, we have a communication network. This setup indeed allows communication between two people holding a yoghurt pot. If person A talks in his pot, the pot will absorb the vibrations which will be transmitted to the other pot through the stretched rope. The second pot will vibrate like a speaker and produce a similar sound to the one absorbed earlier by the system. Person B is receiving communication from person A through a network, this is a communication network.

Nowadays, even though the communication networks evolved and allow the transmission of more elements than sound between more than two people, the principle remains the same. We have terminals (the yoghurt pots) connected in a network (the rope) exchanging data (the vibrations). We will therefore keep this simple analogy of the “*yoghurt network*” when talking about communications networks and dive more into technical details when needed.

Today’s communication networks are complex and need to be regulated as they raise several legal and technical issues. But it is almost impossible for states to properly regulate communication networks on a global scale because of their structure and their transnational dimension¹. If we define the state as a set of a population, a territory and an organized legitimate power² it is made clear that a state has the legitimacy to exercise its power only over its territory as the territory of another state will be ruled by the legitimate power of this other state. The fact of each state having the monopoly of powers over their territories is called *state sovereignty*³. As Joel R. Reindeberg stands, *regulatory power has always been defined in terms of national borders*⁴.

It is this sovereignty that communication networks are challenging by their design. Today we can access content from all over the world. It is, for example, easy to read articles from Canadian news paper that are physically stored in Canada even though we are in Norway. Communication networks include connections between countries that enable an exchange of *data*. For example, instead of a rope the connections in trans-Atlantic communications are massive cables put under water⁵. Physical borders are irrelevant for communication networks, which makes them hard to regulate for states. They could try to enter into agreements between each other, but since almost every country in the world is connected with every other, it will require a massive amount of agreements: $1+2+\dots+n$, n being the number of countries in the world. It is therefore extremely hard for every country to agree on how to regulate communication networks “the usual way”.

¹ See below

² Olivier Gohin, *Droit Constitutionnel*, 2010

³ Shaw, Malcolm Nathan *International Law*, 2003

⁴ Joel R. Reidenberg, *Governing Networks and Rule-Making in Cyberspace*, 1996

⁵ Pierre Manière, *Les câbles sous-marins, autoroutes vitales de l'Internet mondial*, Latribune (News paper)

Furthermore, communication networks are, without common agreements, just useless physical entities. The establishment of a simple verbal communication between two person require a process known and accepted by both of them: a distance between them to be able to hear each other, a common language and a speaking turns. If one of these elements is missing, it is likely that the communication will not be successful. Every entity involved in communications should agree on the same communication process in order to make the communication effective and be able to communicate with each other. And if a country imposes a specific process over its territory for communication networks, the communications would therefore be limited to this territory because the way of communicating other countries might be different. And we know that today we can access data from (almost) all over the world and are connected to (almost) every country, which means that there is a global agreement over how to communicate and that such an agreement must be maintained.

As demonstrated above, it is almost impossible for states to achieve such agreements on their own. **By which means can communication networks be regulated and which organisms are in charge of it?**

Even if the states are not deprived from having a role in establishing a common agreement over how to communicate through communication networks⁶, other actors emerged in regulating communication networks in a form called *transnational private regulation* (TPR). TPR is a form of governance which consists of “*coalitions of non state actors which codify, monitor, and in some cases certify [...] standards of accountability*”⁷.

First, this governance is called “*transnational*” because its regulation applies regardless of borders. Furthermore, TPR is not a result of the cooperation of states but a cooperation of customers and economic actors⁸. A TPR organism is therefore “*private*”, as opposed to “*public*”, because of the lack of exercise of “*public power*”⁹ of the states over these organisms. Finally, these organisms “*regulate*” in a sense that they are the cornerstone of rule making in their domain. Their regulation can be mandatory or not, and are not always enforced by a state’s jurisdiction¹⁰. TPR is therefore an interface regulating communication networks by enabling communication through a common agreements called “standards” (Paragraph 2).

⁶ Tobias Mahler, *Generic top-level domains : a study of transnational private regulation*, 2019

⁷ T. Bartley, “Institutional Emergence in an Era of Globalization: The Rise of Transnational Private Regulation of Labor and Environmental Conditions” (2007) 113Am. J. of Sociology 297±351, at 298.

⁸ M.L. Djelic and K.S. Andersson, ‘Introduction: A World of Governance: The Rise of Transnational Regulation’ in *Transnational Governance: Institutional Dynamics of Regulation*, eds. M.L Djelic and K.S. Andersson (2006)

⁹ Marice Hauriou, *Précis de droit administratif et de droit public général*, 1900

¹⁰ Scott, Colin ; Cafaggi, Fabrizio ; Senden, Linda, “*The conceptual and constitutional challenge of transnational private regulation. (The Challenge of Transnational Private Regulation: Conceptual and Constitutional Debates)*”, 2011

Even if a regulation of technical issues is mandatory for telecommunication network to exist, it is not sufficient to establish safe and efficient communications. More “traditional” issues, but nevertheless important, should be regulated such as the conduct of undertakings and authorizations over the market. As this is the role of states, the European Union (EU) is in charge of such a regulation for the European the market. Authorizations to entry the market, content regulation and specific rules for network companies will therefore be handled by EU law in Europe to regulate the market. However, a tentative de standardization from the EU might affect the fragile equilibrium of the current regulation. (Para 3)

2 The indirect but certain regulation of technical aspects of communication networks by TPR organisms

Even though internet is a specific kind of communication network, it is the largest one in the world and is a perfect example of the regulatory role of TPR actors. It is therefore admissible to reduce the definition of communication networks to the one of internet for this paper and use it as an example.

TPR organisms regulate technical aspects of communication networks by determining (2.2) the rules (2.1) to implement in order to communicate through communication networks (2.3). Although this regulation is mandatory for this network to function, such a role might be too stiff for a further development of the internet (2.4).

2.1 The code thesis (code is law)

The technical aspects of the yoghurt network shape its use. For example, it is mandatory to have a stretched rope between the two yoghurt pots. It is also impossible to speak and listen at the same time because we only have one string. For a network to be efficient, every person should respect its technical characteristics (a stretched rope) and a protocol (not talking at the same time). Such obligations are present in communication networks, and are unified through “code”.

The code is the law. Here is the main idea of the code thesis developed by Lawrence Lessig¹¹ which states that the technical aspects of internet (how it is “coded”) shapes its environment and use. The internet network is used in a certain way because of its technical characteristics called “standards”. For example, web pages are coded in specific languages (for example HTML) and can be found thanks to an address (the IP address¹²) and accessed by following a certain protocol (TCP¹³). Even though the internet infrastructure and *code* is more complex we will limit our technical development to these three standards.

¹¹ Lawrence Lessig, *Code, and Other Laws of Cyberspace* (New York: Basic Books, 1999).

¹² RFC 760, *DOD Standard Internet Protocol*, IETF, 1980

¹³ RFC 793, *Transmission Control Protocol*, IETF, 1981

Actors need to conform to these technical standards to be able to communicate in the network. If a yoghurt pot is connected to the string the wrong way it would not be able to receive or transmit information. If a server has no address or one which does not follow the IP rule, it cannot be found in the network. It is then mandatory for a server to have an address following the IP standard to be connected to the internet.

It would also be impossible for a computer to communicate with another one through the internet network if it uses another protocol than TCP. With the yoghurt network, the protocol of communication is to use the voice. But one can still try to put a letter of paper in his yoghurt pot hoping it to be transmitted to the other pot. As this will of course never happen, the systems forming the internet network need to “follow the rules” and use the same communication standards imposed by the technical construction of the network.

And it is the role of transnational private regulation to, through code, tend to a common agreement on the use and technical aspects of communication networks.

2.2 The implementation of the code

To efficiently communicate through communication networks, a technical regulation must be done to make the people agree on how to set up the code. And such an agreement must be reached by every actor in the network all around the globe. If it is impossible for states to regulate the code¹⁴, it is not for TPR organisms.

In order to illustrate the role of TPR in regulating communication networks we focus on two organizations in charge of it: the Internet Engineering Task Force (IETF) and the World Wide Web Consortium (W3C). The main aim of these organization is to propose communication standards for the internet.

The goal of the IETF is, according to its mission statement (RFC3935), to:

“produce high quality, relevant technical and engineering documents that influence the way people design, use, and manage the Internet in such a way as to make the Internet work better. These documents include protocol standards, best current practices, and informational documents of various kinds.”

In 1983, the IETF developed the TCP/IP standard which is still today the basis of communication through the internet network. This protocol consists in giving an internet address (“IP adress”) to every entity in a network and exchanging information according to the TCP protocol: fractioning the flow of data into smaller elements to allow a smoother flow in the network and optimize its efficiency.

Now that there is a process about how to exchange information, there is a need to agree on how to interpret it. The W3C is at the origin of numerous standards used to process the exchanged data, for example the PNG format to encode pictures, or the HTML standard to display web pages.

¹⁴ See intro

These standards were firstly accepted “because they worked”¹⁵. Nevertheless, having working technical standards does not make them mandatory to use. The TPR organizations did not regulate anything at first sight but only proposed a way of communicating through a network. Moreover, they avoid making these standards mandatory¹⁶. These technical standards are made mandatory to use thanks to a form of “*dictatorship of the majority*” called *the network effect* which puts the TPR organisms *de facto* in a regulatory position.

2.3 The network effect and the *de facto* role of TPR in regulating communication networks

The IETF claims that the TPR of communication networks has no binding power:

“[The standard] does not imply any attempt by the IETF to mandate its use, or any attempt to police its usage—only that ‘if you say that you are doing this according to this standard, do it this way’”¹⁷.

The regulatory organs even try to avoid participating in disputes as much as possible¹⁸. So how can we consider the role of TPR organisms as regulatory?

Such a thing is possible thanks to the *network effect*¹⁹. According to Carl Shapiro and Hal R. Varian, “*the network effect is present when the value of a product or service increases according to the number of others using it*”²⁰. So the more people using these standards, specifications and guidelines for communicating the more they will have “value”, or interest for other people wanting to communicate. And when selecting a process of communicating, people will be more likely to choose the most common process.

The network effect has been demonstrated in France in the mid-90’s. Between 1980 and 2012, a network other than internet (so using another protocol than TCP/IP) was connecting terminals like internet and was called “Minitel”. Even though it proposed advanced services²¹, this network was geographically restricted to France, technologically limited and relatively slow. Internet was faster, easier to use and connected more people thanks to its HTTP and TCP/IP

¹⁵ Harald Alvestrand, Håkon Wium Lie, *Development of core Internet standards: the work of IETF and W3C*, 2009

¹⁶ Harald Alvestrand, Håkon Wium Lie, *Development of core Internet standards: the work of IETF and W3C*, 2009

¹⁷ RFC 3935, section 2.

¹⁸ Harald Alvestrand, Håkon Wium Lie, *Development of core Internet standards: the work of IETF and W3C*, 2009

¹⁹ Harald Alvestrand, Håkon Wium Lie, *Development of core Internet standards: the work of IETF and W3C*, 2009

²⁰ Carl Shapiro and Hal R. Varian, *Information Rules*, 1999

²¹ It was possible to buy a train ticket from the Minitel in 1994 ! source : *Payer un billet de train avec le nouveau Minitel France Télécom*, 14 Dec 1994 in the news paper *Libération*.

protocols²². So people started abandoning the Minitel for internet until its disappearing in 2012 because of it lacks of “value”.

So the use of communication standards is made binding by the actors in the network, and because the TPR organisms regulate these standards they end up regulating *de facto* the technical aspects of communication networks.

2.4 A regulatory role out of date?

Such a global compliance on the use of standards is mandatory for these networks to efficiently meet the communication needs and demand. However, such a hegemony can be a technical trap for further network developments.

Let's take back the Minitel case developed above. Such a “*Darwinist*” replacement of the Minitel network by the internet occurred easily because the Minitel network was geographically limited to France. But today internet connects almost 60% of the world's population²³ and such a number is expected to soar in the coming years. Internet was not designed to have that many users, and especially users to have several devices. With the coming wave of the Internet of Things, the current network and its protocols might not be sufficient to sustain such a soaring demand for connexion and communication. But this time the perhaps-soon-to-be-replaced network is not limited to a country like Minitel was. If new standards for communication networks able to handle such an important amount of connexions appear, they will need to englobe the already existing internet otherwise such a global shift from a set of protocols to others might not be possible. This role of regulating communication networks might have some limits.

3 The regulation of the communication network actors, market and practices through EU law

Communications is not a business like others. A heavy physical infrastructure is required and numerous sensitive information are passing through it. Due to its specificity, we cannot regulate communication networks like any other field and the technical regulation made by TPR is not enough to handle their specificity on a more practical basis. In order to unify their regulation within the internal market, the European parliament and the council published on the 11 December 2018 a directive establishing the European Electronic Communication Code (EECC)²⁴. We will take this code as an example of the regulatory role of the EU in communication networks.

²² Antonio Gonzalez et Emmanuelle Jouve, *Minitel : histoire du réseau télématique français*, 2002

²³ www.internetworldstats.com/stats

²⁴ DIRECTIVE (EU) 2018/1972

Through this code, the EU is regulating the market of communication networks and the conduct of its actors (A). Such a regulation is indispensable for the common market (B). However, the EU might have gone too far in regulation when establishing a “frame” for standardizations (D).

3.1 Regulating the market and the conduct of their actors

Competition in the internal market being at the basis of the construction of the European Union²⁵, the field communication networks is no exception. In article 3 stating the general objectives of the EECC, competition is explicitly mentioned:

*[The goal is to] [...] while ensuring that competition in the market and the principle of non-discrimination are preserved;*²⁶

Consequently, almost every measure in the EECC tend in favour of an efficient competition in the European communication market.

First, authorizations from member states are required to enter the market. As it is stated in articles 12 and 13 of the EECC, several conditions need to be fulfilled for an undertaking to enter the communication network market. Listed mainly in Part II, Title 1, Chapter 1 & 2 of the code, these obligations include fees for the use of radio spectrum and the installation of facilities²⁷ and security measures²⁸. Authorization must also be granted²⁹ by the states as these infrastructures are very often delicate to install.

In addition, the conduct of the communication actors is severely regulated. Although the technic used in the yoghurt network is pretty simple and understandable by the majority of us, the technology used in telecommunication networks is more complex. It would therefore be easy for an undertaking to abuse of its technical knowledge by imposing unfair treatment to consumers. The conduct of these actors needs therefore to be regulated. In part III Title 1 of the EECC are listed the principal obligations of conduct the companies must have. The emphasis is made on customer's benefits, such as the necessity of transparency³⁰, a good quality of service³¹ and an availability of services³². Such an obligation of behaving is accentuate by the obligation of maintaining a network neutrality (meaning an equal treatment of data when being transmitted through networks), laid down by Article 3 of EU Regulation 2015/2120, which “*boils down to equal treatment of traffic on the Internet*”³³.

²⁵ Richard Baylee and David Wish, *Competition Law*, 2018

²⁶ Article 3 (d) of the directive

²⁷ Article 42 EECC

²⁸ Title V EECC

²⁹ Article 43 EECC

³⁰ Article 103

³¹ Article 104

³² Article 108

³³ Frode Sørensen, “European Net Neutrality at the beginning of a new era”, 2016

3.2 A fundamental role

If we do not take into account title IV chapter III of the EECC, we might say that the role of the EU in regulating telecommunication networks is fundamental for the development and durability of communication networks. It is important for the EU to insure a stable and trustable market and put a regulatory framework for the conduct of its actors, especially when it is based on complex technologies. The EU is therefore regulating communication networks by regulating its economic actors, their behaviour and competition on this market.

3.3 Title IV Chapter 3, an overstepping?

On Title IV Chapter 3 of the EECC, the EU regulators are setting a frame for unifying standards in communication networks and making them obligatory.

In addition to delivering powers, responsibilities and establishing new competent authorities with regard to access and interconnection³⁴, the EECC also regulates the standardization of telecommunication networks³⁵. First, a list of non-compulsory standards shall be drawn and published in the official journal by the Commission (par .1). But this framework is soft since the member states are only invited to encourage the actors to implement and use the listed standards. Such a list could be useful for professionals and establish a technical safeguard granting minimum concordance in the use of standards for communication networks.

However, it might appear that such a measure was not needed. The communication professionals are trained and aware of how the standards are used because it is them who are at the basis of standards through the construction of TPR³⁶. So professionals know standards better than anyone.

Furthermore, on article 39 par 4 it is stated that the Commission might “*make the implementation of certain standards or specifications compulsory*”. This could have nefarious effects on global communication and put the global standard equilibrium at stake. Firstly, such obligations could isolate Europe. For example, if other standards for using internet are made mandatory Europe could end up isolated. Because Europe represents only 16% of the global internet traffic³⁷, the network effect might not produce effects to our advantage and two distinct networks would be separated. In addition, if the protocols are not working well, this could paralyze Europe. If the standards are used, it is because they work as it is stated in part II of this essay. So if a fallible protocol is made mandatory without the certainty that it is viable, communication networks in Europe could simply become useless.

³⁴ Article 61 EECC

³⁵ Article 39 EECC

³⁶ Tobias Mahler, *Generic top-level domains : a study of transnational private regulation*, 2019

³⁷ <https://www.internetworldstats.com/stats4.htm>

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