




บทความวิจัย/วิชาการ





# การให้บริการโทรคมนาคมพื้นฐาน อย่างทั่วถึงในกิจการโทรคมนาคม ในประเทศฝรั่งเศส

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## บทคัดย่อ

การให้บริการโทรคมนาคมพื้นฐานอย่างทั่วถึง มีความหมายทั่วไปโดยรวมถึงการให้บริการทางเสียง ตลอดถึงการให้บริการทางด้านข้อมูลและโทรศัพท์สาธารณะ ในราคาที่เหมาะสม โดยมีแนวคิดในการ ให้บริการโทรศัพท์พื้นฐานที่เหมาะสมสำหรับประชาชนทุกคนทั่วประเทศ ซึ่งจำเป็นต้องมีการจัดให้มีบริการ เพื่อกลุ่มผู้มีรายได้น้อยและผู้พิการ การเชื่อมต่อกับเครือข่ายแบบถาวรซึ่งรวมถึงการเชื่อมต่ออินเทอร์เน็ต ที่ใช้งานได้ และการเข้าถึงทางภูมิศาสตร์ที่เหมาะสมกับโทรศัพท์สาธารณะ เพื่อให้ประชาชนสามารถเข้าถึง บริการโทรคมนาคมได้อย่างเท่าเทียม เพื่อให้มั่นใจว่าบริการสื่อสารอิเล็กทรอนิกส์ที่มีคุณภาพสูงจะสามารถ ให้บริการแก่ผู้ใช้บริการทั้งหมดในราคาที่เหมาะสม ซึ่งจะไม่ทำให้การแข่งขันน้อยลงตามกรอบระเบียบข้อบังคับ ของยุโรปแล้วนั้น กฎหมายการสื่อสารอิเล็กทรอนิกส์และกิจการไปรษณีย์ของประเทศฝรั่งเศส ได้มีการจัดให้มี บริการอิเล็กทรอนิกส์พื้นฐานอย่างทั่วถึงขึ้น เพื่อให้มีการให้บริการทั่วทั้งประเทศฝรั่งเศส กฎหมายกิจการ โทรคมนาคมของฝรั่งเศสได้เปิดช่องให้องค์กรกำกับดูแลกิจการอิเล็กทรอนิกส์และกิจการไปรษณีย์แห่งชาติ มีอำนาจเพียงพอในการลงโทษพฤติกรรมอันไม่ชอบด้วยกฎหมาย เพื่อแสดงให้เห็นถึงการยับยั้งผู้กระทำผิด ที่ชัดเจน และทำให้ผู้บริโภคและผู้ประกอบการเชื่อมั่นว่า กฎระเบียบต่างๆ จะมีผลบังคับใช้อย่างรวดเร็วและ เป็นธรรม นอกจากนี้องค์กรกำกับดูแลยังต้องตรวจสอบให้แน่ใจว่าพันธกิจนั้นยังคงตอบสนองความต้องการ ของผู้บริโภคต่อการเปลี่ยนแปลงของเทคโนโลยี และหาสมดุลระหว่างความต้องการของผู้ใช้บริการและ การเปลี่ยนแปลงเงื่อนไขทางการค้าอีกด้วย

**คำสำคัญ :** การให้บริการโทรคมนาคมพื้นฐานอย่างทั่วถึง โทรคมนาคม ฝรั่งเศส

## Abstract

Universal service is defined in general terms to include voice services at an affordable price, information services and a telephone directory as well as public payphones. The concept of the universal service is making affordable basic telephone service available to everyone everywhere within a nation state. A social accessibility must be provided for low income and disabled users, a connection to the fixed network, which includes functional internet access; reasonable geographic access to public call boxes. To ensure that a minimum set of high quality electronic communication services is available to all users at an affordable price that does not distort competition, in accordance with the European regulatory framework, the French Postal and Electronic Communications Code (CPCE) establishes a universal electronic communications service. The components of the universal service are available throughout the French territory. The French telecommunications law provide the national regulatory authority of electronic communications and postal (ARCEP) with sufficiently strong power to penalize unlawful behaviour so as to present a clear deterrent to potential offenders and give consumers and operators confidence that rules will be swiftly and fairly enforced. In addition, ARCEP has to ensure that the obligations continue to meet the needs of users as demands and technology change and also find the right balance between the needs of vulnerable users and changing commercial conditions.

**Keyword :** universal service, telecommunications, france

## Introduction: original of the universal service

Historically, the term and concept of universal service existed before universal access. Universal service for the telephone, first mentioned in the Communications Act of 1934 in the United States. It is described as the concept of affordability of telephone services and universal availability for households to use this service. Universal access corresponds to the concept of public, community or shared access to telecommunications<sup>1</sup>.

Universal service has been an important theme in telecommunications service in the United States. The Federal Communications Commission (FCC) created the Universal services to help provide high quality telecommunications services at just, reasonable, and affordable rates throughout the nation<sup>2</sup>.

<sup>1</sup> From "Accès et service universel," by S. Oestmann and A. Dymond, 2009. *Infodev, Juin*, p. 7.

<sup>2</sup> From "Universal service in telephone history: A reconstruction," by M. L. Mueller, 1993. *Telecommunications policy*, 17 (5), p. 352.

In 1996, the American sector opened with the adoption of the Telecommunication Act of 1996. This Act was the first major re-write of the Communications Act of 1934. It opened up local markets to competition, which changed the dynamics of the existing system of funding universal service. In this Act explicitly adopted principles to guide universal service policy. These principles include: (1) access to communications services at just, reasonable and affordable prices (2) access to advanced telecommunications and information services should be provided in all regions of the Nation (3) access in rural and high cost areas (4) equitable and nondiscriminatory contributions (5) specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service (6) access to advanced telecommunications services for schools, health care, and libraries<sup>3</sup>.

At the same time in Europe, the European Commission also developed the notion of universal service. The Commission stated: The liberalization of the telecommunications sector at the end of the 1990s was accompanied by the introduction of the universal service. The rationale of universal service obligation (USO) is to act as a social safety net where market forces alone do not deliver affordable access to basic services for consumers, particularly those living in remote areas or having low incomes or disabilities. In order to achieve the three objectives of the safety-net concept, namely availability, affordability and accessibility, one or more specifically designated undertakings can be obliged to deliver such basic services<sup>4</sup>.

In France, as a result of European integration and global movement towards the liberalization, the telecommunications operator has not been excluded from these. With the liberalization of this sector we can impose on the incumbent operator to guarantee quality services at an affordable price for everyone if it is competed by other operators. This movement has imposed a new configuration of the public telecommunications service in the sector. This new configuration aims to define precisely the missions of public service of the telecommunications. The concept of universal service in France was imported from the United States by the European Union at the beginning. It has gradually collided with the traditional notion of public service. We propose to examine the definition and concept of the universal service in general (1) then the designation of the operators in charge of the universal service (2) the universal service financing (3) and the role of Autorité de régulation des communications électroniques et des postes (ARCEP) (4).

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<sup>3</sup> Telecommunications Act de 1996, titre 47, chapitre 5, sous-chapitre II, deuxième partie, paragraphe 254.

<sup>4</sup> From *Questionnaire for the public consultation on universal service principles in e-communications*, 2 Mars (p. 2) by Commission Européenne, 2010.

## 1) The definition and concept of universal service

The universal service determines a set of public interest requirements that must be satisfied in order for the market to function without discrimination on a national basis<sup>5</sup>. Universal service is a concrete policy objective in many industrialized countries but is not economically feasible in most developing countries<sup>6</sup>.

The European Commission 1994 defines the principles universal service as “universality, equality and continuity are the basis for such a service to permit access to a defined minimum service of specified quality to all users everywhere and, in the light of specific national conditions, at an affordable price”<sup>7</sup>. In other words, universal service is based on the principles of:

- universality: the access of all users to affordable conditions and prices
- equality: ensures that each staff member has the possibility of demanding that he be granted the benefit of the service
- continuity: guarantees access to the network or an interrupted service offer for a defined quality (it aims to avoid any break in service)<sup>8</sup>.

In telecommunications sector, the Commission defines universal service as “a minimum set of services of specified quality which is available to all users independent of their geographical location and, in the light of specific national conditions, at an affordable price” (Directive 97/33 / EC)<sup>9</sup>.

In 1993, the concept of universal service in European terminology<sup>10</sup> was very close to public service because the notion of universal service was adopted in order to give social

<sup>5</sup> From “Service public et droit communautaire une nouvelle crise de la notion du service public en droit administratif français,” by S. Garceries, 1998, *Revue société contemporaines*, 32 (Octobre), p. 52.

<sup>6</sup> From *Droit international des espaces et des télécommunications* (p. 171) by M. Tshiyembe, 2014, Paris: L’Harmattan.

<sup>7</sup> From “Council resolution of 7 February 1994 on universal service principles in the telecommunications sector (94/C 48/01),” by Commission Européenne 1994, *Journal Officiel des Communautés Européennes*, C 48 (16 Février 1994).

<sup>8</sup> From *Régulation et réglementation dans les télécommunications* (p. 191) by I. Crocq, 2004, Paris: Economica.

<sup>9</sup> From “Directive 97/33/EC of the European parliament and of the council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP),” *Journal Officiel des Communautés Européennes*, L 199/32 (26 Juillet 1997).

<sup>10</sup> From *Communication sur la consultation sur l’examen de la situation dans le secteur des services de télécommunications*, COM(93) 159 final, 28 Avril 1993 (p. 10) by Commission Européenne.

dimensions to the process of liberalization of networked industries<sup>11</sup>. At the origin of every public service refer to activities and jobs (such as health care, transport, or the removal of waste), which is organized by the government or an official body in order to benefit all the people in a particular society or community. This is linked to the guarantee of fundamental freedoms or to the existence of recognized solidarity<sup>12</sup>. The universal service approach developed in the 1990s and continues until the 2003 in “Green Paper” on services of general interest refers to “a set of general interest requirements ensuring that certain services are made available at a specified quality to all consumers and users throughout the territory of a member State, independently of geographical location, and, in the light of specific national conditions, at an affordable price. It has been developed specifically for some of the network industries (e.g. telecommunications, electricity, and postal services). The concept establishes the right for every citizen to access certain services considered as essential and imposes obligations on industries to provide a defined service at specified conditions, including complete territorial coverage. In a liberalized market environment, a universal service obligation guarantees that everybody has access to the service at an affordable price and that the service quality is maintained and, where necessary, improved”<sup>13</sup>.

Universal service and public service therefore have common characteristics. In both cases, with regard to electronic communications, the aim is to make the specified services important for the members of the society. From a legal point, public service is defined by equal access, mutability and continuity. From an economic point, the definition of public service is based on market failures. From the Community level, the public service is characterized by the availability of a service at any point in a territory at a reasonable price.

The French notion of public service is broader than the community concept of universal service. This public service operates within a national framework. The public service consists of the universal service, obligation services (services obligatoires)<sup>14</sup> and services of general interest (services d'intérêt général)<sup>15</sup> to which the principles of equality, continuity and adaptability apply. The first two elements constitute the service of general economic interest (service d'intérêt économique général). The difference between universal service, obligation services and services of general interest is that obligation services and services of general interest are borne by the State and not financed by operators like the universal service<sup>16</sup>.

<sup>11</sup> From *Le droit de l'accès aux communications électroniques* (Collection droit de l'information et de la communication) (p.174) by J. Cattani, 2015, Marseille: Presses Universitaires d'Aix-Marseille.

<sup>12</sup> From *Rapport au premier ministre* (p. 51) by Le service public, 1996, Paris: La Documentation française.

<sup>13</sup> From *Green paper on service of general interest*, COM (2003) 270, 21 May (p. 16) by Commission of the European Communities, 2003.

<sup>14</sup> Code des postes et des communications électroniques, L'article L. 35-5.

<sup>15</sup> Code des postes et des communications électroniques, L'article L. 35-6.

<sup>16</sup> From *Les aspects juridiques de la libéralisation des télécommunications: Étude comparée* (Thèse de droit à l'Université de Grenoble 2) (p. 406) by W. El Zein, 2012.



In France, the “Universal Service Directive” has been transposed into national law in the French Postal and Electronic Communications (CPCE), articles L. 35 to L. 35-5 and R. 20-30 to R. 20-44. The universal service in France is “a quality telephone service at an affordable price” (Articles L. 35-1, item 1 and R. 20-30-1 of the CPCE). The information service and a subscriber directory (Articles L. 35-1, item 2 and R. 20-30-2 of the CPCE). The access to public telephone boxes installed in the public domain (Article L. 35 -1, point 3 and R. 20-30-3 of the CPCE). Additionally, since 2004, access obligations for disabled end-users have been added (Articles 35-1, item 4 and R. 20-30-4 of the CPCE).

The new article L.35 of the CPCE states that “the public telecommunications service shall be provided in accordance with the principles of equality, continuity and adaptability” which shall include:

The first of the components of the universal service of electronic communications concerns telephone services, facsimile and data communications for sufficient rates to allow access to the Internet from or to subscriber points, and Free emergency call routing<sup>17</sup>. The CPCE’s distributions relate specifically to the provision are:

1. The telephone service, faxes and a sufficient rate of access to the Internet. This covers the installation and connection to the fixed public network and the provision of a quality telephone service over this connection, which enables connection to a sufficiently high quality access to the Internet. The telephone service also covers special pricing and technical provisions for low-income users and those with disabilities. The beneficiaries of this social tariff are people who receive the earned income supplement, or RSA (Revenu de Solidarité Active)<sup>18</sup> a specific solidarity allowance, or ASS (Allocation de Solidarité Spécifique), the disabled adult allowance, or AAH (Allocation aux Adultes Handicapés) or the allowance given to disabled ex-servicemen.
2. The public payphone service to the metropolis at least one public payphone in each municipality, and two in those with a population of more than 1,000 in the public thoroughfare, and the provision of a quality and reasonably-priced telephone service over these payphones. (CPCE, Article L 35-1).

<sup>17</sup> From *Informatique télécom internet: Réglementation, contrat, fiscalité, assurance, santé, fraude, communication électroniques*, éd. Levallois (pp. 821-826) by A. Bensoussan, 2013.

<sup>18</sup> The transitional measures in place during the implementation of the RSA scheme, which include the social tariff reduction for telephone services, were made official by Decree No. 2010-760 of 6 July 2010, extending the scheme to the overseas territories.

3. The printed universal directory is made available for free to all those who subscribe to a public telephone service, fixed or mobile. In 2011, the Minister responsible for electronic communications concluded that there was no need to designate an universal service provider for an electronic directory or for directory services as competition was such that it guaranteed the availability of these services at an affordable price. (article L. 35-4 of the CPCE)
4. The access to public telephone boxes installed on the public domain or at other points access to the public telephone service.

The second is obligations services in telecommunication sector. There are the services, which must be provided throughout the territory. These services may be required from a universal service operator through the terms of reference. The law requires the incumbent to provide all of them. These services must respect the principles of equality, continuity, and adaptability but there are not subject to the requirement of an affordable price such as universal service<sup>19</sup>. The obligation services include:

- access to the Integrated Services Digital Network (ISDN)
- provide leased lines offer (Law 2004-669 of 9 July 2004. In the national regulatory plan, Article R 9 of the CPCE defines leased lines such as the provision by an operator of a transmission capacity between determined endpoints of a network open to the public for the benefit of a user, excluding any switching controlled by this user)
- the provision of data communication per packet
- the provision of advanced voice telephony services (CPCE Art. L 35-5).

The third is services of general interest in telecommunications sector in defense, security, higher education and public research. It is the tasks of the State (CPCE Art. L 35-6).

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<sup>19</sup> W. El Zein (p. 408). op.cit.

## 2) The designation of the operators in charge of the universal service

The member states of the European Union have the possibility to designate companies to provide the following three services: fixed telephony, telephone directories and telephone information and the public. In practice, not all member states designate providers to provide all the components of the universal service, and some have even relaxed obligations for the provision of certain services, considering that the service in question or an equivalent service is already available on the entire territory at an affordable price<sup>20</sup>.

The designation procedure is governed by the Universal Service Directive, which provides in particular that the designation mechanism must be “effective, transparent and non-discrimination”<sup>21</sup>. This Directive refers to the possibility for States to designate one or more undertakings to guarantee the provision of universal service<sup>22</sup>. These principles set out more specifically for States to implement an open designation procedure<sup>23</sup>.

In France, the service provider of the universal service is designated under the competitive principle. The Minister responsible for electronic communications designates the operator in charge of universal service, following calls for proposals (appel à candidature). The calls for proposals concern the technical, financial conditions and the net cost of providing these services. When the call for applications is unsuccessful, a service provider may be designated to ensure continuity of service in accordance with article L. 35-2 of the CPCE. In article L. 36-7 of the CPCE gives Autorité de Regulation des Communications Electroniques et des Postes (ARCEP) the power to monitor compliance by designated operators with their obligations and penalize any breach.

A ministerial order dated 31 October 2013<sup>24</sup> designates Orange to supply the telephone service for the next three years. Orange was also designated to provide the public payphone service for a period of two years, following a ministerial order dated. 14 February 2012. Orange continues to supply the service while waiting for the Minister to designate the provider of the service for the next two years. Following an unsuccessful call for proposals, the Minister responsible for electronic communications re-appointed Pages Jaunes by default to be the provider of print directories for 2012-2014, through an order dated 6 December 2012<sup>25</sup>.

<sup>20</sup> From *Le service universel des communications électroniques au regard des nouveaux usages technologiques: Enjeux et perspectives d'évolution (Rapport parlementaire, 17 Octobre)* (p. 7), by L. Lemaire, 2014.

<sup>21</sup> Article 3, paragraphe 2.

<sup>22</sup> Article 8, paragraphe 1.

<sup>23</sup> Article 8, paragraphe 2.

<sup>24</sup> Published in the Journal Officiel of 9 November 2013.

<sup>25</sup> Published in the Journal Officiel of 12 December 2012.

### 3) Universal service financing

States are allowed to correct market mechanisms that would not spontaneously and cost-effectively serve populations either for reasons of geographical distance or for social reasons because universal service aims to provide all essential electronic communications services at affordable rates. In most developing countries, no one expects incumbents to accept universal service obligations. However, some form of funding needs to be found to bridge the gap that still exists between commercial market boundaries and the goals universal access and service decision-makers want to achieve.

In most countries, where a sector is a monopoly, the incumbent operator uses cross-subsidy to promote universality in the telecommunications sector. Thus, universal service can be financed by cross-subsidy between customers and operator. However, this system is less applied in a competitive environment. In a competitive environment, there are other ways to finance universal service. The contribution of each operator is necessary. It must be non-discriminatory and transparent. In general, the “universal service directive” complies with the principle of States in their funding procedure. The chosen financing system should not impede competition.

The European Commission considers that the member States must ensure transparency, objectivity, non-discrimination and proportionality<sup>26</sup>. In most European countries, other operators must finance the operation of the universal service by feeding a universal telecommunications service fund to all operators. Directive 2002/22 / EC states that compensation for universal service may either come from public funds or be shared between providers of electronic communications networks and services<sup>27</sup>. The national regulatory authorities shall<sup>28</sup>:

(a) calculate the net cost of the universal service obligation, taking into account any market benefit which accrues to an undertaking designated to provide universal service; or

(b) make use of the net costs of providing universal service identified by a designation mechanism.

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<sup>26</sup> Article 8 (2).

<sup>27</sup> Article 13 (1)(b).

<sup>28</sup> Article 12 (1).

The accounts and/or other information serving as the basis for the calculation of the net cost of universal service obligations shall be audited or verified by the national regulatory authority or a body independent of the relevant parties and approved by the national regulatory authority<sup>29</sup>.

In France, 1996, the operator may be given the responsibility of providing universal service if it agrees to provide the service to the whole of the country and is capable of doing. This constitutes a bias maintaining the incumbent as the provider as in fact specifically identifies France Télécom as provider. In November 1997 France and the incumbent signed a “convention” to set tariff objectives for funding universal service between 1997 and 2000. The regulator given greater powers for managing universal service (Directive 97/33CE), which requires that net benefits to the incumbent in the realm of services connected with universal service provision is taken into account<sup>30</sup>. Now a public fund has been set up, under the conditions laid down in article L. 35-3 of the CPCE. It is managed by the Deposits and Consignments Office (Caisse des dépôts et consignations) and is financed by the contributions of electronic communications operators, calculated on revenues for electronic communications services. Operators whose revenues less than 5 million Euros are exempt from contribution. The net costs of the universal service are compensated to the operator in charge of the universal service.

A universal service access fund program will be more successful if the regulator is reputed to be independent and if the government participates in any of the operators. However, the best practice is for the regulator to provide secretarial expertise and management under the supervision of a special management committee or advisory committee that provides strategic direction approves major projects and disbursements and monitors the proper execution and financial integrity of operations. All Universal Service Access Funds have a Board of Directors at the top of the hierarchy. However, its role is varies from each country, depending on local factors. It may have the following roles:

- Board or other management bodies: to taking decisions at a higher level on a range of issues related to the recruitment of directors, approval of the budget, program and projects for access and universal service and the allocation Finalization of grant contracts;
  - Monitoring and surveillance: to ensuring that decisions made by management and its management team are carefully considered in light of the interests stakeholders;
- or

<sup>29</sup> Article 12 (2).

<sup>30</sup> From *France charting a clearer way forward, OECD reviews of regulatory reform* (p. 179) by OECD, 2004.

- Advisory role: to examine proposals for programs and projects in the field of access and universal service, proper decision to be made at the top level, to provide expertise and to give advice.

#### **4) The role of ARCEP (France regulator)<sup>31</sup>**

##### **a) Determining the cost of providing the universal service**

After auditing universal service providers costs, ARCEP calculates the revenue, the cost and the intangible benefits of being the universal service provider, for each of the components. Every year, ARCEP publish the resulting net cost of the universal service which financed by a sectoral fund – to which all telecom carriers contribute in an amount proportionate to their retail market revenue – when this net cost constitutes an excessive burden on the designated service provider.

##### **b) Monitoring quality of service**

The operators responsible for providing the universal service must comply with several quality of service obligations and publish QoS indicators for the universal service component(s) they have been designated to provide. Since 2005, their quality of service obligations have been listed in the annex of the ministerial orders designating the universal service provider for each component. In addition to providing a minimum level of quality, these obligations include the methods used and values provided for the QoS indicators for each universal service component they have been designated to provide.

##### **c) Monitoring universal service tariffs**

The Authority has the power of supervision over all universal service tariffs. For most of the tariffs applying to calls made from a fixed telephone line which corresponds to the universal service offering, ARCEP has opted for a system of multi-annual price cap supervision rather than individual a priori supervision of universal service tariffs. Tariff supervision allows universal service customers to benefit from a regular decrease in Orange calling prices.

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<sup>31</sup> From *Rapport public d'activité de l'ARCEP 2013, Juin*, (p. 198) by ARCEP, 2014.

## Conclusion

The concept of universal service has been placed on the European regulatory agenda by liberalisation. In the context of a regulated competitive telecom market universal service obligations have to be seen as one of a range of regulatory interventions designed to achieve economic or socially desirable outcomes that would not be achieved by market players if left to their own unregulated devices. To ensure that a minimum set of high quality electronic communication services is available to all users at an affordable price that does not distort competition, in accordance with the European regulatory framework, the French Postal and electronic communications code (CPCE) establishes a universal electronic communications service. The universal service makes it possible to ensure that the components are available nationwide and can be accessed by even the most underprivileged members of society. The service is financed by a sectoral fund to which all electronic communications operators contribute. The roll-out of universal service requires long-term investment planning, and the installation of capacity ahead of demand. Industry or service specific subsidies need to be viewed with suspicion in terms of their market and consumption effects.

## ບັນດາບຸກຄົນ

Cattan, J. (2015). *Le droit de l'accès aux communications électroniques (Collection droit de l'information et de la communication)*. Marseille: Presses Universitaires d'Aix-Marseille.

Code des postes et des communications électroniques.

Commission Européenne. (1993). *Communication sur la consultation sur l'examen de la situation dans le secteur des services de télécommunications COM(93) 159 final*. n.p.

Commission Européenne. (1994). Council resolution of 7 February 1994 on universal service principles in the telecommunications sector (94/C 48/01), *Journal Officiel des Communautés Européennes*, C 48.

Commission Européenne. (2010). *Questionnaire for the public consultation on universal service principles in e-communications*. n.p.

Commission of the European Communities. (2003). *Green paper on service of general interest COM (2003) 270*. n.p.

Crocq, I. (2004). *Régulation et réglementation dans les télécommunications*. Paris: Economica.

Directive 97/33/EC of the European parliament and of the council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP). (1997). *Journal Officiel des Communautés Européennes L 199/32*. n.p.

El Zein, W. (2012). *Les aspects juridiques de la libéralisation des télécommunications: étude comparée*. (Thèse de droit à l'Université de Grenoble 2). Université Grenoble 2, Grenoble.

Garceries, S. (1998). Service public et droit communautaire une nouvelle crise de la notion du service public en droit administratif français. *Revue société contemporaines*, 32.

Le service public. (1996). *Rapport au premier ministre*. Paris: La Documentation française.

Lemaire, L. (2014). *Le service universel des communications électroniques au regard des nouveaux usages technologiques: enjeux et perspectives d'évolution (Rapport parlementaire)*. n.p.

Mueller, M. L. (1993). Universal service in telephone history: A reconstruction. *Telecommunications Policy*, 17 (5).



- OECD. (2004). *France charting a clearer way forward, OECD reviews of regulatory reform*. n.p.
- Oestmann, S., & Dymond, A. (2009). Accès et service universel. *Infodev*. n.p.
- Telecommunications Act de 1996.
- Tshiyembe, M. (2014). *Droit international des espaces et des télécommunications*.  
Paris: L'Harmattan.