To what extent can "OTT services" be characterized as "electronic communications services", and to what extent can regulatory framework for electronic communications apply to such services?

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1 Introduction

1.1 Background

The European electronic communications market has drastically changed since the last revision of the regulatory framework for electronic communications ("Regulatory Framework for EC") in 2009. Among other things, traditional telecom operators are meeting challenges from formerly unknown types of services i.e. over-the-top ("OTT") services\(^1\). There is no commonly accepted meaning of the term "OTT service", but it is usually refers to such services as provided by Skype, Viber, WhatsApp, Netflix and others.

Over the last years, the telecom sector has complained that it suffers from unfair competition on the part of companies providing OTT services ("OTT service providers"). In particular, traditional telecom companies complain about a lack of 'level playing field' between them and OTT service providers\(^2\). In other words, telecom industry considers that OTT services are similar to electronic communications services ("ECS") and, hence, should be similarly regulated.

To that end, it is arguable whether the 'level playing field' may be established by applying the Regulatory Framework for EC to OTT services\(^3\).

In my opinion, since the Regulatory Framework for EC had been developed before the emergence of the need for regulation of OTT services, it would not suffice for establishment of the level playing field. In particular, I think that some regulatory objectives and provision of the Regulatory Framework for EC may not be applicable to OTT services at all or without prior amendment.

1.2 Research questions

Based on the above, in order to understand whether the establishment of the level playing field between traditional telecom companies and OTT service providers is possible in the result of application of the Regulatory Framework for EC to OTT services, this paper is dedicated to consider the following:

(i) the extent to which OTT services can be characterised as ECS; and

(ii) the extent to which the Regulatory Framework for EC can apply to OTT services.

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1 European Parliament (2016)
3 Baker McKenzie (2016)
1.3 Methodology

At the heart of this paper are (i) the concept of an "OTT service" determined based on the analyses of different research papers, articles and reports of national and European authorities, and the Regulatory Framework for EC.

The paper is written from the perspective of possibility to apply the Regulatory Framework for EC to OTT services. For this purpose, various secondary sources (e.g. legal literature, articles, blogs, posts, etc.) were consulted.

1.4 Structure

This paper is comprised of three main parts. Following this Introduction, overview of OTT services is provided. The chapter is dedicated to determine and analyse characteristics pertaining to OTT services; define the term "OTT service" and classify OTT services for the purposes of this study.

The third chapter of this paper specifies how OTT services are treated under the existing European regulatory framework. In particular, it considers cases when OTT services are qualified as information society services and when they are qualified as ECS. The chapter, then, moves to the analysis of the extent to which the OTT services can be characterised as ECS.

The last chapter introduces objectives and some provisions of the Regulatory Framework for EC and analysis of their applicability to OTT services. Then, the chapter culminates with the brief summary regarding the possibility to apply the Regulatory Framework for EC to OTT services.

Lastly, the thesis sums up the major point of discussion and concludes on the possibility to establish the level playing field between traditional telecom companies and OTT service providers.

2 OTT services: what does it stand for?

In order to meet the objectives of this paper, all descriptions, findings and analyses must be based on the clearly defined characteristics, definition and classification of "OTT services". The deep understanding of OTT services is required for the analysis of any related questions. For example, without having determined characteristics of OTT services, it will be impossible to compare OTT services with electronic communications services ("ECS") in order to determine whether OTT services may be characterized as ECS. In this regard, this part of the master thesis specifies the basics used for the purposes of this paper.

2.1 The approach used for definition of OTT services

Despite many debates over OTT services, there is no commonly accepted and/or used definition of "OTT service". Practically, for the purposes of the particular study, authors usually
define OTT services in a way suitable to their purposes. Herewith, OTT related papers usually refer to such examples of OTT services as provided by Skype, WhatsApp, WeChat, Facebook, Viber, Netflix, Spotify and others.

In this regard, having no commonly accepted definition of the "OTT service", for the purposes of this paper, I think the definition of the "OTT service" may be formulated based on the analysis of characteristics inherent in the frequently used OTT services mentioned above. Therefore, based on the above, the services provided by the aforesaid OTT service providers are considered below.

2.2 OTT providers and their services

2.2.1 Skype

Skype is one of the most prominent OTT services providers. It is regarded as "[an] IP telephony service provider that offers free calling between subscribers and low-cost calling to people who [do not] use the service. In addition to standard telephone calls (from Skype to Skype and from Skype to public switched telephone network ("PTSN")), Skype enables file transfers, texting, video chat and video-conferencing".

Skype uses a Voice over the Internet Protocol (VoIP) software application for provision of communications services. Skype's software allows users to communicate over the Internet by use of peer-to-peer technology. It is available on different platforms (e.g. Windows, Linux, MacOS, Android, etc.) and devices (e.g. computers, tablets, mobile phones, Xboxes, TVs and electronic wathes). Also, Skype provides its services via a web-site, which does not require users to download the application.

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4 Nguyen (2016)
5 Commonwealth Telecommunications Organisation (2016), p. 4
6 Commonwealth Telecommunications Organisation (2016), p. 4
7 IDG (2016)
8 Menaria (2014)
9 Digital EMA (2015)
10 IPG Media Lab (2014)
11 Blardon (2016)
12 For the sake of clarity, if otherwise is not directly specified in this paper, the said names (brands) are used in relation to OTT service providers and not to the scope of the services provided, nor to so-named applications.
13 Rouse (2009)
14 Technopedia (2017a)
15 Ibid.
16 Ibid.
In January 2017, there were more than 300 million monthly active users of Skype, who spent about 3 billion minutes per day communicating via Skype.

Further, it is worth mentioning that Skype users may make calls and send messages within the Skype for free, as well as make calls to mobile and fixed line telephony on a paid basis.

Based on the above description, I may identify several characteristics inherent in Skype’s services. In particular: (i) they are provided over the Internet; (ii) they allow people to communicate with each other; (iii) their users may communicate within (e.g. Skype-to-Skype) and out of the Skype’s platform (e.g. Skype-to-PTSN); (iv) they are free or paid depending on the user’s preferences; (v) they are provided by means of using the application or the web-site, which is available to users of different hardware and software platforms.

2.2.2 WhatsApp

WhatsApp was founded in 2009 as a cross-platform mobile messaging company and is now operating as a subsidiary of Facebook. “WhatsApp offers simple, secure, reliable messaging and calling services.”

Initially, WhatsApp was started as an alternative to SMS. However, currently WhatsApp provides its users through the so-called application with a possibility to send and receive (over the Internet) text, photos, videos, documents, location and voice calls without having to pay.

WhatsApp application is available for computers, mobile phones and tablets on different platforms (e.g. Android, MacOS, Windows PC and Windows Phone, BlackBerry 10, etc.).

In January 2017, there were nearly 1 billion of monthly active users of WhatsApp in over 180 countries. In January 2016, WhatsApp’s users sent about 42 billion messages per day.

17 Ibid.
18 Statista (2017)
19 DMR (2017)
20 Skype (2017b)
21 Bloomberg (2017)
22 WhatsApp (2017a)
23 Ibid.
24 Ibid.
25 Ibid.
26 Bloomberg (2017)
27 WhatsApp (2017b)
28 Ibid.
29 Ibid.
30 Ibid.
Based on the above description, I may identify several characteristics inherent in WhatsApp services. In particular, (i) they are provided over the Internet; (ii) they allow people to communicate with each other; (iii) their consumers may communicate only within WhatsApp's platform (i.e. WhatsApp-to-WhatsApp); (iv) they are basically free of charge; (v) they are provided by means of using the application available for users of different hardware and software platforms.

2.2.3 WeChat

WeChat is a name of the application and a web-site, which have been initially developed by Tencent for provision of mobile text and voice communications services.\(^\text{30}\)

Currently, there are a lot of services provided via WeChat application and web-site over the Internet. In addition to making free calls and sending free messages, users of WeChat's services may "play games, send money, make video calls, order food, read the news, book a doctor appointment" and many other things.\(^\text{31}\) WeChat also provides its users with a possibility to make low-rate calls outside the platform, in particular, to mobile phones and landlines.\(^\text{32}\)

WeChat application is available for different software (e.g. Android, iOS, BlackBerry, Windows Mobile, Symbian and Java) and hardware platforms.\(^\text{33}\)

In January 2017, there were about 846 million of monthly active users of WeChat. In December, 2016 WeChat's users made nearly 100 million calls per day.

Based on the above description, I may identify several characteristics inherent in services provided by Tencent via WeChat. In particular: (i) they are provided over the Internet; (ii) they allow people to communicate with each other as well as to consume other services (e.g. transfer money or order food); (iii) as regards the "communications part of services", their users may communicate within (i.e. WeChat-to-WeChat) and out of the platform (i.e. WeChat-to-Mobile/Fixed telephony numbers); (iv) they are free or paid depending on a particular service; (v) they are provided by means of using the web-site or the application available to users of different hardware and software.

2.2.4 Facebook

Facebook (Facebook Inc.) was initially started as a company operating a so-named social networking web-site which later developed into social marketing, advertising and services platform.
Currently, Facebook as a company and a unique platform offers a variety of products and services which, among other things, allow people to communicate with each other by sending messages and making calls, advertise products and businesses, share and watch videos\(^{36}\). Some of such services are free and some are paid (e.g. Facebook Marketing Services)\(^{37}\).

Facebook's services and products are provided on the Internet and may be accessed via the website (http://www.facebook.com/) or through the application, such as Facebook Mobile App or Messenger. The said applications are available for different software (e.g. Windows, MacOs, Android, etc.) and hardware platforms (e.g. computers, tablets, mobile phones, electronic watches)\(^{38}\).

In January 2017, there were around 1.871 billion monthly active users of Facebook\(^{39}\) who sent millions of messages and upload millions of photos every day\(^{40}\).

Based on the above description, I may identify several characteristics inherent in Facebook's services. In particular: (i) they are provided over the Internet; (ii) they allow people to communicate, share information, advertise products and business, etc.; (iii) in part of communications services provided by Facebook, their users may communicate with each other only within the platform (i.e. Facebook-to-Facebook); (iv) they are free and paid (depending on a particular service); (v) they are provided by means of using the website or the applications available to users of different hardware and software platforms.

2.2.5 Viber

Viber is the name of application developed by Rakuten, Ink. for making free voice and video calls as well as sending free text and voice messages over the Internet\(^{41}\).

Viber application provides its users with a possibility to communicate within the platform as well as outside it (e.g. making calls to any fixed/mobile telephony numbers all over the world)\(^{42}\).

Viber application may be installed on different software (e.g. Android, iOS, Windows, etc.) and hardware (e.g. mobile phones, tables, desktop computers, electronic watches, etc.)\(^{43}\).

\(^{35}\) Rouse (2014)
\(^{36}\) Reuters Facebook Inc (FB.O)
\(^{37}\) Facebook (2017a)
\(^{38}\) Facebook (2017b)
\(^{39}\) Statista (2017)
\(^{40}\) Ho (2015)
\(^{41}\) Miller (2017)
\(^{42}\) Viber (2016)
\(^{43}\) Ibid.
In January 2017, there were nearly 247 million monthly active users of Viber.\textsuperscript{44}

Based on the above description, I may identify several characteristics inherent in services provided by Rakuten Ink. via Viber application. In particular: (i) they are provided over the Internet; (ii) they allow people to communicate with each other; (iii) their users may communicate within (i.e. Viber-to-Viber) and out (i.e. Viber-to-Mobile/Fixed telephony number) of the platform; (iv) they are free or paid (depending on a particular service); (v) they are provided by means of using the application, which is available to users of different hardware and software platforms.

2.2.6 Netflix

Netflix is an American entertainment company providing its users with a service of watching videos over the Internet "anywhere, anytime and on thousands of devices"\textsuperscript{45} for a monthly payment.\textsuperscript{46}

Netflix renders services via "streaming software through any Internet-connected device, including smart TVs, game consoles, streaming media players, smart phones and tablets"\textsuperscript{47} on different software platforms (e.g. Android, Mac, Windows Phone, etc.).

Based on the above description, I may identify several characteristics inherent in Netflix's services. In particular: (i) they are provided over the Internet; (ii) they are of entertainment nature; (iii) they are paid; (iv) they are provided by means of using the application, which is available to users of different hardware and software platforms.

2.2.7 Spotify

Spotify (Spotify USA Inc.) renders an online "digital music streaming" service allowing users to access a number of songs, podcasts and videos over the Internet.\textsuperscript{48}

The service is provided via a special application, which is supported by desktop computers, laptops, smartphones and other devices\textsuperscript{50} of different platforms (e.g. Windows, Mac, Linux, Android, etc.)\textsuperscript{51}.

\textsuperscript{44} Statista (2017)
\textsuperscript{45} Netflix (2017)
\textsuperscript{46} Ibid.
\textsuperscript{47} Ibid.
\textsuperscript{48} Willings (2016)
\textsuperscript{49} Poland (2009)
\textsuperscript{50} Technopedia (2017b)
\textsuperscript{51} Ibid.
In March 2017, there were over 100 million active users of Spotify\textsuperscript{52}. Depending on user's preferences, Spotify's services may be consumed for free or for payment.

Based on the above description, I may identify several characteristics inherent in Spotify services. In particular: (i) they are provided over the Internet; (ii) they are of entertainment nature; (iii) they may be paid or free; (iv) they are provided by means of using the application available to users of different hardware and software platforms.

2.2.8 Brief Summary

Summarizing the above characteristics pertaining to OTT services, I would like to conclude that different OTT service providers render different OTT services. There are services that only allow people to communicate by making calls or sending messages, as well as services that allow them to watch videos or listen to the music. Also, there are OTT service providers which provide sets of different services. For example, Facebook and WeChat allow their users to make calls, send messages, watch videos, play games, buy and/or advertise goods and services, etc.

At that, all of the analysed services have the following similarities: (i) they are provided over the Internet; (ii) they are intended to satisfy needs of users (e.g. in communications or entertainment spheres, etc.); (iii) they may be free and/or paid; (iv) they are provided via special applications and/or web-sites available to users of different hardware and software platforms.

2.3 Characteristics of OTT services

As follows from the previous paragraph, there is a list of characteristics pertaining to services and allowing to group them as OTT services.

In my opinion, consideration of the aforesaid characteristics will help to understand the nature of OTT services and define OTT services, which must be the basis for comparison of OTT services with electronic communication services for the purposes of this paper.

Based on the above, in this part of the master thesis, I will consider characteristics pertaining to OTT services.

2.3.1 Services provided over the Internet

As a starting point for the analysis of the OTT services' characteristics, I think it is important to say what the Internet is.

Broadly speaking, I may characterise the Internet as a global network connecting millions of different computers (including, but not limited to: mobile phones, desktops computers, file servers, etc.). By means of special protocol (TCP/IP), computers transfer loads of data over

\textsuperscript{52} Spotify (2017)
the Internet. Since the Internet is based on the data transmission, I would like to note that services provided over the Internet must be regarded as the data transmission services.

The Internet is open to everyone. The only one thing that is needed for the use of the Internet is access thereto. Having the Internet access, everyone has an equal opportunity to compete, succeed or fail on the Internet by launching new products and services.

OTT service providers are not exemption from the above rule. They are generally free to use the Internet for any purposes that are not prohibited by law.

For instance, Skype provides users with an application that converts user's voice into data packets, transmits them over the Internet and converts them back into user's voice at the other end of the connection between two users. As another example, Netflix, which provides users with on-demand video watching services. By means of special application, Netflix enables its users to run on their devices video files hosted by Netflix on special file servers. In other words, Netflix's application connects a user's device and a file server over the Internet.

The same approach is used for provision of services via web-sites. In the process of use of a web-site, data is transmitted over the Internet between the user's equipment (e.g. computer, mobile phone, etc.) and a file-server hosting a web-site.

Based on the above, I believe that OTT services must be considered as services which are provided over the Internet by means of data transmission.

Furthermore, it is worth mentioning that the Internet may be regarded as a global network that relies on a physical infrastructure belonging to many different entities and individuals (there is no one who owns the Internet or controls its infrastructure entirely).

From the practical point of view, the aforesaid means that the OTT service provider who provides services over the Internet has no need to deploy and/or control a network for its business purposes. In other words, OTT services are provided over the Internet by service providers who have neither impact on nor control over the Internet.

Therefore, I would like to summarize that OTT services are the services provided by means of data transmission over the Internet by OTT service providers who neither own the Internet infrastructure, nor control it.

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53 Computerhope (2017)
54 Schatz (2015a)
55 Schatz (2015b)
56 Lister (2017)
57 Beal (2010)
2.3.2 Services provided by means of using web-sites and/or applications available to users of different hardware and software platforms

The analysis of services provided by different OTT service providers shows that for the purpose of obtaining such services users must access web-sites or install applications on their devices.

In general, web-sites of OTT service providers may be accessed by a user who has a computer or another device (e.g. tablet, mobile phone) connected to the Internet. As regards the applications, their use depends on whether they are supported by the user's software and hardware platforms. However, as follows from the above analysis, OTT service providers develop applications that may be installed on various platforms.

The aforesaid means that a regular user may obtain OTT service by accessing a web-site or using the application that is supported by its computer or device. Moreover, for obtaining of the OTT services, users do not need to be physically present before the OTT service provider. For example, a regular user residing in Norway may obtain a service provided by Skype headquartered in Luxembourg via an application installed on his/her smartphone.

It is worth mentioning that as a matter of practice, in order to get access to a particular OTT service, a user must be registered with the respective OTT service provider. In other words, users must create user profiles (personal accounts) in systems of OTT service providers. Usually, it may be done on the web-site or in the application.

Generally, the user profile is a collection of settings and information associated with a user. It helps to associate the scope of the functionality of a service available to a user (e.g. having the information about the balance of the user, the system of OTT service provider decides whether the user may use a paid service).

From the user's point of view, I would like to say, using profiles for obtainment of services is very comfortable. In particular, any OTT service may be used by a particular user from any device supporting access to the web-site or by having installed application through which the service is provided. The user only needs to log in into his/her profile.

By contrast, mobile users need to switch a sim-card from one device to another in order to make a call or send a message from a similar mobile number. However, switching a SIM-card is not always possible. Depending on a model of the mobile phone, a sim-card of a particular size (e.g. mini, micro or nano-sim) may be required.

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58 Technopedia (2017c)
The aforesaid means that OTT services are highly accessible to users. They may be consumed via almost every device which is connected to the internet and supports the use of software required for provision of OTT services.

Summarizing the above, I would like to conclude that OTT services may be characterized as highly accessible and interoperable services, which may be obtained by means of using different hardware and software platforms connected to the Internet.

2.3.3 Services which may be free or paid

OTT service providers usually have several options with respect to the price of their services. Depending on the customer's preferences, OTT services are usually provided for free or for payment. However, there are also some OTT services which are usually paid and may be free of charge only in exceptional cases (e.g. Netflix offers a 30-day free trial).

As was already mentioned, OTT service providers do not own networks through which they provide services. They use the Internet infrastructure which is available to everyone. In this respect, OTT service providers may invest money only in the development and maintenance of their applications/web-sites and marketing activities associated therewith.\(^59\)

Therefore, I think that OTT service providers use business models which differ from those of companies providing traditional telecommunications services. In particular, OTT service providers may use, among other things, some of the following business models: (i) provide free services (e.g. calls, messaging within the service i.e. Skype-to-Skype calls), but get a fee for advertisements on their platform (e.g. baner ads in Skype's application); (ii) provide free services (e.g. messaging within the service i.e. Viber-to-Viber), but generate revenue from value-added services (e.g. selling sets of smiles/widgets for the users); (iii) provide free services to one group of customers (e.g. WhatsApp's messaging service is free for individual customers), but charge a fee to another group of customers (e.g. corporate customers for delivery of their messages to individual customers)\(^60\); (iv) provide services for a subscription fee (e.g. Netflix, Spotify); (v) provide some services for free (e.g. Skype-to-Skype calls), but charge fee for other services (e.g. Skype-to-PTSN, Viber-to-PTSN, etc.).

The above illustrates that due to the nature of OTT services, OTT service providers use different models for generating revenue. Furthermore, it seems that the business model used in relation to a particular OTT service depends on the nature of the service. In particular, the services of the entertainment nature (e.g. Netflix, Spotify's services) are provided for payment, but services which are of communications nature (Viber, WhatsApp's services) are mainly free.

\(^{59}\) Karthik (2016)

\(^{60}\) Brown (2016)
In my opinion, the business model used by an OTT service provider depends on its investments in the particular service. For example, in addition to the investments in the development of the application, Netflix and Spotify have to pay for content licensing\textsuperscript{61}. By contrast, due to the nature of their communications services, Skype or Viber do not have such financial burdens. Thus, they may provide their main services for free and generate income from so-called "extra value services" (e.g. advertisements, vidgets, etc.).

Based on the above, I would like to conclude that OTT services must be characterised as services which may be provided for free or for payment (depending on their nature and the business model used by the OTT service provider).

### 2.4 Definition of OTT services

Having determined and analysed the characteristics inherent in the services which are usually referred to as OTT services, I would like to define the OTT service as a service (i) provided over the Internet, (ii) by means of using web-sites and/or applications available to users of different hardware and software platforms, (iii) for free or for payment.

In my opinion, the above definition reflects the nature of OTT services and may be further analysed for the purposes of this paper. At that, I also think that the provided definition is very broad and encompasses every service provided over the Internet.

For example, the services provided by Uber (Uber Technologies Inc.) also fall under the provided definition. In particular, Uber provides its users with a service of taxi ordering\textsuperscript{62} over the Internet. At that, in order to be able to consume a service, users must be registered with the Uber's platform\textsuperscript{63} and use the Uber's web-site or the Uber's application. Also, the users must pay for the services provided\textsuperscript{64}.

The above example in conjunction with other examples of OTT services considered in this paper proves that the definition of OTT services is comprehensive and extends to a broad range of completely different services which have some similar characteristics.

At the same time, I think that OTT services are consumed via web-sites and/or applications due to the technological aspect of the services delivery (e.g. users obtain the Internet services via web-sites and/or Internet applications). Thus, I believe that this characteristic may not be included into the definition of OTT services. Furthermore, it seems that whether OTT services are paid or free also shall not be considered as a necessary part of the definition of OTT ser-

\textsuperscript{61} Investopedia (2015)

\textsuperscript{62} Pullen (2014)

\textsuperscript{63} Uber (2017)

\textsuperscript{64} Pullen (2014)
services, because it is not a unique characteristic inherent only in OTT services (all services are provided on the similar basis – either for free or for payment).

Based on the above, I think that **OTT services must be regarded as services provided over the Internet.** The other characteristics of OTT services identified in this paper may be considered in order to determine categories of OTT services for the purposes of their regulation and other things.

The above definition almost reflects the position of the Body of European Regulators for Electronic Communications ("**BEREC**"). According to the said position, "anything provided over the public Internet is an OTT service"65. Herewith, BEREC defines that the concept of OTT services extends to "content, a service or an application that is provided to the end user over the public Internet"66.

In my opinion, content and/or application must be considered as a result (product) of the services and not as services per se. In particular, I believe that providing access to a video-file (content) by YouTube or Netflix must be considered as an OTT service, but not a file itself.

The same was also defined by the European Parliament in its study of "Over-the-Top players (OTTs)"67. In particular, the European Parliament used the definition of OTT services proposed by Wikipedia which explains that "… over-the-top content (OTT) refers to delivery of audio, video, and other media over the Internet without the involvement of a multiple-system operator in the control or distribution of the content. The Internet provider may be aware of the contents of the Internet Protocol packets but is not responsible for, nor able to control, the viewing abilities, copyrights, and/or other redistribution of the content".

The definition used by the European Parliament is mainly based on the fact of delivery of services over the Internet by means of data transmission and explanation of the features of such delivery (e.g. Internet provider is not involved in control of the content delivery).

It should also be noted, that the European Parliament has specified that the above definition is used in its study in relation to OTT services that may substitute for traditional telecom services (e.g. mobile telephony and messaging).

Further, as was previously mentioned, there is no a commonly accepted definition of OTT services. Thus, there are many definitions which are used for the purposes of different studies. For examples, there are also the following definitions of OTT services:

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65 BEREC (2016) p. 14
66 BEREC (2016) p. 14
67 European Parliament (2016) p. .22
(i) "any service received over the Internet that is not provided directly by their Internet Service Provider (ISP)"\(^{68}\);

(ii) "including Voice over IP, instant messaging services, streaming video and music services [which] are using telecommunications infrastructures"\(^{69}\), or

(iii) "service that [customer] utilizes over a network that is not offered by [a] network provider"\(^{70}\).

Broadly speaking, despite the particular definition, OTT services are considered as services or as services, content and applications delivered over the Internet to users by parties which are not network providers, but through networks of such providers.

Considering the above and the fact that, in my opinion, the definition of OTT services shall not include "content and applications", for the purposes of this paper I would summarize that OTT service shall be regarded as a service delivered to the end user over the Internet independently of any company/operator which owns the network.

2.5 Classification of OTT services

Taking into account the fact that each service provided over the Internet may be considered as OTT service, there is a logical question of whether all of them must be treated and/or regulated equally. Considering that many different OTT services exist (e.g. services for sending messages, making calls, video watching, taxi ordering, product advertising, etc), I believe that different approaches must be used for treatment and/or regulation of such services.

In general, based on different characteristics of OTT services, I may determine several classifications of OTT services. For example, OTT services may be classified by: (i) availability of services for a fee (free and paid); (ii) nature of services (e.g. communications, entertainment, finance, etc.\(^{71}\)); (iii) means of services provision (e.g. web-site, application, web-site & application); (iv) others.

However, I believe that for the purposes of this paper, the most appropriate classification of OTT services would be the following:

1. OTT services that can be characterized as ECS, and

2. OTT services that cannot be characterized as ECS ("Other OTT services").

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\(^{68}\) York (2012)

\(^{69}\) Baker McKenzie (2016)

\(^{70}\) ITVdictionary (2012)

\(^{71}\) European Parliament (2016) p. 24
The above approach is important from the perspective of the question of whether OTT service providers may be generally obliged to comply with the Regulatory Framework for EC.

Imposition of the obligation on some OTT service providers to comply with the requirements of the Regulatory Framework for EC would create a level playing field between providers of traditional telecom services and providers of OTT services.

Also, the application of the Regulatory Framework for EC to OTT service providers would provide users of OTT services with additional guarantees regarding their personal data protection, quality of services, access to emergency services, etc.

At that, it is not possible to determine without analysis of the concept of ECS whether some OTT services may be characterized as ECS.

Based on the above, I would like to conclude that there are several possible classifications of OTT services. Nevertheless, for the purposes of this paper only one classification of OTT services is to be taken into account.

3 REGULATION OF OTT SERVICES

As was already mentioned, there is no separate regulation for OTT services under the European Regulatory Framework. In this regard, OTT services are subject to two different regulatory regimes\(^\text{72}\). In particular, in some cases OTT services are considered as information society services ("ISS"), in others - as ECS\(^\text{73}\).

Further, since traditional telecom companies complain that OTT services (at least those that are of communications nature) are not regulated as ECS\(^\text{74}\), I suppose that the characteristic that allows the relegating OTT services to ECS is not conditioned upon functional application (e.g. communications) of OTT services. Thus, it is unclear what would be the "facilitating characteristic".

Therefore, in order to determine the above mentioned characteristic facilitating OTT services to be qualified as ECS, I think that it is important to understand why some OTT services are characterised as ISS, while others - as ECS.

Having determined the above mentioned so-called "facilitating characteristic", it would be possible to define the extent to which OTT services can be characterised as ECS, as well as a set of OTT services that can be characterised as ECS.

Based on the above, this part of the master thesis is dedicated to consider how OTT services are qualified under the European regulatory framework, what is the qualifying characteristic

\[^{72}\text{Brown (2012) p. 7}\]

\[^{73}\text{Ibid.}\]

\[^{74}\text{European Parliament (2015) p. 25}\]
for OTT services to be considered as ECS, and to what extent OTT services can be characterised as ECS.

3.1 Definition and characteristics of ISS

Pursuant to Article 1 point 1 (b) of Directive 2015/1535, an ISS is understood to be any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services.

The above definition practically sets a criteria for services to be regarded as ISS. In particular: services must (i) be normally provided for remuneration; (ii) at a distance; (iii) by electronic means, and (iv) at the individual request of a recipient of services.

At that, the mentioned Directives do not specify what the words "normally" and "remuneration" mean.

One of the meanings of the word "normally" is "usually". So, the services which are usually provided for remuneration are the services which are specified by Directive 2015/1535. Herewith, the word "normally" may be also interpreted from the perspective of a judgement value: "is it normal to pay for [this] service?". The said question gives a real substance to the term "normally", but raises some uncertainty to the legal rule. Therefore, the European Court of Justice ("ECJ") simply ignores the term normaly and focuses on the term "remuneration".

According to the ECJ case law, "the essential characteristic of remuneration lies in the fact that it constitutes consideration for the service in question and is normally agreed upon between the provider and the recipient of the service". The remuneration criterion means that the service is an activity of economic nature, as opposed to the social services of non-economic nature provided usually by the State.

It is worth noting that the ECJ when interpreting the definition of "ISS" stated that it was not obligatory that the remuneration be directly provided by the service recipient, but that it may also be provided by the "income generated by advertisements posted on a website". From the practical point of view, it means that such services as are provided for free, but financed through other sources (e.g. advertisement) are regarded as normally provided for remuneration.

75 Hatzopoulos V. (2012) p. 22
76 Ibid.
77 Ibid.
78 Blackman C. (2011)
79 BEREC (2016a) p. 11
Therefore, based on the practice of the ECJ, OTT services may be characterised as ISS even when they are provided for free (e.g. Skype-to-Skype video or voice calls), because they are financed through other sources (e.g. advertisement banners in the Skype's applications).

Further, the criterion "at a distance" means that the service is provided without the parties’ being simultaneously present. At that, according to Annex I of Directive 2015/1535, services are not considered as provided at a distance if they are provided in the physical presence of the provider and the recipient, even if they involve the use of electronic devices (e.g. electronic games made available in a video-arcade where the customer is physically present).

The said means that OTT services may be qualified as provided at a distance, since they are usually provided to users by means using web-sites and/or applications and not in the physical presence of the users.

As regards the criterion "by electronic means", it implies that the service is sent initially and received at its destination by means of electronic equipment for processing (including digital compression) and storage of data, and entirely transmitted, conveyed and received by wire, by radio, by optical means or by other electromagnetic means.

In view of the above, since OTT services, as it was determined above, are provided by means of using web-sites and/or applications available to users of different software and hardware platforms, I do believe that they must be treated as services provided by electronic means.

Furthermore, the criterion "at the individual request of a recipient of services" means that the service is provided through the transmission of data upon individual request. At that, according to Annex I of Directive 2015/1535, services are not regarded as supplied "at the individual request of a recipient of services", if they are provided by transmitting data without individual demand for simultaneous reception by an unlimited number of individual receivers (e.g. television broadcasting, etc).

Considering the above as well as the nature of OTT services which are totally based on data transmission over the Internet, I would like to conclude that the said criterion also applies to OTT services.

In this regard, summarising the above analysis, I do believe that from the perspective of definition of 'ISS', OTT services are duly characterised as ISS.

82 Directive 2015/1535
83 Directive 2015/1535
84 Directive 2015/1535
85 Directive 2015/1535
86 Directive 2002/22/EC
3.2 Definition and characteristics of ECS

According to Article 2 (c) of Directive 2002/21/EC on the common regulatory framework for electronic communications networks and services ("Framework Directive")\(^{87}\), an electronic communications service "means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications network, including telecommunications services and transmission services in networks used for broadcasting, but excludes services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks".

The above definition practically sets criteria for services to be regarded as ECS. In particular, services must (i) be normally provided for remuneration; (ii) consist wholly or mainly in the conveyance of signals.

Similar to the Directive establishing the concept of "ISS", the Framework Directive does not specify the meaning of words "normally" and "remuneration". In this regard, I believe that the criterion "be normally provided for remuneration" may be interpreted similar to the same criterion referring to ISS. Thus, it would imply the services that are of economic nature (as opposed to the social services of non-economic nature provided usually by the state)\(^{88}\) and remuneration for which must not be directly provided by the service recipient, but may also be provided by income from other sources (e.g. advertisement).

As stated by BEREC, remuneration in a form of income from other sources "suggest[s] that the provision of personal data or financing through advertising, as is often the case for OTT services, would be qualified as a relevant economic consideration"\(^{89}\).

Consequently, if users do not directly pay for provision of OTT services (e.g. Skype-to-Skype voice or video calls), such services are still provided for remuneration as they are financed through advertising (e.g. advertisement banners in the Skype's applications) or provision of personal data by a customer, etc.

Based on the above, I agree with BEREC according to which the criterion "normally provided for remuneration" will be usually met for OTT services in practice.

As regards the criterion "consists wholly or mainly in the conveyance of signals", the Framework Directive does not specify how it must be interpreted and applied to the specific types of

\(^{87}\) Directive 2002/21/EC

\(^{88}\) For more details please see Paragraph 3.2.1. hereof

\(^{89}\) BEREC (2016a) p. 12
services. Thus, as specified by BEREC, the interpretation of this criterion is left to the discretion of national regulatory authorities\textsuperscript{90}.

As proposed by BEREC, the starting point for the assessment of possible interpretations of this criterion should be the case law of the ECJ on this matter\textsuperscript{91}. In particular, the judgement of C-475/12 UPC v. NMHH\textsuperscript{92}.

UPC was providing packages of radio and audio-visual broadcast services via satellite from Luxembourg to other Member States, in particular to Hungary\textsuperscript{93}. "For the purpose of classifying this service as ECS the ECJ found it irrelevant that the signals were transmitted using infrastructure that did not belong to UPC"\textsuperscript{94}. "The defining criterion of the ECS is whether the provider is responsible as regards end-users for transmission of the signal to provide the relevant service"\textsuperscript{95}.

The judgement of the ECJ in case C-475/12 shows that the defining criterion of ECS is a vis-à-vis responsibility of the service provider before the end user for the transmission of signals ensuring that end users are supplied the services they have subscribed to\textsuperscript{96}. The fact that the infrastructure through which the services are provided to end users does not belong to the service provider is of no relevance to the classification of the service as ECS\textsuperscript{97}.

Despite the judgement of the ECJ, which clarify the criterion that ECS must "consist wholly or mainly in the conveyance of signals", its application to particular services remains unclear\textsuperscript{98}. According to BEREC, there are still three issues with respect to the above criterion. In particular: (i) whether signals on electronic communications are "conveyed"; (ii) what "responsibility" for the conveyance of the signals means; and (iii) how the word "mainly" must be interpreted\textsuperscript{99}.

\textsuperscript{90} BEREC (2016a)
\textsuperscript{91} Ibid.
\textsuperscript{92} C-475/12 - Nemzeti Media
\textsuperscript{93} Woods (2014)
\textsuperscript{94} BEREC (2016a) p. 12
\textsuperscript{95} Woods (2014)
\textsuperscript{96} BEREC (2016a) p. 12
\textsuperscript{97} BEREC (2016a) p. 12
\textsuperscript{98} BEREC (2016a) p. 12
\textsuperscript{99} BEREC (2016a) p. 13
With respect to the first issue, an interpretation of "conveyance" may be "limited to activities that take care of the conveyance of signals between network termination points of electronic communications networks"\(^{100}\).

Concerning the second issue, an interpretation of "responsibility" may be that "a provider becomes responsible for conveyance vis-à-vis end users when he buys services consisting in conveyance of signals from a provider and then sells them - possibly in combination with additional services - to his end users"\(^{101}\). "This interpretation would cover the cases of reselling, services provided by virtual network operators, termination services, etc"\(^{102}\).

As regards the third issue of interpretation of "mainly", BEREC proposes the following considerations. "When the service does not consist wholly in the conveyance of signals, the definition of ECS implies that the elements of the service that are conveyance and for which the provider is responsible, should be weighed against the elements of the service that are not conveyance"\(^{103}\). At that, BEREC notes that "the relative importance of conveyance with a service, compared with the non-conveyance part, requires judgment from the regulator (qualification against mere qualification)"\(^{104}\). "In this judgment several factors can be relevant among which technical and/or 'functional' characteristics - demand-side related aspects such as the end user perspective with regard to the contractual responsibility of the OTT provider vis-à-vis the end-user"\(^{105}\).

In view of the above, the qualification of ECS may be made in several ways depending on the position of the national regulatory authority. At that, the interpretation of the word "mainly" would be extremely difficult, because "it is not possible to quantify the amount of conveyance and non-conveyance elements in a service"\(^{106}\). In this regard, qualification of OTT services as ECS will depend on the approach used by the particular national regulatory authority.

As an example of the national approaches used for qualification of OTT services as ECS, the following may be considered:

- In November 2015, the Administrative Court of Cologne delivered the first German ruling on the qualification of OTT services as ECS\(^{107}\). Confirming the position of the

\(^{100}\) BEREC (2016a) p. 13
\(^{101}\) BEREC (2016a) p. 13
\(^{102}\) BEREC (2016a) p. 13
\(^{103}\) BEREC (2016a) p. 13
\(^{104}\) BEREC (2016a) p. 13
\(^{105}\) BEREC (2016a) p. 13
\(^{106}\) BEREC (2016a) p. 13
\(^{107}\) White & Case (2016)
Federal Network Agency [Bundesnetzagentur], the Court decides that the German Telecom Act applies to Google's Gmail service.108

"In the court proceedings, the Federal Network Agency made the argument that Google controls at least parts of the transmission of emails and that the provision of content does not preclude the classification of a service as an ECS"109. According to the Court's position, "Google is responsible for signal transmission, thus the criterion "conveyance of signals" of the ECS under the German Telecom Act was met"110.

- By contrast, in the Netherlands, email services as provided by Gmail and Hotmail are not considered as ECS111. The Trade and Industry Appeals Tribunal held that "the providers of email services such as Gmail or Hotmail are usually not the party who conveys the signal that makes up these email services"112. "The court seems to have considered that it is the [internet service provider] that conveys the signals and not the provider of the email service, and customers have separate relations with both the ISP and the email provider"113. The aforesaid means that according to the Court's position, users obtain services of the conveyance of signals from an Internet service provider and the email services from an email service provider.

In view of the above, I would like to confirm that the interpretation of the criterion "consists wholly or mainly in the conveyance of signals" for qualifying OTT services as ECS depends on the approach used by the national regulator and, consequently, varies in different Member States.

Therefore, the qualifying characteristic for OTT services to be considered as ECS would be the criterion "conveyance of signals" of ECS and its interpretation on the national level.

3.3 The qualifying characteristic for OTT services to be considered as ECS

The analysis of the definition of ISS shows that OTT services generally fall under the concept of ISS and are, consequently, subject to regulation for ISS.

At the same time, the analysis of the definition of ECS and some relevant case-law show that in some Member States some OTT services may be also characterised as ECS. At that, the key criterion for facilitating OTT to be characterised as ECS is the "conveyance of signals",

108 White & Case (2016)
109 White & Case (2016)
110 White & Case (2016)
111 BEREC (2016a) p. 20
112 BEREC (2016a) p. 20
113 BEREC (2016a) p. 20
legal interpretation whereof may differ in Member States (as evidenced by the aforementioned cases).

Therefore, it seems that the recognition of OTT services as ECS is of technical nature, rather than functional one. It means that from the practical point of view any OTT service may be characterized as ECS if the OTT service provider is technically engaged in the "conveyance of signals". Consequently, as it has already been mentioned, the functional nature of OTT services (e.g. communications nature of instant messaging or Internet video call services) is of no importance for qualifying OTT services as ECS.

Based on the above, I would like to conclude that all OTT services fall under the definition of ISS and are regulated respectively\textsuperscript{114}. However, in some cases, OTT services may also be characterised as ECS. As a general rule, this depends on the approach used by the national regulatory authority for qualification of technical features of such OTT service.

Thus, since only technical features of OTT services are considered for their qualification as ECS, any OTT service with a set of specific technical features (the "conveyance of signals") may be potentially characterised as ECS irrespective of its functional nature (e.g. communications, entertainment, etc.).

3.4 The extent to what OTT services can be characterised as ECS

As it was previously mentioned, OTT services may be classified into two categories: (i) OTT services that can be characterised as ECS, and (ii) OTT services that cannot be characterised as ECS. In view of the above findings, the said categories are the following:

- The first category includes OTT services the provider of which is responsible for the "conveyance of signals" (e.g. OTT services that have the possibility to make calls to the mobile and fixed line telephony numbers\textsuperscript{115}).
- The second group simply includes the rest of OTT services (e.g. OTT services that allow their users to communicate within the platform of the OTT service provider).

The said classification is based on the interpretation of the definition of ECS. Consequently, OTT services may be characterized as ECS to the extent that the technology of their delivery is considered by the national regulatory authorities as the technology envisaging the "conveyance of signals".

\textsuperscript{114} \url{http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI%282016%29586641_EN.pdf} p. 4
\textsuperscript{115} \url{https://www.whitecase.com/publications/article/new-players-old-rules-current-debate-regulation-ott-services-eu-and-germany}
In other words, such OTT services that are "in a very real sense, responsible for enabling communications - the reason they exist is to enable people to communicate"\textsuperscript{116} (e.g. instant messaging, voice or video calls provided by Viber, Facebook, Skype and others) and that do not meet the above criterion are not considered as ECS.

Therefore, ECS and OTT services "are regulated differently in terms of privacy, quality of services, consumer protection, access to other providers (interconnection), portability of data, emergency calls, and numbering"\textsuperscript{117}.

In my opinion, the above-mentioned means that the existing Regulatory Framework for EC is outdated because it does not correspond with the existing way of services development and delivery. In particular, the regulatory framework does not regulate those OTT services that are of real communications nature due to the fact that they do not meet technical criterion of service delivery.

In this respect, I do believe that the extend to which OTT services may be characterised as ECS must be based on their functional nature (e.g. the OTT services shall be characterised as ECS to the extent that they allow people to communicate).

Moreover, I think that the existing problem of unequal regulation of traditional telecom services and OTT services that are of communicatios nature may not be solved by simply qualifying OTT services as ECS or by amending the definition in a way allowing treatment of OTT services as ECS. In particular, it is so due to the fact that the Regulatory Framework for EC was initially developed for the purposes which may not correspond with the purposes of regulation of OTT services.

In this regard, in order to determine whether the Regulatory Framework for EC is appropriate to regulate OTT services, the core objectives and principles of the said regulatory framework should be considered additionally.

\textsuperscript{116} https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p. 10

\textsuperscript{117} http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI%282016%29586641_EN.pdf p. 4
4 The extent to which the Regulatory Framework for EC can apply to OTT services

Due to the fact that the Regulatory Framework for EC was initially designated for regulation of a particular set of services, I think that simple recognition of OTT services as ECS would not be the appropriate measure for establishing a level playing field.

Moreover, considering that the objectives for regulation of ECS and OTT services may differ, I suppose that the regulation which is aimed at achievement of these objectives cannot apply to OTT services. In this respect, I also suggest that the Regulatory Framework for EC can only apply to OTT services to the extent the objectives for regulation of ECS and OTT services overlap.

However, in order to ascertain whether the above suggestions are correct, I do believe that the objectives for regulation of ECS as well as the main aspect of regulation developed for achieving the said objectives must be considered from the perspective of their applicability to OTT services.

4.1 Objectives of regulation of ECS

According to Article 8 of the Framework Directive, the national regulatory authorities of the Member States shall "take all reasonable measures which are aimed at achieving the objectives" specified in the Directive.118

In particular, the Framework Directive specifies the following objectives: (i) improvement of the internal market functioning, (ii) promotion of the competition, and (iii) guarantee of the basic users' rights.119

(i) Improvement of the internal market functioning

The said objective is mostly aimed at cooperation and coordination of the national regulatory authorities.120 Thus, since cooperation and coordination of the national regulatory authorities do not obviously affect the regulation of OTT services, this objective is not analysed for the purposes of this paper.

(ii) Promotion of the competition

Promotion of competition, "is the traditional role of the [Regulatory Framework for EC], given that, in early days of liberalisation, new entrants were competing with established in-

118 Directive 2002/21/EC Art. 8
119 Directive 2002/21/EC Art. 7
120 Directive 2002/21/EC Art. 7
cumbent operators, which had the benefit of existing customer bases and network investment"\textsuperscript{121}.

For the purposes of creating a competitive environment in the electronic communications market, the Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities ("Access Directive") regulates interconnection of and/or access to the networks or associated facilities of undertakings and operators.

As a result of the said regulation, the market becomes more competitive\textsuperscript{122}. In turn, users of ECS indirectly benefit from the effect of competition in the market that is reflected in lowered prices and greater innovations\textsuperscript{123}.

\textit{(iii) Guarantee of the basic users' rights}

Good competition in the market does not guarantee the users' needs, nor does it protect their rights. Therefore, the Regulatory Framework for EC provides for a regulation which ensures consumer protection and citizens' access to "all essential [telecommunications] services, independently of where they are, or, of their social or economic position"\textsuperscript{124}.

Among other things, the Regulatory Framework for EC provides for: (i) a possibility to make emergency calls such as to the "112" European emergency number in any EU country free of charge from any telephone, including public payphones\textsuperscript{125, 126}; (ii) high standards of data protection for personal data stored in or transmitted over the telecommunication network\textsuperscript{127}; (iii)

\begin{itemize}
  \item \textsuperscript{121} \url{https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf} p. 12
  \item \textsuperscript{122} \url{https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf} p. 8
  \item \textsuperscript{123} \url{https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf} p. 8
  \item \textsuperscript{124} \url{https://ec.europa.eu/digital-single-market/node/35}
  \item \textsuperscript{125} \url{https://ec.europa.eu/digital-single-market/en/content/universal-service-0}
  \item \textsuperscript{126} \url{http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN} art. 26 of Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services ("Universal Service Directive")
  \item \textsuperscript{127} \url{http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0058&from=en} art. 5
\end{itemize}
numbering availability\textsuperscript{128} and portability\textsuperscript{129}; (iv) directory entry services\textsuperscript{130}; (v) right to contract with an undertaking or undertakings providing services; (vi) fair roaming prices in Europe, and (vii) other things.

The users of ECS directly benefit from the above regulation, since the reason why the latter exists is to eliminate harm and achieve beneficial outcomes which competition alone may not provide\textsuperscript{131}.

Based on the above, I may summarize that since the considered objectives of the Regulatory Framework for EC are mainly aimed at benefiting users of ECS, they can potentially apply for regulation of OTT services. However, in order to determine whether the regulation aimed at achieving the objectives of the Regulatory Framework for EC can apply for regulation of OTT services, that regulation must be additionally analysed.

4.2 Regulation aimed at achieving the objectives of the Regulatory Framework for EC

This section is devoted to examination of the core regulatory aspects aimed at achieving the objectives of the regulatory framework for ECS in order to determine whether they can apply for regulation of OTT services.

4.2.1 Interconnection

In the market of ECS, some service providers usually need access to networks of other service providers for provision of services to their customers. As a general rule, "without interconnection, a customer cannot call [customers] on other networks or access Internet content located on another network"\textsuperscript{132}.

Article 2 of the Access Directive provides that:

"interconnection means the physical and logical linking of public communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with

\begin{itemize}
\item \textsuperscript{128} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0021&from=EN
\item \textsuperscript{129} art. 10
\item \textsuperscript{130} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN
\item \textsuperscript{131} art. 25
\item \textsuperscript{132} https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p.13
\item \textsuperscript{133} http://www.infodev.org/infodev-files/resource/InfodevDocuments_1068.pdf p. 121
\end{itemize}
users of the same or another undertaking, or access services provided by another undertaking. Services may be provided by the parties involved or other parties who have access to the network [...]."

When operators do not compete with each other, they have an incentive to interconnect due to the fact that interconnection allows customers of one network to call customers of another network and/or consume the services provided in such another network\textsuperscript{133}.

However, in some cases incumbent operators may not wish to interconnect with their competitors in order to limit competition and preserve its market power\textsuperscript{134}. In such cases incumbents can (i) refuse interconnection, (ii) offer interconnection at a price or on the terms that make it difficult for an efficient entrant to compete, or (iii) provide a lower quality interconnection service to the entrant than the incumbent provides itself\textsuperscript{135}.

In the above cases, the regulatory intervention is required. "The motivation for interconnection regulation is that efficient competition in "downstream" market would be difficult, or even impossible, unless entrants can access the incumbent's network at appropriate prices, terms and conditions,"\textsuperscript{136}

By contrast, where OTT services are provided over the Internet (independently of the underlying network), the interconnection regulation has no effect since the interconnection itself is aimed at interconnection of networks rather than services. However, when considering the regulation of interconnection, the intent of this regulation must be analysed instead of the wording of the definition.

"In traditional communications environment, the desirability of interconnection is clear: without interconnection, if one party wished to speak with another, either all users would need to be subscribed to one provider, or else all users would need to have multiple lines, one for each provider".

The competition is hardly to be in the market where all users are connected to one operator. Also, the case when all users need to have as many lines as there are operators on the market, is not economically feasible (e.g. to have several fixed telephony lines or several mobile phones). In this regard, the system when users are connected to one operator through the network of which they may access users of other operators is the most realistic and reasonable\textsuperscript{137}.

\textsuperscript{133} http://www.infodev.org/infodev-files/resource/InfodevDocuments_1068.pdf p. 121
\textsuperscript{134} http://www.infodev.org/infodev-files/resource/InfodevDocuments_1068.pdf p. 121
\textsuperscript{135} http://www.infodev.org/infodev-files/resource/InfodevDocuments_1068.pdf p. 122
\textsuperscript{136} http://www.infodev.org/infodev-files/resource/InfodevDocuments_1068.pdf p. 122
\textsuperscript{137} https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_o
As regards OTT services, there is no need to analyse interconnection of networks, since OTT services providers render services over the Internet without having their own network. At that, considering the interconnection of services as such, I can say that there is no necessity for regulation of OTT services interconnection.

In particular, from the competition perspective, for the provision of services to their users, OTT service providers do need to access platforms of other OTT service providers. In turn, from the users point of view, using services of many OTT service providers is not burdensome, because all of them may be accessed via web-sites and/or applications which are supported by different software and hardware platforms (e.g. a user of iPhone may install on the phone as many applications required for obtainment of OTT services, as he wishes). Moreover, use of OTT services and OTT service applications is usually free.

Based on the above, I would like to conclude that the existing Regulatory Framework for EC may not be extended to include the regulation of OTT services, because the existing definition of "interconnection" is provided for interconnection of networks rather than services. Even more if the Regulatory Framework for EC applies to to OTT based on interconnection of services, rather than network, there is no real necessity for such interconnection (mainly due to the fact that OTT services may be easily accessed and switched by users).

4.2.2 Emergency calling

Citizens of the European Union have a right to call to the emergency services (e.g. police, fire and ambulance) via the single European emergency number 112 which is available from anywhere in the EU\textsuperscript{138}.

According to the Universal Service Directive, "Member States shall ensure that [...] all end-users of publicly available telephone services, including users of public pay telephones, are able to call to the emergency services free of charge, by using the single European emergency call number ‘112’"\textsuperscript{139}. Practically, it means that all undertakings that provide end-users with ECS for originating national and international calls through a number or numbers in a national or international telephone numbering plan\textsuperscript{140} must ensure the end-users' right to call to the emergency number 112.

\textsuperscript{139} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Art. 26 (1)
\textsuperscript{140} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Art. 2 (c)
The above-mentioned means that the Universal Service Directive extends to those OTT services that may be technically characterised as ECS (e.g. OTT services that make it possible to make calls to the mobile and fixed line telephony numbers). Thus, such services (e.g. Skype-to-PSTN, Viber-to-PSTN) should provide a possibility for their users to make emergency calls.

Also, it is worth mentioning that despite the existing regulation, not many providers of OTT services that are characterised as ECS have already provided their users with access to the emergency services\textsuperscript{141}. The reasons for this are the following: (i) lack of technical standards, (ii) lack of readiness on behalf of the public-safety answering points, (iii) lack of enforcement by the national regulatory authorities\textsuperscript{142}.

Further, the Universal Service Directive does not extend to OTT services which are functionally of communications nature, but are not qualified as ECS (e.g. Skype-to-Skype, Viber-to-Vider calls, etc.). In this regard, there are debates in the market whether OTT services that do not use the national numbering plans should be obliged to provide the emergency service functionality\textsuperscript{143}.

In particular, there are arguments that all OTT service providers should provide emergency services because for some people OTT services are their primary channels for communications\textsuperscript{144}. In other words, the argument is that some people can not access emergency services since they use OTT services instead of traditional telecom services.

Herewith, it is also argued that there is no necessity to push OTT service providers to provide emergency services, because "\textit{[T]he number of calls coming from OTTs is extremely low and will be extremely low for many years}"\textsuperscript{145}. For example, the executive director of the European Emergency Number Association told that "\textit{Skype’s dial-out services to phone numbers should be able to make emergency calls, but extending the requirement to other services like WhatsApp would for now only rack up costs for internet companies while helping a tiny number of people who need emergency services}".

\textsuperscript{141} \url{http://www.eena.org/uploads/gallery/files/pdf/consultations/2015_10_30_Consultation_draft-BEREC-report-OTT_EENA_Contribution.pdf} p. 1

\textsuperscript{142} \url{http://www.eena.org/uploads/gallery/files/pdf/consultations/2015_10_30_Consultation_draft-BEREC-report-OTT_EENA_Contribution.pdf} p. 1


\textsuperscript{144} \url{https://www.voxbone.com/about-voxbone/res-ott-communication-emergency-services}

It should also be noted that ECS that provide access to emergency services are available in parallel with OTT services. Thus, "there is no compelling case for [OTT] services to provide access to emergency services, though, where a consumer might expect an [OTT] service to provide such a facility, there should be a clear warning if this is not the case".146

Also, in my opinion, the necessity of access to emergency services via the single European emergency number 112 is triggered by the fact that during some period of time the telephone call has been the most effective tool to access emergency services. Currently, in view of technological development, I think that the emergency services may be accessed by other means with the same or even better efficiency.

For example, in case of emergency, users of OTT services may provide the public-safety answering point with the accurate information about their location (e.g. in mountains) and other information via applications by sending a message or making a call. At that, since a mobile phone may have many applications of different OTT service providers being installed thereon, I do think that there is no necessity to oblige all OTT service providers to provide access to emergency services.

Moreover, I do believe that currently there is no need in intermediary in a form of OTT service provider connecting people and public-safety answering points. In particular, public-safety answering points may be accessed by people over the Internet directly through the applications similar to those used by OTT service providers.

Based on the above, I would like to conclude that under the Regulatory Framework for EC only a part of OTT services that may be qualified as ECS are subject to the obligation to provide users with a possibility to make emergency calls. As regards OTT services which are of communications nature, but cannot be characterised as ECS, they are not subject to the imposition of the said obligation. Moreover, it seems that there is no need to oblige OTT service providers to improve their services for the provision of access to emergency services, since currently there is no need in intermediaries between people and public-safety answering points. In particular, public-safety answering points may be accessed by people over the Internet through special applications.

4.2.3 Confidentiality of communications

In the sphere of electronic communications, in addition to general regulation for data protection, the special sector-specific data protection regulation is applied.

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146 https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p. 32
The special sector-specific data protection regulation is mainly based on the provisions of Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector ("ePrivacy Directive").

Among other things, the ePrivacy Directive particularizes and complements the general personal data protection regime, which "is not designed to protect other fundamental rights (e.g. confidentiality) in relation to unstructured data in transit, i.e. information being transmitted on an electronic communications networks".\(^\text{147}\)

According to Article 5 of the ePrivacy Directive:

"Member states shall ensure the confidentiality of communications and the related traffic data by means of public communications networks and publicly available electronic communications services, through national legislation. In particular, they shall prohibit listening, tapping, storage or other kinds of interception or surveillance of communications and the related traffic data by persons other than users, without consent of the users concerned, except when legally authorised to do so [...]."

The above wording of Article 5 of the ePrivacy Directive means that the requirement of confidentiality applies to electronic communications networks ("ECN"), ECS, and related traffic data. At that, in view of the fact that ECNs are used for transmission of data in the process of rendering OTT services, it "could be argued that [the requirement of confidentiality] already applies to all services provided over [ECN] (including all OTT services)".\(^\text{148}\).

However, in conjunction with Article 3 of the ePrivacy Directive, which specifies that the Directive applies "to the processing of personal data in connection with the provision of publicly available electronic communications in public communications networks"\(^\text{149}\), it would be interpreted that the ePrivacy Directive only applies to ECS.

Based on the above, the requirement of ensuring confidentiality of communications applies to OTT services to the extent that they may be characterized as ECS. Those OTT service providers who render services that are of truly communications nature, but that cannot be characterised as ECS (e.g. Skype-to-Skype calls, Viber-to-Viber instant messaging, etc.) are beyond the scope of said regulation.

\(^{147}\) 'BEREC Response to the eprivacy Directive questionnaire' BoR (16) 133, p. 4
\(^{148}\) 'BEREC Response to the eprivacy Directive questionnaire' BoR (16) 133, p. 10
Nevertheless, considering that users expect to receive the same level of confidentiality of OTT services as applied to ECS, I do believe that OTT service providers should ensure confidentiality of their services to the extent their services are of communications nature (i.e. allow people to communicate).

Further, I would like to note that the ePrivacy Directive also provides for specific regulation with respect to use of traffic data, which means "any data processed for the purpose of the conveyance of a communication on an electronic communications network or for the billing thereof".\(^{150}\)

Traffic data is necessary, among other things, for the purposes of subscribers billing\(^{151}\). However, it may also be used for purposes of marketing ECS or for provision of value added services upon consent of the subscriber or user whom the data relates\(^{152}\).

Regulation of traffic data is very important due to the fact that "very detailed and potentially sensitive information about subscribers and users [may be extracted] merely from the traffic data generated when using ECS".\(^{153}\)

As a general rule, traffic data are generated on the ECN when ECS are provided. Thus, the requirements of regulation of using the traffic data may apply only to those OTT service providers whose services can be regarded as ECS. At the same time, traffic data, in the meaning of Article 2 (b) of the ePrivacy Directive, are not generated when OTT services which cannot be characterised as ECS are provided.

In this regard, in view of the fact that many OTT services are provided using the Internet protocol ("IP"), the definition of 'traffic data' is to be amended to include the "traffic data for IP communications". In particular, BEREC proposed "that the definition of traffic data' should include IP-addresses and port-numbers, as well as data that are used by OTT service providers, that are similar to traffic data and used for identification purposes".\(^{154}\)

Based on the above, I may conclude that the regulation with respect to confidentiality of communications as well as traffic data may only apply to OTT services to the extent to which they can be characterised as ECS. In turn, OTT services that cannot be characterised as ECS, but are really of communications nature should also be subject to regulation on confidentiality.

\(^{150}\) Art 2 (b) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0058&from=LVN

\(^{151}\) Art. 6 (2) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0058&from=LVN

\(^{152}\) Art. 6 (3) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0058&from=LVN

\(^{153}\) BEREC Response to the eprivacy Directive questionnaire' BoR (16) 133, p. 6

\(^{154}\) BEREC Response to the eprivacy Directive questionnaire’ BoR (16) 133, p. 16
of communications and traffic data. However, for this purpose the ePrivacy Directive must be respectively amended.

4.2.4 Numbering availability and portability, services portability

In a nutshell, "numbers are used for identification of entities needed in telecommunications services as well as for routing and billing purposes". They constitute the national resource of the country and therefore require efficient management and administration.

According to the Framework Directive, access to numbering resources is essential for competition in the electronic communications sector. In this regard, the Member States are obliged to "ensure that adequate numbers and numbering ranges are provided for all publicly available electronic communications services".

As a general rule, regulation of numbering is of no relevance to OTT services because they are usually provided over the Internet without use of traditional telephone numbers. At that, as regards OTT services which can be characterised as ECS (in particular, those services that allow to receive calls from the PSTN), a right to receive a number from the national numbering plan is very important to providers of such services.

Therefore, considering that OTT service providers that allow making calls to or receiving calls from the PSTN are generally characterised as providers of ECS and, consequently, have a right to receive numbers from the national numbering plan, I do believe that the existing regulation regarding accessability of numbering may apply to regulation of OTT services.

Based on the above-mentioned, I think that the regulation on accessability of numbering is fully applicable for the regulation of OTT services.

Further, it should be noted that according to Article 30 of the Universal Service Directive:

"Member States shall ensure that all subscribers of publicly available telephone services, including mobile services, who so request can retain their number(s) independently of the undertaking providing the

\[155\] https://www.icta.mu/telecommunications/numbering.htm
\[156\] https://www.icta.mu/telecommunications/numbering.htm
\[158\] Framework Directive Art. 10 (1)
\[159\] https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_Communications_Networks_and_Services.pdf p. 21
service: (a) in case of geographic numbers, at a specific location; and
(b) in case of non-geographic numbers, at any location\textsuperscript{160}.

"Number portability is considered as a key facilitator of consumer choice and effective competition in a competitive telecommunications environment"\textsuperscript{161}.

Number portability may be characterised as a mechanism which allows a user to change a service provider and retain his or her number. This mechanism facilitates competition in the market due to the fact that users may change their provider of ECS without changing the number. It means that users may choose a more attractive provider of ECS (e.g. one which provides more services or services of a better quality, etc.) without concerns that their numbers known by other users must be changed.

The Universal Service Directive does not cover the porting numbers between fixed location and mobile networks leaving this issue to the discretion of the Member States\textsuperscript{162}. Moreover, the Directive does not cover the porting numbers between (i) a fixed location/mobile network and an OTT service provider, and (ii) OTT service providers and OTT service providers (it seems that said issues may also be solved at the national level).

In view of the fact that the assignment of numbers from the national numbering plans (i) may be required only for provision of OTT services that can be characterized as ECS (e.g. making calls to the PSTN or receiving calls from the PSTN), and (ii) is not required for provision of OTT services that are of communications nature, but cannot be characterised as ECS (e.g. calls within platform of OTT service provider), the existing regulation regarding number portability may apply to regulation of OTT services.

By analogy with number portability, I think that the possibility to establish the requirements for portability of such things as users' accounts, lists of contacts and the like between OTT service providers and/or provider of ECS must be also considered.

In particular, I believe that users should have a possibility to port, among other things, their accounts and/or lists of contacts between platforms of OTT service providers and/or providers of ECS. The said possibility would be an incentive for competition in the market and may lead to better quality services, additional guarantees for users and so on.

\textsuperscript{160} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Art. 30 (1)
\textsuperscript{161} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Rec. 40
\textsuperscript{162} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Rec. 40
In this respect, I think that for the purposes of enhancing the competition in the electronic communications sector, the above discussed possibility is to be analysed and, if appropriate, be embedded into the Regulatory Framework for EC.

4.2.5 Directory entry services

According to Article 25 (1) of the Universal Service Directive:

"Member States shall ensure that subscribers to publicly available telephone services have the right to have an entry in the publicly available directory."

Herewith, it should be noted that the above regulation applies only to publicly available telephone services (those that include a limited number of ECS).

Considering that the above extends only to publicly available telephone services, it seems that only those OTT services that provide similar functionality may be subject to the following obligation:

"[t]o meet all reasonable requests to make available, for the purposes of the provision of publicly available directory enquiry services and directories, the relevant information in an agreed format on terms which are fair, objective, cost oriented and non-discriminatory."

Further, it should be noted that:

"in most countries around the world, the social and economic value of telecommunications is enhanced by access to easy-to-use information about how to reach a particular individual or business ("directory services").


164 https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p. 25

165 https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europes_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p. 27

166 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0022&from=EN Art. 25 (2)
By analogy, the availability of information about how to reach a particular user of OTT service would increase the value of such OTT services. However, due to the fact that people do not generally wish to make the contact details (e.g. mobile phone numbers or e-mail addresses) available to the public, there is a possibility that users of OTT services will not provide their contact details for entry into the respective directory.

In this regard, I think that before imposing the above obligation on OTT service providers, there should be prior public consultation with respect to the necessity of directory entry services provided by OTT service providers.

4.3 Brief Summary

Based on the above analyses, I would like to conclude that there are regulatory aspects of the Regulatory Framework for EC that:

(i) are not applicable for regulation of OTT services (e.g. interconnection);

(ii) already apply to regulation of OTT services (e.g. confidentiality of communications, number availability and number portability), but only in part (only to those OTT services that can be characterised as ECS from the perspective of current wording of the Regulatory Framework for EC). In order to apply to all OTT services of communications nature, the respective regulatory provisions should be amended;

(iii) may apply for regulation of OTT services (e.g. access to emergency services), but from the practical point of view are not necessary;

(iv) may apply to OTT services (e.g. directory entry services), but the issue of whether it is necessary should be additionally discussed with the public.

Further, as follows from the analyses, the provisions of the Regulatory Framework for EC are aimed at achievement of the framework's objectives - directly or indirectly benefit customers (users). However, even the objectives of regulation of OTT services would overlap with the Regulatory Framework for EC, some provisions of the latter are not applicable for regulation of OTT services (e.g. interconnection).

Based on the above analysis, I would also like to note that establishment of the level playing field between traditional telecom companies and OTT service providers by simple application of the Regulatory Framework for EC to OTT services would be impossible. In particular, due to the fact that many provisions of the Regulatory Framework for ECS are not applicable to

167 https://neilzone.co.uk/masters/An_assessment_of_the_proportionality_of_regulation_of_over_the_top_communications_services_under_Europe_s_common_regulatory_framework_for_electronic_communications_networks_and_services.pdf p. 25
OTT services or should be substantially revised and amended for the purposes of their applicability to OTT services.

5 Conclusion

In view of modern technological development, there are many different OTT services, which are intended to satisfy needs of people. Some of such services are similar to those which are characterised under the Regulatory Framework for EC as ECS. In particular, OTT services and ECS may be considered as similar services, because they are both of the communications nature (e.g. provide people with possibility to communicate).

However, from the perspective of the Regulatory Framework for EC, only OTT services which have a particular set of technical characteristics (not functional) may be considered as ECS. At that, the practice of qualifying OTT services as ECS differs between the Member States. It means that in some countries OTT services are regarded as ISS, while in others - as ECS.

Therefore, OTT services can be characterised as ECS to the extent the technology of their delivery is considered by the national regulatory authorities as providing for the 'conveyance of signals' (which is the qualifying criterion of the ECS).

Further, as regards the applicability of the Regulatory Framework for EC to OTT services, its provisions can apply to OTT services to the extent that it is necessary from the practical point of view. The necessity of application of the Regulatory Framework for EC to OTT services should be determined with respect to each provision.

Based on the above, I would like to conclude that the level playing field between providers of ECS and OTT service providers would not be possible by simple application of the Regulatory Framework for EC to OTT services. In particular, it is due to the fact that some provisions of the Regulatory Framework for EC are not applicable in case of OTT services regulation (e.g. provision on interconnection).
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