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Services in the Field of Law within the Internal Market: Promoting e-Justice through Interoperability

Gherardo Carullo

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Academic Editor: David S. Levine

Department of Italian and Supranational Public Law, Università Degli Studi di Milano,
Via Festa del Perdono 7, Milan 20122, Italy; gherardo.carullo@unimi.it; Tel.: +39-02-503-111

Abstract: The paper addresses the problem of intra-European services provided to professionals in the legal sector. Through a brief overview of the main services that are or may be offered in the internal market in this field, the author identifies the lack of interoperability as one of the most critical barriers currently preventing effective intra-community competition. The author wonders to what degree and under which rules of the treaties a European intervention could be justified and, therefore, what purposes could be pursued through European legislation. The author analyses the rail transport sector to assess if, and to what degree, existing barriers to entry could be reduced and innovation could be fostered by defining certain standards at a European level for the interoperability of IT systems in the field of law. In particular, the example of the rail sector is analyzed to determine the degree to which the solutions already in place for the “telematics applications for the passenger services subsystem” could be replicated in the context of the services addressed by the paper. In conclusion, the author suggests that addressing the issues of interoperability in the legal services sector could be a useful first step towards the digitalization of the internal market, as advocated by the Commission in its recent Communication on the digital single market.

Keywords: European law; EU regulation; interoperability; legal services; information technologies; digital single market

1. Delimiting the Scope of Services in the Field of Law: “Upstream” and “Downstream” Markets

In the Communication on the Single Digital Market, the European Commission has recently affirmed that one of the top priorities is to promote “an inclusive e-society”, *i.e.*, “an inclusive Digital Single Market in which citizens and businesses have the necessary skills and can benefit from interlinked and multi-lingual e-services, from e-government, e-justice, e-health, e-energy or e-transport” [1].

In the present paper, we focus on e-justice. However, considering the language barriers and the peculiar characteristics of each national legal system, the first question that arises is whether it is possible at all to create an interlinked and multi-lingual ecosystem in the field of law and, if so, how that can be achieved.

To respond to this question, we may analyze the concept of e-justice by focusing on the services that, in the field of law, are currently provided. In this perspective, we may therefore divide the market into two main categories: “upstream” and “downstream” services. We may include in the former group all those services needed by, and aimed at, professionals to provide legal assistance to their clients (“upstream” legal services), while all the services provided by professionals to their clients may be categorized in the second group (or “downstream” services). Metaphorically, upstream legal services could therefore be described as those flowing into the professional domain, whereas

downstream services could represent those that flow out of the professional domain down onto the clients.

At the downstream level, we may thus find a very broad variety of services, the most obvious being the provision of legal assistance by lawyers to their clients. In this field, many undertakings have already taken advantage of the opportunities that the digital era has brought with it, namely those that have provided innovative solutions for lawyers to find new clients and to help clients to find an appropriate lawyer based on their needs¹. In addition, at the European level, Directive 98/5/EC has already contributed to eliminating some of the obstacles that may prevent the free movement of lawyers between Member States². It is worth noting that, even if this initiative is not directly linked to a digitalization process, it has shown that European intervention may help reduce barriers to entry even in a specialized sector, such as the one of downstream legal services.

Upstream legal services, on the contrary, have not yet been specifically addressed by any European regulation. These services are generally intended for professionals, such as lawyers, judges, legal researchers, university professors, to name a few, and are generally intended to provide them with the data and information they need for their activities. The most obvious examples would be the provision of legislation, case law, articles of doctrine, courts' schedules and all other materials and information that legal professionals, such as lawyers, need to have access to in order to provide their services to their clients.

For these reasons, undertakings offering upstream legal services usually need to have access to national databases (e.g., legislation and case law) in order to be able to provide their services to professionals. In this regard, it is worth noting that today most of the upstream legal services are provided through computer software, both in the form of standalone applications to be installed on a particular device (e.g., software applications, mobile applications, *etc.*) or as web applications accessible through a web browser and an Internet connection. Once again, access to legislation and case law offers a very good example: today's professionals are surely accustomed to finding the resources they need online through dedicated web applications and web sites. Therefore, the provision of these services across multiple Member States would not be hindered by any physical barrier.

As a consequence, these services offer some very interesting opportunities. They can provide a very fertile ground for the development of an interconnected European system in which undertakings can have access to national databases in an interlinked environment in which language barriers are eliminated through digitized solutions.

We will therefore focus our attention on this specific category of services, in order to assess how European intervention could remove existing barriers to entry and could, consequently, foster the creation of an interlinked and multi-lingual ecosystem in the field of law.

2. Barriers to Entry and Market Partitioning in the European Market of Upstream Legal Services

When dealing with barriers to entry in the market of upstream legal services, it should be noted that from a technical point of view, the differences that characterize each Member States' legal system do not, in themselves, represent a barrier to entry.

If we abstract the most common needs of professionals in the field of law, in fact, we may notice that, notwithstanding the different rules that apply to the legal professions and the different nature of each national legal system, upstream legal services may be quite uniform across all European jurisdictions. For example, all European lawyers need to access legislation and case law in order

¹ We may recall, for example, those undertakings that provide online platforms to find the best-suited lawyers based on the client's needs.

² Official Journal of the European Union (OJ), EU legislation (L series), 77, 14.3.1998, pp. 36–43, Directive 98/5/EC of the European Parliament and of the Council of 16 February 1998 to facilitate the practice of the profession of lawyer on a permanent basis in a Member State other than that in which the qualification was obtained.

to solve the legal issues of their clients. This may certainly change the ratio at which legislation and case law are relevant for each lawyer, but nevertheless, there is no question that lawyers will always need access to both legislation and case law, at the very least, in order to carry out their professional activities. The same, of course, applies to a wide range of other information, such as court schedules.

Secondly, we need to consider that, to provide upstream legal services, undertakings need to have access to certain data (e.g., legislation, case law, national courts' archives, *etc.*). Undertakings operating in the upstream legal services market, in fact, need, first, to collect such data and, then, they must present them to their users in a convenient and accessible way. From this perspective, therefore, these undertakings can be portrayed as intermediaries, or platforms, since they collect data from different sources and subsequently provide it, in a consumable way, to third parties. In most cases, however, such data are available only by accessing national databases in which such information is stored.

In this regard, it is also worth mentioning that national legislation and case law are usually in each Member State's language. From a technical point of view, however, this does not in itself represent a barrier to entry. The aim of the present paper, in fact, is to identify an abstract way to treat the raw data needed to provide upstream legal services, one that is capable of overcoming any language barrier. Such barriers may indeed arise once the data have been acquired. However, such a problem falls within each undertaking's commercial strategy, as it could easily be tackled by translating the user interface of the software through which raw data are presented to the user (e.g., the interface that allows users to find the national legislation for which they are looking).

On the contrary, the different languages of the raw data collected by undertakings offering upstream legal services may not be a concern as long as such data are structured in a predefined way, one that makes it possible to elaborate and reuse the data without the need to manually analyze and manipulate their content.

One of the most outstanding problems in collecting the data needed to provide upstream legal services is posed by another factor. The way in which national databases holding the required information can be accessed may in fact vary from Member State to Member State. As a consequence, an undertaking willing to retrieve data from more than one Member State (e.g., French and Italian legislation) would need to analyze the way in which data are stored in each Member State. In particular, it would need to verify if, and under what conditions, the data it needs can be accessed and downloaded. Subsequently, it would have to actually download the information, manipulate it in order to store it in its own facilities and, finally, integrate it into its own platform in order to provide it to its users.

Not to mention the fact that, if the raw data were not structured in a predefined way, it would then indeed be necessary to interpret them. As a consequence, in this case, language barriers could well arise, since the mere acquisition of the data would not be sufficient to provide it to end-users.

It is therefore quite clear that if an undertaking has to carry out such activities in a different way for each Member State, the level of complexity, cost and effort involved in providing its services in more than one Member State would be considerably higher than those such undertakings would incur if they had the opportunity to manage data in the same way for each Member State.

It can therefore be maintained that differing technical regulations can create barriers to entry that reduce the possibility of substantial economies of scale and, thus, present a serious obstacle to trade within the (EU) internal market [2].

As a matter of fact, although many undertakings offer their services in multiple Member States, their activities are often confined by national justice systems. Multinationals have often expanded

their activities in new European markets individually, frequently through the acquisition of existing national service providers in order to have access to their databases³.

The fact that European markets are partitioned by national barriers to entry is after all confirmed by the already mentioned Communication on the Single Digital Market, which has specifically addressed the kind of problems described above. With regard to “platforms and intermediaries”, the Commission has explicitly noted that “Europe has a strong potential in this area but is held back by fragmented markets which make it hard for businesses to scale-up”⁴.

In the words of the Commission, a key element to overcome such fragmentation is, in short, interoperability, *i.e.*, “the ability of two or more systems to communicate and work together without any problems”⁵. In the cited communication, the Commission has in fact stressed that “in the digital economy, interoperability . . . means connecting better along the supply chain or between industry and services sectors. It means more efficient connections across borders, between communities and between public services and authorities” and that “standardisation has an essential role to play in increasing interoperability of new technologies within the Digital Single Market”⁶.

In other words, according to the Commission, the current barriers posed by the complexities described above could be overcome if there were one standardized system of retrieving legislation, case law and all other relevant data from all Member States. It is worth noting that if that were the case, undertakings could more easily expand their activities to Member States in which they do not yet operate, without significant changes to their systems, applications and infrastructures.

We could again imagine, as an example, an undertaking whose core activity is to provide lawyers with legislation and case law. If such an undertaking had the ability to retrieve all legislation and case law from all Member States in a predefined and unique way, from a technical point of view, to provide its services across all of Europe, it would simply need to access the national databases of each country, without altering its systems.

In light of the above, it is therefore worth investigating if, and why, a European action in this area, one aimed at improving the interoperability of the IT systems necessary for upstream legal activities, could be a game-changing factor.

3. Why Interoperability in the Upstream Legal Services Market Could Be a Game-Changing Factor

3.1. Problems Posed by a Lack of Interoperability

As mentioned above, in Europe, in the area of upstream legal services, there are as yet no harmonization rules. Neither has there emerged a unique technological standard able to provide *de facto* uniform protocols.

The only initiative in this direction is that offered by the search-engine aggregator N-Lex, the website for consultation of national legislation run by the Commission. The Commission’s aspiration, according to its slogan, is to be “[a] common gateway to national law”. Notwithstanding this broad and ambitious objective, however, the service is currently limited to providing end users with a single search interface that redirects to the various national repositories. It is therefore a system aimed at

³ Examples of such phenomena are provided by the acquisitions by the *Wolters Kluwer* group of the Italian *Leggi d’Italia*, by the *Thomson Reuters* group of the Spanish *Aranzadi* and by the *Lexis-Nexis* group of the French *Juris-classeur*.

⁴ Paragraph 3.3.1 of the Communication on the Single Digital Market [1].

⁵ See [3]. Further investigating the notion of interoperability, according to the categorization proposed by the author, it is also possible to clarify that what is of interest here is the “technical interoperability”, that “covers the technical issues of linking systems and services”. On the contrary, the “operational interoperability”, “concerned with the harmonization of rules and implementations”, is of little interest, since in the field of legal services, each undertaking would operate autonomously, contrarily to what happens in the rail sector, where each train company must operate in a coordinated manner. See also [4], according to whom interoperability can be defined as “the ability of two systems to exchange and use information”. For a brief recap of the concept of interoperability in EU legislation, see [5].

⁶ Paragraph 4.2 of the Communication on the Single Digital Market [1].

consumer-professionals (the downstream market) and is not intended to provide standardized access to raw data to be used at the upstream level⁷.

Nevertheless, the example offered by N-Lex can serve as a useful starting point for understanding the underlying problem analyzed by this paper. To make the N-Lex website possible, each Member State had to adopt a system for the management of its own national legislation that would allow access to data according to a predefined protocol. Only in this way has it been possible to create a Europe-wide “centralized” search engine.

In short, the service offered by N-Lex is an effective example of a system structured according to predefined templates, accessible in a predetermined manner, that allows the development of services that use such data. In technical terms, these interconnections between computer systems can be described as “[v]irtual networks”, *i.e.*, those that do not rely on “physical connections”, but on “invisible” “linkages between [their] nodes” [7].

Virtual networks are often also depicted as languages [8], as they represent the ways in which subjects communicate with each other and the means by which information is exchanged⁸. As for human interactions, however, the problem with languages is that they can constitute a barrier. As a consequence, to establish communication between two subjects, it is necessary to define a common language with which both parties can communicate.

The same applies to IT systems. Even if computer networks tend towards *de facto* standards [10,11] and usually rely on only a few communication standards [8,12], to establish an “interoperability ecosystem” it is necessary, amongst other elements, to ensure “semantic interoperability” [13,14].

It has been argued that “interoperability is valuable because it tends to promote innovation, competition, and access, each of which gives rise to more concrete benefits for consumers and society generally” [15]. Indeed, at the EU level, the numerous examples in which interoperability has played an important role in opening up new markets to cross-border competition uphold that idea [5]. For example, we may recall here the role of interoperability in electronic communications⁹, in the postal services¹⁰, in the computer software industry¹¹, in the energy sector¹² and in air transport [17,18], just to mention a few.

⁷ It should be noted that when we refer to “access”, in the present paper, we mean both access to and extraction of all of the required data. In fact, for the purposes of the present paper, undertakings should be granted the right to extract data, *i.e.*, “The right to obtain resource units or products of a resource system”, and the right to manage it, *i.e.*, “The right to regulate internal use patterns and transform the resource by making improvements”; see [6].

⁸ The analogy between virtual networks and human languages is well represented by the paper titled *Lost in Translation: Interoperability Issues for Open Standards* [9], which refers to the inefficiencies of some open standards for text documents in guaranteeing that data and formatting are correctly preserved from one software to another.

⁹ According to Recital 9 in the preamble to Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to and the interconnection of electronic communications networks and associated facilities (Access Directive) (OJ L 108, 24.4.2002, pp. 7–20), “Interoperability is of benefit to end-users and is an important aim of this regulatory framework”.

¹⁰ Recital 34 in the preamble to Directive 2008/6/EC of the European Parliament and of the Council of 20 February 2008 amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services (OJ L 52, 27.2.2008, pp. 3–20) states that “[w]here several universal service providers with regional postal networks exist, Member States should also assess and, where necessary, ensure their interoperability in order to prevent impediments to the prompt transport of postal items”.

¹¹ The Microsoft cases are a well-known example [15,16]. On this, see also Recital 17 in the preamble to Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (OJ L 111, 5.5.2009, pp. 16–22), which states that, notwithstanding the fact that computer programs should be protected, nevertheless, the rules “are without prejudice to the application of the competition rules under Articles 81 and 82 of the Treaty if a dominant supplier refuses to make information available which is necessary for interoperability as defined in this Directive”.

¹² See Article 5 of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14.8.2009, pp. 55–93), which provides that “the minimum technical design and operational requirements for the connection to the system of generating installations, distribution systems, directly connected consumers’ equipment, interconnector circuits and direct lines . . . shall ensure the interoperability of systems and shall be objective and non-discriminatory”.

Current technology certainly offers many ways to ensure some level of interoperability [4,13], but “the conventional means of achieving interoperability in ICT markets is through standards” [19]¹³, *i.e.*, “a set of technical specifications that seeks to provide a common design for a product or process” [21].

Guaranteeing interoperability through the definition of standards, however, has its drawbacks. These include, for example, “problems of obsolescence and inefficiency” that standardization may create, “because technological innovation may proceed at a faster pace than law reform” [19]; a reduction of investments in innovation [22]; and issues in granting access to proprietary standards [23].

Due to the concerns that standardization may raise, it has been argued that “competition policy should be developed with a view toward obtaining the benefits of standardization while minimizing any attendant loss of competition” [20].

Because of the drawbacks that standardization may entail, it may be appropriate to look at how EU legislation has addressed similar issues in other markets to assess the extent to which interoperability, through the definition of standards, could facilitate the communications between the computer networks necessary for providing upstream services in the field of law.

3.2. How Interoperability Could Make a Difference: An Example from Existing EU Legislation

Amongst the many sectors that have in recent years been addressed by EU legislation, there is one that provides an excellent example for the present paper: rail transport¹⁴.

The process of liberalization of rail transport has led to the adoption of different standards in terms of interoperability: the so-called Technical Specifications for Interoperability (TSIs). In particular, to define the TSIs, the railway sector has been split into separate autonomous subsystems, each of which has its own autonomous specifications. Amongst these, the telematics applications for the passenger services subsystem is particularly interesting for our purposes, since, from a technical point of view, it shares some fundamental characteristics with the services of interest in this paper.

We have previously clarified that when dealing with the upstream legal market, we deal with services that are primarily intended for providing professionals with the information and the data they need to carry out their activities. By abstracting this process, we can represent upstream legal services as the activity of collecting raw data from multiple databases (*e.g.*, national legislation, case law, *etc.*), held by different subjects (*e.g.*, national legislative bodies, courts, *etc.*), manipulating it and providing it to end-users (*i.e.*, professionals in the field of law) through software applications (*e.g.*, a mobile application, web applications, and so on).

On the other hand, the telematics applications for the passenger services subsystem “comprises two elements: (1) applications for passenger services, including systems that provide passengers with information before and during the journey, reservation and payment systems, luggage management and management of connections between trains and with other modes of transport; (2) applications for freight services, including information systems (real-time monitoring of freight and trains), marshalling and allocation systems, reservation, payment and invoicing systems, management of connections with other modes of transport and production of electronic accompanying documents”¹⁵.

¹³ In particular, it has also been underlined that “Industry standards are more important than ever. In an increasingly connected and digital world, there is growing demand for disparate information and communications technology (“ICT”) systems to interoperate well with one another. As reflected in the Digital Agenda for Europe, standards are widely (and quite correctly) seen as vital for interoperability. Interoperability, in turn, obviously plays an important role in promoting competition and innovation”; see [20].

¹⁴ Which is nothing new, considered that the rail transport has already been in the past an example for the “the development of the legal framework for all the subsequent network technologies”; see [24]. The authors, in fact, point out that in the United States, the Interstate Commerce Act has been an example for many other network industries, as “petroleum pipelines, trucking, civil aviation, and telecommunications, among other technologies”.

¹⁵ Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community, Annex II, Paragraph 2.6 (OJ L 191, 18.7.2008, pp. 1–45).

By abstracting this process, we can therefore also represent it as the activity of collecting raw data from multiple databases (e.g., information before and during the journey), held by different subjects (e.g., train companies), manipulating it and providing it to end-users (i.e., passengers) through software applications (e.g., mobile applications, web applications, and so on).

In other words, from a technical standpoint both sectors—upstream legal services and telematics applications for the passenger services—appear to share the same fundamental logic: many undertakings need to access different sources in order to collect multiple kinds of data and information with the aim of providing such data and information to end-users.

Given the common fundamental elements shared by these two sectors, we can, for the purpose of providing an example of how interoperability could make a difference in the upstream legal services, present the example of how interoperability has improved the way in which data are collected for the telematics applications for the passenger services.

In the simplest possible terms, the objective of the TSIs for telematics applications used in the passenger services subsystem is to define a generally applicable and usable system for all stakeholders, according to predetermined models known to all operators¹⁶. This means, in other words, establishing a system that allows the exchange of data between different systems in a way that allows everyone to access a particular database and obtain the desired data. The TSIs in fact specify that the concept “‘Network’ in this context means the method and philosophy of communication and does not refer to the physical network”; in other words, the concept of network refers here to a system in which computers can share and exchange information¹⁷.

A simple example may help to explain the problem: we could think of an individual, or a small start-up, interested in developing an application (or app, as it is commonly known in contemporary digital stores) that provides the train schedules of all operators servicing a particular route. If EU intervention were limited to ensuring the mere right of access to the data of each railway operator (times, prices, etc.), such a person would be faced with a potentially complex operation: each train company could have a different methodology for collecting and storing the data and could implement different protocols to access and query its contents. As a consequence, the subject of our example would need to analyze the methods for collecting the desired data from each train operator. To make things worse, each railway operator could change its IT systems at any time, forcing the start-up in our example to have to continuously monitor each system, in order to ensure that the developer’s app still functions as expected. In other words, the problem would be that such a person would need to create a computer system specifically designed for each train company and then process the data collected, align it and, finally, provide it to the users of the app.

The goal of the European standardization framework is precisely to avoid such complications. By establishing a uniform system, the TSIs facilitate access to databases in a predefined and unique pattern applicable to all rail operators. In other words, in the above example, the developer interested in collecting the data would simply need to create a single computer system for data collection, which would work for all rail operators. Since this means such an app could work for the entire European market, the benefits of such an approach are evident: with a single, unified system, it would be possible to retrieve all of the data necessary to develop a pan-European application.

It is worth mentioning that this example is not merely hypothetical. It is sufficient to access any digital store for mobile devices in order to gain an immediate appreciation of the abundance of apps that make use of travel data made available by the rail operators.

The same example, *mutatis mutandis*, could well be applied also to the legal sector. In this case, the application to be developed could be aimed, for example, at providing the end-user with court

¹⁶ See Commission Regulation (EU) No. 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem “telematics applications for passenger services” of the trans-European rail system (OJ L 123, 12.5.2011, pp. 11–67), para. 4.2.21.1.

¹⁷ See Regulation 454/2011, para. 4.2.21.2.

timetables or national legislation. The ability to retrieve all of the necessary data from all of the courts or legislative bodies of all Member States via a single protocol would undoubtedly simplify the task of accessing and querying the databases, as has been the case in the rail system. If that were the case, in fact, each undertaking could easily retrieve all of the data they require from multiple Member States with little additional effort, thus leveraging its own structures, and costs, on multiple markets.

On the contrary, a system in which undertakings need to analyze each national IT system and then develop and maintain *ad hoc* systems for retrieving the information they need for each Member State renders even the development of a simple app as the one described an enormously complicated project.

On the contrary, if the legal data needed to provide upstream legal systems were structured according to predefined protocols, undertakings could more easily interact with the various national databases containing regulations, case law, judicial data, digital files of the chancelleries of the courts, and so on. Such mechanisms could ensure that economic operators willing to offer legal data to their users could access information from the legal databases of various nations via the same methods for the whole European market.

It is therefore now necessary to investigate the legal basis on which a European intervention could be justified and, thus, the main objectives it could pursue, also in light of the fundamental principles of proportionality and subsidiarity.

4. Grounds and Delimitation of a European Intervention

4.1. Subsidiarity and Proportionality in the Implementation of an Interoperable System for the Upstream Legal Services

Having clarified why pan-European interoperability could benefit the market of upstream legal services, it is now necessary to clarify to what extent a European intervention could be justified in light of the principles of subsidiarity and proportionality set by Article 5, Paragraphs 1, 3 and 4, of the Treaty on European Union (TEU), and by Protocol No. 2¹⁸.

First of all, from a subsidiary perspective, we need to assess whether a European intervention would be necessary if national measures could achieve comparable (or even better) results.

In this regard, we have already mentioned that, in order to make two or more (computerized) systems interoperable, it is essentially necessary to create a “virtual network” between them, so that they can communicate through a common protocol (“language”). Thus, from this perspective, the ultimate goal in order to achieve pan-European interoperability would be to create a system in which national databases from all Member States are accessible through a common protocol.

If technical rules are established by single Member States, it is very likely that fragmentation may occur, as in fact currently is the case. In a situation in which there are no *de facto* legal or technical standards and where each system is isolated from the others (e.g., each national legislative body), it is very likely that different systems are put in place by each involved subject, especially if there is not a central body of any kind that ensures some level of coordination in the definition of the technical standards to be adopted.

However, as we have already mentioned, the lack of unique technical standards for interoperability means that undertakings need to implement different systems in order to work in each Member State, a situation that brings with it the consequence of higher costs and reduced economies of scale.

Such a situation would therefore certainly be less preferable than one in which a single standard is defined at a centralized level.

¹⁸ Given the notoriety of these principles, we will only analyze them for the specific purposes of the present paper. Amongst the many works that have studied and explained these topics well, we may refer to the most recently-updated contributions; see [25].

European intervention could precisely prevent such inefficiencies and fragmentation risks by regulating the adoption of common technical standards for interoperability across all Member States. It may therefore be maintained that the most appropriate body to adopt the necessary regulations for the promotion of common technical rules would surely be the European Union.

As per the principle of proportionality, in order to be in line with the limits imposed by the treaties, a European intervention in upstream legal services would have to be limited to only what is strictly needed for implementing a system (or network) in which all relevant data stored in national databases is accessible in a predefined and standardized way.

In other words, from a proportionality point of view, European legislation should only set those standards and requirements that allow for a sufficient degree of interoperability. This means that the way information is stored in each database, as well as the infrastructures and the technologies used to store the data, along with all the technical issues related to its storage and retrieval, would be irrelevant from a European perspective. The only necessity would be to set common technical standards for accessing the data and, thus, the means by which such data are communicated.

This approach would surely be the most proportionate, as it would mean existing infrastructures could remain unchanged, while allowing for the highest possible degree of interoperability.

We will analyze in the next paragraph how a system in line with the principles of subsidiarity and proportionality could be put in place by looking at the example of the TSIs for the telematics applications for the passenger services subsystem. Before doing so, however, we first need to assess the legal basis on which a European intervention could be established and whether reasons of general economic interest might, on the other hand, justify exceptions to the implementation of a system such as the one proposed in the present paper.

4.2. Legal Basis

In seeking the objectives, and therefore, the legal basis, that could legitimize a European intervention in the field of upstream legal services, in the terms set out above, the rail system also provides a good starting point. Like the rail system example, upstream legal services have a peculiar characteristic: they serve both as a tool for the growth of the internal market and, at the same time, constitute services that can be provided within the internal market [26,27].

First of all, the adoption of legislative measures within a common framework for the interoperability of the ITC systems required to provide upstream legal services could be based on the idea that EU intervention is needed to promote free trade in this sector, within the internal market and, as a consequence, to foster growth, competition and innovation.

It has already been shown that the persistence of national models for data management constitutes a strong barrier to both existing economic operators and newcomers. Thus, the harmonization of the systems needed for the provision of upstream legal services could be primarily functional, in this specific market, to improve the conditions of free trade in the internal market. Under this perspective, we might therefore sustain that the European action could be based on Article 59 of the Treaty on the Functioning of the European Union (TFEU).

Since the first and immediate objective of the European intervention in the upstream legal services market would be to guarantee the possibility of all operators to interact in a harmonized way with national databases, thus promoting intra-community trade, Article 114 TFEU may also come into play. It could be maintained that a harmonization initiative would have as its main objective improving the conditions for the establishment and functioning of the market of upstream legal services, since different national regulations hinder the ability of undertakings to compete on the merits in the whole European market.

In addition, it should also be taken into account that a more efficient market for the tools needed to provide legal assistance could also promote the development of the internal market in sectors other than the upstream legal services [28]. An intervention at an upstream level capable of fostering competition and innovation could improve the ability of professionals to locate the tools necessary to

better assist their clients, thus reducing the costs involved in downstream services [29] and facilitate access to justice.

In this regard, it is useful to briefly recall the provisions of Regulation No. 1371/2007 on the rights and obligations of rail passengers. The first recital in the preamble to the Regulation, which identifies the regulation's objective, states that the purpose is "to safeguard users' rights for rail passengers and to improve the quality and effectiveness of rail passenger services". The second and third recital stress the need to achieve "a high level of consumer protection" and to safeguard passengers' rights, "[s]ince the rail passenger is the weaker party to the transport contract". To protect passengers, the fourth recital underscores the need to ensure the right to obtain, "in advance and as soon as possible", information regarding the service both before and during the journey. Recital Number 8 finally clarifies that "[t]he provision of information and tickets for rail passengers should be facilitated by the adaptation of computerized systems to a common specification". To this end, the regulation clarifies that, amongst the objectives stated in Recital 9, "[t]he further implementation of travel information and reservation systems should be executed in accordance with the TSIs".

This means that, even if these regulations are addressed specifically to rail services operators, the TSIs are intended as a means to achieve better protection of rail passengers. The same logic may also be relevant in the field of upstream legal services. A European intervention of this kind could also be conceived in order to benefit the end-user, *i.e.*, professionals in the field of law.

This perspective would be coherent with the more defined role justice has assumed at an EU level after the Treaty of Lisbon [30,31]. The renewed Title V, Part III, is expressly entitled "area of freedom, security and justice". In the Treaty establishing the European Community (TEC), on the contrary, the rules on cooperation on justice were placed in Title IV of Part III, titled generically "Visas, asylum, immigration and other policies related to free movement of persons". Additionally, the rules on justice are now contained in two independent chapters, the third and fourth, respectively dedicated to "judicial cooperation in civil matters" and in "criminal matters".

Article 81 TFEU provides in particular that cooperation on civil matters "may include the adoption of measures for the approximation of the laws and regulations of the Member States"¹⁹ and, "particularly when necessary for the proper functioning of the internal market, aimed at ensuring: . . . effective access to justice"²⁰, which is a new noteworthy part added in the TFEU, in addition to the existing objective aimed at "the elimination of obstacles to the proper functioning of civil proceedings, if necessary by promoting the compatibility of the rules on civil procedure applicable in the Member States"²¹.

Moreover, after the Treaty of Lisbon, "most decisions in this area are now made according to the ordinary legislative procedure, with the Commission proposing legislation, the Council (by qualified majority) as well as the European Parliament (by simple majority) deciding on the legislation and the Court of Justice ruling on the legality of the acts" [30].

Therefore, it could surely be investigated whether a legislative initiative could (also) be based on the idea that, to promote "access to justice", it would be appropriate, at the EU level, to start by improving the market conditions in which upstream legal services are provided, in order to improve efficiency and reduce costs in the downstream market.

EU measures to ensure interoperability in upstream legal services could therefore be justified by a plurality of legal bases. The most appropriate of these would need to be chosen, mostly for political reasons, depending on the main objectives pursued, amongst those outlined above.

We may therefore analyze the shape in which a European intervention could effectively be assumed. To do so, a very good example is already provided by the telematics applications for the passenger services subsystem in the rail sectors explored in this paper. As previously clarified, in

¹⁹ Paragraph 1.

²⁰ Paragraph 2, Letter e.

²¹ See Letter f, formerly art. 65, par. 1, Letter c, TEC.

fact, this peculiar sector of the rail system shares some fundamental characteristics with the upstream legal services market. For this reason, existing EU legislation for the telematics applications used in the passenger services subsystem offers a valid example of the types of measures that could also be applied in the field of upstream legal services.

5. Access to Travel Information and Reservation Systems in Rail Transport: TSIs for the Telematics Applications for the Passenger Services Subsystem as an Example for the Field of Upstream Legal Services

It is well known that the rail service is part of a broader framework of a common transport policy for the European Union. This sector is characterized by a dense network of European provisions that have gradually led, as is often the case in European law [32–35], to the opening up of national markets [26,36].

Given the limited scope of the present paper, we will focus only on the legislation relevant for the telematics applications for the passenger services subsystem²².

Commission Regulation (EU) No. 454/2011 (the Regulation) (see Footnote 16) defines the technical specification for interoperability relating to the subsystem telematics applications for passenger services of the trans-European rail system. By analyzing how the TSIs have been structured for the telematics applications of the passenger services subsystem, it is possible to offer an existing example of which principles and approaches could be replicated in the upstream legal services field.

As clarified in the fifth recital in the preamble to the Regulation, the aim of the TSIs relating to the subsystem for telematics applications “is to define procedures and interfaces between all types of actors to provide information and issue tickets to passengers via widely available technologies”. Additionally, according to the eighth recital “Detailed specifications are necessary to ensure that this Regulation can be applied”.

Since TSIs address highly technical issues, for the purposes of the present paper, it is sufficient to identify the main elements that have allowed for full interoperability. To do so, we can focus on the “general architecture” of the system defined by the Regulation (see Footnote 16).

The ambitious project of defining universally applicable TSIs is pursued by the definition of an “information exchange architecture”, which (i) “is designed to reconcile heterogeneous information models by semantically transforming the data that are exchanged between the systems and by reconciling the differences in business processes and application-level protocols”; (ii) “has a minimal impact on the existing IT architectures implemented by each actor”; and (iii) “safeguards IT investments already made” (see Footnote 16).

These three pillars of the “information exchange architecture” are of paramount importance.

The first assumes that every operator may manage its data differently. The aim is not to standardize the way in which the data are saved, but rather to standardize the means of exchanging

²² Due to the complexity of the legal basis of the relevant regulations, it should be recalled that Article 5, Paragraph 1, of Directive 2001/14/EC (OJ L 75, 15.3.2001, pp. 29–46), entitled “Services”, provides that “Railway undertakings shall, on a non-discriminatory basis, be entitled to the minimum access package and track access to service facilities that are described in Annex II”. According to Annex II, “The minimum access package shall comprise . . . all other information required to implement or operate the service for which capacity has been granted” (Point 1, Letter e). Article 8, Paragraph 2, of Regulation No. 1371/2007 provides that railway undertakings must provide the passenger, during a journey, with, at minimum, the information set out in Annex II, Part II, of the regulation: “on-board services”, the “next station”, “delays”, the “[m]ain connecting services”, as well as “[s]ecurity and safety issues”. With regard to “[t]ravel information and reservation systems”, the first paragraph of Article 10 states that “[i]n order to provide the information and to issue tickets referred to in this Regulation, railway undertakings and ticket vendors shall make use of CIRSRT”. The second paragraph clarifies that, for the purposes of Regulation No. 1371/2007, the TSIs referred to in Directive 2001/16/EC shall be applied (OJ L 110, 20.4.2001, pp. 1–27, today transfused in Directive 2008/57/EC). The way in which the TSIs work, according to the model set out by Directive 2008/57/EC, is made clear by the first part of the thirteenth recital: “[a]s a rule, European specifications are developed in the spirit of the new approach to technical harmonization and standardization. They enable a presumption to be made of conformity with certain essential requirements of this Directive, particularly in the case of interoperability constituents and interfaces”. Based on the provisions of Directive 2008/57/EC and in particular, the “essential requirements” set by Annex III, Commission Regulation (EU) No. 454/2011, have then been adopted.

it. In other words, the manner in which certain information is saved is not at issue, only the way in which it is communicated to third parties.

To better understand this concept, it can be useful to present an example.

It is safe to assume that individual operators, in their own systems, manage train times in a particular format, which can vary from operator to operator. This type of variation could occur for a variety of reasons; for example, in some countries, time is usually displayed in the 12-h clock format, using a.m. or p.m. to designate morning or evening, whereas in continental Europe, time is generally expressed in the 24-h clock format. For geographical reasons, time varies due to different time zones, and so on.

A straightforward way to make this kind of information easily accessible to all is to standardize the format in which time information is communicated to third parties, so that the computer systems that access the data are able to correctly interpret the data received. It could be, for example, that the timetable is communicated in the 24-h clock format parsed to GMT. In this way, a computer system would know unequivocally that, for example, 11:35:22 refers to the morning in GMT. Once the data have been received, the system could easily convert it into the format considered most suitable for its intended use²³.

This example also helps to explain the second and the third of the aforementioned pillars. By establishing a standard limited to the communication phase, operators already active in the market will not need to upgrade their data management systems (as evidenced in the example of the management of rail timetables). The only thing they may possibly have to implement is a system of data transmission that meets the specifications of the TSIs.

In accordance with the abovementioned idea that “standardisation can entail risk of competitive harm” [20], the approach set by the three pillars can surely be regarded as the most appropriate. The EU principle of proportionality, which finds its roots in the German one, constituted by the three elements of “suitability/appropriateness (*Geeignetheit*), necessity (*Erforderlichkeit*), and proportionality in the narrow sense (*Verhältnismäßigkeit im engeren Sinne*)” [38], in fact allows “a rather comprehensive assessment and comparative evaluation of the advantages and disadvantages produced by the measure adopted by a governmental authority, according to a multipolar conception of the interests involved” [39,40].

The choice of limiting standardization solely to the phase of data communication, the only one needed to ensure interoperability between computer systems, seems therefore the most proportionate.

These three pillars would fit very well in the upstream legal services market for two reasons.

First, since many Member States already have IT systems for data management in place, applying the limited approach set for the telematics applications for the passenger services subsystem to the field of law would preserve the existing data management structures. Second, even where computerized management systems do not yet exist, the legal systems of each EU Member State may still differ significantly in the way they manage data, in their reporting methods, and so on. Therefore, it is highly preferable to allow each country the greatest possible degree of flexibility regarding the management of its own “legal data”, standardizing only its mode of communication.

Returning to the rail system, it is at this point important to emphasize another aspect of how the TSIs are structured. The Regulation provides that “[t]he Information Exchange Architecture favours a mostly Peer-to-Peer type of interaction between all actors, while guaranteeing the overall integrity

²³ It should be noted, however, that the example provided is overly simplistic and is offered only to provide an easy-to-understand example of the problems that interoperability presents. In recent computer science theories, in fact, it is suggested that interoperability may only be achieved merely in terms of standardization, alignment and translation of languages, see for example [37]. The authors, specifically bringing the example of geographic information into the discussion, argue that interoperability should be achieved by interpreting the data in terms of conversation and reconstruction, and that “what needs to be standardized is therefore not the perspective on a concept, but the procedure to arrive at different perspectives”.

and consistency of the rail interoperability community by providing a set of centralized services. A Peer-to-Peer interaction model allows the best distribution of costs between the different actors, based on actual usage and, in general, will pose fewer scalability problems" (see Footnote 16).

This is another key element, one that could certainly be appropriate to the implementation of TSIs in the upstream legal services market.

In a nutshell, the peer-to-peer scheme is based on the idea that each subject holds the information that pertains to it, and it is a burden of that subject to make data available to those who have the right to access it²⁴. This is a decentralized scheme, as opposed to a centralized one, where information is transmitted by all operators to a single central server, which stakeholders can then access to retrieve the data they need.

It should be noted for the sake of clarity, however, that in this case, we are dealing only with the method of sorting data, not of course with the management of the related services. For example, it is a fact that individual rail operators remain solely responsible for managing their own trains and schedules. What changes is only the way in which data are made available to and exchanged with third parties. According to the peer-to-peer scheme, the burden of making data available to and easily exchanged with third parties lies with the operators holding such data. For example, each train operator has to provide its own timetables, prices, and so on.

On the contrary, according to the centralized scheme, the burden of making data available and ensuring that it is exchanged with third parties is placed on a neutral third party. In this case, all undertakings interested in retrieving some data refer to a single subject, from and to which all data must be retrieved and sent.

Without going into detail, it is easy to understand why, at the European level, the peer-to-peer model has been adopted. The strongest point in favor of the creation of a single central server for sorting all rail data would be to have a single "one stop shop". However, in hindsight, with a sufficient degree of standardization and interoperability, a quite similar result may still be achieved, even with the peer-to-peer model. The only difference is that, in this case, the necessary data have to be retrieved from a larger number of parties. However, since the methods of communication are predetermined and uniform for all parties, this can be done in a programmed manner that is applicable to all operators and for all databases. This enormously simplifies the task of retrieving data: it is only necessary to develop one computer program that can communicate with any interoperable data source. After all, in computer science, it is commonly accepted that this method of exchanging data is more economical, more efficient and faster if there is a sufficient degree of standardization and interoperability²⁵.

Such logic would surely be most suitable also in the field of upstream legal services. Even in this sector, it would be possible to distribute the burden of guaranteeing access to information to various subjects, each of whom are responsible for the information they hold. For example, each court could be responsible for its case law, institution(s) with legislative powers could hold the database containing legislation, and so on.

In this way, a European intervention would not need to alter in any way the existing competences set out at the national level, thus rendering the impact of the legislation less intrusive to the national systems already established.

²⁴ More specifically, "Distributed peer to peer networks present a decentralized, distributed method of storing large data sets. Information is stored at the hosts and queries are performed by sending messages between the hosts as to identify the host(s) that store(s) the requested information. In other words, peer to peer networks are distributed systems without any central authority that are used for efficient location of shared resources"; see [41]. For a more detailed overview of how peer-to-peer networks function and how content is distributed in such networks, see also [42]. On the issue of the technical complexities that peer-to-peer communications involve as compared to classical distributed systems, which rely on a centralized organization or hierarchical control, see [43]. For a legal perspective on peer-to-peer networks, see [44].

²⁵ In fact, "Some of the desirable features of peer-to-peer network are decentralization, scalability, fault-tolerance, self-stabilization, data-availability, load-balancing, efficient and complex query searching, *etc.*", [41]. For an early analysis of the benefits of the peer-to-peer model, from a technical point of view, see [45].

Finally, as previously noted, it is worth recalling that, to ensure interoperability, it is necessary that all systems speak the same “language”²⁶. Precisely for this reason, in the rail sector, the Regulation has provided that “the common interface is mandatory for each actor in order to join the rail interoperability community”²⁷. In order for such a system to run smoothly, it is necessary for it to be adopted by all of the operators involved.

Additionally, of course, access to information must be as open as possible. In *Westbahn Management* [46], the Court of Justice has in fact made it clear that “the information supplied to the passenger must be of use to him” ([46], p. 37). For this to happen, in the rail sector, the Court made clear that any operator has the right to access any travel information, *i.e.*, “the information on main connecting services must, in addition to scheduled departure times, also include delays to or cancellations of those connecting services, whichever railway undertaking operates them” ([46], p. 43).

It should be noted that the Court has also made clear that, in the case of rail transport, this rule also refers to the information available to other operators. The Court’s reasoning starts from the assumption that “to ensure fair competition on the passenger rail transport market, it must be ensured that all railway undertakings are in a position to provide passengers with a comparable quality of service. As pointed out in paragraphs 40 and 41 above, if a railway undertaking could provide information only on its own connecting services, an undertaking with a larger network would be able to provide its passengers with more complete information than could be provided by an undertaking operating a limited number of lines, which would run counter both to the objective of greater integration of the railway sector, mentioned in recital 1 in the preamble to Directive 2001/14, and to the obligation of providing passengers with information” ([46], p. 47). Thus, the Court concludes that “Railway undertakings must therefore, for the purposes of the exercise of the right of access to railway infrastructure, be given information by the infrastructure manager in real time relating to the main connecting services operated by other railway undertakings, in order to be able, in accordance with Article 5 of, in conjunction with point 1(e) of Annex II to Directive 2001/14, to implement the service for which capacity has been granted” ([46], p. 48).

The same problem could also arise in the upstream legal services market. A different level of access to information could affect the ability of some operators, especially newcomers, to compete on their merits.

A particularity of the legal sector, however, is that the availability of data is generally in the hands of national authorities. Public bodies usually hold national legislation, case law, public registries and many other databases needed to provide upstream legal services. As a consequence, in this sector, it would not be as critical to assess the “indispensability” of the information in order to impose an interoperable communication system as it would be if intellectual property rights held by private undertakings were involved [47]. At least for certain documents, at the European level, it could even be possible to argue that the right of access would impose the requirement that public administrations make certain information available [48].

In this sector, therefore, it would only be necessary to ensure that data needed to provide upstream legal services, which are held by public authorities, are made available to all interested economic operators, thus simplifying most of the antitrust issues related to making the data needed to compete in the market available to newcomers and other undertakings²⁸.

Given these considerations, it does not seem necessary to further investigate the technical methods through which the TSIs can reach the desired result. It is merely sufficient to add that TSIs also take care of the necessary security measures for the system to operate without risk. In fact, in general, and subject to the more detailed rules set out in the TSIs themselves, it is expected that “[t]he common interface has to be able to handle:—message formatting of outgoing

²⁸ For a brief overview of the various problems that come into play in relation to “monopolies of data”, see [49].

messages according to the metadata—signing and encryption of outgoing messages—addressing of outgoing messages—authenticity verification of incoming messages—decryption of incoming messages—conformity checks of incoming messages according to the metadata—handling the single common access to the various databases”²⁹.

The safety and integrity of the information is, for obvious reasons, certainly relevant in the context of the legal sector. However, this is a matter of a purely technical nature and would certainly not impede the creation of a standardized and interoperable system³⁰. For this reason, there seems to be no need to further investigate this aspect. It is sufficient to suggest, for example, that in order to ensure data protection, it would be possible to envisage a means of communication by which data are encrypted in such a way that operators offering upstream legal services would not even be able to access the data provided to their users. From a technical point of view, systems can in fact be implemented whereby the information provided by public databases, where sensitive, is only accessible by the end-user, so that undertakings, acting as intermediaries, cannot access it³¹.

6. Conclusions

A European intervention for the harmonization of technologies used in handling the data needed to provide upstream legal services appears desirable as a means of promoting intra-European competition. After all, as indicated by former Commissioner Almunia, “the Commission’s enforcement experience in the IT industry clearly demonstrates the benefits of interoperability in terms of preventing consumer lock-in and fostering innovation” [53].

The definition of common rules could guarantee a single standard for the access and use of national databases containing information relevant to the field of law. Such an intervention could therefore remove one of the factors determining the current fragmentation of the European market in upstream legal services, by removing one of the most outstanding barriers to intra-Community competition in this area.

EU measures could also lead to greater efficiency of national systems for the administration of justice. The systems required for the efficient and proper administration of justice, in fact, entail the establishment of systems of considerable complexity, partially due, amongst other things, to the different characteristics of the data involved: legislation, jurisprudence and all other information relevant in the field of law.

Such an intervention would be precisely in line with the objective of digitalization that the Commission has recently explicitly put forward. In the Communication on the Digital Single Market, the Commission has expressly recognized that the digitalization of both the economy and our lives is “happening at a scale and speed that bring immense opportunities for innovation, growth and jobs. [These changes] also raise challenging policy issues for public authorities which require coordinated EU action. All Member States are wrestling with similar problems but on a national basis which is too limited to allow them to seize all the opportunities and deal with all the challenges of this transformational change. For many issues the European level offers the right framework. That is why the European Commission has set the creation of a Digital Single Market as one of its key priorities”³².

Moreover, the digitalization of the justice system is one of the fundamental objectives set out in the cited Communication concerning the digital single market. The Commission has stated that it “aims to support an inclusive Digital Single Market in which citizens and businesses have the

³⁰ It is not possible in this paper to address all of the security issues that could arise, nor the different solutions that current technologies offer to overcome them. For a good example of these issue, and a viable solution, one that, while proposed for digital media, still also seems applicable to the sector of legal services, see [50]. For a brief recent analysis that specifically refers to platforms dealing with sensible information, see [51].

³¹ For an analysis of the issues involved in protecting personal data and the possibility of applying Lessig’s instrumentalist theory of propertization in the EU to address such issues from a legal point of view, see [52].

³² Communication on the Single Digital Market [1], Paragraph 1.

necessary skills and can benefit from interlinked and multi-lingual e-services, from e-government, e-justice, e-health, e-energy or e-transport"³³.

Even if they are quite broad, the objectives put forward by the Commission appear within its reach, considering that “while the creation of efficient competitors is a common concern for sector-specific regulators and competition authorities, creation of an ICT-wide approach towards optimizing innovation and investments is undoubtedly a responsibility for which all the stakeholders and industrial actors should contribute and co-operate, particularly at the European level” [5].

From this perspective, a good starting point would be the sector of upstream legal services, in which IT systems are often already in place and in which many economic operators would certainly be interested in extending their services to the entire European market. This particular market could, therefore, simultaneously serve as a testing ground for a broader digitalization towards “an inclusive e-society” (see Footnote 36) and as a means of encouraging greater efficiency in national justice systems.

From a technical point of view, in fact, it would be possible to imagine that the standardization process proposed here for the upstream legal services could go further to address, at once, more than one economic sector, as mentioned by the Commission in the Communication on the Single Digital Market. This could be possible by relying on the same STIs, since the so-called application programming interfaces, from a technical point of view, are not necessarily affected by the type of data transmitted [54]. Anyways, as these are mere technical aspects that should be addressed at the time of the definition of the STIs for the legal sector, there is no need to further investigate this opportunity in the present paper.

Lastly, we may suggest that, in an area so rich in services to offer, the field of upstream legal services, if properly addressed by the European Union, could certainly and quickly demonstrate how European intervention can serve as the engine for innovation.

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³³ Communication on the Single Digital Market [1], Paragraph 4.3.

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