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TRUST AND RECORDS IN AN OPEN DIGITAL ENVIRONMENT

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20 Preservation of digital print masters

Tomislav Ivanjko

Introduction

In contemporary library and archival practice, legal deposit provides a basis for providing public access to the national collection and plays an important role in preserving national publishing production, as well as preserving cultural heritage and national identity as a whole. In this context, the coverage of a legal deposit is sought to be ensured by law or by agreement between libraries and publishers, in such a way that all material is regularly received, regardless of subject, form, or producer. The obligation to provide a legal deposit is also based on international documents. The UNESCO guidelines for legal deposit legislation define legal deposit as “a statutory obligation which requires that any organization, commercial or public, and any individual producing any type of documentation in multiple copies, be obliged to deposit one or more copies with a recognized national institution” (Larivière, 2000, p. 3). Legal deposit often exists in legislation; however, it can be a voluntary regime (International Federation of Library Associations and Institutions, 2011). According to the provisions of the Croatian Library Law (Zakon o knjižnicama i knjižničnoj djelatnosti, 2019), entities bound by the legal deposit legislation are publishers and manufacturers of audio-visual and electronic publications, i.e. legal entities and natural persons publishing or manufacturing materials for the public, whether these materials are intended for sale or free distribution. These include printed publications (books, brochures, study prints, separates, journals, newspapers, magazines, bulletins, geographical and other maps, reproductions of pictorial works of art, music, catalogues, calendars, theatre, and other programmes and their supplements in printed, audio-visual, and electronic form, posters, leaflets, short advertisements and notifications, postcards, official and commercial forms), audio-visual materials (phonograph records, audio and video tapes, cassette tapes, recorded microfilms, and compact discs), electronic materials (compact discs, DVDs, magnetic tapes, floppy disks), and online materials (books, periodicals, annual reports, websites of institutions, events, research projects). At the expense of the depositor, nine legal deposit copies have to be submitted to the National and University Library, while the information

on online publications has to be submitted using the “Online Publication Registration Form” (National and University Library, 2012).

One special case of legal deposit is to collect, process, store, and make available digitized pages of daily newspapers. Currently, within Croatian practice, these newspapers are scanned from print copies, and the scanning and encoding processes used in the digitisation of newspapers vary, as do the repository structures and storage media in which they are held. Since most newspaper producers shifted their operations to digital production, there is an increasing practice that these born-digital print masters are being acquired by libraries and archives. Data on the repositories of such digital print masters, as well as information on their infrastructure, quality and quantity of metadata, format, and preservation method, are currently not available. Gaining insight into print masters’ repositories and the related preservation policies (provided that there are any) would be the basis for developing an operational digital print masters submission system, as well as partnership necessary for the management of this type of digital content, and the development and implementation of the national policy and standards aimed at its archiving and preservation.

Methodology

The ITrust study *Long-term Preservation of Digital Print Masters of National Publishers* (Ivanjko, 2018) presented in this chapter looked into various possibilities for making the deposit of digital print masters a part of the standard legal deposit system or a system whereby national publishers would deliver their digital print masters on an entirely voluntary basis. It also addressed the issue of ensuring permanent access to all forms of the national digital publishing output.

During its first stage, the research focused on the analysis of existing deposit practices in EU countries, whether those that are part of national legal deposit systems or those operating on a voluntary basis, along with the examination of the related legal issues regarding the legal deposit in the 39 European countries (EU28+). A questionnaire was created and sent to contacts found on the websites of respective national libraries – 46 contacts for 39 countries were selected for the survey. Along with the survey results, The Digital Information Documentation Office of the Government of the Republic of Croatia (now Central State Office for Development of Digital Society) gathered all available relevant documents regarding the legal deposit in the 39 European countries (EU28+). By using the survey questionnaire, relevant documents were additionally identified and analyzed, and relevant data was extracted.

Comparative analysis of the legal deposit practices

In this section, the survey data is quantified and compared to provide additional insight into the legal deposit practices where possible. Since some

information was missing, the data is presented only for the countries where the information was available.

One of the first questions explored the deposit institution of each country, i.e. where the copies of legal deposit should be delivered. It was shown that most of the countries have multiple legal deposit institutions alongside the national library (Figure 20.1). According to the available data, it is evident that in addition to the national library, there are also local libraries to which compulsory copies are submitted. For example, in Austria, in addition to the national library, the deposit institutions are the university library, the study library, the provincial libraries, and the Parliamentary and federal libraries, while the Czech Republic legally prescribes the national library, the Moravian Library, and other regional libraries as deposit institutions. An interesting example is Greece, where the deposit institution is the Hellenic Chamber of Technology, from which copies are then distributed to the national library, Parliamentary library, and regional libraries. The required copies in Russia are submitted to the Federal Press and Communications Agency, the Government News Office, and regional and municipal libraries. It is also interesting to note that Russia and Belgium are the only countries where the National Library is not a depository.

The study explored whether the legal deposit is regulated within the legal system of the country or by some documents of less importance (ordinance, guidelines, recommendations, etc.). It was shown that legal deposit in most of the countries is regulated by some kind of law, mostly connected to libraries, in general as a part of the library institutions' legislature

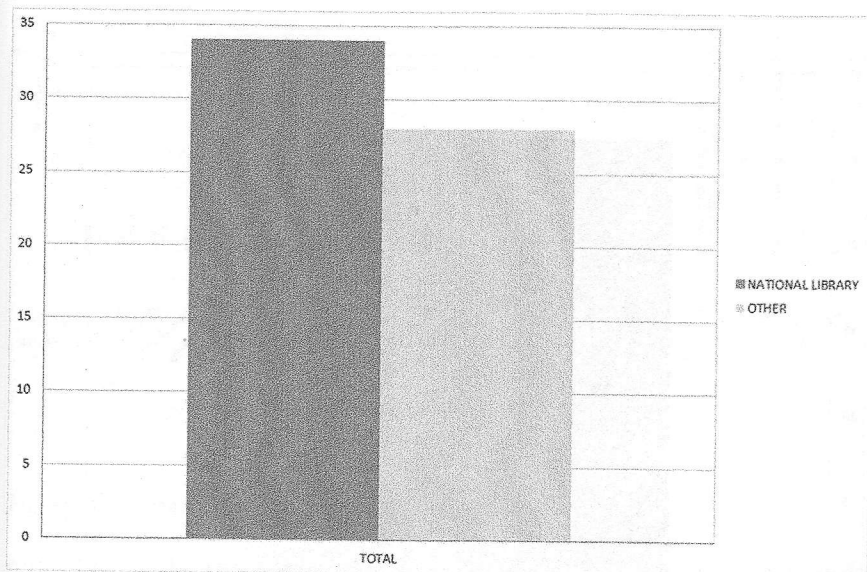
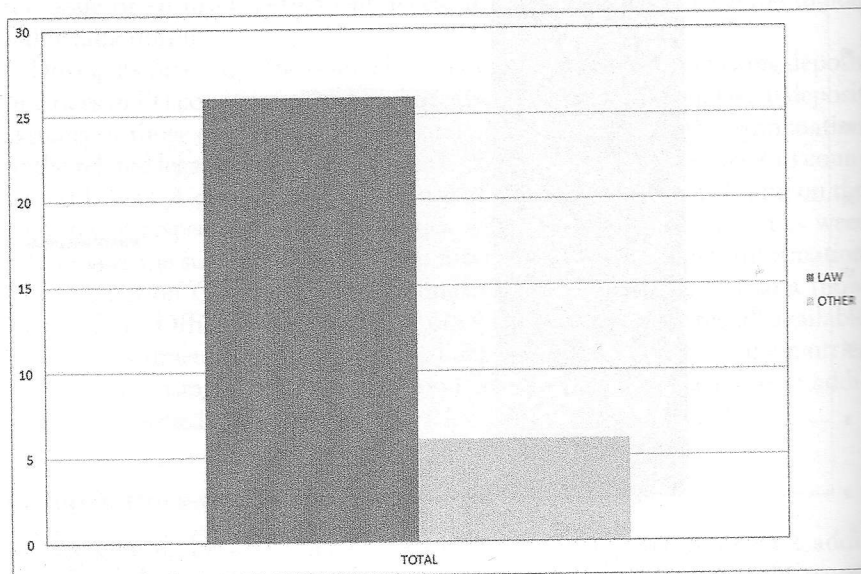


Figure 20.1 Deposit institution

(Figure 20.2). Some countries, such as Poland, have two laws that regulate legal deposit practices, while Slovenia has two separate ordinances that do the same. In Switzerland, there is no statutory requirement for delivering a legal deposit copy; however, to make sure the required copies arrive, the national deposit institution has signed a contract with two large national publishers.

Since different numbers of copies are in some cases prescribed for different materials and formats, the analysis included the minimum and maximum number of legal deposit copies. The analysis of relevant documents showed that there are significant differences between the countries, both in terms of minimum and maximum number of copies, ranging from 1–10 for the minimum number, and 1–16 for the maximum (Figure 20.3). The country with the highest number of legal deposit copies is Russia with 16 copies, while only the Netherlands requires one mandatory copy (both as minimum and maximum).

The prescribed deadlines for delivering legal deposit copies to the deposit institution were also explored. It was shown that the deadlines vary significantly, from four weeks before the publication is even made available to the public up to a year after publication (Figure 20.4). According to the data in Austria, Croatia, the Czech Republic, Hungary, Romania, Albania, and Russia, the minimum and maximum delivery deadlines are the same – four weeks after the publication is published. In the cases of France, Lithuania, and Serbia, the deadline is one week. Interesting cases are Bosnia and Herzegovina, and North Macedonia, where the statutory deadline for the submission of legal deposit copies is one week before the publication is even



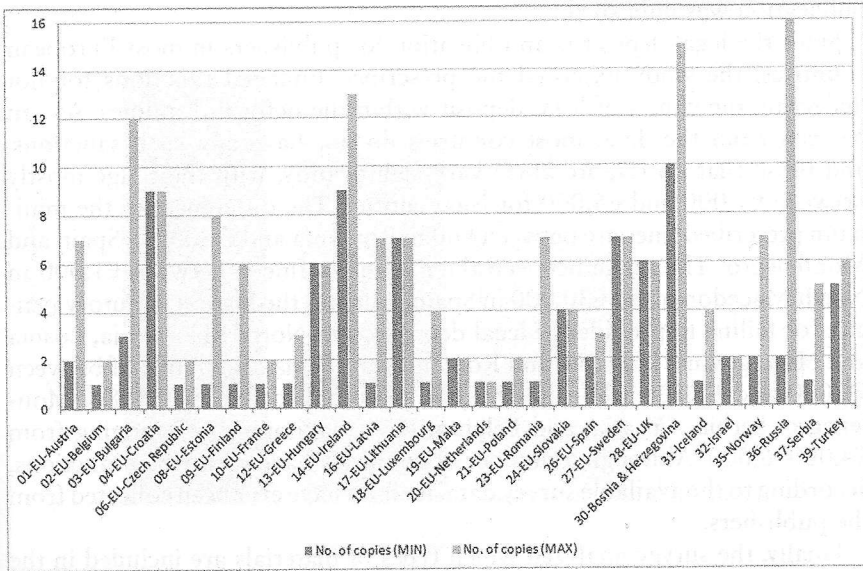


Figure 20.3 Minimum and maximum number of required legal deposit copies

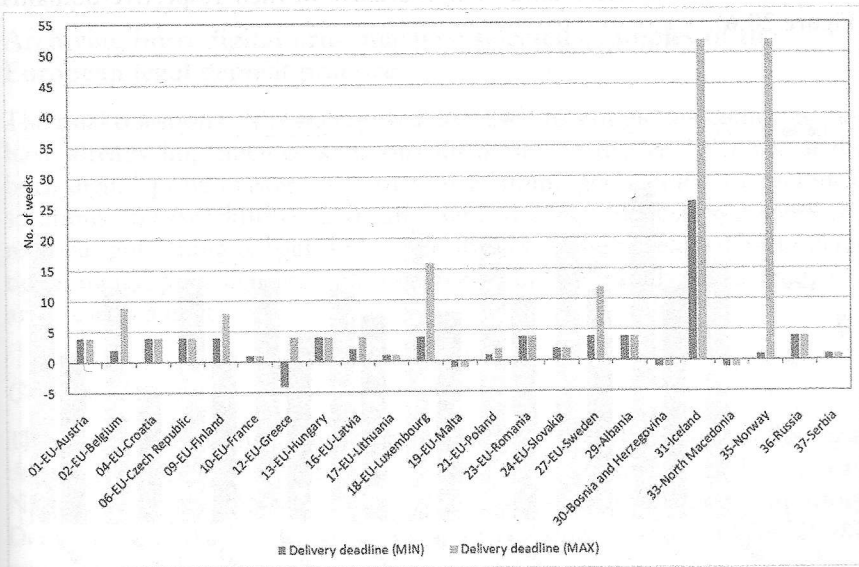


Figure 20.4 Deadline for delivering legal deposit copies

published; and Greece, where the deadline is set to four weeks before publishing, which is particularly interesting because the publication should be submitted before it is even available to the public. The largest gap between

the delivery ranges between one week and one year from the date that the publication was published.

Since the legal deposit is an obligation for publishers in most European countries, the study explored the prescribed financial sanctions for not delivering the copies of legal deposit within the defined deadlines. As can be seen from the data, most countries do not have any such sanctions, and those that do (Figure 20.5) vary significantly, with the range mostly between €1,000 and €5,000 for legal entities. The differences in the minimum prescribed fines are between €60 in Romania and €1,000 in Spain and Montenegro. The range between the maximum fine is between €1,000 in North Macedonia and €30,000 in Spain, which is the highest statutory penalty for failing to provide the legal deposit copy. North Macedonia, Bosnia and Herzegovina, Bulgaria, and Romania have a maximum fine of between €1,000 and €1,500 while Austria has a prescribed fine of €2,180. Montenegro, Serbia, Croatia, and Belgium have maximum fines ranging from €4,000–6,000. Although a number of countries have prescribed sanctions, according to the available survey data, no fines have ever been collected from the publishers.

Finally, the survey analyzed which types of materials are included in the legal deposit system. As expected, all the countries include printed materials, most of them also include audio-visual and electronic materials, while several also include some kind of web archive of their respective domains (Figure 20.6).

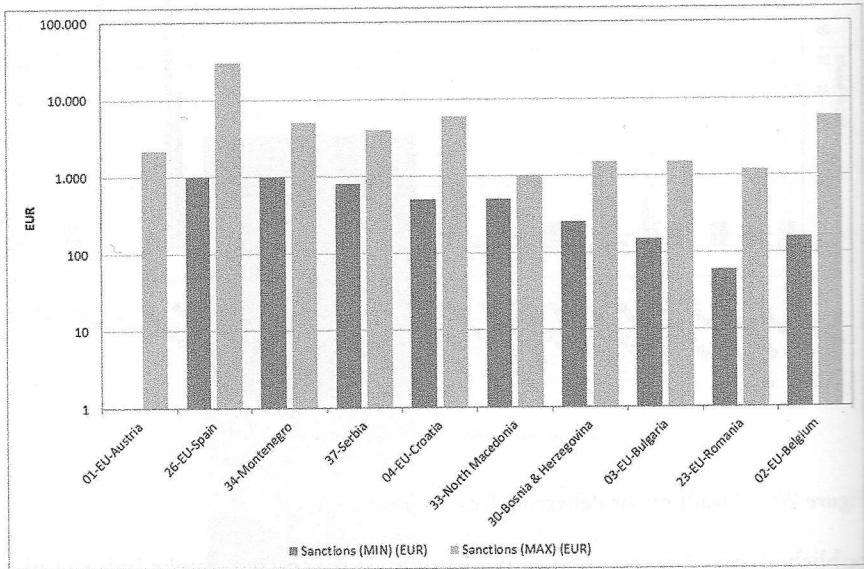


Figure 20.5 Financial sanctions for not meeting legal deposit deadlines

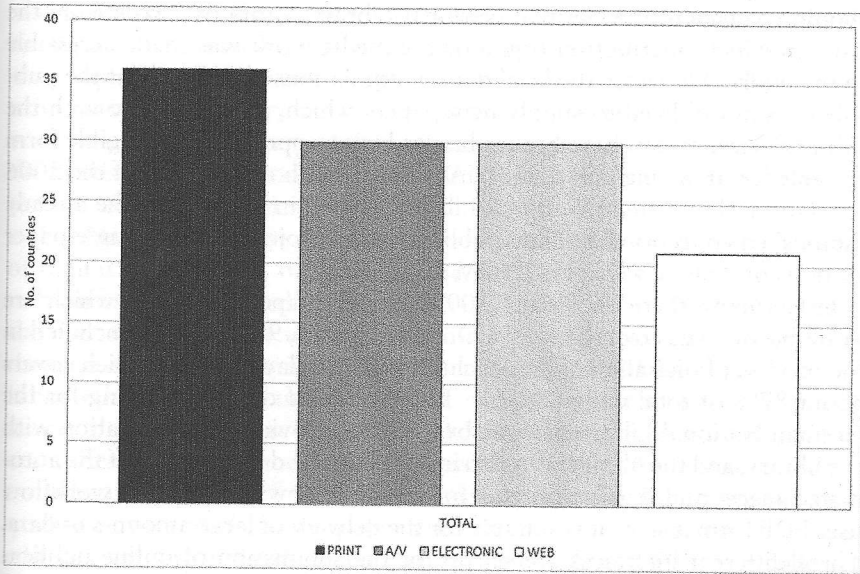


Figure 20.6 Types of materials included in the legal deposit

Archiving born-digital print masters: selected examples of the European legal deposit practice

The final question of the survey was also used to sample the countries that have already implemented solutions for archiving the legal deposit of the born-digital print masters. In order to examine good practices, technical solutions, and workflows associated with the legal deposit system of the national publishing output, three case studies of the developed and operational digital print masters' submission systems were analyzed in detail and are presented next.

Germany

The German National Library has been authorized to collect the legal deposit since 2006 under the provisions of the Law regarding the German National Library (DNBG, 2006) and the Ordinance on the Compulsory Delivery of Media Works to the German National Library. (PflAV, 2008), under which all publishers, commercial and non-commercial, are obliged to submit two copies of their material or one copy online, regardless of the medium in which they were published. Additionally, each federal state (Bundesland) requires one or two copies to be sent to their respective legal deposit institution (usually state university libraries). All the physical and non-physical media publications fall within the mandate of the collection,

including all text-based, graphical, and audio presentations. Legal deposit should be given to the German National Library within one week from the date on which distribution began or the media work was made accessible to the public. However, the legal deposit regulations also state that the publisher “is not obliged to supply newspapers which, in accordance with the Library’s regulations, have been submitted in an appropriate intangible form suitable for archiving and use” (PflAV, 2008). With the support of the 2006 legislation, the German National Library started in 2010, with the already established collection of online publications, a project of collecting e-paper editions of daily newspapers (PflAV, 2008).

In Germany, there are circa 1,500 daily newspapers, 1,200 of which are available in an electronic version. On a daily basis, 930 titles are included in the process of digital archiving, including 18 Sunday editions, which covers about 87% of total daily editions. The process of digital archiving for the German National Library is done by a service provider in cooperation with the library, and the library was also involved in the development of the automated ingest and storage process for the daily newspapers. The workflow uses PDF format since it is suitable for the delivery of large amounts of data. Three different interfaces are set up for the submission of online publications, depending of the quantity of data to be submitted: one for the submission of smaller quantities via a web form, and two machine-based interfaces for a larger number of (digital) objects. The service provider, an aggregator acting in the name of the library, accesses the restricted sections of newspapers’ websites, using the login and password provided by the publishers, and harvests it. Due to its technical characteristics, the software needs to be configured for every single website separately. By logging into the subscribers’ content, software selects the PDF download of a newspaper’s issue, processes it, validates the title, date, number of pages, etc., and generates the metadata needed for ingest via the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH, <http://www.openarchives.org/pmh/>) interface. Despite the automated process of ingest and storage, a part of the workflow will always be done by the library staff, e.g. contacting the publishers, requesting logging details, checking, defining criteria for quality checks for each title, creating bibliographic descriptions, etc. Each e-paper title is available within seven days from the day of harvesting on the library’s premises. That way, by the end of 2014, 87% of total daily newspaper editions were covered.

Norway

Norway received a statutory requirement for a legal deposit copy of online publications much earlier than Germany, in 1989, according to which “electronic documents available through online transmission on telecommunications, television and data networks or the like shall be deposited in two copies at the specific request on the depository in each individual case” (WIPO,

2010, p. 3). The law applies from the moment the material is publicly available, which is why the Norwegian National Library does not have the right to request the submission of a mandatory copy of the digital (file) stencils used to produce the printed version of a publication. In order to collect digital print masters, the library had to enter into contracts with newspaper publishers to regulate the delivery of the mandatory copy, as well as cooperation on the digitisation of previous editions based on cost sharing and mutual benefit models (Solbakk, 2014).

The National Library of Norway aimed at establishing a system for ingest of digital legal deposit of daily newspapers, but out of 250 titles, only 35 publishers were included in the first phase of the project. By the year 2014, the digital deposit was implemented for 15 weekly and daily titles, while there are still negotiations with publishers of another 80 titles. The National Library has defined standards for the digital deposit of newspapers (file name, file format, image resolutions, delivery method), because of publishers' different digital production systems. All the files for a complete issue must be in the PDF/A format, while images should at least have the same quality as files used for the paper version. The process of collecting daily editions starts with the download from the publisher's FTP server, followed by PDF/A format quality check, extraction of the text from the pages, and formatting into XML/ALTO format. Files representing an issue are being archived into the Mavis database, which the library uses for storage of a variety of digital objects. Files intended for access are processed according to Metadata Encoding and Transmission Standard (METS <https://www.loc.gov/standards/mets/>) and created in XML format in order to be searchable and available through the library's digital service.

France

The National Library of France (Bibliothèque Nationale de France; BnF) is the main deposit institution in France. Legal deposit in France applies to printed material, prints, maps, plans, sheet music, photographs, posters, sound recordings, video recordings, multimedia documents, multimedia, software, databases, and the internet. The number of copies varies from a single copy, which applies to, for example, books, journals, magazines, sheet music, maps, atlases, photo albums, postcards, illustrated calendars, and posters; to two copies, which applies to, for example, sound recordings, CDs, video recordings, DVDs, multimedia documents, videogames, databases, software, electronic periodicals, and books with audio CDs. These numbers refer to the number of copies that are to be deposited to the BnF by publishers. Legal deposit also applies to e-books, which are automatically collected by the BnF, as is the case with the legal deposit of the internet. If an online e-book co-exists with a version in paper or electronic format (e.g. CD), it is still subject to legal deposit, i.e. one type of deposit does not replace the other.

The delivery of a digital compulsory copy is governed by the 2006 *Law on Copyright and Neighbouring Rights in the Information Society* (DADVSI, 2006), which intentionally provides a general definition of electronic material so that legal provisions do not apply to a particular technology that may soon become obsolete (Stirling & Illien, 2011). As in the early 2000s, the library sought to reduce the cost of digitizing print newspapers by deciding to obtain digital print masters directly from publishers, but it could only do so by contracting with them. The agreements allowed the library to accept digital files and use them in the library's reading rooms, within a time limited period. The 2006 law allowed the BnF to collect a digital version instead of a printed version if it is completely identical to the version distributed to the public.

The BnF has also attempted to find a solution for collecting online newspapers' content available through the subscriptions. A combination of web harvesting, which gathers all the publicly available websites of the newspapers that do not require consent from the publisher, and harvesting from the publishers, whereby the publishers provide the digital versions of the newspapers that are then imported and harvested by BnF – which requires prior consent and contracts with the publishers – has turned out to be the optimal solution and was implemented in 2012 within the “subscription-based project.” By the end of 2013, 15 daily newspaper titles were collected on a regular basis, 13 of which represented regional editions (which, in fact, comprise 112 local editions) and two major daily national newspapers. Relying on harvesting web technologies, a crawler accesses and copies the protected content as a subscriber, using a login and password. This way, librarians have an important role in quality control, for example statistical (e.g. metrics and report of the crawls) and visual (comparison with online equivalent) quality control. Because of frequent URL changes, and with the maintenance of continuity of newspaper title in mind, a system of permalinks was set up and each title is given an archival resource key (ARK) identifier, which refers to all URLs on which the title has appeared through a period of time. Although there are certain disadvantages with this approach of newspaper harvesting (website technology, changes in website structure, non-timely manner of publisher's permission to free access to password-protected content), until mid-2014, it was used to collect more than 20 daily newspapers (mainly regional titles) with almost 200 different local editions. In the near future, the possibility of ingesting newspapers in PDF format via FTP protocol will be considered.

Conclusion

This chapter has focused on the analysis of existing legal deposit practices in EU countries, whether those that are part of national legal deposit systems or those operating on a voluntary basis, along with the examination of the related issues of archiving the legal deposit via born-digital print masters in the 39 European countries (EU28+). It was shown that most

of the countries have multiple legal deposit institutions alongside their respective national libraries, have the legal deposit regulated via some kind of law, mostly connected to libraries in general as a part of the library institutions' legislature. The analysis of relevant documents showed that there are significant differences between the countries both in the minimum and maximum number of copies, delivery deadlines, and prescribed financial sanctions. As expected, all the countries include printed materials in their legal deposit, most of them also include audio-visual and electronic materials, and only a few include some kind of web archive of their respective domains.

The second part of the chapter focused on the countries that have already implemented solutions for archiving legally deposited born-digital print masters. Three case studies of the developed and operational digital print masters' submission systems were analyzed, namely those from Germany, Norway, and France, focusing on the legal deposit of daily newspapers. Selected examples showed that establishing a system for ingest of digital legal deposit can solve problems of on-time delivery of digital print masters and reduce the time and cost for the deposit institutions to collect, process, store, and make available digitized pages of daily newspapers. Despite the automated process of ingest and storage, each system's crucial part of the workflow is also ensuring quality control and providing bibliographic metadata for storage and retrieval. Apart from technology and staff, the third important part of the systems is the publishers. The importance of ensuring cooperation based on cost sharing and mutual benefit proved to be crucial. These three prerequisites are found to be the cornerstone for developing an operational digital print masters' submission system, partnership necessary for management of this type of digital content, and development and implementation of the national policies and standards aimed at digital content archiving and preservation.

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