



Faculty of Law  
Master in Intellectual Property and Knowledge Management  
Academic year 2018-2019

MASTER'S THESIS

**New Text and Data Mining Exceptions**  
*Implementation in the EU and the possible outcome of Brazil adopting  
a similar approach*

Word count: 11.932

Student: Laura Delgado Duro (i6193993)

Thesis supervisor: Dr. Ana Ramalho  
Second supervisor: Dr. Anselm Kamperman Sanders

Maastricht, the Netherlands  
30<sup>th</sup> August 2019

## TABLE OF CONTENT

<b>1. Introduction.....</b>	<b>3</b>
1.1. Research problem and state of art.....	3
1.2. Research question.....	6
1.3. Methodology.....	6
<b>2. Text and data mining – technical and legal background.....</b>	<b>7</b>
2.1. Common steps in text and data mining processes.....	8
2.2. Importance and usefulness of text and data mining.....	9
2.3. Legal implications of TDM.....	10
<b>3. The copyright legal framework in the European Union.....</b>	<b>12</b>
3.1. Information Society Directive (2001/29/EC).....	13
3.2. Copyright reform: Directive on Copyright in the Digital Single Market (2016/0280).....	15
3.3. Critical analysis on the EU Digital Single Market Directive concerning TDM exceptions...17	
<b>4. Application of text and data mining exceptions in Brazil.....</b>	<b>20</b>
4.1. Brazilian Copyright Law (Federal law n° 9.610/98).....	20
4.2. Legal framework related to technology and data tools in Brazil.....	24
4.2.1. Brazilian Civil Framework of the Internet (Federal law n° 12.965/2014).....	24
4.2.2. Brazilian General Data Protection Regulation (Federal Law n° 13.709/2018).....	26
4.3. Assessment on whether Brazil should modernise its copyright legislation to implement TDM exceptions in the same way as the EU.....	27
<b>5. Conclusion.....</b>	<b>30</b>
<b>References.....</b>	<b>33</b>

## TABLE OF ABBREVIATIONS

AI	Artificial intelligence
DM	Data mining
DSM	EU Directive on Copyright in the Digital Single Market Copyright (2019/790)
EU	European Union
GDPR	EU General Data Protection Regulation (2016/679)
IP	Intellectual property
IPRs	Intellectual property rights
LDA	Brazilian Copyright Law n° 9.610/98 ("Lei de Direitos Autorais")
LGPD	Brazilian General Data Protection Regulation n° 13.709/2018 ("Lei Geral de Proteção de Dados")
LPI	Brazilian Industrial Property Law n° 9.279 ("Lei de Propriedade Industrial")
MCI	Brazilian Civil Framework of the Internet n° 12.965/2014 ("Marco Civil da Internet")
TDM	Text and data mining
TM	Text mining
TPM	Technological protection measures

# 1. INTRODUCTION

## 1.1. Research problem and state of art

As vast amounts of data and new information are produced on a daily basis through business, academic and social activities, the volume of data is higher than it has ever been before. According to a study conducted by IBM from 2017, 90 percent of the data in the world today has been created in the last two years alone, and it is expected that data growth rate will probably accelerate even more<sup>1</sup>, by reaching around 40 trillion gigabytes of data in 2020<sup>2</sup>.

In this context, text and data mining (TDM) is currently a relevant topic, as the process of tracking information and discovering patterns in data sets can be applied to different areas and industries. The concept of big data means that a massive volume of data can be rapidly processed, analysed and used, through a more effective and less time-consuming method<sup>3</sup>. These techniques are employed by enterprises to utilise information as a valuable resource, to bring greater accuracy and accelerate their decision-making<sup>4</sup>.

TDM is an interdisciplinary tool that can be used to make predictions that have a substantial impact on business by identifying general trends and correlations. For instance, the retail industry can apply marketing tools, such as the creation of models that can be used to predict future sales based on the potential client's buying patterns and behaviour. Moreover, its use in the medical field enables the identification of a potential correlation between a drug and a disease, or even between a drug and an adverse effect<sup>5</sup>.

Even though there is not a general and exhaustive explanation of how TDM works, the three main common steps in this process usually include: (i) access to content, (ii) extraction or copying of the content, and (iii) mining of text or data and knowledge discovery<sup>6</sup>. However, as the delineation of text and data mining is still uncertain and incipient, several questions emerge on this topic. Hence, a study on what type of activities are included in this procedure, and under which rules it falls within, must be done in order to evaluate the legal problems that may arise from an intellectual property point of view, notably involving copyright.

---

<sup>1</sup> IBM Marketing Cloud. 10 Key Marketing Trends for 2017 and Ideas for Exceeding Customer Expectations, 2017. Available at: <<https://www.ibm.com/downloads/cas/XKBEABLN>>, accessed 24 April 2019.

<sup>2</sup> EMC Digital Universe with Research & Analysis by IDC. The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things, April 2014. Available at: <<https://www.emc.com/leadership/digital-universe/2014iview/executive-summary.htm>>, accessed 24 April 2019.

<sup>3</sup> Kulkarni, Manasi; Kulkarni, Sagar. Knowledge Discovery in Text Mining using Association Rule Extraction. International Journal of Computer Applications, v. 143, n.12, June 2016, p. 30. Available at: <<https://pdfs.semanticscholar.org/3447/cfc544fafd3ef11cdd4260a16cb0d178db4a.pdf>>, accessed 24 February 2019.

<sup>4</sup> Columbus, Louis. 10 Charts That Will Change Your Perspective Of Big Data's Growth. May 2018. Available at: <<https://www.forbes.com/sites/louiscolombus/2018/05/23/10-charts-that-will-change-your-perspective-of-big-datas-growth/#513231d12926>>, accessed 24 April 2019.

<sup>5</sup> Borghi, Maurizio. Text & Data Mining. Available at: <<https://www.copyrightuser.org/understand/exceptions/text-data-mining/>>, accessed 30 January 2019.

<sup>6</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 4. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 19 February 2019.

As TDM requires access to data which might be protected by intellectual property rights (i.e. artistic and literary works, including articles, essays and images), the process of extracting or copying a content can consequently amount to copyright infringement. This occurs essentially because the utilisation and copy of data can violate the exclusive right of reproduction which is reserved to the owner of the protected work. Therefore, in order to carry on this research, the legal framework in the EU concerning copyright must be examined, particularly the right of reproduction and also the current exceptions and limitations under EU copyright law. Such an analysis will permit the recognition of legal dilemmas that may arise through the use of TDM tools.

In the EU, the Information Society Directive (Directive 2001/29/EC) has achieved harmonisation on certain aspects of copyright and related rights. For instance, InfoSoc's definitions of the right of reproduction and the right of communication to the public are of general application among EU member states<sup>7</sup>. Although the objectives and principles laid down by the EU copyright framework remain sound and appropriate for many circumstances, the EU considered that it was necessary to adapt the legislation to the new high-tech era<sup>8</sup>.

In order to prevent copyright from being an obstacle to the advancement of technologies, the EU has discussed a legislation reform, which includes modernising topics involving the digital world<sup>9</sup>. In this context, the EU Directive on Copyright in the Digital Single Market (Directive 2019/790/EC), published on 17 May 2019, aims “to reduce the differences between national copyright regimes and allow for wider online access to works by users across the EU”<sup>10</sup>.

So far, the European Union law provided for certain exceptions and limitations in the InfoSoc Directive which might be applicable to TDM activities in relation to scientific research purposes. However, given that most of those exemptions were optional and not fully adapted to digital technologies<sup>11</sup>, this question still varied from one country to another, thus carrying legal uncertainties as to the treatment of TDM activities under EU and national copyright laws<sup>12</sup>.

---

<sup>7</sup> Davis, Richard, Thomas St. Quintin, and Guy Tritton. Tritton on Intellectual Property in Europe. Fifth ed. London: Sweet & Maxwell/Thomson Reuters, 2018, p. 631.

<sup>8</sup> European Commission. Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market 2016/0280. Brussels, 14 September 2016. Available at: <<https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-593-EN-F1-1.PDF>>, accessed 24 February 2019.

<sup>9</sup> Davis, Richard, Thomas St. Quintin, and Guy Tritton. Tritton on Intellectual Property in Europe. Fifth ed. London: Sweet & Maxwell/Thomson Reuters, 2018, p. 578.

<sup>10</sup> European Commission. Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market 2016/0280. Brussels, 14 September 2016. Available at: <<https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-593-EN-F1-1.PDF>>, accessed 24 February 2019.

<sup>11</sup> Recital 10 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

<sup>12</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 2. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 27 January 2019.

The Directive on Copyright in the Digital Single Market, which came into force on 7 June 2019<sup>13</sup>, will require EU member states to enact laws to implement this Directive until 7 June 2021. This legal framework is remarkably relevant with respect to text and data mining activities, as it entails two new TDM exceptions on its Articles 3 and 4. However, although it allows the use of TDM tools for certain purposes without amounting to copyright infringement, the scope of such provisions is still subject to criticism.

Therefore, this study aims to identify the potential problems of the EU Digital Single Market Directive in light of the necessities of users of text and data mining. Furthermore, this paper will assess the possibility of another country such as Brazil following the same approach as the EU with regard to TDM, while recognising the constraints of a legal transplant<sup>14</sup>.

As this thesis aims to deal solely with issues regarding the exclusive right of reproduction in relation to TDM, other related topics such as the sui generis database right and technological protection measures (TPMs) will not be addressed. Although some of the results achieved with this study might be applicable *mutatis mutandis* to these topics, they will not be further discussed in this paper, as they go beyond the selected scope of copyright. Other regimes could also be relevant to this subject-matter, such as competition law, but this would result in a dissertation that surpasses its limits. For this reason, additional research on these issues is still recommended to investigate other aspects of the interface between IPRs and TDM.

This thesis is organised as follows: in Chapter 2, the common steps in text and data mining processes will be described, including its usefulness and economic value in relevant sectors. This is essential to examine the legal implications of TDM and the rationale behind implementing copyright exceptions for such activities. Following this, Chapter 3 will examine the copyright legal framework in the EU, particularly the provisions of the InfoSoc Directive and the Digital Single Market Directive in relation to TDM. After reviewing the purposes and provisions of the newest EU copyright reform, a critical analysis will be made to ascertain whether it achieves its intended effect and the perceived needs of users of TDM. Lastly, Chapter 4 will assess whether Brazil should modernise its copyright law to implement TDM exemptions in the same way as the EU. In order to do so, a number of steps must be followed. Firstly, by examining the content of the Brazilian Copyright Law and the current exceptions and limitations provided by this legislation. Secondly, by verifying if the legal framework related to data tools and technology in Brazil has any specific legal provision covering TDM activities, or if there is a legislative proposal on this matter. Finally, with a view of evaluating the possibility of a legal transplant, a critical assessment will be made, considering all the aforementioned steps.

---

<sup>13</sup> European Commission. Copyright reform clears final hurdle: Commission welcomes approval of modernised rules fit for digital age. 15 April 2019. Available at: <[http://europa.eu/rapid/press-release\\_IP-19-2151\\_en.htm](http://europa.eu/rapid/press-release_IP-19-2151_en.htm)>, accessed 07 May 2019.

<sup>14</sup> Chen-Wishart, Mindy. Legal Transplant and Undue Influence: Lost in Translation or a Working Misunderstanding? *International and Comparative Law Quarterly*, 2013, 62(1), 1-30, p. 10. Available at: <<https://www.cambridge.org.ezproxy.ub.unimaas.nl/core/journals/international-and-comparative-law-quarterly/article/legal-transplant-and-undue-influence-lost-in-translation-or-a-working-misunderstanding/0FA08C9452B7A4C5BD8CD17725A0DEEE>>, accessed 26 June 2019.

## 1.2. Research question

In a time where the use of text and data mining tools is increasing, yet the provisions on this topic still carry legal uncertainty, several questions may arise from an IP point of view. In particular, with respect to the connection between the use of text and data mining tools and copyright, it is problematic how TDM activities may contradict or clash with copyright.

While trying to solve this issue, the EU Directive on Copyright in the Digital Single Market has presented two TDM exceptions, but the following questions emerge: "Do the TDM exceptions presented by the EU foster the goals they propose to achieve, and the perceived needs of users? And if so, should another jurisdiction such as Brazil implement TDM exemptions in the same way as the EU?".

## 1.3. Methodology

This paper will be mostly based on qualitative data available in relation to text and data mining activities and copyright. Considering that the topic has not been broadly discussed in the literature yet, as the EU copyright reform has been recently enacted, I will focus my legal research between different kinds of sources. Regarding literature, I will look for legal academic texts, including journal articles, monographs and publications. This doctrinal research method will rely on books found on the library, on information accessible online, and also on academic databases such as HeinOnline, Jstor and Westlaw.

With respect to international sources, I will use European directives and other legislation dealing with this issue. By looking beyond the legal doctrine available, this research intends to give a normative approach, in order to evaluate a legal situation and propose a solution to a legal problem. This will be achieved by explaining the EU Directive on Copyright in the Digital Single Market and examining whether this copyright reform is expected to achieve its intended effect.

In addition to this, an analysis of the possibility of a legal transplant will be conducted to estimate whether the TDM exceptions presented by the EU might also be useful for Brazil in order to solve the same problem. Considering that legal transplants vary so much depending on individual factors, such as the relationship between the transplanted rules and the society in which they subsequently operate, it is hard to give a broad generalisation on their particular result or effect<sup>15</sup>. It may seem controversial to examine the likelihood of success of a legal transplant<sup>16</sup>, but this is

---

<sup>15</sup> Chen-Wishart, Mindy. Legal Transplant and Undue Influence: Lost in Translation or a Working Misunderstanding? *International and Comparative Law Quarterly*, 2013, 62(1), 1-30, p. 3. Available at: <<https://www-cambridge-org.ezproxy.ub.unimaas.nl/core/journals/international-and-comparative-law-quarterly/article/legal-transplant-and-undue-influence-lost-in-translation-or-a-working-misunderstanding/0FA08C9452B7A4C5BD8CD17725A0DEEE>>, accessed 13 August 2019.

<sup>16</sup> "A law in one country expressed in exactly the same wording in another is not the same rule. Context is everything. The once transplanted is different in its new home". A Watson, 'Ius Communis Lecture on European Private Law 2' (The Contribution of Mixed Legal Systems to European Private Law, Maastricht University, 18 May 2000) *Found in* Chen-Wishart, Mindy. Legal Transplant and Undue Influence: Lost in Translation or a Working Misunderstanding? *International and Comparative Law Quarterly*, 2013, 62(1), 1-30, p. 3. Available at: <<https://www-cambridge-org.ezproxy.ub.unimaas.nl/core/journals/international-and-comparative-law-quarterly/article/legal-transplant-and-undue-influence-lost-in-translation-or-a-working-misunderstanding/0FA08C9452B7A4C5BD8CD17725A0DEEE>>, accessed 26 June 2019.

something worth to consider in the instant case, as Brazil has issues with its current legal framework, which could be resolved by an eventual copyright reform. Thus, in order to assess the likelihood of success of implementing provisions of the EU DSM Directive within Brazilian jurisdiction, the complex relationship between law and society must be studied considering the particularities of case-by-case.

## 2. TEXT AND DATA MINING – TECHNICAL AND LEGAL BACKGROUND

Text and data mining is generally defined as the automated process of discovering patterns in substantial quantities of computerised data in order to create new information. This data can take the form of texts, data, sounds, images or other elements, or a combination of these<sup>17</sup>. The patterns revealed must be significant to lead to an advantage, normally an economic one<sup>18</sup>.

Although Data Mining (DM) and Text Mining (TM) are complementary techniques which have similar definitions, various studies try to distinguish these two processes<sup>19</sup>. One of the main differences between DM and TM relates to the type of data extracted during these processes. While DM applies information extraction techniques on structured data, TM employs the same on unstructured or semi-structured data, which are often referred to as textual data<sup>20</sup>. Moreover, while trying to draw a line between DM and TM, they are often distinguished by the complexity of steps they follow<sup>21</sup>.

While comparing both concepts, it is generally determined that data mining (DM) is not a single method, but rather a spectrum of various approaches in order to search for patterns and relationships within data<sup>22</sup>. Conversely, text mining (TM) is essential to extract specific information from textual documents, by turning unstructured documents into relevant structured information<sup>23</sup>. One of the purposes of text mining is to extract the meaning of texts, such as themes and relevant information, without having to read the documents<sup>24</sup>. TM enables the extraction of specific information from texts (i.e: names, geographical locations, dates), and also the classification, identification or summarization of documents<sup>25</sup>. Moreover, it can be utilised to achieve better accuracy

---

<sup>17</sup> Francquen, Amélie de; Meeûs d'Argenteuil, Jérôme de; Triaille, Jean-Paul. Study on the legal framework of text and data mining (TDM). Publications Office of the EU, 12 November 2014. Available at: <<https://publications.europa.eu/en/publication-detail/-/publication/074ddf78-01e9-4a1d-9895-65290705e2a5/lan guage-en>>, p. 17.

<sup>18</sup> Witten, Ian H.; Hall, Mark A.; Frank, Eibe. Data mining: practical machine learning tools and techniques. Burlington, MA: Morgan Kaufmann, 2011. v. 3rd ed, Chapter 1. Available at: <<http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=351343&site=ehost-live&scope=site>>, accessed 24 April 2019.

<sup>19</sup> Ferati, Drilon. Text mining in financial industry: Implementing text mining techniques on bank policies. Master thesis, Utrecht University, 2017, p. 11. Available at: <[https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati\\_Thesis\\_v2.pdf?sequence=2&isAllowed=y](https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati_Thesis_v2.pdf?sequence=2&isAllowed=y)>, accessed 30 April 2019.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Best 3 Things To Learn About Data Mining vs Text Mining. Available at: <<https://www.educba.com/data-mining-vs-text-mining/>>, accessed 30 April 2019.

<sup>23</sup> Ibid.

<sup>24</sup> Miner, Gary. Practical Text Mining and Statistical Analysis for Non-Structured Text Data Applications. 1st ed. Amsterdam: Academic Press, 2012. p. 55.

<sup>25</sup> Ibid., p. 55.



in predictive modelling, by improving the understanding or prediction of key performance indicators that make each business successful<sup>26</sup>.

Taking this into account, some authors claim that the definitions of data mining (DM) and text mining (TM) are in fact all subsets of a broader concept, which is often referred to as "data analysis"<sup>27</sup>. Consequently, they propose using the terminology "data analysis" instead of "text and data mining" (TDM)<sup>28</sup>. Nevertheless, since there is not a universal definition or distinction of TM and DM, this thesis will essentially focus on the common steps between text and data mining processes in the following section in order to facilitate the understanding of this subject matter.

## 2.1. Common steps in text and data mining processes

In order to fully understand the legal repercussions of text and data mining, firstly it is imperative to comprehend how TDM operates. This will be done by identifying the acts which may conflict with the rightholder's rights. Despite the lack of a general and exhaustive explanation of how TDM works, the three main common steps in these processes usually include: (i) access to content, (ii) extraction or copying of the content, and (iii) mining of text or data and knowledge discovery<sup>29</sup>.

The first stage of text and data mining is access to content such as texts, data, sounds, images or other elements. The majority of text data found on a regular basis is unstructured text, arising in common sources which include books, newspapers, emails and web-pages<sup>30</sup>. This content can be freely accessible or may require permission for access, such as a licence<sup>31</sup>. However, "freedom of access does not necessarily entail that the content (text and data) is also free of legal restrictions"<sup>32</sup>. This is because many legal rights might be conferred on the content that requires extraction or copy<sup>33</sup>.

Once the content is accessed, the second stage usually involves the extraction and copying of information. This allows the identification of relationships between texts based upon the preconceptions of those creating the metadata<sup>34</sup>. Most of the copyright issues arise from this step,

---

<sup>26</sup> Ibid., p. 66.

<sup>27</sup> Francquen, Amélie de; Meeûs d'Argenteuil, Jérôme de; Triaille, Jean-Paul. Study on the legal framework of text and data mining (TDM). Publications Office of the EU, 12 November 2014, p. 8. Available at: <<https://publications.europa.eu/en/publication-detail/-/publication/074ddf78-01e9-4a1d-9895-65290705e2a5/lan guage-en>>, accessed 30 April 2019.

<sup>28</sup> Ibid., p. 17.

<sup>29</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 4. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 23 April 2019.

<sup>30</sup> Miner, Gary. Practical Text Mining and Statistical Analysis for Non-Structured Text Data Applications. 1st ed. Amsterdam: Academic Press, 2012, p. 44.

<sup>31</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 4. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 23 April 2019.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Phillpott, Matthew. An introduction to text mining, University of London, School of Advanced Studies. Available at: <<https://port.sas.ac.uk/mod/book/view.php?id=554&chapterid=325>>, accessed 23 April 2019.

especially due to the copying of content, which will be dealt with in the following chapters. Nevertheless, not all TDM activities necessarily involve the extraction or copying of content<sup>35</sup>.

Following the primary steps, the third stage concerns text or data mining, which includes both extraction and knowledge discovery. Firstly, the pre-processing of relevant text and data includes eliminating unnecessary information. Secondly, the extraction of data entails breaking the document into constituent terms, identifying synonyms, transforming the text and identifying equivalent classes. This way, TDM allows not just the discovery of types and concepts but also the identification of relationships and patterns within the data<sup>36</sup>.

## 2.2. Importance and usefulness of text and data mining

Text and data mining activities can play a significant role in different industry fields by enabling the identification of general trends and correlations, which can improve business strategies, yielding results with economic value. As these techniques bring greater accuracy and accelerate decision-making<sup>37</sup>, they have been adopted by different industries over the past decade, such as retailers, health care, banks, and insurance companies, among others<sup>38</sup>. Also, they are used for research purposes by public and private entities.

For instance, data mining can assist marketing by creating models to predict future sales based on the potential client's buying patterns, improving content relevance for target audiences<sup>39</sup>. This is done by examining the relationships between variables, such as consumer's age, gender and preferences, thus enabling the prediction of their behaviour<sup>40</sup>. In the retail industry, TDM identifies which offers are most valued by consumers, and also assists with product placement in aisles or shelves, according to purchasing patterns<sup>41</sup>.

In the medical field, TDM enables more accurate diagnostics based on patient information, potentially leading to more effective treatments<sup>42</sup>. Moreover, it facilitates the identification of a potential correlation between a drug and a disease, or even between a drug and an adverse effect. It can also help to predict illnesses in some segments of the population, calculate the length of hospital

---

<sup>35</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 5. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 23 April 2019.

<sup>36</sup> Ibid. p. 7.

<sup>37</sup> Columbus, Louis. 10 Charts That Will Change Your Perspective of Big Data's Growth. May 2018. Available at: <<https://www.forbes.com/sites/louiscolombus/2018/05/23/10-charts-that-will-change-your-perspective-of-big-datas-growth/#513231d12926>>, accessed 24 April 2019.

<sup>38</sup> Miner, Gary. Practical Text Mining and Statistical Analysis for Non-Structured Text Data Applications. 1st ed. Amsterdam: Academic Press, 2012. p. 66.

<sup>39</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 3. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 23 April 2019.

<sup>40</sup> Iberdrola. Data mining: definition, examples and applications. Available at: <<https://www.iberdrola.com/top-stories/technology/data-mining-definition-examples-and-applications>>, accessed 24 April 2019.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

admission and identify risks, hence empowering a more efficient and cost-effective management of health resources<sup>43</sup>.

In addition, in the financial industry, text and data mining can aid in the process of decision making regarding various investments, and predict stock movements in a way that can even outperform trading experts<sup>44</sup>. Further, the application of TDM in banking activities can help in credit-risk assessment systems<sup>45</sup>, usually applied to "credit ratings and to intelligent anti-fraud systems to analyse transactions, card transactions, purchasing patterns and customer financial data"<sup>46</sup>. TDM has also been used by crime prevention agencies. In this respect, by mining information which includes details of criminal activities, crime prevention agencies might be able to predict future events more accurately<sup>47</sup>.

Ultimately, TDM techniques have been increasingly adopted with a view to gain new knowledge through research. Particularly, this benefits universities and other organisations and institutions, which are able to carry on studies with the assistance of new technologies. This subject was specifically touched upon by the EU Directive on Copyright in the Digital Single Market<sup>48</sup>, which establishes that these activities fall under a mandatory exception to the exclusive right of reproduction and to the right to prevent extraction from a database without constituting an infringement.

The rationale behind why certain exceptions and limitations are implemented in the newest EU copyright reform will be explained in the following chapter, which deals with the legal implications of TDM activities.

### 2.3. Legal implications of TDM

Despite the fact that TDM can lead to advantages in several fields, it is unclear whether the use of data-mining tools may contradict or clash with intellectual property rights. In particular, it is uncertain to what extent TDM can involve acts protected by copyright, by the sui generis right, or by both<sup>49</sup>. In spite of the pertinence of database rights to TDM, particularly the legal protection given by

---

<sup>43</sup> Ibid.

<sup>44</sup> Ferati, Drilon. Text mining in financial industry: Implementing text mining techniques on bank policies. Master thesis, Utrecht University, 2017, p.15. Available at: <[https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati\\_Thesis\\_v2.pdf?sequence=2&isAllowed=y](https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati_Thesis_v2.pdf?sequence=2&isAllowed=y)>, accessed 30 April 2019.

<sup>45</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 3. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 23 April 2019.

<sup>46</sup> Iberdrola. Data mining: definition, examples and applications. Available at: <<https://www.iberdrola.com/top-stories/technology/data-mining-definition-examples-and-applications>>, accessed 24 April 2019.

<sup>47</sup> Agrawal, Prakhar. Most Common Examples of Data Mining. 29 March 2018 Available at: <<https://www.upgrad.com/blog/most-common-examples-of-data-mining/>>, accessed 24 April 2019.

<sup>48</sup> Art. 3 and 4 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

<sup>49</sup> Recital 8 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

the Database Directive<sup>50</sup>, this thesis will not further develop this topic, as this goes beyond the selected scope of copyright.

Copyright refers to literary and artistic creations, including books, articles, music, drawings, paintings, cinematographic and photographic works<sup>51</sup>, and also technology-based works, including computer programs and electronic databases<sup>52</sup>. The use of copyrighted material may comprise many types of activities, including reading, listening to, observing, learning and building upon works<sup>53</sup>. While some of these acts are free for anyone to carry out, others are restricted for the author<sup>54</sup>.

The most basic right protected by copyright law is the right of reproduction, which allows copyright owners to prevent others from making copies of their works without permission<sup>55</sup>. It is the legal basis for preventing many types of exploitation of protected works<sup>56</sup>, such as the sale of copies of a work, the reproduction of books and texts, and the use of phonograms in digital form.

While drawing a line between permitted and restricted uses might be easier in relation to material works, it can get more complex when it comes to digital works. This is due to the new challenges imposed by the digital era in relation to the protection and enforcement of intellectual property rights, and also because technology has revolutionised the way we handle the "use" of works protected by copyright<sup>57</sup>.

In this regard, data mining is considered a touchstone issue for the interface between IPRs and access to data in the digital environment<sup>58</sup>. Since the use of TDM may require copy and extraction of different sorts of works which may be protected by copyright, consequently this can amount to copyright infringement, as the copy of data can violate the exclusive right of reproduction. In this context, different issues may appear within the utilisation of text and data mining. For instance, does every kind of use of copyrighted material for the purpose of TDM amount to infringement? And if so, what problems may derive from this?

So far, the European Union law provided for certain exceptions and limitations which may be applicable to TDM activities. However, given that most of those exemptions were optional and not fully adapted to digital technologies<sup>59</sup>, this question still varied from one country to another. In light

---

<sup>50</sup> Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases.

<sup>51</sup> Art. 2(1) Berne Convention for the Protection of Literary and Artistic Works. World Intellectual Property Organization.

<sup>52</sup> World Intellectual Property Office. Understanding Copyright and Related Rights, 2016, p. 5. Available at: <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 02 May 2019.

<sup>53</sup> Borghi, Maurizio; Karapapa, Stavroula. Copyright and Mass Digitization: A Cross-Jurisdictional Perspective. 1st ed. Oxford, United Kingdom: Oxford University Press, 2013, p. 45.

<sup>54</sup> Ibid.

<sup>55</sup> World Intellectual Property Office. Understanding Copyright and Related Rights, 2016, p. 11. Available at: <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 02 May 2019.

<sup>56</sup> Ibid.

<sup>57</sup> Borghi, Maurizio; Karapapa, Stavroula. Copyright and Mass Digitization: A Cross-Jurisdictional Perspective. 1st ed. Oxford, United Kingdom: Oxford University Press, 2013. p. 45.

<sup>58</sup> Cunningham, Francine. Mining the value of 'Big Data' in an era of Artificial Intelligence. 25 March 2019. Available at: <<https://www.mediawrites.law/mining-the-value-of-big-data-in-an-era-of-artificial-intelligence/>>, accessed 02 May 2019.

<sup>59</sup> Recital 10 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

of the legal uncertainty as to the treatment of TDM acts under EU and national laws, the legal framework in the EU must be examined. In order to carry on this research, the following chapter aims to analyse the right of reproduction, and also the current exceptions and limitations under EU copyright law.

### 3. THE COPYRIGHT LEGAL FRAMEWORK IN THE EUROPEAN UNION

The horizontal harmonisation of copyright and related rights within the EU has been mainly achieved by the Information Society Directive (Directive 2001/29/EC). This legislation contains definitions of the right of reproduction (Art. 2) and the right of communication to the public (Art. 3), which are of general application among EU member states<sup>60</sup>. Also, it provides an exhaustive list for copyright exceptions and limitations (Art. 5), some of which are only applied to the right of reproduction.

However, since EU member states are allowed to enact a wide range of optional exceptions and limitations under Art. 5(2) in their national laws, the level of harmonisation that the InfoSoc Directive has actually achieved in this regard is fairly limited<sup>61</sup>. The only mandatory exemption is provided by Art. 5(1), which concerns temporary acts of reproduction. Although some TDM activities may arguably fall under this mandatory exception, legal uncertainty emerged on whether and how it was possible to engage in text and data mining acts<sup>62</sup>.

In spite of the main provisions and principles laid down by the InfoSoc Directive remaining relevant and applicable for many circumstances, problems have started to rise for rightholders and users regarding the use of copyrighted works in the digital environment<sup>63</sup>. In order to prevent copyright from being an obstacle to the advancement of technologies, the EU has approved a legislative reform, which includes modernising topics involving the digital world<sup>64</sup>.

In this context, the EU Directive on Copyright in the Digital Single Market came into force on 7 June 2019<sup>65</sup>. The new directive aims “to reduce the differences between national copyright regimes

---

<sup>60</sup> Davis, Richard, Thomas St. Quintin, and Guy Tritton. *Tritton on Intellectual Property in Europe*. Fifth ed. London: Sweet & Maxwell/Thomson Reuters, 2018, p. 631.

<sup>61</sup> Hugenholtz, Bernt. *The InfoSoc Directive Ten Years After*. 21 December 2011. Available at: <<http://copyrightblog.kluweriplaw.com/2011/12/21/the-infosoc-directive-ten-years-after/>>, accessed 07 May 2019.

<sup>62</sup> Margoni, Thomas; Kretschmer, Martin. *The Text and Data Mining exception in the Proposal for a Directive on Copyright in the Digital Single Market: Why it is not what EU copyright law needs*, April 2018, p. 3.

Available at:

<[https://www.researchgate.net/publication/324779796\\_The\\_Text\\_and\\_Data\\_Mining\\_exception\\_in\\_the\\_Proposal\\_for\\_a\\_Directive\\_on\\_Copyright\\_in\\_the\\_Digital\\_Single\\_Market\\_Why\\_it\\_is\\_not\\_what\\_EU\\_copyright\\_law\\_needs](https://www.researchgate.net/publication/324779796_The_Text_and_Data_Mining_exception_in_the_Proposal_for_a_Directive_on_Copyright_in_the_Digital_Single_Market_Why_it_is_not_what_EU_copyright_law_needs)>, accessed 03 June 2019.

<sup>63</sup> Recital 3 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

<sup>64</sup> Davis, Richard, Thomas St. Quintin, and Guy Tritton. *Tritton on Intellectual Property in Europe*. Fifth ed. London: Sweet & Maxwell/Thomson Reuters, 2018, p. 578.

<sup>65</sup> European Commission. *Copyright reform clears final hurdle: Commission welcomes approval of modernised rules fit for digital age*. 15 April 2019. Available at: <[http://europa.eu/rapid/press-release\\_IP-19-2151\\_en.htm](http://europa.eu/rapid/press-release_IP-19-2151_en.htm)>, accessed 07 May 2019.

and allow for wider online access to works by users across the EU<sup>66</sup>. This new EU copyright directive is remarkably relevant with respect to text and data mining activities, as it entails two new TDM exceptions on its Articles 3 and 4, and these are to be interpreted in light of Recitals 11, 14, 15, 17 and 18.

### 3.1. Information Society Directive (2001/29/EC)

Art. 2 of the InfoSoc Directive has harmonised the right of reproduction within the EU. According to subparagraph (a) of this provision, Member States shall provide for the exclusive right of authors to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part of their works.

In order to ensure a fair balance of rights and interests of rightholders and users of protected subject-matters, a set of exceptions and limitations was introduced in Art. 5 InfoSoc<sup>67</sup>. In EU law, exceptions and limitations are generally implemented voluntarily by the member states, while only a few are mandatory<sup>68</sup>. Within the InfoSoc, the application of exemptions follow the principles set by the "three-step test", which are given by Art. 5(5). According to this test, exceptions and limitations would be permitted (i) in certain special cases (ii) which do not conflict with a normal exploitation of the work or other subject-matter and (iii) do not unreasonably prejudice the legitimate interests of the rightholder.

Under current EU copyright law, the majority of exceptions and limitations are optional for the EU member states to implement under the exhaustive list of Art. 5(2) and (3) InfoSoc. However, a mandatory exception is given by Art. 5(1) InfoSoc concerning temporary acts of reproduction. In accordance with this provision:

*"Temporary acts of reproduction referred to in Article 2, which are transient or incidental [and] an integral and essential part of a technological process and whose sole purpose is to enable:*

*(a) a transmission in a network between third parties by an intermediary, or*

*(b) a lawful use*

*of a work or other subject-matter to be made, and which have no independent economic significance, shall be exempted from the reproduction right provided for in Article 2."*

Taking the aforementioned into consideration, it is inferred that carrying out activities involving the reproduction of works, by extracting or copying content, such as text and data mining, may fall within the exclusive right of rightholders conferred by Art. 2 InfoSoc. Despite the possibility that TDM techniques may constitute copyright infringement, in accordance with Art. 5(1) InfoSoc it

---

<sup>66</sup> European Commission. Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market 2016/0280. Brussels, 14 September 2016. Available at: <<https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-593-EN-F1-1.PDF>>, accessed 24 February 2019.

<sup>67</sup> Recital 31 of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (InfoSoc Directive).

<sup>68</sup> European Parliament Policy Department for Citizens' Rights and Constitutional Affairs, Directorate General for Internal Policies of the Union. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market - Legal Aspects: In-depth Analysis. February 2018, p. 8. Available at: <[http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL\\_IDA\(2018\)604941\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL_IDA(2018)604941_EN.pdf)>, accessed 08 May 2019.

can also be interpreted that the mandatory exception for temporary acts of reproduction might be applicable to such activities.

Nevertheless, the CJEU has repeatedly affirmed that the exemption provided in Art. 5(1) must be interpreted strictly<sup>69</sup>, hence it should have a limited scope of application. The temporary reproduction exemption remains confined to residual cases, in which a vast number of specific requirements must be fulfilled in a cumulative manner<sup>70</sup>. Such elements include making temporary reproductions, transient or incidental, that are an integral and essential part of a technological process which enables a lawful use with no independent economic significance<sup>71</sup>.

In light of the foregoing, legal uncertainty emerged on whether the acts of reproduction to engage in TDM fulfill all the requirements under Art. 5(1) InfoSoc, especially when these reproductions are transient and have no independent economic relevance<sup>72</sup>. Further, as to the optional exceptions and limitations provided under Art. 5(2) and (3) InfoSoc Directive, it must be noted that some EU member states have implemented specific provisions allowing text and data mining in their national laws<sup>73</sup>. For instance, the UK has amended the Copyright, Designs and Patents Act 1988 in order to include an exemption for copies for text and data analysis for non-commercial research in section 29A<sup>74</sup>. This provision is in consonance with the authorised exception under Art. 5(3)(a) InfoSoc, which allows the EU member states to provide exceptions or limitations on the right of reproduction and the right of communication to the public for the purpose of teaching or scientific research. In the same way, France has introduced an exception for text and data mining in the French Intellectual Property Code (Code de la Propriété Intellectuelle, CPI)<sup>75</sup>. Similarly to the UK, France has allowed TDM techniques concerning reproductions carried out for non-commercial research purposes. However, unlike the UK, France has limited the use of the exception for science in order for the exemption to cover only mining of "text and data included in or associated with scientific literature"<sup>76</sup>.

Even though a few countries have implemented a TDM exemption in their national laws, particularly in relation to research purposes, the majority of EU member states have not done the same because this exemption is not mandatory. Given the legal uncertainties on the treatment of TDM activities under EU and national copyright laws, and due to the need to adapt the current copyright

---

<sup>69</sup> See CJEU, C-5/08, *Infopaq International A/S v. Danske Dagblades Forening* (16 July 2009), paragraph 56 (in accordance with C-476/01 *Kapper* [2004], paragraph 72, and C-36/05 *Commission v Spain* [2006], paragraph 31).

<sup>70</sup> European Parliament Policy Department for Citizens' Rights and Constitutional Affairs, Directorate General for Internal Policies of the Union. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market - Legal Aspects: In-depth Analysis. February 2018, p. 9. Available at: <[http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL\\_IDA\(2018\)604941\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL_IDA(2018)604941_EN.pdf)>, accessed 08 May 2019.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 8. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 08 May 2019.

<sup>74</sup> Clarin. Text and Data Mining (TDM) exceptions in the UK and France. Available at: <<https://www.clarin.eu/content/clic-text-and-data-mining-tdm-exceptions-uk-and-france>>, accessed 08 May 2019.

<sup>75</sup> Ibid.

<sup>76</sup> Caspers, Marco. Some observations of the French TDM exception. 02 November 2016. Available at: <<https://www.futuretdm.eu/blog/legal-policies/some-observations-of-the-french-tdm-exception/>>, accessed 08 May 2019.

legislation to the use of digital technologies, the EU has proposed a copyright reform which comprises text and data mining exceptions.

### **3.2. Copyright reform: Directive on Copyright in the Digital Single Market (2016/0280)**

The Directive on Copyright in the Digital Single Market (DSM Directive) aims to modernise the current copyright legal framework in the EU. It was proposed by the European Commission in September 2016, voted by the European Parliament on March 2019, approved by the Council of the European Union on 15 April 2019<sup>77</sup>, and has been published in the EU Official Journal on 17 May 2019<sup>78</sup>. Since the DSM Directive came into force on 7 June 2019, EU member states have until 7 June 2021 to enact laws implementing it<sup>79</sup>.

In accordance with Recital 3 of the DSM Directive, the objectives and principles laid down by current EU copyright framework remain sound, however, legal uncertainty has arisen as to certain uses of works and other subject-matters in the digital environment. For this reason, the new Directive intends to adapt and supplement the existing legislation, in particular, Directives 96/9/EC (Database Directive) and 2001/29/EC (InfoSoc Directive).

The DSM Directive aims to implement rules regarding copyright exceptions and limitations in the digital and cross-border environments, as well as measures to facilitate certain licensing practices while keeping a high level of protection of copyright and related rights. Particularly in relation to text and data mining, Recitals 8, 9, 10 of the DSM Directive set out the rationale to provide exceptions and limitations for TDM uses which are not clearly covered by current EU copyright law. Further, the application of exemptions stipulated by Articles 3 and 4 must be interpreted in accordance with Recitals 11, 14, 15 and 18 of the DSM Directive.

With regard to the purpose of the DSM Directive, Recital 5 determines that the existing EU exceptions and limitations are still applicable to TDM, as long as they do not limit the scope of the new provisions of the DSM Directive. Further, Recital 6 elucidates that this Directive seeks to achieve a fair balance between the rights and interests of rightholders and users.

As to the scope of implementation of TDM exceptions, Recital 8 acknowledges the benefit of such technologies to universities, research organisations and cultural heritage institutions. It also recognises that such institutions may face legal uncertainty as to what extent they can perform text and data mining of content, since these activities may involve the reproduction of works protected by intellectual property rights. For this reason, the subsequent Recitals explain how the new exceptions and limitations given by the DSM Directive will take place.

Art. 2(2) of the DSM Directive sets out a definition of text and data mining. According to this provision, TDM means "any automated analytical technique aimed at analysing text and data in digital

---

<sup>77</sup> European Commission. Copyright reform clears final hurdle: Commission welcomes approval of modernised rules fit for digital age. 15 April 2019. Available at: <[http://europa.eu/rapid/press-release\\_IP-19-2151\\_en.htm](http://europa.eu/rapid/press-release_IP-19-2151_en.htm)>, accessed 09 May 2019.

<sup>78</sup> Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC. Available at: <[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.130.01.0092.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.130.01.0092.01.ENG)>, accessed 03 June 2019.

<sup>79</sup> European Commission. Digital Single Market: Modernisation of the EU copyright rules. Available at: <<https://ec.europa.eu/digital-single-market/en/modernisation-eu-copyright-rules>>, accessed 03 June 2019.



form in order to generate information which includes but is not limited to patterns, trends and correlations". It must be noted that the final version of this provision contains a slight variation in comparison with the one conveyed in the first draft of the DSM proposal. While the first version merely listed "patterns, trends and correlations" as options, but did not explain that the TDM process was not limited to these elements, the last version approved expressly asserts that the process to generate information "includes but is not limited" to patterns, trends and correlations, hence preventing TDM to be confined to certain acts.

Overall, the DSM Directive provides two different exceptions for text and data mining in its Articles 3 and 4. The first TDM exemption given by Art. 3 is mandatory for the purposes of scientific research, and follows the same reasoning as the exceptions implemented under UK and France national laws for non-commercial research, as explained in the previous section. The second exemption introduced by Art. 4 allows any other entities to carry out TDM where they have lawful access to the work and the rightholder has not specifically objected to it in an "appropriate manner".

The mandatory exemption for TDM under Art. 3(1) covers "reproductions and extractions made by research organisations and cultural heritage institutions in order to carry out, for the purposes of scientific research, text and data mining of works or other subject-matter to which they have lawful access". In order to understand the scope of application of this provision, it is necessary to analyse who are the beneficiaries of such exemption, namely "research organisations" and "cultural heritage institutions".

The definition of "research organisations" is given by Recital 12 and includes, for example, universities or other higher education institutions and their libraries, as well as entities such as research institutes and hospitals that carry out research. Furthermore, in line with Recital 13, the term "cultural heritage institutions" encompasses public accessible libraries and museums regardless of the type of works they hold in their collections, as well as archives, film or audio heritage institutions. In essence, all these beneficiaries will be able to employ computational analysis techniques on works in their collections, to which they have lawful access, for the purpose of scientific research<sup>80</sup>.

In relation to security measures, Art. 3(2) allows that copies made under TDM are retained for the purposes of scientific research, provided that they are stored with an appropriate level of security. In addition to this, Art. 3(3) determines that rightholders are not allowed to "apply measures to ensure the security and integrity of the networks and databases where the works or other subject-matter are hosted". More importantly, it seeks to emphasise the restricted nature regarding the use of technical protection measures, by stating that "such measures shall not go beyond what is necessary to achieve that objective"<sup>81</sup>.

The additional TDM exception laid down by Art. 4 is essentially intended at commercial data analytics and artificial intelligence<sup>82</sup>. It allows text and data mining for other purposes than scientific research, including, for instance, business entities, innovators, journalists, etc., but only on the condition that the rightholders do not oppose the mining<sup>83</sup>. This provision was not placed in the

---

<sup>80</sup> Keller, Paul. European Parliament adopts the Copyright Directive: A boost for Europe's cultural heritage institutions. 26 March 2019. Available at: <<https://pro.europeana.eu/post/copyright-reform-passed-by-european-parliament>>, accessed 30 May 2019.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> Intellectual Property Institute. About the Directive: Proposal for the Directive on Copyright in the Digital Single Market. Available at: <<https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>>, accessed 30 May 2019.

original DSM proposal, but it is regarded as "helpful in the context the knowledge transfer agenda between private companies and universities"<sup>84</sup>.

### 3.3. Critical analysis on the EU Digital Single Market Directive concerning TDM exceptions

It is acknowledged that the EU has put an effort into modernising its copyright framework to make the rules adequately suitable for the digital age. Before the introduction of specific text and data mining exceptions by the Digital Single Market Directive, such activities were never directly regulated at EU level, only indirectly within Art. 5(1) of InfoSoc in relation to "temporary acts of reproduction"<sup>85</sup>, or through other optional exceptions in Art. 5(2) of InfoSoc, such as the ones directed at research activities, which were implemented by e.g. France and the UK in their national laws.

Nonetheless, it is essential to analyse whether the provisions on the DSM Directive foster the goals that they aim to achieve and whether they meet the necessities of text and data mining users. Particularly, the DSM Directive aims to allow for wider online access to works by users across the EU<sup>86</sup>, while text and data mining requires extraction or copy of data which may be protected by copyright, hence the need to implement new exceptions on the right of reproduction to enable users from utilising TDM tools.

Firstly, in accordance with Recital 9 of the DSM Directive, once the Directive is formalised, the exception for temporary acts of reproduction under Art. 5(1) of InfoSoc will continue to be applicable to text and data mining techniques that do not involve the making of copies beyond that exception. However, as legal uncertainty remains on whether the acts of reproduction to engage in TDM fulfill all the requirements under Art. 5(1) InfoSoc, especially when these reproductions are transient and have no independent economic relevance, it is hard to ascertain whether such provision is still applicable or not.

Secondly, several remarks can be made in relation to the mandatory exemption of Art. 3 of the DSM Directive. This provision has been strongly criticised when the first draft of the EU proposal was presented, since it introduced a double limitation for the use of TDM: it could only be performed by

---

<sup>84</sup> Association of European Research Libraries. New European Copyright Directive: A Detailed Look. 29 March 2019. Available at: <<https://libereurope.eu/blog/2019/03/29/new-european-copyright-directive-a-detailed-look/>>, accessed 30 May 2019.

<sup>85</sup> Intellectual Property Institute. About the Directive: Proposal for the Directive on Copyright in the Digital Single Market. Available at: <<https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>>, accessed 30 May 2019.

<sup>86</sup> European Commission. Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market 2016/0280. Brussels, 14 September 2016. Available at: <<https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-593-EN-F1-1.PDF>>, accessed 24 February 2019.

"research organisations" and only for the purpose of "scientific research"<sup>87</sup>. Therefore, it prevented a long list of beneficiaries of its forthcoming TDM exception<sup>88</sup>.

For instance, Art. 3 implied excluding parties such as businesses, startups and individuals from taking advantage of the TDM exception, as well as other generally accepted purposes such as journalism, criticisms or review<sup>89</sup>. Moreover, it indicated that even if research organisations were engaged in TDM activities, they would not be able to benefit from such exemption if they were carrying acts for other purposes than research. As a consequence, it is estimated that if such strict restrictions were applied, the development of TDM practices in Europe would be hindered<sup>90</sup>, preventing the advancement of innovative technologies.

The approved version of the DSM Directive has partially solved this issue. According to Recital 11, universities, research organisations and cultural heritage institutions can still be beneficiaries from the exception of Art. 3 even if they are carrying out research in collaboration with the private sector. Hence, they are not restricted from using TDM tools simply because they are relying on private partners. Nevertheless, critiques can still be made to this provision, as despite its applicability for research in collaboration with the private sector, certainly only the public partners will be beneficiaries from this exemption<sup>91</sup>.

Another point to be observed is that the exemption of Art. 3 only benefits users having lawful access to the data, including freely accessible online content. As the term "lawful access" is not clearly defined by the Directive<sup>92</sup>, it creates uncertainty in the scope of application of such provision. It may imply that rightholders can start pricing the allowance of TDM activities into subscription fees, conceivably increasing barriers for smaller businesses to compete in this market<sup>93</sup>.

---

<sup>87</sup> Margoni, Thomas; Kretschmer, Martin. The Text and Data Mining exception in the Proposal for a Directive on Copyright in the Digital Single Market: Why it is not what EU copyright law needs, April 2018, p. 4.

Available

at: <[https://www.researchgate.net/publication/324779796\\_The\\_Text\\_and\\_Data\\_Mining\\_exception\\_in\\_the\\_Proposal\\_for\\_a\\_Directive\\_on\\_Copyright\\_in\\_the\\_Digital\\_Single\\_Market\\_Why\\_it\\_is\\_not\\_what\\_EU\\_copyright\\_law\\_needs](https://www.researchgate.net/publication/324779796_The_Text_and_Data_Mining_exception_in_the_Proposal_for_a_Directive_on_Copyright_in_the_Digital_Single_Market_Why_it_is_not_what_EU_copyright_law_needs)>, accessed 30 May 2019.

<sup>88</sup> Rosati, Eleonora. An EU text and data mining exception for the few: would it make sense? *Journal of Intellectual Property Law & Practice*, 2018, v. 13, n. 6, p. 430. Available at: <<https://eprints.soton.ac.uk/419309/>>, accessed 30 May 2019.

<sup>89</sup> Margoni, Thomas; Kretschmer, Martin. The Text and Data Mining exception in the Proposal for a Directive on Copyright in the Digital Single Market: Why it is not what EU copyright law needs, April 2018, p. 4. Available

at: <[https://www.researchgate.net/publication/324779796\\_The\\_Text\\_and\\_Data\\_Mining\\_exception\\_in\\_the\\_Proposal\\_for\\_a\\_Directive\\_on\\_Copyright\\_in\\_the\\_Digital\\_Single\\_Market\\_Why\\_it\\_is\\_not\\_what\\_EU\\_copyright\\_law\\_needs](https://www.researchgate.net/publication/324779796_The_Text_and_Data_Mining_exception_in_the_Proposal_for_a_Directive_on_Copyright_in_the_Digital_Single_Market_Why_it_is_not_what_EU_copyright_law_needs)>, accessed 30 May 2019.

<sup>90</sup> Rosati, Eleonora. An EU text and data mining exception for the few: would it make sense? *Journal of Intellectual Property Law & Practice*, 2018, v. 13, n. 6, p. 430. Available at: <<https://eprints.soton.ac.uk/419309/>>, accessed 30 May 2019.

<sup>91</sup> Van Asbroeck, Benoit; Haine, Charlotte. The EU Copyright Directive: New exception for text and data mining. 11 April 2019. Available at:

<<https://www.mediawrites.law/the-eu-dsm-directive-new-copyright-exception-for-text-and-data-mining/>>, accessed 07 May 2019.

<sup>92</sup> Ibid.

<sup>93</sup> Thomas, Amy. EU Copyright Reform: What you may have missed. 21 March 2019. Available at: <<https://www.create.ac.uk/blog/2019/03/21/eu-copyright-reform-what-you-may-have-missed/>>, accessed 30 May 2019.

Thirdly, with regard to the new TDM exception laid down by Art. 4, which has potentially unlimited beneficiaries and can be possibly performed for any purpose<sup>94</sup>, it must be observed that it is solely applicable on the condition that rightholders do not oppose the mining. Therefore, the use of this exemption is limited for content for which rightholders have not expressly reserved the right to mine ('mineable by default')<sup>95</sup>.

In accordance with Art. 4(3), rightholders may be exempted from the application of this exception to the extent that their "opt-out" is explicitly expressed in an "appropriate manner"<sup>96</sup>. However, it is not quite certain what the term "appropriate manner" means, given that the Directive has not touched upon this subject. It is presumed, for example, that in the case of websites, the "opt-out" may take place by stating in the terms and conditions of the site that rightholders specifically object to the use of TDM activities<sup>97</sup>. Consequently, it means that the exception of Art. 4 is subject to contractual override, "as it is not covered by Art. 7(1)"<sup>98</sup>, and so the rightholder could continue to control or prevent TDM and also could choose to price TDM activities into subscription fees for 'lawful access'<sup>99</sup>.

To conclude, the interpretation of the terms "lawfully made" and "appropriate manner" create some legal uncertainty on the application of the text and data mining exceptions given by Articles 3 and 4 of the DSM Directive. In addition to this, although the approved version of the Directive attempted to overcome some problems of the legislative proposal, by supposedly enabling the use of TDM tools for more purposes, the new exceptions still fail to meet the needs of TDM users. This is due to the fact that, in principle, users other than scientific and cultural heritage institutions will have to rely on a much narrower exemption, which allows TDM only under the condition that rightholders do not oppose it<sup>100</sup>. As according to the EU Commission itself, 'research organizations' are not the entities mostly or solely engaged in TDM activities in Europe<sup>101</sup>, restricting TDM access may prevent

---

<sup>94</sup> European Language Resource Coordination. What's new in the Directive on Copyright in the Digital Single Market. 24 April 2019. Available at: <<http://www.lr-coordination.eu/node/960>>, accessed 07 May 2019.

<sup>95</sup> Ibid.

<sup>96</sup> Van Asbroeck, Benoit; Haine, Charlotte. The EU Copyright Directive: New exception for text and data mining, 11 April 2019. Available at: <<https://www.mediawrites.law/the-eu-dsm-directive-new-copyright-exception-for-text-and-data-mining/>>, accessed 07 May 2019.

<sup>97</sup> Thomas, Amy. EU Copyright Reform: What you may have missed. 21 March 2019. Available at: <<https://www.create.ac.uk/blog/2019/03/21/eu-copyright-reform-what-you-may-have-missed/>>, accessed 30 May 2019.

<sup>98</sup> Article 7 (1) of Directive on Copyright in the Digital Single Market (EU) 2019/790: "Any contractual provision contrary to the exceptions provided for in Articles 3, 5 and 6 shall be unenforceable".

<sup>99</sup> Stratton, Barbara. Long Read: Final stretch for the Digital Single Market Directive. 29 March 2019. Available at: <<http://www.eblida.org/news/final-stretch-for-the-digital-single-market.html>>, accessed 30 May 2019.

<sup>100</sup> Intellectual Property Institute. About the Directive: Proposal for the Directive on Copyright in the Digital Single Market. Available at: <<https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>>, accessed 30 May 2019.

<sup>101</sup> European Commission. Commission Staff Working Document: Impact Assessment on the Modernisation of EU Copyright Rules Accompanying the Document "Proposal for a Directive of the European Parliament and of the Council on Copyright in the Digital Single Market" and "Proposal for a Regulation of the European Parliament and of the Council laying down Rules on the Exercise of Copyright and Related Rights Applicable to Certain Online Transmissions of Broadcasting Organisations and Retransmissions of Television and Radio Programmes", SWD(2016)301, Part 1/3, §4.3.1. Available at: <<https://ec.europa.eu/digital-single-market/en/news/impact-assessment-modernisation-eu-copyright-rules>>, accessed 30 May 2019.

companies and other individuals from taking advantage of the TDM exception, thus hindering the advancement of innovative technologies in the EU.

#### **4. APPLICATION OF TEXT AND DATA MINING EXCEPTIONS IN BRAZIL**

In Brazil, the main IP framework is provided by Brazilian Federal Law n° 9.279 ("Lei de Propriedade Industrial" - "LPI"), which entered into force in 1996. This law refers to subject-matters such as patents, designs, trademarks, geographical indications and unfair competition, but it does not entail any provisions regarding copyright.

Copyright is the sole subject-matter covered by Brazilian Federal Law n° 9.610 in 1998 ("Lei de Direitos Autorais" - "LDA"), following the leading principles set out by international treaties such as the Berne Convention. Accordingly, it confers exclusive rights to rightholders (Art. 29), including the right of reproduction, which is subject to exceptions and limitations (Art. 46).

Since the implementation of the most recent copyright law in Brazil two decades ago, the advancement of digital technologies has transformed the way that users interact with works protected by intellectual property rights. Despite the modernisation of the Brazilian legal framework in the last few years concerning the use of the Internet (Federal law n° 12.965/2014) and the regulation of use, protection and transfer of personal data (Federal Law n° 13.709/2018), Brazil has not yet managed to adapt its copyright legislation to the high-tech era.

As the discussion about the interface between copyright and the digital world is still rather incipient in Brazil, it is essential to examine the current legal framework on copyright, internet and data in order to analyse the legal implications of TDM in Brazil. After considering this, it will be possible to evaluate whether Brazilian legislation should be adapted to implement a TDM exception in the same way as the EU has achieved with the Digital Single Market Directive.

##### **4.1. Brazilian Copyright Law (Federal law n° 9.610/98)**

Brazilian Copyright Law ("Lei de Direitos Autorais", also known as "LDA") is regarded by copyright specialists as one of the most restrictive laws in the world, as even acts that appear to be generally allowed in other countries are prohibited by Brazilian Law<sup>102</sup>. It is viewed as extremely unbalanced not only from the point of view of consumers of protected works, but also singers, writers and artists likewise believe that the Brazilian Copyright Law restricts access to knowledge and culture

<sup>103</sup>

Brazil follows the civil law system of copyright protection, also known as "continental tradition", which is based on the recognition of authors' rights as human and/or natural rights, and on a close personal relationship between the personality of the authors and their works<sup>104</sup>. It protects the interests of authors and the non-use of their work unless consent is given or if expressly authorized by

---

<sup>102</sup> Branco Júnior, Sérgio Vieira. Direitos Autorais na Internet e o Uso de Obras Alheias. Rio de Janeiro: Lumen Juris, 2007, p. 1. Available at: <<https://itsrio.org/wp-content/uploads/2017/01/Direitos-autorais-na-internet.pdf>>, accessed 02 June 2019.

<sup>103</sup> Intervezes. Ato pede urgência na reforma da Lei de Direitos autorais. 31 May 2010. Available at: <<https://intervezes.org.br/ato-pede-urgencia-na-reforma-da-lei-de-direitos-autorais/>>, accessed 02 July 2019.

<sup>104</sup> European Union Intellectual Property Office (EUIPO). FAQs on Copyright. Available at: <<https://euipo.europa.eu/ohimportal/en/web/observatory/faqs-on-copyright-hu>>, accessed 03 June 2019.

law<sup>105</sup>. In order to prevent certain situations which are adverse to the public interest from being legitimized by law, LDA has provided an exhaustive list of limitations to the exclusive rights of rightholders<sup>106</sup>. However, since the implications of the right of reproduction in light of digital technologies have not yet been contemplated in Brazil<sup>107</sup>, the legal framework lacks provisions on this subject-matter.

Exclusive rights are conferred to copyright holders under Art. 29 of LDA, which determines that partial or full reproduction of works requires express prior authorization of the author of a literary, artistic or scientific work for any kind of use<sup>108</sup>. The act of "reproduction" is defined by Art. 5, VI, of LDA as "making one or more copies of a literary, artistic or scientific work or phonogram in any tangible form, including any permanent or temporary storage by electronic means or any other means of fixation that may be devised in the future"<sup>109</sup>.

Following this, the caption of Art. 30 of LDA<sup>110</sup> provides that "in the exercise of the right of reproduction, the copyright holder may make the work available to the public in whatever form and place and for whatever time that he considers appropriate, either for a consideration or free of charge". However, paragraph 1 of this same article confers an exception to such right: "the exclusive right of reproduction shall not be applicable where the reproduction is temporary and done for the sole purposes of making the work, phonogram or performance perceptible by means of an electronic medium, or where it is transitory or incidental, provided that it is done in the course of the use of the work that has been duly authorized by the owner".

In light of the aforementioned provisions, it is perceived that some reproductions may take place lawfully, regardless of express prior authorization from the author. Besides that, it is possible to make a correlation between Art. 30, paragraph 1, of LDA and Art. 5(1) of the InfoSoc Directive, given that both provisions similarly hand out an exception for temporary acts of reproduction which are transient or incidental<sup>111</sup>. In spite of the comparable purpose of both provisions, differences emerge in the scope of protection conferred by such exemptions from the reproduction right.

On the one hand, as previously explained in Chapter 3.1, InfoSoc must be interpreted as fulfilling all the cumulative conditions laid down in Art. 5(1)<sup>112</sup>, namely that: (i) the act is an integral

---

<sup>105</sup> Branco Júnior, Sérgio Vieira. *Direitos Autorais na Internet e o Uso de Obras Alheias*. Rio de Janeiro: Lumen Juris, 2007, p. 2. Available at: <<https://itsrio.org/wp-content/uploads/2017/01/Direitos-autorais-na-internet.pdf>>, accessed 02 June 2019.

<sup>106</sup> *Ibid.*

<sup>107</sup> Fazio, Iracema. *A Reprodução Temporária e a Cópia Privada Digital*, PIDCC, Aracaju, VI, v. 11, n. 01, Feb/2017, p. 49. Available at: <<http://pidcc.com.br/artigos/012017/022017.pdf>>, accessed 03 June 2019.

<sup>108</sup> Art. 29 of Brazilian Copyright Law nº 9610 of 1998. English translation available by World Intellectual Property Office (WIPO) at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

<sup>109</sup> Art. 5, VI, of Brazilian Copyright Law nº 9610 of 1998. English translation available by World Intellectual Property Office (WIPO) at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

<sup>110</sup> Art. 30 of Brazilian Copyright Law nº 9610 of 1998. English translation available by World Intellectual Property Office (WIPO) at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

<sup>111</sup> Fazio, Iracema. *A Reprodução Temporária e a Cópia Privada Digital*, PIDCC, Aracaju, VI, v. 11, n. 01, Feb/2017, p. 50. Available at: <<http://pidcc.com.br/artigos/012017/022017.pdf>>, accessed 03 June 2019.

<sup>112</sup> Article 5(1) of Directive (EU) 2001/29 (InfoSoc Directive): "Temporary acts of reproduction referred to in Article 2, which are transient or incidental [and] an integral and essential part of a technological process and whose sole purpose is to enable: (a) a transmission in a network between third parties by an intermediary, or (b)

and essential part of a technological process; (ii) its sole purpose is to enable a transmission in a network between third parties by an intermediary or a lawful use of a work or protected subject-matter; and (iii) the act has no independent economic significance. Similarly to InfoSoc, Art. 30, paragraph 1, of LDA also refers to transitory or incidental acts of reproduction. However, on the other hand, it does not, in principle, require an act which has "no economic significance", as InfoSoc requests. Furthermore, LDA sets out a slightly different cumulative criteria to be fulfilled for temporary acts of reproduction, where: (i) its sole purpose is to make the work perceptible by means of an electronic medium, and (ii) when transient and incidental in nature, provided that it occurs in the course of the use of the work that has been duly authorized use of the work by the proprietor<sup>113</sup>.

Brazilian Copyright Law introduces an exhaustive list of limitations or exceptions to the right of reproduction in its Art. 46<sup>114</sup>. According to this provision, reproductions may take place lawfully, without the need for prior authorization, e.g.: in copy of short extracts of a work for private use, provided that it is done without profitable intent (Art. 46, II); in quotation for the purposes of study, criticism or review (Art. 46, III); and in the case of reproduction in any work of short extracts from existing works, regardless of their nature, or of the whole work in the case of a work of three-dimensional art, on condition that the reproduction is not in itself the main subject matter of the novel work and does not jeopardize the normal exploitation of the work reproduced or unjustifiably prejudice the author's legitimate interests (Art. 46, VIII)<sup>115</sup>.

When applying the provisions laid down by Brazilian Copyright Law to text and data mining activities, it is assumed that text and data mining acts could perhaps be covered within the range of exceptions to the right of reproduction conferred by Art. 46 of LDA. In particular, it is possible that by copying or extracting works for private use, without profitable intent, certain TDM activities could fall within subsection II of Art. 46. Likewise, short extraction of existing works which do not jeopardize the normal exploitation of the work reproduced or unjustifiably prejudice the author's legitimate interests could arguably be encompassed by subsection VIII of Art. 46.

Nevertheless, it is difficult to ascertain whether TDM could fall under the scope of Art. 30, paragraph 1, of LDA or not. This is because although TDM can be classified as a temporary act of reproduction, it is not clear whether the act of copying a content protected by copyright would be considered lawful or not, provided that Brazilian law requires that the use of the work must be duly authorized by the owner, even in the application of this exception.

---

a lawful use, of a work or other subject-matter to be made, and which have no independent economic significance, shall be exempted from the reproduction right provided for in Article 2".

<sup>113</sup> Valerio, Ygor; Pinto, Gabriela Muniz. Reprodução Parcial e Usos Livres. 10 March 2014. Available at: <<https://www.migalhas.com.br/PI/99,MI196781,11049-Reproducao+Parcial+e+Usos+Livres>>, accessed 18 August 2019.

<sup>114</sup> Other limitations or exceptions to the right of reproduction included in Art. 46 of Brazilian Copyright Law nº 9610 of 1998: "*The following shall not constitute violation of copyright: I. The reproduction: (a) in the daily or periodical press of news or informative articles in newspapers and magazines; (b) in the case of speeches given in public; (d) for the exclusive use of the visually impaired; (...) IV. notes taken in the course of lessons given in teaching establishments; V. in commercial establishments for the sole purpose of demonstration to customers; VI. when occurring in the family unit, or for exclusively teaching purposes in educational establishments; VII. to serve as judicial or administrative evidence; (...)*. English translation available by World Intellectual Property Office (WIPO). Available at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

<sup>115</sup> Art. 46 of Brazilian Copyright Law nº 9610 of 1998. English translation available by World Intellectual Property Office (WIPO). Available at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

To sum up, the use of TDM may clash with the exclusive right of reproduction granted for copyright holders under Art. 29 of LDA, mainly due to the acts of extracting or copying content protected by copyright. As Art. 46 of LDA does not entail a specific exception allowing TDM acts to be done without amounting to a violation of the copyright holder's exclusive rights, such activities are not expressly authorized by law. However, it is uncertain whether the exhaustive list of Art. 46 of LDA might indirectly encompass certain TDM activities (e.g. subsections II and VIII of Art. 46 LDA), and whether Art. 30, paragraph 1, of LDA may indirectly involve TDM acts. Therefore, legal uncertainty arises on whether TDM is covered by the legal framework or not. Considering that Brazilian Copyright Law has not yet been adapted to the use of new technologies, this matter has to be further clarified.

Lastly, it must be noted that Brazil has discussed a profound copyright reform between 2005 and 2010, which emerged in seminars and meetings, and was then followed by an online discussion<sup>116</sup>. The first draft of the bill was published on a website created by the Ministry of Culture in 2010<sup>117</sup>, and over 8,000 comments helped to formulate the final version<sup>118</sup>. The discussion was opened again in 2011, but this time comments were not public and the debate lacked transparency<sup>119</sup>. Ultimately, the final version of the bill was never submitted to the National Congress<sup>120</sup>.

Nevertheless, alternative modifications to the Brazilian Copyright Law have been approved and implemented over the past decade. Brazil has accomplished substantial changes in relation to the implications between copyright and cultural diversity<sup>121</sup>, and regarding collective management of copyright and related rights<sup>122</sup>, though such reforms have suffered numerous criticism due to their partiality<sup>123</sup>. Meanwhile, different copyright reforms were intended, but none has been approved with respect to adapting copyright to the digital world.

In this context, the latest legislative proposal (PL n° 2370/2019)<sup>124</sup> was submitted on 16 April 2019, with the purpose of modernising the Brazilian Copyright Law (LDA) in view of necessities arising from social and technological developments<sup>125</sup>. Although this proposal is still under early stage

---

<sup>116</sup> Branco, Sérgio. Why Brazil Needs a New Copyright Law. 01 Nov 2016. Available at: <<https://droitdu.net/2016/11/why-brazil-needs-a-new-copyright-law/>>, accessed 01 July 2019.

<sup>117</sup> Brasil, Ministério da Cultura. Consulta pública para modernização da Lei de Direitos Autorais. Available at: <<http://www2.cultura.gov.br/consultadireitoautoral/2010/06/01/reforma-da-lei-do-direito-autoral-o-que-voce-ac-ha/>>, accessed 02 July 2019.

<sup>118</sup> Branco, Sérgio. Why Brazil Needs a New Copyright Law. 01 Nov 2016. Available at: <<https://droitdu.net/2016/11/why-brazil-needs-a-new-copyright-law/>>, accessed 01 July 2019.

<sup>119</sup> Ibid.

<sup>120</sup> Ibid.

<sup>121</sup> Due to enactment of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions by UNESCO in 2005.

<sup>122</sup> Due to alterations in the Collective Management of Copyright and Related Rights with the enactment of Brazilian Federal Law n° 12.853/2013.

<sup>123</sup> Wachowicz, Marcos. A Revisão da Lei Autoral Principais Alterações: Debates e Motivações. PIDCC, Aracaju, ano IV, n° 08/2015, Fev 2015. Available at: <<http://www.pidcc.com.br/artigos/082015/21082015.pdf>>, accessed 02 July 2019, p. 552.

<sup>124</sup> Legislative Proposal n° 2370/2019 presented in 16 April 2019 by Senate member Jandira Feghali. Available at: <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2198534>>, accessed 04 June 2019.

<sup>125</sup> Justification for the Legislative Proposal n° 2370/2019 presented in 16 April 2019 by Senate member Jandira Feghali, p. 44: "O respeito aos direitos dos autores tem que considerar obrigatoriamente as necessidades da sociedade de acesso à educação, à informação e ao conhecimento. Assim, foram previstas novos casos de limitações legais que são compatíveis às novas tecnologias, porém sempre respeitando os direitos constitucionais e compromissos internacionais do nosso país". / "Copyright must consider society's needs for access to



of study by parliamentary commissions, it presents significant modifications to forty-seven existing provisions of LDA and includes thirty new provisions<sup>126</sup>. If this proposed bill ends up approved, it may achieve significant changes relating to copyright, including an expansion on the scope of exceptions of exclusive rights. For instance, the elimination of paragraph 1 of Art. 30 of LDA and replacement by a new sole paragraph<sup>127</sup> concerning radio broadcasting, would leave temporary acts of reproduction out of the embodiment of Copyright Law. Consequently, TDM activities would not even be touched by such legislation in an indirect way. However, the inclusion of a broader list of exceptions to the right of reproduction in Art. 46 of LDA, from its subsections I to XXII, would still leave TDM uncovered by such exemptions. Hence, it is assumed that despite the intention of modernising the copyright framework in Brazil, the latest legislative proposal would still fail to regulate TDM activities.

## 4.2. Legal framework related to technology and data tools in Brazil

Considering that Brazilian Copyright Law (Federal law nº 9.610/98) does not seem to provide a helpful tool for the regulation of TDM, such acts are subject to legal uncertainty on whether they are lawful or not. For this reason, an additional legal framework related to technology and data tools in Brazil must be examined to give some guidance on these subject-matters.

In particular, the following laws will be analysed: (i) the Brazilian Civil Framework of the Internet (Federal law nº 12.965/2014), with regard to the use of the Internet, and (ii) the Brazilian General Data Protection Regulation (Federal Law nº 13.709/2018), regulating the use, protection and transfer of personal data. This must be done in order to evaluate whether TDM activities might be directly or indirectly covered by these other pieces of legislation.

### 4.2.1. Brazilian Civil Framework of the Internet (Federal law nº 12.965/2014)

The Civil Framework of the Internet ("Marco Civil da Internet", also known as "MCI") is the first enacted legislation in Brazil dealing with the interface between law and Internet, and is often denominated as "the Constitution of the Internet"<sup>128</sup>. The main purpose of this law is to establish the

---

*education, information and knowledge. Thus, new limitations that are compatible with new technologies were provided, respecting constitutional law and international obligations of our country". Available at: <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2198534>>, accessed 18 August 2019.*

<sup>126</sup> Legislative Proposal nº 2370/2019 presented in 16 April 2019 by Senate member Jandira Feghali. Modifies Arts. 1, 2, 4, 5, 7, 8, 9, 15, 16, 17, 19, 20, 24, 25, 28, 29, 30, 36, 37, 38, 39, 41, 44, 45, 46, 48, 49, 50, 51, 53, 68, 77, 78, 79, 81, 86, 90, 95, 96, 97, 100-B, 101, 102, 103, 107, 108 e 109 and includes Arts. 30-A, 52-A, 52-B, 52-C, 52-D, 52-E, 61-A, 67-A, 85-A, 88-A, 88-B, 88-C, 99-C, 99-D, 110-A, 110-B, 110-C, 110-D, 110-E, 110-F, 110-G, 110-H, 110-I, 110-J, 110-K, 110-L, 111-A, 111-B, 113-A e 113-B in Federal Law nº 9.610 of 19 February 1998, which alters, amends and consolidates legislation regarding copyright. Available at: <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2198534>>, accessed 04 June 2019.

<sup>127</sup> Art. 30, sole paragraph, of Legislative Proposal nº 2370/2019: "Não se aplica o direito de exclusividade de reprodução às fixações ou reproduções de obra, fonograma ou interpretação, por uma prestadora de serviço de radiodifusão, por seus próprios meios e para suas próprias emissões ao vivo ou suas retransmissões". / "*The exclusive right of reproduction does not apply to fixations or reproductions of works, phonograms or interpretations, by a broadcasting service provider, by its own means and for its own live broadcasts or retransmissions*".

<sup>128</sup> Arnaudo, Daniel. O Brasil e o Marco Civil da Internet: o Estado da Governança Digital Brasileira. Instituto Agapará, n. 25, Apr 2017. Available at:

principles, guarantees, rights and duties for the use of the Internet in Brazil<sup>129</sup>. Additionally, it ensures privacy, human rights and citizenship in digital media, by regulating several aspects related to the commercial and governmental exploitation of this large network<sup>130</sup>.

Although the Civil Framework of the Internet lays down rules in its section III for civil liability of Internet connection providers arising from content generated by third parties<sup>131</sup>, the application of such provisions with respect to violations of copyright and related rights still depends on the implementation of a specific law<sup>132</sup>, which has not yet been introduced. In fact, copyright was expressly excluded from the general rules set by the Civil Framework of the Internet, because at the time of the enactment of that legislation Brazil was also discussing a copyright reform, which was supposed to address this topic<sup>133</sup>. However, as the proposed copyright reform ended up not being approved, Brazil lacks specific legal provisions regarding the liability of Internet application providers in case of copyright infringement by third parties<sup>134</sup>. Instead, any case of infringement of copyright or related rights continues to be disciplined by the current Copyright Law ("LDA")<sup>135</sup>.

In summary, the Civil Framework of the Internet is founded on the freedom of expression and also on the right of privacy, including protection of personal data, preservation and guarantee of network neutrality, preservation of stability, security and functionality of the network, and accountability of agents according to their activities<sup>136</sup>. At the same time, it endeavours to promote the right of access to the Internet and the promotion of ample diffusion of new technologies that enable communication, accessibility and interoperability between applications and databases<sup>137</sup>.

---

[https://igarape.org.br/marcocivil/assets/downloads/igarape\\_o-brasil-e-o-marco-civil-da-internet.pdf](https://igarape.org.br/marcocivil/assets/downloads/igarape_o-brasil-e-o-marco-civil-da-internet.pdf)>, accessed 01 July 2019. p.3.

<sup>129</sup> Brazilian Civil Framework of the Internet (Federal law n° 12.965/2014). Understanding the Controversies and Changes Brought by the Brazilian Civil Framework of the Internet, p. 7. Available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 04 June 2019.

<sup>130</sup> Ibid.

<sup>131</sup> Arts. 18 and 19 of Civil Framework of the Internet (Federal law n° 12.965/2014). English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

<sup>132</sup> Art. 19, § 2 of Civil Framework of the Internet (Federal law n° 12.965/2014). English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

<sup>133</sup> Valente, Mariana. Direito autoral e plataformas de internet: um assunto em aberto. 18 April 2019. Available at: <<http://www.internetlab.org.br/pt/especial/direito-autoral-e-plataformas-de-internet-um-assunto-em-aberto/>>, accessed 29 June 2019.

<sup>134</sup> Ibid.

<sup>135</sup> Article 31 of the Brazilian Civil Framework of the Internet (Federal law n° 12.965/2014). "Until the coming into effect of specific law predicted in § 2 of Article 19, the liability of the provider of Internet applications for damages arising from content generated by third parties, in case of infringement of copyright or related rights, shall continue to be disciplined by the current copyright legislation applicable on the date this law comes into effect". English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

<sup>136</sup> Art. 3 of the Civil Framework of the Internet (Federal Law n° 12.965/2014). English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

<sup>137</sup> Art. 4 of the Civil Framework of the Internet (Federal law n° 12.965/2014). English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

With the entry of this legislation into force, several measures were implemented in Brazil, including: (i) ensuring freedom of expression, privacy of users and inviolability of communications, by clarifying that constitutional rights such as the inviolability of communications and the right to information are also applicable to the virtual world; (ii) establishing that gathering personal data cannot be done without prior consent of users; (iii) Internet connection providers cannot store the user's browsing records; (iv) users have to consent explicitly to the gathering and storage of navigation logs; (v) withdrawal of infringing content (notice and takedown); and (vi) internet neutrality<sup>138</sup>. Hence, although this law lacks specific provisions concerning TDM, it has however managed to set certain conditions on the use of data, mostly related to the protection of personal data. Accordingly, data can only be gathered with the prior consent of users, and only those who are not excessive in relation to the purpose of the gathering<sup>139</sup>.

To sum up, in spite of the attempt of the Civil Framework of the Internet in implementing provisions concerning the interface between Internet and law in Brazil, neither text and data mining activities or copyright matters have been touched, directly or indirectly, by such legislation. For this reason, it is necessary to analyse if the latest Brazilian enacted law with regard to data has regulated matters related to TDM, before reaching the conclusion of this Chapter.

#### **4.2.2. Brazilian General Data Protection Regulation (Federal Law n° 13.709/2018)**

The Brazilian General Data Protection Law ("Lei Geral de Proteção de Dados Pessoais" or "LGPD")<sup>140</sup> was approved on 14 August 2018 and will come into effect in 2020. It supplements and replaces existing norms dealing with the protection of privacy and personal data, including the Civil Framework of the Internet, which were occasionally conflicting and caused legal certainty<sup>141</sup>.

The key provisions of the LGPD closely mirror the EU General Data Privacy Regulation ("GDPR")<sup>142</sup>. Similarities are found on the application of both legislations to organisations which might not be physically located in their territory (Brazil and the EU), but which offer goods and services in these jurisdictions<sup>143</sup>. Further, their scope of application appears to be wide-ranging, as they both protect individuals regardless of their nationality or residency status<sup>144</sup>. Other correlations can be made with regard to providing special protection for the processing of sensitive personal data, as well

---

<sup>138</sup> Brazilian Civil Framework of the Internet (Federal law n° 12.965/2014). Understanding the Controversies and Changes Brought by the Brazilian Civil Framework of the Internet, pp. 16-18. Available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/brazilian_framework_%20internet.pdf)>, accessed 04 June 2019.

<sup>139</sup> Ibid., p. 16.

<sup>140</sup> Brazilian General Data Protection Law (Federal Law n° 13.709/2018). English translation at: <[https://iapp.org/media/pdf/resource\\_center/Brazilian\\_General\\_Data\\_Protection\\_Law.pdf](https://iapp.org/media/pdf/resource_center/Brazilian_General_Data_Protection_Law.pdf)>, accessed 03 July 2019.

<sup>141</sup> Monteiro, Renato Leite. The new Brazilian General Data Protection Law: a detailed analysis. 15 Aug 2018. Available at: <<https://iapp.org/news/a/the-new-brazilian-general-data-protection-law-a-detailed-analysis/>>, accessed 30 June 2019.

<sup>142</sup> Ramey, Melanie. Brazil's New General Data Privacy Law Follows GDPR Provisions. 20 Aug 2018. Available at: <<https://www.insideprivacy.com/international/brazils-new-general-data-privacy-law-follows-gdpr-provisions/>>, accessed 30 June 2019.

<sup>143</sup> DataGuidance by OneTrust. Comparing privacy laws: GDPR v. LGPD. 09 May 2019. Available at: <<https://www.dataguidance.com/comparing-privacy-laws-gdpr-v-lgpd/>>, accessed 30 June 2019, p.5.

<sup>144</sup> Ibid, p. 5.

as for the processing of children's data, and the exclusion of processing of anonymised data from their scope<sup>145</sup>.

Despite the intent of the LGPD of preventing other data-mining scandals from happening, this legislation does not affect how TDM activities may contradict or clash with copyright or other IPRs, nor does it provide any guidance on this matter. In fact, the LGPD is substantially focused on aspects of protecting and regulating the use of data in Brazil. However, as the topic of protection of privacy and personal data requires an extensive study but goes beyond the selected scope of copyright, it will not be further developed in this thesis.

Consequently, after having examined the relevant framework in Brazil with regard to copyright, technology and data, the next Chapter will evaluate the likelihood of success of transposing the text and data mining exceptions implemented in the EU by the Digital Single Market Directive to Brazil, what is defined as a "legal transplant".

### **4.3. Assessment on whether Brazil should modernise its copyright legislation to implement TDM exceptions in the same way as the EU**

The most recent Brazilian Copyright Law ("LDA") was enacted two decades ago, previously to the advancement of the digital age. Since then, reform proposals were studied by the Brazilian government, but unfortunately, none has been approved in relation to the interface of copyright and new technologies. As a result, LDA remains the same, with its old problems and limitations<sup>146</sup>.

In relation to text and data mining, the exhaustive list of limitations to the right of reproduction in Art. 46 of LDA lacks a specific exception allowing TDM to be performed without amounting to copyright violation. Furthermore, it is difficult to ascertain whether the exhaustive list of Art. 46 of LDA might indirectly encompass certain TDM activities (e.g. subsections II and VIII), and whether TDM could possibly fall under the scope of temporary acts of reproduction (Art. 30, paragraph 1, of LDA). Hence, legal uncertainty emerged on whether and how would it be possible to engage in text and data mining in Brazil.

As explained in Chapter 2, the three main common steps in TDM generally include: (i) access to content, (ii) extraction or copying of the content, and (iii) mining of text or data and knowledge discovery. Thus, taking into account that TDM usually involves the extraction and copying of works which might be protected by intellectual property rights (i.e. artistic and literary works, including articles, essays and images), the utilisation of data can consequently amount to a violation of the exclusive right of reproduction. In Brazil, exclusive rights are conferred to copyright holders under Art. 29 of LDA, which determines that partial or full reproduction of works requires express prior authorization of the author of a literary, artistic or scientific work for any kind of use.

In light of the aforementioned, it is doubtful whether by copying or extracting works for private use, without profitable intent, certain TDM activities could fall within the scope of Art. 46, II, of LDA. Likewise, it is unsure whether short extraction of existing works which do not jeopardize the normal exploitation of the work reproduced or unjustifiably prejudice the author's legitimate interests could arguably be encompassed by Art. 46, VIII, of LDA. Nevertheless, considering that Brazil is

---

<sup>145</sup> Ibid, p. 5.

<sup>146</sup> Branco, Sérgio. Why Brazil Needs a New Copyright Law. 01 Nov 2016. Available at: <<https://droitdu.net/2016/11/why-brazil-needs-a-new-copyright-law/>>, accessed 01 July 2019.

known for taking a restrictive approach towards copyright<sup>147</sup>, it is likely that TDM activities would be interpreted as not fulfilling the cumulative criteria set by Art. 30, paragraph 1, of LDA for temporary acts of reproduction, namely: "(i) its sole purpose is to make the work perceptible by means of an electronic medium; (ii) it is transitory or incidental, and (iii) the use of the work has been duly authorized by the owner"<sup>148</sup>. Hence, it is presumed that many TDM acts would amount to a violation of the rightholder's exclusive right of reproduction within Art. 29 of LDA.

In addition to this, after having analysed the recent legal framework related to technology and data in Brazil, namely the Brazilian Civil Framework of the Internet ("MCI") and the Brazilian General Data Protection Regulation ("LGPD"), it is observed that neither TDM activities or copyright matters have been touched upon, directly or indirectly, by such laws. Thus, even the latest legislation fails to address the needs of copyright in light of the new technologies. Moreover, as copyright was expressly excluded from the general rules set by the Civil Framework of the Internet, Brazil even lacks legal provisions concerning the liability of Internet application providers in case of copyright infringement by third parties.

Taking the foregoing into account, an extensive copyright reform is highly required in order for Brazil to finally overcome the legal uncertainty caused by the advancement of new technologies<sup>149</sup>. Accordingly, Brazilian Copyright Law demands a certain flexibilization to better address the current needs of rightholders and users, given the context of the digital society.

A new copyright reform should be guided by the precepts of the Brazilian Federal Constitution, which establishes the protection of copyright among its fundamental rights (Art. 5, paragraph XXVII), as well as stipulates the right of access to information (Art. 5, paragraph XIV), the right to education (Arts. 6 and 205), the right to have access to culture (Art. 215), and the observance of the principle of the social function of property (Art. 170, subsection III)<sup>150</sup>. Therefore, policy-makers must strike a balance between the principles laid down by Constitution, the public interest, and the economic interests of copyright holders and investors in the production of intellectual property<sup>151</sup>, in order to obtain a more suitable Copyright Law.

The implementation of new legislation can be done either by drafting and creating legal provisions, or by transposing measures already enacted in one jurisdiction to another, what is called a "legal transplant". Although the transferability of legal norms across foreign systems is often seen as controversial due to the complexity of different socio-cultural environments, there is a growing need created by the globalisation process for the rise of transnational law<sup>152</sup>. In practice, legislators commonly take into consideration how an identical or similar issue is dealt with in other jurisdictions

---

<sup>147</sup> Branco Júnior, Sérgio Vieira. *Direitos Autorais na Internet e o Uso de Obras Alheias*. Rio de Janeiro: Lumen Juris, 2007, p. 1. Available at: <<https://itsrio.org/wp-content/uploads/2017/01/Direitos-autorais-na-internet.pdf>>, accessed 02 July 2019.

<sup>148</sup> Art. 30 of Brazilian Copyright Law nº 9610 of 1998. English translation available by World Intellectual Property Office (WIPO) at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 02 July 2019.

<sup>149</sup> Branco, Sérgio. *Why Brazil Needs a New Copyright Law*. 01 Nov 2016. Available at: <<https://droitdu.net/2016/11/why-brazil-needs-a-new-copyright-law/>>, accessed 01 July 2019.

<sup>150</sup> *Ibid.*

<sup>151</sup> *Ibid.*

<sup>152</sup> Mousourakis, George. *Legal transplants and legal development: A jurisprudential and comparative law approach*. *Acta Juridica Hungarica*. Sep 2013, v. 54, n.3, pp.219-236. Available at: <<https://akademai.com/doi/pdf/10.1556/AJur.54.2013.3.2>>, accessed 02 July 2019, p. 219.

while making or reforming laws<sup>153</sup>. Nevertheless, it is usually necessary to carry out modifications while implementing rules from another country as a result of differences pertaining to the court system, the legal process, and the economic and political settings<sup>154</sup>.

For instance, the new Brazilian General Data Protection Law ("LGPD") has been largely influenced by the provisions of the EU General Data Protection Regulation ("GDPR"), resulting in a legal transplant<sup>155</sup>. As the aspects of globalisation are often intensified by the digital world, the new regulations implemented in the European Union are susceptible to affect the Internet as a whole<sup>156</sup>. In relation to copyright, it is likely that the EU Digital Single Market Directive will have an impact in Brazil given the global character of copyright, which has been harmonised to a certain extent through international conventions. Besides, as far as Internet is concerned, Europe has been working actively to build regulatory models, with the intention that they be followed by other countries in the world<sup>157</sup>. Therefore, it is reasonable to infer that Brazil may be influenced by the EU latest copyright reform, including its new provisions on text and data mining.

While assessing whether a legal transplant would be successful in Brazil in relation to text and data mining, different steps must be followed. Firstly, it must be considered whether such rules were proven efficient in the jurisdiction of origin when dealing with the specific problem at hand, and secondly, whether it would produce the desired effects in the country envisaging its adoption<sup>158</sup>. By applying the aforementioned steps to the case at hand, it is possible to verify the adaptability of the TDM provisions found in the EU Digital Single Market Directive within the Brazilian jurisdiction.

In relation to the first step, regarding the effectiveness of the EU rules, a critical analysis of the TDM exceptions given by Articles 3 and 4 of the EU Digital Single Market Directive has been elucidated in Chapter 3.3 of this thesis. In summary, although the approved version of the DSM Directive attempted to overcome some problems of the legislative proposal, by supposedly enabling the use of TDM tools for more purposes, the new exceptions still fail to meet the needs of TDM users, since users other than scientific and cultural heritage institutions will have to rely on a much narrower exemption (Art. 4), which allows TDM only under the condition that rightholders do not oppose it<sup>159</sup>.

Furthermore, with respect to the second step, it is hard to ascertain whether the transferability of the EU rules would be successful in Brazil or not. Nevertheless, in order to do so, it is necessary to consider the needs of TDM users in Brazil. Similarly to the EU, text and data mining in Brazil has

---

<sup>153</sup> Ibid, p. 220.

<sup>154</sup> Ibid., p. 220.

<sup>155</sup> Arantes, Karina B. Brazilian public healthcare program, policies and legislation: an analysis embedding data protection considerations. Master's thesis, Tilburg University, Faculty of Law, Tilburg Institute of Law, Technology and Society (TILT), 2017. Available at: <<http://arno.uvt.nl/show.cgi?fid=142892>>, accessed 03 July 2019, p. 42.

<sup>156</sup> Schnaider, Amanda. Copyright europeu impacta influenciadores. 01 Mar 2019. Available at: <<https://www.meioemensagem.com.br/home/midia/2019/03/01/copyright-europeu-impacta-influenciadores.html>>, accessed 01 July 2019.

<sup>157</sup> Ibid.

<sup>158</sup> Mousourakis, George. Legal transplants and legal development: A jurisprudential and comparative law approach. *Acta Juridica Hungarica*. Sep 2013, v. 54, n.3, pp. 219-236. Available at: <<https://akademai.com/doi/pdf/10.1556/AJur.54.2013.3.2>>, accessed 02 July 2019, p. 220.

<sup>159</sup> Intellectual Property Institute. About the Directive: Proposal for the Directive on Copyright in the Digital Single Market. Available at: <<https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>>, accessed 30 May 2019.

been mainly employed by companies and enterprises to accelerate their decision-making<sup>160</sup>, and also by the health sector to enable more accurate diagnostics based on patient information, potentially leading to more effective treatments<sup>161</sup>. Therefore, it is possible to infer that like the EU, many entities engaged in TDM activities are not 'research organizations', but companies and other individuals who may not be able to take advantage of the exception conferred by Art. 3 of the DSM Directive.

Despite the criticism of the text and data mining exemptions laid down by the DSM Directive, particularly Art. 4, which restricts the use of TDM by private entities, it is still conceivable to infer that Brazil could satisfactorily implement the EU rules in its own jurisdiction. Although the desired effects of a legal transplant in Brazil perhaps would not entirely meet the necessities of perceived users, as it has occurred in the EU, it would still be better for Brazil to have some provisions regarding TDM rather than none. Considering that Brazil lacks rules dealing with the interface between copyright and digital technologies, it is essential to cease the legal uncertainty on this matter. Moreover, given the fact that the country envisaging the adoption of a legal transplant may carry out modifications in the rules about to be implemented<sup>162</sup>, Brazil could fix the issues of Art. 4 of the DSM Directive while transposing such rule into its own jurisdiction. As this exception has potentially unlimited beneficiaries and can be possibly performed for any purpose<sup>163</sup>, but is solely applicable on the condition that rightholders do not oppose the mining<sup>164</sup>, clarifying to what extent that their "opt-out" is explicitly expressed in an "appropriate manner" is necessary to prevent uncertainty on the application of this provision.

## 5. CONCLUSION

The present study began by describing the common steps in TDM processes, including its usefulness in relevant fields, for the purpose of examining the legal implications and the rationale behind implementing copyright exceptions for these activities. It recognised that the digital era imposes new challenges in relation to the protection and enforcement of intellectual property rights, and also that technology has revolutionised the way we handle the "use" of works protected by copyright. In particular, as automated processing activities such as TDM may require copy and extraction of different types of works which might be protected by copyright, they can consequently amount to a violation of the exclusive right of reproduction, which is reserved to the owner of a protected work.

---

<sup>160</sup> Martins, Thays. Entenda o que é mineração de dados e o que faz um cientista da área. *Correio Braziliense*. 24 April 2019. Available at:

<<https://www.correiobraziliense.com.br/app/noticia/eu-estudante/trabalho-e-formacao/2019/04/28/interna-trabalho-formacao-2019.752042/conheca-a-ciencia-de-dados-a-profissao-do-futuro.shtml>> accessed 16 July 2019.

<sup>161</sup> Carvalho, Ricardo César de. Aplicação de mineração de dados em informações oriundas de prontuários de paciente. Instituto Federal de Educação Ciência e Tecnologia de São Paulo, Votuporanga, São Paulo, p. 173. 26 Nov 2018. Available at: <<http://www.periodicos.ufc.br/informacaoempauta/article/view/39723>>, accessed 06 August 2019.

<sup>162</sup> Mousourakis, George. Legal transplants and legal development: A jurisprudential and comparative law approach. *Acta Juridica Hungarica*. Sep 2013, v. 54, n.3, pp. 219-236. Available at: <<https://akademai.com/doi/pdf/10.1556/AJur.54.2013.3.2>>, accessed 02 July 2019, p. 220.

<sup>163</sup> European Language Resource Coordination. What's new in the Directive on Copyright in the Digital Single Market. 24 April 2019. Available at: <<http://www.lr-coordination.eu/node/960>>, accessed 07 May 2019.

<sup>164</sup> In accordance with Art. 4(3) of the DSM Directive.

Considering the subsisting legal uncertainty on the treatment of TDM activities under EU and national copyright laws<sup>165</sup>, the EU has enacted a copyright reform, which includes modernising topics involving the digital world. In this respect, the EU Digital Single Market Directive is remarkably relevant with respect to text and data mining, as it entails two new TDM exceptions in its Articles 3 and 4, allowing certain TDM activities to be performed without amounting to copyright infringement. In effect, this paper aimed to identify the potential problems of the newest DSM Directive in light of the necessities of users of text and data mining.

A critical analysis of the latest EU copyright reform was provided in relation to text and data mining by examining the current copyright legal framework. In line with InfoSoc Directive, TDM activities were not directly regulated at EU level, only indirectly within Art. 5(1) regarding "temporary acts of reproduction"<sup>166</sup>, or through other optional exceptions in Art. 5(2) and (3), such as the ones directed at research activities, which were implemented by France and the UK in their national laws. The main problem standing from the provisions of the InfoSoc Directive is that legal uncertainty emerged on whether the acts of reproduction needed to engage in TDM fulfilled all the requirements laid down by Art. 5(1), especially when these reproductions are transient and have no independent economic relevance.

The recently enacted EU Digital Single Market Directive intended to solve this issue by adapting and supplementing the existing copyright legislation. Essentially, it aimed to implement rules regarding copyright exceptions and limitations in the digital and cross-border environments, as well as measures to facilitate certain licensing practices, while keeping a high level of protection of copyright and related rights. Particularly in relation to text and data mining, Articles 3 and 4 of the DSM Directive set out two exceptions allowing TDM for uses which were not clearly covered by the InfoSoc Directive.

When analysing the effectiveness of the TDM exemptions laid down by the DSM Directive, it is concluded that the new provisions still fail meet the perceived needs of users of text and data mining. Even though the approved version of the Directive supposedly enables the use of TDM tools for more purposes than research, in principle, users other than scientific and cultural heritage institutions will have to rely on a much narrower exemption, which allows TDM only under the condition that rightholders do not oppose it<sup>167</sup>. Thus, by preventing companies and other individuals from taking advantage of the TDM exception, the advancement of innovative technologies may be hindered in the EU.

In addition to identifying potential issues within the DSM Directive in light of the necessities of TDM users, this research aimed to assess the possibility of Brazil following the same approach as the EU. Different steps were followed to verify the adaptability of the TDM provisions found in the DSM Directive within the Brazilian jurisdiction, and this was done while recognising the constraints

---

<sup>165</sup> European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects, p. 2. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 27 January 2019.

<sup>166</sup> Intellectual Property Institute. About the Directive: Proposal for the Directive on Copyright in the Digital Single Market. Available at: <<https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>>, accessed 30 May 2019.

<sup>167</sup> Ibid.



and the controversy of a legal transplant<sup>168</sup>. Besides examining the Brazilian legal framework with respect to copyright, data and Internet, a critical assessment was made to ascertain whether the transferability of the EU rules regarding TDM activities would be successful in Brazil or not.

In spite of the criticism of the text and data mining exemptions laid down by the DSM Directive, particularly Art. 4, which restricts the use of TDM by private entities, it is still conceivable to infer that Brazil could satisfactorily implement the EU rules in its own jurisdiction. Although the desired effects of a legal transplant in Brazil perhaps would not entirely meet the necessities of perceived users of TDM, as it occurred in the EU, it would still be better for Brazil to have some provisions regarding TDM rather than none. Considering that Brazil lacks rules dealing with the interface between copyright and digital technologies, it is essential to cease the legal uncertainty on this matter. Moreover, given the fact that the country envisaging the adoption of a legal transplant may carry out modifications in the rules about to be implemented<sup>169</sup>, Brazil could fix the issues of Art. 4 of the DSM Directive while transposing such rule into its own jurisdiction.

Lastly, as this thesis is solely focused on copyright issues in relation to text and data mining, particularly with respect to the right of reproduction, other relevant topics have not been addressed, such as the *sui generis* database right and the technological protection measures (TPM). Although some of the results achieved with this study might be applicable *mutatis mutandis* to these topics, they were not further discussed in this paper, as they go beyond the selected scope of copyright. Other regimes could also be applicable to this subject-matter, such as competition law, but this would result in a dissertation that surpasses its limits. For this reason, additional research on these issues would be recommended to investigate other aspects of the interface between IPRs and TDM.

---

<sup>168</sup> Chen-Wishart, Mindy. Legal Transplant and Undue Influence: Lost in Translation or a Working Misunderstanding? *International and Comparative Law Quarterly*, 2013, 62(1), 1-30, p. 10. Available at: <<https://www-cambridge-org.ezproxy.ub.unimaas.nl/core/journals/international-and-comparative-law-quarterly/article/legal-transplant-and-undue-influence-lost-in-translation-or-a-working-misunderstanding/0FA08C9452B7A4C5BD8CD17725A0DEEE>>, accessed 26 June 2019.

<sup>169</sup> Carvalho, Ricardo César de. Aplicação de mineração de dados em informações oriundas de prontuários de paciente. Instituto Federal de Educação Ciência e Tecnologia de São Paulo, Votuporanga, São Paulo. 26 Nov 2018, p. 220. Available at: <<http://www.periodicos.ufc.br/informacaoempauta/article/view/39723>>, accessed 06 August 2019.

## 6. References

- Agrawal, Prakhar. Most Common Examples of Data Mining. 29 March 2018. Available at: <https://www.upgrad.com/blog/most-common-examples-of-data-mining/>, accessed 24 April 2019.
- Arantes, Karina B. Brazilian public healthcare program, policies and legislation: an analysis embedding data protection considerations. Master's thesis, Tilburg University, Faculty of Law, Tilburg Institute of Law, Technology and Society (TILT), 2017. Available at: <http://arno.uvt.nl/show.cgi?fid=142892>, accessed 03 July 2019.
- Arnaudo, Daniel. O Brasil e o Marco Civil da Internet: o Estado da Governança Digital Brasileira. Instituto Agaparé, n. 25, Apr 2017. Available at: [https://igarape.org.br/marcocivil/assets/downloads/igarape\\_o-brasil-e-o-marco-civil-da-internet.pdf](https://igarape.org.br/marcocivil/assets/downloads/igarape_o-brasil-e-o-marco-civil-da-internet.pdf), accessed 01 July 2019.
- Association of European Research Libraries. New European Copyright Directive: A Detailed Look. 29 March 2019. Available at: <https://libereurope.eu/blog/2019/03/29/new-european-copyright-directive-a-detailed-look/>, accessed 30 May 2019.
- Borghi, Maurizio; Karapapa, Stavroula. Copyright and Mass Digitization: A Cross-Jurisdictional Perspective. 1st ed. Oxford, United Kingdom: Oxford University Press, 2013.
- Borghi, Maurizio. Text & Data Mining. Available at: <https://www.copyrightuser.org/understand/exceptions/text-data-mining/>, accessed 30 January 2019.
- Brasil, Ministério da Cultura. Consulta pública para modernização da Lei de Direitos Autorais. Available at: <http://www2.cultura.gov.br/consultadireitoautoral/2010/06/01/reforma-da-lei-do-direito-autoral-o-que-voce-acha/>, accessed 02 July 2019.
- Branco, Sérgio. Why Brazil Needs a New Copyright Law. 01 Nov 2016. Available at: <https://droitdu.net/2016/11/why-brazil-needs-a-new-copyright-law/>, accessed 01 July 2019.
- Branco Júnior, Sérgio Vieira. Direitos Autorais na Internet e o Uso de Obras Alheias. Rio de Janeiro: Lumen Juris, 2007. Available at: <https://itsrio.org/wp-content/uploads/2017/01/Direitos-autorais-na-internet.pdf>, accessed 02 July 2019.
- Carvalho, Ricardo César de. Aplicação de mineração de dados em informações oriundas de prontuários de paciente. Instituto Federal de Educação Ciência e Tecnologia de São Paulo, Votuporanga, São Paulo. 26 Nov 2018, p. 220. Available at: <http://www.periodicos.ufc.br/informacaoempauta/article/view/39723>, accessed 06 August 2019.
- Caspers, Marco. Some observations of the French TDM exception. 02 November 2016. Available at: <https://www.futuretdm.eu/blog/legal-policies/some-observations-of-the-french-tdm-exception/>, accessed 08 May 2019.
- Chen-Wishart, Mindy. Legal Transplant and Undue Influence: Lost in Translation or a Working Misunderstanding? International and Comparative Law Quarterly, 2013, 62(1), 1-30, p. 10. Available

at:

<<https://www-cambridge-org.ezproxy.ub.unimaas.nl/core/journals/international-and-comparative-law-quarterly/article/legal-transplant-and-undue-influence-lost-in-translation-or-a-working-misunderstanding/0FA08C9452B7A4C5BD8CD17725A0DEEE>>, accessed 26 June 2019.

Clarín. Text and Data Mining (TDM) exceptions in the UK and France. Available at:

<<https://www.clarin.eu/content/clic-text-and-data-mining-tdm-exceptions-uk-and-france>>, accessed 08 May 2019.

Columbus, Louis. 10 Charts That Will Change Your Perspective Of Big Data's Growth. May 2018. Available

at:<<https://www.forbes.com/sites/louiscolumbus/2018/05/23/10-charts-that-will-change-your-perspective-of-big-datas-growth/#513231d12926>>, accessed 24 April 2019.

Cunningham, Francine. Mining the value of 'Big Data' in an era of Artificial Intelligence. 25 March 2019. Available at:

<<https://www.mediawrites.law/mining-the-value-of-big-data-in-an-era-of-artificial-intelligence/>>, accessed 02 May 2019.

DataGuidance by OneTrust. Comparing privacy laws: GDPR v. LGPD. 09 May 2019. Available at:

<<https://www.dataguidance.com/comparing-privacy-laws-gdpr-v-lgpd/>>, accessed 30 June 2019

Davis, Richard, Thomas St. Quintin, and Guy Tritton. Tritton on Intellectual Property in Europe. Fifth ed. London: Sweet & Maxwell/Thomson Reuters, 2018.

EMC Digital Universe with Research & Analysis by IDC. The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things, April 2014. Available

at:<<https://www.emc.com/leadership/digital-universe/2014iview/executive-summary.htm>>, accessed 24 April 2019.

European Commission. Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market 2016/0280. Brussels, 14 September 2016. Available at:

<<https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-593-EN-F1-1.PDF>>, accessed 24 February 2019.

European Commission. Commission Staff Working Document: Impact Assessment on the Modernisation of EU Copyright Rules Accompanying the Document "Proposal for a Directive of the European Parliament and of the Council on Copyright in the Digital Single Market" and "Proposal for a Regulation of the European Parliament and of the Council laying down Rules on the Exercise of Copyright and Related Rights Applicable to Certain Online Transmissions of Broadcasting Organisations and Retransmissions of Television and Radio Programmes", SWD(2016)301, Part 1/3, §4.3.1. Available at:

<<https://ec.europa.eu/digital-single-market/en/news/impact-assessment-modernisation-eu-copyright-rules>>, accessed 30 May 2019.

European Commission. Digital Single Market: Modernisation of the EU copyright rules. Available at:

<<https://ec.europa.eu/digital-single-market/en/modernisation-eu-copyright-rules>>, accessed 03 June 2019.

European Commission. Copyright reform clears final hurdle: Commission welcomes approval of modernised rules fit for digital age. 15 April 2019. Available at: <[http://europa.eu/rapid/press-release\\_IP-19-2151\\_en.htm](http://europa.eu/rapid/press-release_IP-19-2151_en.htm)>, accessed 09 May 2019.

European Language Resource Coordination. What's new in the Directive on Copyright in the Digital Single Market. 24 April 2019. Available at: <<http://www.lr-coordination.eu/node/960>>, accessed 07 May 2019.

European Parliament. Briefing requested by the JURI committee. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market: Technical Aspects. Available at: <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL\\_BRI\(2018\)604942\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/604942/IPOL_BRI(2018)604942_EN.pdf)>, accessed 27 January 2019.

European Parliament legislative resolution of 26 March 2019 on the proposal for a directive of the European Parliament and of the Council on copyright in the Digital Single Market. Available at: <[http://www.europarl.europa.eu/doceo/document/TA-8-2019-0231\\_EN.htm](http://www.europarl.europa.eu/doceo/document/TA-8-2019-0231_EN.htm)>, accessed 01 May 2019.

European Parliament Policy Department for Citizens' Rights and Constitutional Affairs, Directorate General for Internal Policies of the Union. The Exception for Text and Data Mining (TDM) in the Proposed Directive on Copyright in the Digital Single Market - Legal Aspects: In-depth Analysis. February 2018. Available at: <[http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL\\_IDA\(2018\)604941\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/604941/IPOL_IDA(2018)604941_EN.pdf)>, accessed 08 May 2019.

European Union Intellectual Property Office (EUIPO). FAQs on Copyright. Available at: <<https://euipo.europa.eu/ohimportal/en/web/observatory/faqs-on-copyright-hu>>, accessed 03 June 2019.

Fazio, Iracema. A Reprodução Temporária e a Cópia Privada Digital, PIDCC, Aracaju, VI, v. 11, n. 01, Feb/2017, p. 51. Available at: <<http://pidcc.com.br/artigos/012017/022017.pdf>>, accessed 03 June 2019.

Ferati, Drilon. Text mining in financial industry: Implementing text mining techniques on bank policies. Master thesis, Utrecht University, 2017. Available at: <[https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati\\_Thesis\\_v2.pdf?sequence=2&isAllowed=y](https://dspace.library.uu.nl/bitstream/handle/1874/351707/DrilonFerati_Thesis_v2.pdf?sequence=2&isAllowed=y)>, accessed 30 April 2019.

Francquen, Amélie de; Meeûs d'Argenteuil, Jérôme de; Triaille, Jean-Paul. Study on the legal framework of text and data mining (TDM). Publications Office of the EU, 12 November 2014. Available at: <<https://publications.europa.eu/en/publication-detail/-/publication/074ddf78-01e9-4a1d-9895-65290705e2a5/language-en>>, accessed 30 April 2019.

Healey, Robert. GDPR and LGPD: The Differences between the EU and Brazil's Data Protection Laws Your Business Needs to Know. 13 Mar 2019. Available at: <<https://relentlessdataprivacy.com/gdpr-and-lgpd-the-differences-between-the-eu-and-brazils-data-protection-laws-your-business-needs-to-know/>>, accessed 30 June 2019.

Hugenholtz, Bernt. The InfoSoc Directive Ten Years After. 21 December 2011. Available at: <http://copyrightblog.kluweriplaw.com/2011/12/21/the-infosoc-directive-ten-years-after/>, accessed 07 May 2019.

Iberdrola. Data mining: definition, examples and applications. Available at: <https://www.iberdrola.com/top-stories/technology/data-mining-definition-examples-and-applications>, accessed 24 April 2019.

IBM Marketing Cloud. 10 Key Marketing Trends for 2017 and Ideas for Exceeding Customer Expectations, 2017. Available at: <https://www.ibm.com/downloads/cas/XKBEABLN>, accessed 24 April 2019.

Intellectual Property Institute. Available at: <https://www.ipi.si/en/reforma-avtorskega-prava-v-eu/o-clenih-direktive/>, accessed 30 May 2019.

Intervozes. Ato pede urgência na reforma da Lei de Direitos autorais. 31 May 2010. Available at: <https://intervozes.org.br/ato-pede-urgencia-na-reforma-da-lei-de-direitos-autorais/>, accessed 02 July 2019.

Keller, Paul. European Parliament adopts the copyright directive: A boost for Europe's cultural heritage institutions. 26 March 2019. Available at: <https://pro.europeana.eu/post/copyright-reform-passed-by-european-parliament>, accessed 30 May 2019.

Kelly, Ursula; McDonald, Ursula. The Value and Benefits of Text Mining, Report of JISC (2012). Available at: <https://www.webarchive.org.uk/wayback/archive/20140613220103/http://www.jisc.ac.uk/publication/s/reports/2012/value-and-benefits-of-text-mining.aspx>, accessed 31 January 2019.

Krishnan, Krish. Data Warehousing in the Age of Big Data. Amsterdam: Morgan Kaufmann, 2013. Available at: <http://login.ezproxy.ub.unimaas.nl/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=486547&site=ehost-live&scope=site>, accessed 27 January 2019.

Kulkarni, Manasi; Kulkarni, Sagar. Knowledge Discovery in Text Mining using Association Rule Extraction. International Journal of Computer Applications, v. 143, n.12, June 2016. Available at: <https://pdfs.semanticscholar.org/3447/cfc544fafd3ef11cdd4260a16cb0d178db4a.pdf>, accessed 24 February 2019.

Malcolm, Jeremy. The Fate of Text and Data Mining in the European Copyright Overhaul. April 27, 2018. Available at: <https://www.eff.org/deeplinks/2018/04/text-and-data-mining-european-copyright-overhaul>, accessed 30 January 2019.

Margoni, Thomas; Kretschmer, Martin. The Text and Data Mining exception in the Proposal for a Directive on Copyright in the Digital Single Market: Why it is not what EU copyright law needs, April 2018, p. 4. Available at: [https://www.researchgate.net/publication/324779796\\_The\\_Text\\_and\\_Data\\_Mining\\_exception\\_in](https://www.researchgate.net/publication/324779796_The_Text_and_Data_Mining_exception_in)

[the Proposal for a Directive on Copyright in the Digital Single Market Why it is not what EU copyright law needs](#)>, accessed 30 May 2019.

Martins, Thays. Entenda o que é mineração de dados e o que faz um cientista da área. Correio Braziliense. 24 April 2019. Available at: <https://www.correiobraziliense.com.br/app/noticia/eu-estudante/trabalho-e-formacao/2019/04/28/interna-trabalhoformacao-2019,752042/conheca-a-ciencia-de-dados-a-profissao-do-futuro.shtml>> accessed 16 July 2019.

Monteiro, Renato Leite. The new Brazilian General Data Protection Law: a detailed analysis. 15 Aug 2018. Available at: <https://iapp.org/news/a/the-new-brazilian-general-data-protection-law-a-detailed-analysis/>>, accessed 30 June 2019.

Miner, Gary. Practical Text Mining and Statistical Analysis for Non-Structured Text Data Applications. 1st ed. Amsterdam: Academic Press, 2012.

Mousourakis, George. Legal transplants and legal development: A jurisprudential and comparative law approach. Acta Juridica Hungarica. Sep 2013, v. 54, n. 3, pp. 219-236. Available at: <https://akademai.com/doi/pdf/10.1556/AJur.54.2013.3.2>>, accessed 02 July 2019.

Muggah, Robert; Hurel, Louise Marie. How Brazil Could Become a Regional Leader on Data Protection. America's Quarterly, 30 May 2018. Available at: <https://www.americasquarterly.org/content/how-brazil-could-become-regional-leader-data-protection>>, accessed 30 June 2019.

Nisbet, Robert; Miner, Gary; Elder, John F. Handbook of Statistical Analysis and Data Mining Applications. Amsterdam: Academic Press, 2009.

Phillpott, Matthew. An introduction to text mining, University of London, School of Advanced Studies. Available at: <https://port.sas.ac.uk/mod/book/view.php?id=554&chapterid=325>>, accessed 23 April 2019.

Ramey, Melanie. Brazil's New General Data Privacy Law Follows GDPR Provisions. 20 Aug 2018. Available at: <https://www.insideprivacy.com/international/brazils-new-general-data-privacy-law-follows-gdpr-provisions/>>, accessed 30 June 2019.

Rosati, Eleonora. An EU text and data mining exception for the few: would it make sense? Journal of Intellectual Property Law & Practice, 2018, v. 13, n. 6, pp. 429-430. Available at: <https://eprints.soton.ac.uk/419309/>>, accessed 30 May 2019.

Rosati, Eleonora. Fashion, algorithms, and copyright: is it all about what we want or rather what we didn't know we want? September 11, 2018. Available at: <http://ipkitten.blogspot.com/2018/09/fashion-algorithms-and-copyright-is-it.html>>, accessed 27 January 2019.

Schnaider, Amanda. Copyright europeu impacta influenciadores. 1 Mar 2019. Available at: <https://www.meioemensagem.com.br/home/midia/2019/03/01/copyright-europeu-impacta-influenciadores.html>>, accessed 01 July 2019.

Stratton, Barbara. Long Read: Final stretch for the Digital Single Market Directive. 29 March 2019. Available at: <<http://www.eblida.org/news/final-stretch-for-the-digital-single-market.html>>, accessed 30 May 2019.

Thomas, Amy. EU Copyright Reform: What you may have missed. 21 March 2019. Available at: <<https://www.create.ac.uk/blog/2019/03/21/eu-copyright-reform-what-you-may-have-missed/>>, accessed 30 May 2019.

United Kingdom Government. Supporting document: Text mining and data analytics in call for evidence responses. Available at: <<https://webarchive.nationalarchives.gov.uk/20140603125140/http://www.ipo.gov.uk/ipreview-doc-t.pdf>>, accessed 06 May 2019.

Valente, Mariana. Direito autoral e plataformas de internet: um assunto em aberto. 18 April 2019. Available at: <<http://www.internetlab.org.br/pt/especial/direito-autoral-e-plataformas-de-internet-um-assunto-em-aberto/>>, accessed 29 June 2019.

Valerio, Ygor; Pinto, Gabriela Muniz. Reprodução Parcial e Usos Livres. 10 March 2014. Available at: <<https://www.migalhas.com.br/PI/99,MI196781,11049-Reproducao+Parcial+e+Usos+Livres>>, accessed 18 August 2019.

Van Asbroeck, Benoit; Haine, Charlotte. The EU Copyright Directive: New exception for text and data mining. 11 April 2019. Available at: <<https://www.mediawrites.law/the-eu-dsm-directive-new-copyright-exception-for-text-and-data-mining/>>, accessed 07 May 2019.

Wachowicz, Marcos. A Revisão da Lei Autoral Principais Alterações: Debates e Motivações. PIDCC, Aracaju, ano IV, nº 08/2015, Fev 2015. Available at: <<http://www.pidcc.com.br/artigos/082015/21082015.pdf>>, accessed 02 July 2019

World Intellectual Property Office. Understanding Copyright and Related Rights, 2016. Available at: <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 02 May 2019.

Witten, Ian H.; Hall, Mark A.; Frank, Eibe. Data mining: practical machine learning tools and techniques. Burlington, MA: Morgan Kaufmann, 2011. v. 3rd ed, Chapter 1. Available at: <<http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=351343&site=ehost-live&scope=site>>, accessed 24 April 2019.

## **Legislation**

Berne Convention for the Protection of Literary and Artistic Works. World Intellectual Property Organization.

Brazilian Civil Framework of the Internet (Federal Law nº 12.965/2014). English translation available at: <[http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/bazilian\\_framework\\_%20internet.pdf](http://bd.camara.gov.br/bd/bitstream/handle/bdcamara/26819/bazilian_framework_%20internet.pdf)>, accessed 29 June 2019.

Brazilian Copyright Law n° 9610 of 1998. English translation available by World Intellectual Property Office (WIPO) at: <<https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf>>, accessed 31 May 2019.

Brazilian Federal Constitution. Translation in english available Chamber of Deputies. Available at:<<http://english.tse.jus.br/arquivos/federal-constitution>>, accessed 02 July 2019.

Brazilian General Data Protection Law (Federal Law n° 13.709/2018). English translation at: <[https://iapp.org/media/pdf/resource\\_center/Brazilian\\_General\\_Data\\_Protection\\_Law.pdf](https://iapp.org/media/pdf/resource_center/Brazilian_General_Data_Protection_Law.pdf)>, accessed 03 July 2019.

Brazilian Legislative Proposal n° 2370/2019 presented in 16 April 2019 by Senate member Jandira Feghali. Available at: <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2198534>>, accessed 04 June 2019.

Directive 2019/790/EC of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market.

Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases

Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

### **Case law**

CJEU, C-5/08, *Infopaq International A/S v. Danske Dagblades Forening* (16 July 2009).