

Artificial intelligence regulation in context of the European Commission's priorities

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ABSTRACT

Based on the concept of artificial intelligence (AI) and its understanding of European Union law, documentary and institutional reference points are presented to raise some thoughts on the subject as a regulatory focus and its relations with the values of the Union and fundamental rights. In recent years, Organizations have undergone a massive r(evolution) at the social, economic, and technological levels due to Digital Transformation. The reflection/question to be asked is whether the use of AI is correct. It requires a deeper understanding of law in an algorithmic world to provide individuals with effective rights against unfair and socially detrimental AI applications and simultaneously inform organizations with the point of view of justice using AI. The need for regulation of AI arises in European Union law at least since 2018. Developments occurred until the proposed regulation of 2021, an assumed priority by the European Commission in its 2019-2024 composition. As a result of doctrinal framework and resort to European Union documentation through a

methodology of document analysis, we seek to frame this matter in the Commission's priorities, either in legislative acts or in soft law documents.

Keywords: Artificial intelligence, European Commission, European Union

INTRODUCTION

Based on the concept of artificial intelligence (AI) and its understanding of European Union law, documentary and institutional reference points are presented to raise some thoughts on the subject as a regulatory focus and its links with the values of the Union and fundamental rights. Due to Digital Transformation, organizations in recent years have undergone a massive r(evolution) at the social, economic, and technological levels. This wave (Pigozzi, Tsoukiàs and Viappiani, 2016) of transformed enterprises is achieved by technological enablers, often referred as digital transformation (DT) enablers which include (1) cloud, (2) mobile, (3) social, and (4) big data – analytics. Innovation accelerators like the Internet of Things (IoT), Robotics, Augmented and Virtual Reality, Cognitive Systems and Next-Generation Security and Artificial Intelligence are often also playing a part in this process of digital transformation (Ferreira, Moreira and Seruca, 2019). AI can be defined as "the theory and development of computer systems capable of performing tasks that normally require human intelligence" (Oxford University Press, no date). Thus, artificial intelligence refers to systems or machines that mimic human intelligence to perform tasks. Tasks that they can iteratively improve based on the information they collect. In this framework, AI technologies will soon have a significant impact in many areas of the working world, namely medicine, law, or accounting (Bălan, 2019; Walters and Novak, 2021). In this context, the reflection/question to be asked is whether the use of artificial intelligence is correct. This requires a deeper understanding of law in an algorithmic world and how it can provide individuals with effective rights against unfair and socially detrimental artificial intelligence applications and simultaneously inform organizations with the point of view of justice in the use of AI. The discussion on the need for regulation of artificial intelligence arises in European Union law at least since 2018 with the creation of institutional documents from the outset in search of a legal definition for AI. Some path was trailed until the proposed regulation of 2021 for a European Parliament and Council Regulation establishing harmonized rules on artificial intelligence was released (European Commission, 2021c). Developments were made since it was assumed as a priority by the European Commission in its 2019-2024 college, as well as in the rotating presidencies of the Council of the European Union, as was the case of the recent Portuguese presidency on 1st semester of 2021. Within the scope of the European Commission's strategies, the framework of priorities in the 2019-2024 period consists of implementing the European Ecological Pact, preparing the Union for the digital age, developing an attractive investment environment geared towards people, strengthening of the Union's multilateralism and its role on the international stage, and the defense of European democracy against external interference (European Commission, 2019). In

the evolution of digital technology, the Union intends to support this transformation for the benefit of people and businesses, with a view to achieving a neutral impact on the global climate by 2050. Added to this effort is the presence of contributions to the development of artificial intelligence, regulation of digital services, European digital and industrial strategy, high-performance computing, regulation of digital markets, cyber security, digital skills, connectivity and the European digital identity (European Commission, 2020). After establishing doctrinal framework and resorting to European Union documentation through a methodology of document analysis, we seek to set this matter in the Commission's priorities, either in legislative acts or in soft law documents. Several electronic addresses are also used, either for access or as a source, as the use of computer platforms is the basis of this research. Despite the debatable academic value, institutional addresses will be available throughout the text, resulting in an effective form of access and represent the execution and exercise of some of the ideas put forward by the authors.

ARTIFICIAL INTELLIGENCE (AI) IN EUROPEAN UNION LAW

As a great technological progress, the digital transformation of Europe emerges as a political priority to be regulated by Law. This digitization affects how people live, interact, study and work (European Commission, 2018b, p. 2), and one aspect of new technologies is the use of artificial intelligence. Not being a new technology per se (Hortmann, 2020), it emerges as promising for strategic applications in the 21st century (European Commission, 2018a) with an impact on the lives of European citizens (Coelho, 2019) and, as such, it is urgent to regulate and even define this reality within the scope of the Law. To European Union law, “Artificial intelligence (AI) refers to systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g., voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g., advanced robots, autonomous cars, drones or Internet of Things applications)” (European Commission, 2018a, p. 1).

ARTIFICIAL INTELLIGENCE

According to IDC (IDC, 2019), global spending on AI-driven digital transformation initiatives is expected to exceed \$1.97 trillion by 2022. This is not surprising as global organizations, regardless of size, are moving towards ML, Big Data, Data Science, and AI-based technologies to drive business transformation. Advances in machine learning are pushing the boundaries of traditional businesses, enabling them to become smarter and more ready while significantly increasing their operational

efficiency, customer understanding, and ROI (IDC, 2019). To experience the transformative power of Data Science and AI, organizations across the AI maturity curve need to create a dynamic organizational plan with clearly defined steps to help them transition from 'department silo-centric' AI initiatives to 'AI-driven organizational transformation.' A blueprint that captures different 'as-is' customer journeys, outlines 'vision statements' to achieve short- to medium-term goals, and clearly defines step-by-step what needs to be done to digitally transform an organization (Li *et al.*, 2021).

Digital Transformation

The definition of digital transformation (DT) is not consensual among the stakeholders involved in this issue, particularly in organizations, leading to several perspectives of what it really means. These perspectives range from a focus on technology, to digital customer engagement, to new digital business models and so on. The lack of clarity often results in piecemeal initiatives, missed opportunities and false starts in the organization digitalization. According to Solis (Solis, 2017) DT may be defined as “the realignment of, or new investment in, technology, business models, and processes to drive new value for customers and employees and more effectively compete in an ever-changing digital economy”. Following this reasoning line, from the organizations’ point of view, DT can be seen as a deep and accelerating transformation with regard to processes, activities, competences and models, in order to take advantage of the changes and opportunities offered by the inclusion of digital technologies into an organization. On the other hand, Uhl & Gollenia (Uhl and Gollenia, 2014) enrich the DT concept, arguing that the adoption of technology-based change is focused on four technologies: (1) cloud, (2) mobile, (3) social, and (4) big data – analytics. Hence, DT draws on these four pillars to place a business context over the technologies, while taking advantage of them to support innovation. Innovation accelerators or also called enablers like IoT, Robotics, Augmented and Virtual Reality, Cognitive Systems and Next-Generation Security and Artificial Intelligence are often also playing a part in this digital transformation process (Yordanova and Stefanova, 20AD). Thus, according to Nexus Integra (Nexus Integra, no date), digital enablers are technological tools that can drive the organizations' digital transformation, bringing these technologies closer to the reality of organizations and making it possible to implement them on a day-to-day basis.

AI driven in Digital Transformation

AI, or Artificial Intelligence, is at the heart of AI-driven Digital Transformation. In the interest of brevity, it encompasses all the following technology areas: Artificial Intelligence / Machine Intelligence / Cognitive Systems Big Data Infrastructure: Data Lakes, Autonomous Data Warehouses, NoSQL Data Marts, Cloud Computing, etc. Cognitive Process Automation, Robotic Automation Machine Learning, Deep

Learning, Descriptive Neural Networks, Predictive, Prescriptive Analytics Block Chains Chatbots, Natural Language Processing, Social Network Analytics Logging and Sensor Data Integration, IoT for Data Acquisition Tools, licenses, and skill sets in the above areas(Sarirete *et al.*, 2021). Any Digital Transformation centered around one or more of the above technologies is an AI-driven Digital Transformation. The digital transformation had a significant influence when AI and machine learning became part of business strategy. AI has enabled organizations to increase their productivity because these technologies are essential, as they allow better use of the data collected by an organization. With relevant data, businesses can expand, improve their products and services, and create innovative strategies. In a 2017 study by Infosys (Infosys, no date) it was found that 98% of respondents who had used AI for the digital transformation of their organizations said it helped to generate additional revenue. The same study also revealed that machine learning had the most significant impact on digital transformation by dramatically reducing the average time spent on day-to-day activities and improving decision-making while minimizing room for error. Further, in another Forrester (Forrester Opportunity Snapshot, 2018) study, 71% of respondents reported that AI could improve business efficiency while 59% said it could enhance scalability. In addition, 55% of respondents said AI could help predict customer behavior, leading to improved products and services. In this context, it can be said that AI can contribute significantly to the organization's success with a holistic transformation strategy. The implementation of this technology should start from a need of the organization. Suppose AI-driven digital transformation is to be leveraged to make the business more agile, flexible, and competitive. In that case, organization leaders must view digital transformation as a strategic imperative rather than just another trend (Berente *et al.*, 2021).

AI in Law

As mentioned, AI is currently the big driver of the digital transformation of organizations, and it cuts across different application domains, ranging from education to healthcare. Concerning the law field (Rapoport and Jr., 2019), AI is already used to review legal documents and assist in the investigation before or during a case. Particularly when cases have large amounts of documents that would take significant time to analyze, AI ensures that manuscripts with specific keywords are moved to the top "of the stack". Another area where AI can be used is by legal professionals to understand risks and, in a case, understand how best to advise their clients. AI can analyze contracts both in bulk and individually much more efficiently than a human could do. In this context, commenting becomes easier; on the other hand, it allows companies to move quickly through contracts and reduces the number of errors and overlooked details. Because of its efficiency, AI can perform legal research at high speed so that lawyers can build better cases. In addition to the above referred, IA in this field is used to predict the probability of a case being won by a legal team based on data from other similar cases and procedures. This "feature" allows professionals to know in advance the probability of wins and losses when taking on a new case and how best to proceed to achieve success. However, in this

context, there are still problems that need to be solved, namely the reluctance of professionals to resort to this technology; such reluctance is due on the one hand to the concern of compromising clients' privacy. And on the other hand, they do not want to decrease their billable working hours (Walters and Novak, 2021). There are also laws being passed regarding AI and other new technologies that legal professionals can use, and they vary from country to country. This makes it difficult to know whether new practices may leave an implementation vulnerable to legal action against them.

DIGITAL DEVELOPMENT AS A PRIORITY FOR THE EUROPEAN COMMISSION

The European Commission in its 2019-2024 formation presented digital development as one of its priorities (European Commission, 2021a) achieved in the year 2021 through regulation (European Parliament, 2021b). Within the scope of this digital transformation arises the growing use of artificial intelligence. Within the framework of the European Union's policies for the digital future, the approach to artificial intelligence is underpinned by trust and excellence, in order to develop industrial research and at the same time ensure the fundamental rights of citizens (European Commission, no date a). The DIGITAL Europe program is committed to making use of artificial intelligence for the benefit of business and public administration (European Commission, no date b). Previous institutional documents emerged to prepare for the use of artificial intelligence in the European Union were already in evidence. Following an invitation from the 2017 European Council, the 2018 Commission Communication emerged (European Commission, 2018a), defining a European initiative on AI. It is important to emphasize the concern to ensure an appropriate ethical and legal framework based on the values of the Union (in accordance with Article 2 of the Treaty on European Union) and in line with the Charter of Fundamental Rights of the European Union (in Article 6 of the Treaty on European Union). To be precise, technological advances have enabled the autonomous application of digital realities to many aspects of human life, but the legal framework to guide does not yet exist in the European Union. The law must accompany the transformations of society, guaranteeing the ethical principles valued by the Member States as well as strict respect for fundamental rights. Accordingly, the European Parliament also emphasizes in 2020 (European Parliament, 2021a), focusing on the need to create an effective and harmonized regulatory framework, based on Union law on human rights, so that AI always has the human individual as a reference. On March 9, 2021, the Commission presented a vision and pathways for Europe's digital transformation by 2030 (European Commission, 2021a). This vision for the EU's digital decade revolves around four fundamental points: skills, government, infrastructures and business (European Commission, 2021b).

PROPOSALS IN CONSIDERATION

We highlight some points that deserve attention and consideration regarding developments related to the use of artificial intelligence.

Knowledge about the European Union in digital format

The European Union underlines the importance of self-education, that is, it is the Union's intention to provide information and make its own functioning and existence accessible so that the European citizen can be a conscious participant in the European integration process (Alves and Silva, 2021). Access to knowledge about the European Union is not unequivocal outside academic circles related to this relatively new legal order which recently celebrated 70 years of existence. Requests for civic participation increasingly appear in digital platforms in the form of public consultation on various topics, sometimes prior to the decision-making process as a form of democratic participation in intervention practices towards a legislative initiative (European Union, no date b; Alves and Barata, 2021) or a simple invitation to participation in events such as the Conference on the Future of Europe (European Union, no date a) launched in 2021. For these participations to become possible in awareness and knowledge, an educational process needs to be developed (European Economic and Social Committee, 2021) in order to make citizens more capable of intervening and exercising their rights (Alves and Stoffel, 2021).

Implications of using artificial intelligence

The use of artificial intelligence raises a number of problems, of which we highlight concerns about human rights and security. In both cases, the European Union is observant, as shown by the report on Artificial Intelligence and Fundamental Rights (Getting the future right – Artificial intelligence and fundamental rights) (European Union Agency for Fundamental Rights, 2020) published 14 December 2020 by the FRA – European Union Agency for Fundamental Rights (European Union Agency for Fundamental Rights, no date). Also proposed by the European Commission on April 21 2021 (Cabral, 2021), the Regulation on the use of Artificial Intelligence systems in the European Union aims to ensure the security and defense of the fundamental rights of people and companies, strengthening investment, innovation and the use of artificial intelligence across the European Union. Such concerns also arise by the European Parliament in 2020, in resolutions only published in 2021, calling for a common regulatory framework for the Union that covers all relevant phases of the use of digital technologies, such as development, deployment and use of artificial intelligence. Once again, recognizing the importance of creating Union law to frame AI, it is essential that these norms have an anthropocentric vision, in which the human is respected within the framework of EU values.

CONCLUDING NOTES

The enormous digital development achieved is undeniable and the European Union welcomes it and joins this technological advance. Concerns arises with the creation of a single legal framework for Artificial Intelligence as a new aspect of human life, without overlooking the achievements of human values. Rather, focusing concerns on maintaining these common values and respect for fundamental rights when regulating AI. This current scenario, together with concerns about education for citizenship and about the European Union come together, despite the fact that digital channels are increasingly accessible to European citizens to exercise their rights and democratic participation, and there is still an educational effort to be developed by and for the European Union in building a conscious and responsible European citizenship. The valuation of technology cannot at any time forget human values.

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