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Algorithmic Decisions and the Duty to Provide Reasons in Public-Procurement Procedures[*]

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ABSTRACT The application of intelligent algorithmic systems in public procurement is gaining increasing interest among contracting authorities worldwide, attracted by the expectation of achieving gains in efficiency, economy and speed. The purpose of this article, rather than offering an extensive and exhaustive approach to the issue, is to contribute to the discussion around the limits that should, from the outset, shape the implementation of such systems, in the field of public procurement. Specifically, based on the regime in force in the Portuguese legal system, we look at the duty to state the reasons for an administrative act - in particular, the act of awarding a contract in the context of pre-contractual procedures - and analyse how compliance with this duty is affected by the use of intelligent algorithms in the formation of public contracts.

1. *Introductory notes*

In the context of administrative activity and, specifically, public procurement, the duty to provide reasons plays a fundamental role, due to both its intrinsic value and its instrumentality for the fulfilment of other fundamental principles of administrative action.

The need for justification of decisions made by administrative entities - and, for the purposes at hand, decisions made by contracting authorities within public-procurement procedures – is an indisputable guarantee of transparency of those decisions. In turn, such transparency is inseparable from the openness of the Administration to scrutiny and its adherence to the fundamental principles of equality, justice, impartiality, and good faith - which, in the field of public procurement, embody the cardinal principle of competition.

Therefore, in order for the above-mentioned purposes and principles to be deemed fulfilled, the justification of administrative acts must meet certain prerequisites: it must be, in general terms, clear, explanatory, and intelligible for those to whom it is addressed. Otherwise, the purpose underlying the duty of justification is irretrievably frustrated, with the consequences provided for by law.

In this context, the application of artificial intelligence to the processing and decision-making of pre-contractual procedures raises the question that will be addressed in the following pages: is the publication of algorithmic-processing rules leading to the awarding of a contract by an artificial intelligence system due under the law?

It seems to us that, without prejudice to all the advantages that are - and may still be - recognized for artificial intelligence, the duty to give reasons underpinning the practice of administrative acts is put to the test when the substitution of human language with algorithmic language is considered. Since the justification of the award decision - like any administrative act - must be understandable to its recipient, it is legitimate to doubt the intelligibility of the algorithm for a layperson, due to the opacity that often characterizes it.[1]

This means, therefore, that the path followed to obtain a particular award decision will not be perceptible to the overwhelming

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[1] J. Danaher, *The Threat of Algocracy: Reality, Resistance and Accommodation*, in *Philosophy and Technology*, no. 29, vol. 3, 2016, 245-268. The author starts from the concept of algocracy, an organised and structured system of administration based predominantly on the functioning of algorithms, identifying within it not only a concern regarding the way in which the information of the citizens is collected and used by that system (hiddenness concern), but also another associated with the imperceptibility and opacity of the rational and intellectual basis of the functioning of algocratic systems. As the author puts it, "[t]he opacity concern has to do with our participation in political procedures, and how this participation is undermined by growing use of algocratic systems".

majority of participants and competitors in public-procurement procedures, thus jeopardizing the observance of the fundamental principles of administrative activity mentioned above, in exchange for merely possible - but not guaranteed - greater efficiency and economy.

Such efficiency and economy will not be guaranteed at all if the automation of decision-making in the field of public procurement, despite being based on a laudable purpose of objectification of the decision-making task and the elimination of human biases that often materialize in these contexts - which, if effectively achieved, would entail unequivocal advantages - does not allow for the proper scrutiny of the reasons underlying the decision that may be taken by the artificial-intelligence mechanism that acts in the exercise of administrative powers.

In that case, the result will be precisely the opposite, with the occurrence of adverse repercussions, including an increase in pre-contractual litigation and, consequently, damages to the public interest as a result of the impossibility of satisfying the purchasing needs at the origin of each pre-contractual procedure in a timely manner.

That being said, and considering the widespread discussion around the transfer of decision-making responsibility from human beings to algorithms, there is simultaneously an intensification of the need to anticipate, in a satisfactory manner, the questions associated with the realization of that intention, and to prevent the adverse consequences resulting from its unreflective implementation.

Our simple contribution, therefore, is to critically reflect on the articulation of the duty to give reasons with the use of algorithmic decision-making systems, in order to understand how it will be implemented in light of Portuguese law. That does not mean, however, that the delimitation of the scope of our study prevents us from drawing important considerations which are generally applicable to any democratic state in which the Public Administration is open to citizen participation and scrutiny and respects the fundamental principles of equality, impartiality, and justice.

Firstly, we will try, albeit perfunctorily, to describe the functioning of algorithmic decision-making systems in terms that allow us to understand the challenges posed by their implementation in the domain of perceptibility and intelligibility of the reasoning underlying the decision-making process.

Secondly, we will analyse the duty to give reasons of the administrative act provided for in Portuguese law and, in particular, the requirements to which it is subject.

Finally, we will determine, in light of the conclusions reached in each of the preceding points, what steps must be taken to harmonize the implementation of those systems with the constitutional and legal obligation to respect the fundamental principles of administrative activity identified above.

2. *Brief considerations on the application of intelligent algorithmic systems in the practice of administrative acts*

In the midst of the genesis of the 4th Industrial Revolution, there is a palpable desire - or rather, impatience - shared by public and private entities to start, as soon as possible, the transition to an automated decision-making model, through the implementation of algorithmic systems that dispense, as far as possible, with human intervention - understood as a source of costs and inconveniences that must be overcome, and which has been invoked to accelerate the replacement of human subjectivity and fallibility by the objectivity and rationality often uncritically and romantically attributed to intelligent algorithmic systems. The focus, of course, is on the purpose, to which we have already referred, of increasing the efficiency, economy, and celerity of decision-making, with the inherent saving of resources.

It is not denied that the implementation of such solutions in the context of public procurement may result in truly relevant medium and long-term benefits, particularly considering that resources are anything but abundant and any mechanism capable of reducing costs and identifying, with clinical precision, the most economically advantageous tender can represent significant gains.[2]

[2] An example of this is the experience, developed more than twenty years ago, of using an artificial-intelligence system by the Infrastructure Construction Management Division of the State of Utah in the United States of America, for the conclusion of a construction contract for a training centre. The implementation of this solution made it possible to eliminate the element of subjective bias naturally present in human beings, and the result was, as disclosed by D.T. Kashiwagi and R. Byfield, (*Minimization of Subjectivity in Best Value Procurement by Using Artificial Intelligence Systems*, in *Journal of Construction Engineering and Management*,

The impulse generated by the desire to take advantage of the benefits that may result from the application of intelligent algorithmic systems in public-procurement procedures may, however, prove counterproductive, leading to effects diametrically opposed to those intended. This is because, in addition to the widespread unpreparedness for the use and coexistence with such systems, their architecture presents challenges that, in turn, may translate into serious risks for the achievement of the aforementioned principles.[3]

Unlike other technological products developed and usable by public and private entities, the opacity of intelligent algorithmic systems, in intimate relation with their increasing autonomy and the phenomenon of machine learning, in addition to the challenges it poses to *ex ante* regulatory tasks, is also expected to be problematic when it comes to their implementation, and the subsequent management of the respective consequences. This is essentially due to four essential characteristics generally attributed to this technology: discreetness, diffuseness, discreteness, and opacity.[4]

To these characteristics, one may also add the obstacles associated with confidentiality and secrecy[5] concerns and those resulting from the inherent complexity of the algorithm's operation.[6]

Only apparently can the democratization of access to increasingly intricate and complex systems and mechanisms be construed as a greater understanding of how they work. The truth is precisely the opposite: as those systems are improved, the illusion of perceptibility and understanding of their operation is maintained under the diaphanous cloak of intuitive use. We say in general because, from the moment the system responds or reacts in an unexpected or unpredictable way, that appearance collapses, without those responsible for its operation being, most of the time, prepared to deal with the consequences that may arise.

For this reason, there have been increasing calls for attention to be paid to the risks posed by the use of artificial intelligence in the context of administrative activity and, in particular, public procurement, whether in terms of accountability, fairness and impartiality, or transparency,[7] and, more urgently, to the need to lay down specific guidelines for the implementation of artificial-intelligence systems in the context of public procurement.[8]

3. *The duty to give reasons for an administrative act*

3.1. *Reasoning as a guarantee of citizens' rights*

The requirement for administrative acts to be expressly and clearly substantiated is laid

vol. 128, n. 6, 2022) "one of the 'best' construction projects procured at the State of Utah (on-time, on-budget, high quality), with no contractor generated change orders for additional cost, minimized construction management requirements, and high customer satisfaction".

[3] According to M. Hickok (*Public procurement of artificial intelligence systems: new risks and future proofing*, in *AI and Society*, 2022, 4), "[i]n the context of AI systems used by the public sector, this multi-layered complexity can also mean that the public actor itself does not understand the system it is procuring and deploying. Institutional capacity limitations, both on procurement and implementation phases, may result in discriminatory or faulty systems embedded in core functions of the entity".

[4] See M.U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies*, in *Harvard Journal of Law and Technology*, vol. 29, no. 2, 2015, 369: "From a regulatory standpoint, some of the most problematic features of AI are not features of AI itself, but rather the manner in which AI research and development can be done. Discreetness refers to the fact that AI development work can be conducted with limited visible infrastructure. Diffuseness means that the individuals working on a single component of an AI system might be located far away from one another. A closely related feature, discreteness, refers to the fact that separate components of an AI system could be designed in different places and different times without any conscious coordination. Finally, opacity denotes the possibility that the inner workings of an AI system may be kept secret and may not be susceptible to reverse engineering".

[5] See M. Busuioc, *Accountable Artificial Intelligence: Holding Algorithms to Account*, in *Public Administration Review,* vol 81 (5), 2021, 829: "[t]o make matters yet more difficult, information availability can be further limited by the fact that algorithms are often proprietary, including when used in the public sector. Developed and sold by private for-profit companies, the workings of commercial algorithms are often not publicly divulged".

[6] See M. Busuioc, *Accountable Artificial Intelligence*, 830: "beyond system feature opaqueness and/or public disclosure issues, there are significant information challenges stemming from ML [machine learning] model complexity. Given their architectural complexity and the sheer size of their parameter space, as noted above, it can become next to impossible for human decision-makers to grasp the intricacy of feature interactions (…) Such limitations become particularly – but not exclusively – emphasized in the case of non-technical audiences".

[7] See M. Hickok, *Public procurement*, 3-11.

[8] M. Hickok, *Public procurement*, 11.

down in Article 268(3) of the Constitution of the Portuguese Republic (CRP), which states that administrative acts, in addition to being subject to notification to interested parties, must be expressly and accessibly substantiated when legally protected rights and interests are at stake.

Provided for in these terms, this constitutional requirement, which, in general terms, translates into a statement of the reasons of fact and law that led to the adoption of the act,[9] represents the enshrinement of a "norma de direito objectivo que concretiza os princípios do Estado-de-Direito democrático e da juridicidade da Administração, impondo a esta uma conduta racional e transparente".[10]

The purpose of this provision is therefore eminently guarantor-like,[11] thereby seeking to implement a functional safeguard aimed at preserving the rationality and controllability of the administrative function.[12]

As such, although it does not fall into the category of citizens' fundamental rights, the imperative to state reasons is nevertheless a right of the citizens that is considered to guarantee the exercise of the former[13]/[14].

The right/duty to state reasons is, therefore, a guarantee with constitutional dignity, whose preponderance in the context of the Administration's actions is absolutely unequivocal. The Administration has a duty to accompany the decisions it makes with the corresponding reasoning - when required - in a way that is express and accessible to those to whom it is addressed.

In other words, in order to be considered as such, the reasoning must be configured in such a way that it represents, for its addressee, an apprehensible meaning, resulting from the analysis of interpretable symbols from which its semantic content can be extracted.

3.2. *The duty to give reasons in the Portuguese Code of Administrative Procedure (CPA)*

Without prejudice to being provided for in the Constitution as a general command, either for the subjective protection of the citizens (right to reasoning) or for administrative action (duty of reasoning), the imperative of reasoning for the administrative act, understood as "um importante sustentáculo da legalidade administrativa e instrumento fundamental da respectiva garantia contenciosa, para além de elementos fundamental da interpretação do acto administrativo",[15] is essentially laid out in articles 152 and 153 of the CPA.[16]

[9] M. Rebelo de Sousa and A. Salgado Matos, *Direito Administrativo Geral*, vol. III, 2nd. ed., São Geraldo, D. Quixote, 2009, 156.

[10] J.C. Vieira de Andrade, *O dever da fundamentação expressa de actos administrativos*, Almedina, Lisbon, 1992, 215.

[11] As stated by M. Esteves de Oliveira (*Direito Administrativo*, vol. I, Lisbon, Almedina, 1984, 469), "[f]oi, portanto, para facilitar o recurso aos tribunais pelos particulares lesados pela actividade administrativa que a lei instituiu, entre nós, o dever geral de fundamentar os actos administrativos – ou, então, para convencê-los de que o acto é efectivamente legal, justo e oportuno".

[12] J.C. Vieira de Andrade, *O dever da fundamentação,* 215.

[13] The duty to state reasons is commonly recognised as having a number of instrumental functions in achieving this aim. M. Rebelo de Sousa and A. Salgado Matos (*Direito Administrativo Geral*, cit., 156) identify four of them: (i) to enlighten the public, under the principle of collaboration between the public administration and private individuals; (ii) to ensure the publicity and transparency of administrative activity; (iii) to promote informed and appropriate decision-making; (iv) to allow scrutiny, control and consequent inspection of administrative activity, giving private individuals the tools to react against undue decision-making by the administration.
Also identifying four functions of the duty to state reasons, but adopting a different systematisation, see D. Freitas do Amaral, *Curso de Direito Administrativo*, vol. II., 3rd ed., Lisbon, Almedina, 2016, 316-317.
On the multifunctionality of the duty to state reasons, see also J.C. Vieira De Andrade, *O dever da fundamentação*, 65 ff.

[14] In this context, as well as arguing that this is a fundamental principle of the administration of the rule of law, J.J. Gomes Canotilho and V. Moreira (*Constituição da República Portuguesa Anotada*, vol. II, 4th ed., 2010, 825) maintain that "[a] imposição do dever de fundamentação expressa dos actos administrativos que afectem direitos e interesses legalmente protegidos indicia claramente que, pelo menos nestes casos, o dever de fundamentação é, sob o ponto de vista constitucional, uma dimensão subjectivo-garantística dos direitos fundamentais", thus constituting "um dos vários componentes do «feixe» de direitos enquadráveis no âmbito de um determinado direito fundamental, globalmente considerado" (p. 827). In other words, although it is confirmed in these terms that there is no fundamental right to a statement of reasons for administrative acts, the provision of the duty to expressly state reasons for administrative acts is a component of all those fundamental rights whose realisation depends on compliance with that imposition.

[15] M. Esteves de Oliveira, P. Costa Gonçalves and J. Pacheco de Amorim, *Código do Procedimento Administrativo Comentado*, 2nd ed., Almedina, Lisbon, 2005, 589.

[16] As stated by J.C. Vieira de Andrade (*O dever da fundamentação*, 11), "[l]ogo na linguagem comum, "fundamentação" pode ser entendida como uma exposição enunciadora das razões ou motivos da decisão, ou então como a recondução do decidido a um

The first provision identifies the cases in which the duty to give reasons is imposed: in addition to cases where the law specifically requires it, acts whose content falls within subparagraphs a) to e) of its paragraph 1 must also be subject to reasoning.[17]

In turn, Article 153 sets out the requirements for fulfilling the imperative of reasoning. For it to be considered adequately fulfilled, "[a] fundamentação deve ser expressa, através de sucinta exposição dos fundamentos de facto e de direito da decisão".[18]

But that alone is not enough. In addition to being express, the reasoning must be clear, coherent, and sufficient, thus ensuring its clarifying purpose. For this reason, paragraph 2 of Article 153 determines that "[t]he adoption of grounds that do not specifically clarify the motivation of the act by obscurity, contradiction, and insufficiency is equivalent to a lack of reasoning".

In other words, in addition to being externally revealed in terms that are not unnecessarily prolix, the grounds of the administrative act must, for the underlying duty to be considered fulfilled, specifically clarify its motivation. The factual and legal reasons underlying the decision cannot, therefore, be obscure,[19] insufficient, or contradictory, rather must be clear, congruent, and sufficient.[20]

If a violation of the duty to give reasons is found - either by its absolute absence or by its exposition not presenting the characteristics mentioned above - the administrative act will be illegal due to a formal defect and annullable, in accordance with article 163(1) of the CPA.[21]

3.3. *The duty to give reasons in pre-contractual procedures*

Given the duty to state reasons is regulated in the CPA, it is not subject to particular treatment in the Public Contracts Code (CCP), and no particular requirements are formulated regarding its implementation in the context of public-contract formation procedures.

It is true that numerous examples of the duty to give reasons are identified in the CCP - which, nevertheless, reinforces the rule that there is no general duty of reasoning - but nothing is added regarding the way in which that duty is concretized in relation to the regime provided for in the CPA.

Nor should it be otherwise, since public-contract formation procedures are essentially administrative procedures, albeit with specificities and rules distinct from those provided for in general procedures, which culminate in the issuance of an administrative act - the award - and the granting of the desired contract. One of the consequences of this conclusion is precisely the subsidiary application, in this context, of the common law of administrative procedure.[22]

The reference to the public-procurement regime is made, rather, with a view to highlight the centrality of the duty to give reasons for the protection of the interests at stake and the compliance with the fundamental principles[23] that underlie it and

parâmetro valorativo que o justifique".

[17] The content of which is as follows:

a) Acts denying, extinguishing, restricting, or affecting in any way legally protected rights or interests, or imposing or aggravating duties, charges, burdens, obligations, or sanctions;
b) Acts deciding administrative claims or appeals;
c) Acts that decide contrary to a claim or opposition formulated by interested parties, or to an official opinion, information, or proposal;
d) Decisions that differ from the usual practice in resolving similar cases, or in the interpretation and application of the same legal principles or precepts; and
e) Acts that imply the declaration of nullity, annulment, revocation, modification, or suspension of a previous administrative act.

[18] Although it may, as the second part of the norm shows, consist of a mere declaration of agreement with the grounds of previous opinions, information, or proposals - in which case the reasoning will be made *per relationem*, that is, by reference to a previously conceived motivation.

[19] M. Estes de Oliveira, P. Costa Gonçalves and J. Pacheco de Amorim (*Código do Procedimento Administrativo*, 604-605) clarify that the reasoning will be obscure when it is not understood what it consists of; insufficient when it does not justify the entire decision; and contradictory when it contradicts itself.

[20] Regarding these essential characteristics of reasoning, see J.J. Gomes Canotilho and V.Moreira, *Constituição da República Portuguesa,* 826; J.C. Vieira de Andrade, *O dever da fundamentação,* 232 ff.; M. Esteves de Oliveira, *Direito Administrativo,* 473 ff.; M. Caetano, *Manual de Direito Administrativo*, vol. I, Almedina, Lisbon, 1997, 479-480.

[21] D. Freitas do Amaral, *Curso de Direito Administrativo*, 320; F. Paula Oliveira and J. Eduardo Figueiredo Dias, *Noções Fundamentais de Direito Administrativo*, 5th ed., Almedina, Lisbon, 2017, 280-281.

[22] M. Assis Raimundo, *Direito dos Contratos Públicos*, vol. I, AAFDL Editora, Lisbon, 2022, 69-70.

[23] As mentioned by R. Carvalho (*A exigência de fundamentação na contratação pública como instrumento de salvaguarda da concorrência*, in *Revista*

that, in this context, strengthen the arsenal of principles already provided for regarding administrative activity in general.[24]

Among the general principles of public procurement, the principle of competition stands out as a cardinal value, applicable not only in relations between the Administration and individuals, but also amongst the latter,[25] as well as the principle of transparency, of which the duty to state reasons of the decisions made within contract-formation procedures is recognized as an essential dimension.[26]

The truth is that the abovementioned principles, which structure the regime of public procurement, are deeply shaped by the duty to state reasons, which substantiates and supports them, as an essential dimension and norm of protection and realization, both in the formation phase and in the execution phase of public contracts - although, for what is relevant here, we focus on the procedural phase and, in particular, on the award decision.

The duty to give reasons is present in the procedural phase of the formation of public contracts throughout the entire process, from the decision to celebrate a certain contract, through the choice of procedure, and culminating in the award decision, which involves the evaluation of proposals and, eventually, the exclusion of some of them.

All these decisions - and many others - require the respective justification, in such terms that, even when the outcome is unfavourable for the interested party, it can be affirmed that the principles of competition and transparency, as well as all others related to them in this context, such as the principles of legality, impartiality, or justice, are being complied with. In other words, the duty to give reasons shall be viewed and concretized in such a way that, even when it results in an apparent limitation of those principles, it can be said that it ultimately contributed to their affirmation.[27]

4. *Opacity vs. transparency: disclosure of the algorithm as an essential requirement for the award decision to be substantiated*

Having analysed, on the one hand, the challenges generally posed to the application of intelligent algorithmic systems in the context of public procurement, and on the other hand, the fundamental principles that shape the respective regime, we can anticipate that the implementation of automated decision-making systems in the context of pre-contractual procedures, particularly at the time of the award decision, raises profound questions about the degree of transparency of the operation of those systems and, consequently, the ability to fully justify a decision that is exclusively made by them.

It seems certain to us, however, that in a case where, in the context of a pre-contractual procedure - as, it should be said, with regard to any act performed in any other administrative procedure - the award decision is autonomously made by an algorithm, the rules it follows should naturally be disclosed.

Only through the disclosure of the rules that govern the operation of the algorithm will it be possible to achieve the essential and immediate objective of justification: to trace the cognitive path followed by the decision-maker to decide in a certain direction.[28] [29]

de Contratos Públicos, no. 21, 2019, 61), "o recorte do dever [de fundamentação] e do seu cumprimento (…) são mais exigentes porquanto (…) os poderes exercidos são essencialmente poderes discricionários", "[p]orque as situações são mais complexas, decorrentes do facto de os procedimentos serem plurisubjetivos e os interesses envolvidos serem distintos (públicos e privados), múltiplos e contrapostos".

[24] This is precisely what follows from Article 1-A(1) of the CCP: "[i]n the formation and execution of public contracts, the general principles deriving from the Constitution, the Treaties of the European Union and the Code of Administrative Procedure must be respected, in particular the principles of legality, the pursuit of the public interest, impartiality, proportionality, good faith, the protection of trust, sustainability and responsibility, as well as the principles of competition, publicity and transparency, equal treatment and non-discrimination".

[25] P. Costa Gonçalves, *Direito dos Contratos Públicos*, 5th ed., Lisbon, Almedina, 2021, 134-135. See also, P. Fernández Sánchez, *Direito da Contratação Pública*, vol. I, Lisbon, AAFDL Editora, 2020, 67, identifying the principle of competition as the "verdadeiro centro aglutinador do Direito da Contratação Pública".

[26] P. Costa Gonçalves, *Direito dos Contratos Públicos*, *cit.*, 141-142. Emphasising the instrumentality and indispensability of the principles of transparency and publicity for preserving the principles of competition, equality, and impartiality, see P. Fernández Sánchez, *Direito da Contratação Pública,* 89.

[27] In the words of R. Carvalho (*A exigência de fundamentação*, 81): "sempre que a decisão administrativa implicar, de algum modo, o afastamento ou restrição (ainda que legítimos) da concorrência, a fundamentação para ser suficiente, congruente deverá contemplar a dimensão discursiva e dialógica. E, assim, defender a concorrência".

[28] D. Freitas do Amaral, *Curso de Direito Administrativo*, 317.

[29] Which is why the addition to the french *Code des*

However, that disclosure alone may not be enough. Considering the characteristics commonly attributed to algorithmic systems capable of making autonomous decisions, their functioning may even escape their programmer's understanding due to the non-interpretable nature of such developed systems.[30]

If this is the case, understanding the underlying rationale for a certain decision will certainly be beyond the reach of any layperson, thus making it impossible to fulfil the duty of justification of the administrative act.

The interpretation of administrative acts is done through certain means. Among these means are linguistic arguments or statements, which appear in this context as the starting point and limit[31] of the externalization of the administrative act, with the linguistic formulation or expression of the justification, through the use of linguistic signs, acting as a determining instrument of the respective semantic field.[32]

It follows that for the administrative act and its justification to be understood by its recipient, it is necessary that they are presented in such terms that allow the recipient to fully understand the grounds for the decision; it is essential that the symbols used to express the underlying justification have effective semantic content that can be analysed and interpreted by the recipient in such a way that a certain meaning can be extracted from them.

The replacement of the person by the algorithm in the administrative decision-making domain entails this precise difficulty. Although some may consider this to be an unavoidable compromise for the sake of exploitation of the immense potential of adopting algorithmic decision-making systems, we believe, on the contrary, that this difficulty looms so large as to constitute a clear limit to the dissemination of such systems.

It is important not to lose sight of the fact that, as concluded above, we are moving, directly or indirectly, in the domain of fundamental principles and rights, and of guarantees of the citizens before the Administration, which cannot, under penalty of violation of constitutional commands, be commercialized and set aside in the face of interests incompatible with them.

The risks are evident, as pointed out by Madalina Busuioc:[33] the discussion promoted above highlights a fundamental concern in the design and implementation of intelligent algorithmic systems, associated with opacity and lack of interpretability and the consequent inability to detect and correct biases - which were thought to be exclusively human - and the adverse consequences resulting from the application of these systems, without the overwhelming majority of legal systems currently providing for any obligation to confer a minimum of interpretability on the algorithm or to explain its functioning prior to its use or commercialization.

It is our understanding that the justification of administrative decisions made by complex algorithms will only be possible if the informational deficits[34] resulting from the opacity and complexity inherent to them are overcome; only then will it be possible to explain and justify their operation and, consequently, the reasons behind the decisions they make; and only then can we envisage the adequate fulfilment of all the requirements and the satisfaction of all the functions associated with the duty to state reasons.

relations entre le public et l'administration, by Law No. 2016-1321 of 7 October 2016, among others, of Article L312-1-3, is laudable, stating that "[s]ous réserve des secrets protégés en application du 2° de l'article L. 311-5, les administrations mentionnées au premier alinéa de l'article L. 300-2, à l'exception des personnes morales dont le nombre d'agents ou de salariés est inférieur à un seuil fixé par décret, publient en ligne les règles définissant les principaux traitements algorithmiques utilisés dans l'accomplissement de leurs missions lorsqu'ils fondent des décisions individuelles". Although with some limitations, that law now provides for the duty, incumbent on certain public entities, to disclose the rules underlying the primary algorithmic processes they use in the practice of administrative acts.

[30] See M. Busuioc, *Accountable Artificial Inteligence*, 829. Focusing on deep learning algorithms, the Author affirms that "as the relevant 'features' of the model (…) are identified by the system itself by sieving through large amounts of data, they can escape human interpretability – also that of its designers", concluding that "[s]uch algorithms are therefore, by virtue of their technical make-up, highly non-transparent – including to system engineers". From a purely technical standpoint, see R. Guidotti, A. Monreale, S. Ruggieri, *et al.*, *A Survey of Methods for Explaining Black Box Models*, in *ACM Computing Surveys*, vol. 51, vol. 5, 2021, 2 ff.

[31] M. Rebelo de Sousa and André Salgado Matos, *Direito Administrativo Geral*, Almedina, Lisbon, 147.

[32] M. Rebelo de Sousa and André Salgado Matos, *Direito Administrativo Geral*, 147

[33] M. Busuioc, *Accountable Artificial Intelligence*, 831.

[34] M. Busuioc, *Accountable Artificial Intelligence*, 830.

Therefore, only when it is manifestly impossible or unfeasible to disclose the algorithm in terms that allow its understanding by the recipients should the corresponding obligation yield.[35] In that case, however, the Administration has a duty to transmit to the recipients of the act an explanation as faithful as possible of the algorithm's mode of operation, so that it can then be said that this exposition is clear, coherent, and sufficient, thus fulfilling the requirements of justification of the act in question.

The paragraphs above do not preclude what we believe to be a *sine qua non* condition for the implementation of algorithmic-decision systems to be done in total respect for the guarantees of citizens: to ensure that, at least in contentious matters, access to the algorithm is possible, when the protection of the rights and interests of the individual depends on it, by conceiving the applicability of measures to preserve the confidentiality of trade secrets as provided for in Article 352 of the Portuguese Industrial Property Code and in Recitals 24 and 25 of Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016.

As can be seen, it is essential that concrete steps be taken to promote a policy of algorithmic transparency and comprehensibility. The role to be played by the academic community[36] and international organizations[37] is paramount in this context, and the prioritization of transparent and interpretable models, as opposed to opaque models that, by nature, are inherently averse to any claim of exposure of the rationale for their mode of action, is essential.

Although its implementation is complex and involves various challenges, the premise is simple: "[g]ood code does double duty. It must be interpretable to humans (…) as well as by the computational device".[38]

5. *Conclusion*

There is no denying the phenomenon of artificial intelligence and, in particular, the role it may play in the exercise of public powers and administrative functions.

Without prejudice to this, and while it is true that the absolute removal of human intervention in the context of public procurement is still a distant reality, nothing prevents us from reflecting today on the possible implications of this eventuality.

One of these implications is precisely the articulation or harmonization of the action of intelligent algorithmic systems with the legally prescribed requirements and guarantees, such as the right to justification and the corresponding duty, compliance with which is the responsibility of the Administration.

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[35] Namely restrictions that are imposed because, in particular, they jeopardise the fundamental interests of the state, or when trade secrets or intellectual-property rights are at stake.

[36] See, among others, C. Rudin, *Stop Explaining Black Box Machine Learning Models for High Stakes Decisions and Use Interpretable Models Instead*, in *Nature Machine Intelligence*, no. 1, 2019, 206-215; F. Pasquale, *Restoring transparency to automated authority*, in *Journal on Telecommunications & High Technology Law*, vol. 9, 235-254; A. Adadi and M. Berrada, *Peeking Inside the Black-Box: A Survey on Explainable Artificial Intelligence (XAI)*, in *IEEE Access*, vol. 6, 2018, 52138-52160.

[37] Principle 1.3 of the OECD AI Principles precisely concerns the transparency and explainability of artificial-intelligence systems. The rationale of the principle states that "[t]ransparency further means enabling people to understand how an AI system is developed, trained, operates, and is deployed in the relevant application domain, so that consumers, for example, can make more informed choices (...)" and "enabling people affected by the outcome of an AI system to understand how it was arrived at. This entails providing easy-to-understand information to people affected by an AI system's outcome that can enable those adversely affected to challenge the outcome".
At the European Union level, the concern at hand has already been highlighted in the Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions - Artificial Intelligence for Europe, of 25 April 2018, which states that "[t]o further strengthen trust, people also need to understand how the technology works, hence the importance of research into the explainability of AI systems. Indeed, in order to increase transparency and minimise the risk of bias or error, AI systems should be developed in a manner which allows humans to understand (the basis of) their actions".
In the same vein, in the World Economic Forum's document *AI Procurement in a Box: Challenges and opportunities during implementation*, transparency and intelligibility of the algorithm's operation are highlighted: "Transparency, interpretability, and auditability are important considerations when using AI in the public sector. There are different ways of enabling transparency including: through documentation of the data, processes, and algorithms, releasing the source code (…). When deploying machine learning algorithms in public-sector organizations, particularly those that can have a significant impact on the lives of citizens (e.g. immigration, law enforcement), it is crucial to ensure that an acceptable level of transparency is designed into the system".

[38] See J. Burrell, *How the machine "thinks": Understanding opacity in machine learning algorithms*, in *Big Data and Society*, 2016, 4.

From our point of view, there is no reason why decisions made through intelligent algorithmic systems should be treated differently from decisions made by human beings. For this reason, when the imposition of reason-giving is provided for with regards to a decision made by a human being, the same should apply when the decision in question is made by an algorithmic system.

This is precisely the case with the award decision made in the context of a pre-contractual procedure. Under the law, this decision must be justified, and it is our opinion that this duty should be fulfilled regardless of the way in which the decision is made. If this decision is made automatically by an algorithmic system, compliance with that requirement imposes the disclosure of the underlying algorithm in terms that are assimilable and understandable by its recipients and thus allow for the satisfaction of the requirements on which the effective fulfilment of the duty to state reasons depends.

When such disclosure is not possible or is impractical, the Administration should provide the recipient of the act with a clear, concise, and sufficient explanation of the functioning of the algorithm, thus ensuring that the interests and rights underlying the fulfilment of the duty to give reasons are safeguarded.

Only in this way will it be possible to counteract the sacrifice of the Administration's ability to control the operation of the algorithm and to scrupulously fulfil the principles of transparency and the duty to state reasons on which the democratic exercise of its activity depends.