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*The Legal Qualification of Decision-Making Software in the Management of Employment Relationships by the Public Administration**

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Italian Latium Regional Administrative Tribunal, Decision no. 8384, 16 may 2023

The software through which the Italian Ministry of Education determines the locations for the assignment of substitute teachers does not have the nature of an administrative provision, but of a private-law act, as it is an expression of the Administration's role as employer, therefore it must be devolved to the jurisdiction of the ordinary judge and not of the administrative judge.

ABSTRACT In this case, the Italian Administrative Court of Lazio considers a challenge to the use of an algorithm in generating substitute-teacher rankings in the Italian school system. This decision is part of a series of similar cases that have been addressed by Italian administrative case-law in recent years. Notably, it this case the court doesn't assess the merits of the ranking itself, but rather the preliminary question of jurisdiction – who has the authority to evaluate the algorithm's legality.The court argues that jurisdiction should not lie with the administrative judge, but with the ordinary judge. The reasoning is that the administration isn't acting in its capacity as a public authority, but rather as a private employer. This argument is supported by prior rulings from the Administrative Judge and the Court of Cassation. Here, the key distinction is whether the entire algorithm is contested, or just its impact on a specific individual's rights.

1. *Introduction: the case-law based algorithmic administration in Italy*

Electronic administrative law in Italy, despite having a solid and now well-established regulatory framework (mainly embodied in the Italian Digital Administration Code, legislative decree No. 82 of 15 March 2005,[1] and currently incorporated into the European paradigm defined by EIDAS Regulation EU No 910 of 2014)[2] continues to keep undefined areas within its legislative provisions. These fields are today covered by administrative caselaw.[3]

Notably, legislative enactments remain lacking in detail on the critical issue of employing algorithms in administrative decision-making, thereby necessitating the development of the concept of algorithmic administration through the case-law.[4]

As known, this approach leverages information technology to automate decision-making processes. Specifically, it involves the preparation of administrative measures not through the direct exercise of an official's discretion, but rather through a computer program that generates automatic administrative acts based on pre-defined instructions.[5]

We are therefore faced with the operational implementation of the "public-officer-software" that legal doctrine already advocated thirty years ago,[6] and which today affects relatively large areas of digital-administrative activity.[7]

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[1] G. Duni, *L'amministrazione digitale*, Milan, Giuffrè, 2008, 61.

[2] F. Martines, *La digitalizzazione della pubblica amministrazione*, in *Media Laws*, 2, 2018, 151.

[3] F. Faini, *Intelligenza artificiale, diritto e pubblica amministrazione*, in *Intelligenza artificiale e diritto,* A. D'Aloia (ed.), Milan, Franco Angeli 2020, 398.

[4] A. Bilancio, *La carente disciplina sull'uso degli algoritmi nella PA: come interviene il giudice amministrativo?*, in *Media Laws*, 7 October 2021.

[5] We refer to our in-depth analysis in D. Marongiu, *L'attività amministrativa automatizzata*, Rimini, Maggioli, 2005.

[6] A. Masucci, *L'innovazione dell'azione amministrativa: dall'automatizzazione alla digitalizzazione del procedimento amministrativo*, in *Diritto amministrativo e innovazione*, D. Marongiu and I. Martín Delgado (eds.), Naples, 2016, 23.

[7] F. Marconi, *Alcune questioni in tema di decisioni ro-*

The Italian Digital Administration Code, as we said, remains silent on this critical issue, despite its comprehensive focus on various aspects of digital administration. The legislative decree no. 82 of 2005 centers on the concept of the digital system as a platform for managing the lifecycle of administrative documents, from creation and transmission to preservation, but it does so with reference to primarily generated through human intervention. Then, its primary focus lies on establishing guarantees and regulations for these "human-based" documents when they exist in electronic form.[8] Instead, its text, including subsequent amendments enacted over the past two decades, lacks a regulatory framework that addresses the scenario where administrative actions are produced through algorithmic procedures, that operate on pre-defined instructions designed to generate specific measures for individual cases.

It is true that there are, outside the Digital Administration Code, sector regulations relating to specific areas in which algorithms are operated, like in the case of the regulation of electronic auctions contained in the Italian Public Contracts Code.[9] It is equally true that the use of automation processes is now recognized and regulated in the European General Data Protection Regulation, n. 679 of 2016.[10] However, it is a regulation that concerns the specific profile of privacy, for public and private bodies, but not the entire set of specific aspects relating to public automation under the profile of administrative law.

Instead, Italian law does not have a general regulation on the provision processed electronically in the administrative procedure.[11]

In 2005, when the first version of the Italian Digital Administration Code was issued, the lack of regulations for automated-administrative activity was aligned with the needs of that time. However, after two decades of widespread algorithmic adoption in the public sector, this regulatory void has become a pressing issue.

This appears peculiar, because there are certainly many important legal aspects that would require a regulatory order: the question of the legal nature of the software adopted by the public administration, the right of access to the algorithm, the relationship between the administration and (if any) the external subjects in charge of compiling the software, the procedure for transposing the administrative will into the computer program, the forms of illegitimacy connected to programming errors, inaccuracies in the input or malfunctions of the machine.[12]

These are aspects that legal scholarship has extensively analyzed in the past years (and decades),[13] but, in the absence of regulatory discipline, they are managed on an operational level by transposing "classic" rules and principles,[14] in particular the provisions of law No. 241 of 7 August 1990, e.g. on the right of access, or on illegitimacy.[15]

So, administrative caselaw has stepped in to fill the void. A growing body of court decisions, particularly over the past decade, continues to establish a "caselaw of algorithmic administration" in Italian public bodies, acting as a de facto supplement to existing legal frameworks and becoming an integral part of the legal landscape governing algorithmic decision-making.

2. *The decision in question: a new piece of the "Teachers vs. Algorithm" case*

The case that we're examining here is part of the path we've described, in particular in its most significant caselaw line, namely the one deriving from the dispute between the Italian Ministry of Education and the teachers, in which the subject of the dispute is the algorithmic implementation of the school-seat

botizzate: note a margine della decisione n. 2270/2019 del Consiglio di Stato, in *Giustamm.it*, 6, 2023.

[8] A.G. Orofino, *Forme elettroniche e procedimenti amministrativi*, Bari, Cacucci, 2008, 73.

[9] A. Corrado, *La trasparenza necessaria per infondere fiducia in una amministrazione algoritmica e antropocentrica*, in *Federalismi.it*, 5, 2023, 184; L. Iannotta, *Decisioni algoritmiche e valutazione dell'offerta: la digitalizzazione nel settore dei contratti pubblici, tra strumenti digitali e contributo umano*, in *Federalismi.it*, 5, 2024, 47.

[10] S. Civitarese Matteucci, *"Umano troppo umano". Decisioni amministrative automatizzate e principio di legalità*, in *Diritto Pubblico*, 1, 2019, 23.

[11] F. Conte, *La trasformazione digitale della pubblica amministrazione: il processo di transizione verso l'amministrazione algoritmica*, in *Federalismi.it*, 11, 2023, 73.

[12] G. Duni, *L'amministrazione digitale*, 74.

[13] A. Masucci, *L'atto amministrativo informatico*, Naples, Jovene, 1993.

[14] E. Carloni, *I principi della legalità algoritmica. Le decisioni automatizzate di fronte al giudice amministrativo*, in *Diritto amministrativo*, 2, 2020, 285.

[15] L.F. Capone and M. Zambetti, *Focus sentenze G.A. su decisioni algoritmiche – L'algoritmo non docet*, *in Irpa.eu*, 5 July 2022.

assignment rankings.

The increasing amount of court decisions in this line of cases has been the subject of much scholarship analysis, which proved particularly fruitful, offering elements for legal insights that have addressed some of the most critical open questions concerning transparency, fairness, and accountability in public algorithmic decision-making.[16] It has functioned almost like a real-world stress test, assessing how well legal studies developed in administrative automation over the past two decades could be applied in practice without legislative changes.

Since the first decisions of the TAR Lazio issued in 2016 and 2017,[17] which have initiated this line of caselaw, subsequent rulings on the "teachers' algorithm case" have progressively confirmed and solidified the core argumentative framework established in the initial decisions. This framework has evolved over the past few years with additional details and refinements to the legal principles governing algorithmic administration. As known, the Council of State's decision No. 2270 of 2019 stands out as a very relevant ruling in this line.

The decision we are commenting here aligns with this established caselaw trajectory. However, it also introduces new arguments that potentially reshape the existing legal paradigm, at least partially, in relation to the aspects of the legal nature of the software and its reviewability by the judge.

To comprehensively analyze the intervention of the administrative judge in 2023, we must first summarize the key caselaw developments within the "Teachers vs Algorithm" case. In particular it's possible to focus on two particularly relevant elements: firstly, the full documentary nature of the algorithm for the purposes of the right of access; secondly, its nature as an administrative measure for the purposes of possible review by the administrative judge.

The first principle establishes the right of access to the full documentation of the algorithm. This potentially allows interested parties, like the teachers in this case, to inspect and understand the algorithm's inner workings, though direct access to the source code.[18]

This principle solidifies the notion that, for the purposes of exercising the right of access, the source code essentially constitutes a "document". This overcomes prior doubts regarding its "structural" nature, that is, the fact that it is not a physical text written in natural language, but rather a set of coded instructions in a programming language.[19]

The consequences of this acquisition – for both scholarship and caselaw – are significant.[20] In fact, previous decisions clarified in a timely manner (responding to the defense briefs of the administrations) that the right of access must not be exercised through the indirect statement of the contents of the computer program, i.e. by showing an explanatory document in current language, but it must take place through direct vision of the algorithm.[21]

In this way, despite the onus of "translating" this non-human readable document falls upon those with access (excluding those with programming knowledge), the principle achieves the outcome of complete inspectability of the algorithms governing automated administrative decisions.[22]

[16] A.G. Orofino and G. Gallone, *L'intelligenza artificiale al servizio delle funzioni amministrative: profili problematici e spunti di riflessione*, in *Giurisprudenza Italiana*, 2020, 1738.

[17] One of the most significant is the decision of TAR Lazio No. 3769 of 22 March 2017.

[18] N. Muciaccia, *Algoritmi e procedimento decisionale: alcuni recenti arresti della giustizia amministrativa*, in *Federalismi.it*, 10, 2020, 345.

[19] G. Sartor, *I linguaggi (e i sistemi) informatici: un vincolo per il giurista?*, in *Rivista del Notariato*, 1998, 839.

[20] G. Pesce, *Il Consiglio di Stato ed il vizio della opacità dell'algoritmo tra diritto interno e diritto sovranazionale*, in *Giustizia-amministrativa.it*, 2020.

[21] As explicitly affirmed in Lazio Regional Administrative Court decision No. 3742/2017 of 14 February 2017. In the ruling, the Judge stated: "While the administration provided the appellant with the aforementioned memorandum, the instructions were expressed in Italian and in the form of an algorithm describing the ordered sequence of relevant logical steps. This evidently allows for some understanding of the software's function even for the average citizen. However, the right of the recipient of the act, and in this case the trade union association representing said recipients, to possess full knowledge of the computer program cannot be justifiably excluded. This complete knowledge can only be obtained by acquiring the relevant source language, indicated in the appeal as source code, of the software related to the algorithm in question". See R. Antonucci, *La trasparenza dell'algoritmo è necessaria, per la giustizia amministrativa e il Garante*, in *Agenda Digitale*, 9 October 2019 e M. Iaselli, *Diritto di accesso all'algoritmo, TAR Lazio apre nuovi scenari*, in *Altalex*, 17 May 2017.

[22] M. Nicotra, *Algoritmi per le decisioni della PA, quali principi seguire: le sentenze*, in *Agenda Digitale*, 9 January 2020.

It is therefore possible to observe the current transparency requirements for the public sector, like those established in the "Teachers vs Algorithm" case, appear quite stringent. In contrast, the private sector, under regulations like the EU's Digital Services Act (DSA), faces fewer demanding requirements. The DSA requires to describe algorithmic functionalities, but not necessarily to grant direct access to the source code.[23]

However, the court-mandated direct inspection of the algorithm does not constitute a condition of "*de facto* open source". Access to source code is granted only through procedures similar to the traditional right of documentary access, limited to those with a direct, concrete, and current interest in the specific algorithm.

For the broader community, the algorithm remains subject to confidentiality stemming from copyright and trade-secret laws, as these protections apply also to public-sector algorithms, with the exception provided by Italian Law No. 241 of 1990, that grants a right of access that can overcome those limits.

Of particular relevance to this case is the second principle that has emerged and solidified over the past eight years of caselaw surrounding "Teachers vs Algorithm". This principle concerns the nature of the algorithm as an administrative measure subject to judicial review.

Building on the previous point, this principle represents the next logical and chronological step in the legal reasoning of the case.

That is: having established that the source code is an administrative accessible document, the next question is whether the algorithm itself can be considered an administrative measure subject to judicial review. In other words, can the software be directly scrutinized by the courts?[24]

Therefore, the first aspect focuses on the form of the algorithm, specifically its nature as an administrative document ("documentary nature"). In essence, it treats the software as a record ("*res*") that preserves the encoded instructions.

Instead, the second aspect delves into the content of the algorithm. Here, the question is whether the algorithm itself constitutes a "manifestation of will" by the entity that has designed it.[25] In other words, we are faced with the question of whether the algorithm can be considered a direct expression of the creator's will, or is simply the implementation of a separate decision ("pre-software") made earlier.[26]

The Italian Council of State in decision no. 2270 of 2019 decisively affirmed the first view, declaring that the software is an administrative measure, subject to judicial review.

It must be clear that, in this context, even the existence of a prior document ("pre-software") that outlines the software's function in natural language doesn't prevent the software itself from being considered an administrative measure.

Similarly to traditional non-IT general administrative acts, the software can have preparatory documents outlining its goals. These impulse acts, or addressing acts, don't affect the final act's legal nature.[27]

As an example of a non-algorithmic general act, consider the elaboration of a public landscape plan. The existence of prerequisite acts, such as environmental impact assessments or public consultations, does not negate the final plan's characterization as an administrative measure.

A similar argument applies to software creation. The existence of preliminary acts outlining ranking criteria doesn't negate the software's role as an administrative measure. Since the software transforms these goals into executable instructions, it becomes the final expression of will actually determining the teaches' ranking.

In summary, legal precedent has established a strong framework. From a formal standpoint, the software is considered an administrative document due to its material characteristics.[28] More importantly, from a substantive perspective, its content qualifies it

[23] E. Garzonio, *L'algoritmo trasparente: obiettivi ed implicazioni della riforma dello Spazio digitale europeo*, in *Rivista italiana di informatica e diritto*, 2, 2022, 28.

[24] F. Patroni Griffi, *La decisione robotica e il giudice amministrativo*, in *Giustizia-amministrativa.it*, 2018, 4.

[25] S. Civitarese Matteucci, *"Umano troppo umano". Decisioni amministrative automatizzate e principio di legalità*, op. cit., 11.

[26] A. Sola, *Inquadramento giuridico degli algoritmi nell'attività amministrativa*, in *Federalismi.it*, 16, 2020, 351.

[27] See A. Lorusso, *Algoritmo, provvedimento amministrativo e autotutela*, in *Media Laws*, 1, 2023, 334.

[28] G. Fasano, *Le decisioni automatizzate nella pubblica amministrazione: tra esigenze di semplificazione e trasparenza algoritmica*, *in Media Laws*, 3, 2019, 237

as an administrative measure, subject to judicial review.[29] This distinction empowers individuals to scrutinize algorithmic decision-making, fostering greater accountability.

The Lazio TAR ruling of May 2023 commented here intervenes in this framework, introducing a new variable.

3. *The question of the classification of the software act in the present case*

In the case at issue, the Administrative Judge confronts once again the same core issue as the previous ones. A teacher challenges the legitimacy of the procedure that has generated the substitute rankings (provincial, in this case), alleging lack of transparency in the algorithm assigning the locations, which ended up being significantly less desirable than their other preferred locations.

Not only did the appellant challenge "traditional" acts (including a ministerial order that failed to explain the mechanism underlying the computerized procedure), more significantly, she directly contested the legitimacy of "the algorithm itself", arguing that it constitutes a manifestation of will by the Public Administration and must therefore be subject to judicial review.

The judging panel took a departure from the legal precedents in similar cases and shifted the focus of the inquiry from the software's classification to the public or private nature of the action itself. This line of analysis directly impacts the question of jurisdiction – i.e., which court has the authority to rule on this case.

Indeed, previous decisions, in particular the Italian Council of State's 2019 ruling (sentence 2270) and subsequent decisions, had affirmed that software algorithms used for ranking were administrative measures subject to administrative judges' full jurisdiction. Indeed, in the 2019 decision, the Council established that for school rankings, "the technical rule governing each algorithm still remains a general administrative rule" with "full legal and administrative value, even if expressed mathematically". Therefore, for all intents and purposes "the algorithm (i.e., the software) must be considered as an 'IT administrative act'" subject to the full jurisdiction of the administrative judge.

However, the Rome Regional Administrative Tribunal in the 2023 decision found the such precedent did not apply because in the case at issue, "the public administration's actions fell within its prerogatives as private employer".[30] Therefore, the algorithm must be considered as an act by a private employer, implying that jurisdiction over any such disputes belongs to labor judges.

The judge's approach marks a peculiar departure from a seemingly settled and well-established conclusion, namely that the creation of "algorithmic" teachers' rankings fells under public power, not private action.

However, while the judge appears to depart from the established view, a closer examination of the Lazio Regional Administrative Court ruling suggests a way to find continuity with the legal precedent.

The Regional Administrative Tribunal of Rome cites several rulings from the Council of State (including case number 1461 of 2022,[31] which dealt with non-algorithmic measures related to teacher rankings and focused on the distinction between the nature of the Ministry of Education's acts. This distinction determines whether the administrative courts or ordinary courts have jurisdiction over challenges to these acts in the context of teacher rankings.

The ultimate criterion is found in the Cassation Court's 2017 ruling (Sentence of the United Sections No. 21198),[32] stating that: "If a lawsuit aims to cancel a general administrative rule, and only as a result, (…) determines the applicant's right to be ranked, then only the administrative judge has jurisdiction. This is because the lawsuit directly seeks to annul an administrative act. However, if the lawsuit specifically asks the judge to determine an individual teacher's right to be ranked (...), then the ordinary judge has jurisdiction".[33]

[29] G. Olivato, *Consiglio di Stato – sent. 2270/2019: Il procedimento automatizzato utilizzato dalla P.A. deve essere conoscibile e rispettare i principi dell'azione amministrativa*, in *Rivista di Biodiritto*, 8 April 2019.

[30] D. Diaco*, Brevi riflessioni sulla natura giuridica del software (a partire da TAR Lazio, sez. III-bis, n. 8384/2023)*, in *Giustizia Insieme*, 26 July 2024.

[31] The decisions cited by the Lazio Regional Administrative Court in support of this argument are: Cons. Stato, Sez. VII, nn. 1461/2022, 1543/2022, 2048/2022, 4070/2022, 9698/2022.

[32] D. Caudillo, *Graduatorie docenti, quale giurisdizione sul contrarius actus di autotutela*, in *Diritto.it*, 18 June 2020.

[33] See M. Barone, *Graduatorie d'istituto ATA non sono*

Therefore, applying this framework to algorithmic decisions and considering the reasoning of the Lazio Regional Administrative Court, a potential shift in jurisdiction emerges. If the entire algorithmic system is challenged, it might be considered an administrative measure, placing jurisdiction with the administrative judge. However, if the dispute centers on a specific teacher's rights being violated by the algorithm's treatment of their position, then jurisdiction might shift to the ordinary judge.[34]

The Lazio Regional Administrative Court's reasoning creates a peculiar situation: as any single algorithm could be subject to the oversight of two different court systems, its effects on individuals might be treated differently in two Courts. But it's true that this distinction could potentially offer benefits. Challenges to the entire algorithmic framework could be handled by administrative courts with expertise in public-administration matters. Conversely, disputes concerning how the algorithm impacts individual rights might be better suited for ordinary courts, potentially leading to faster and more rights-focused solutions.

However, the key takeaway in this case might not be what the judge explicitly affirms, but rather what they fail to deny and thus implicitly acknowledge.

Indeed, the Lazio Regional Administrative Court introduces the possibility of ordinary judges' involvement in certain cases, but it doesn't deny the software's status as a formal legal act. In fact, the ruling appears to fully reaffirm this classification.

Therefore, despite shifting the focus from public-administrative law to private-labor law, the judge emphasizes a crucial point: the software algorithm itself remains a legal act subject to full judicial review.

This concept is explicitly affirmed: "For purposes of assigning jurisdiction, it is not the type of tool, either analogue or digital, used by the Administration that affects the consistency of the activity it carries out ". Rather, "it is the Administration's actual activity, either authoritative or not, that allocates jurisdiction between administrative and ordinary judges".[35]

Another passage of the decision states that "where the computer program is subjected to an administrative procedure in the strict sense, the validity of the computer rule that regulates it must be known by the administrative judge", even though this is excluded in the present case. This concept is then reiterated several times throughout the judgement.

The judges therefore seem to recognize that the algorithm embodies the nature of a formal legal act. This is because it functions as a legal rule and serves as a direct manifestation of the administration's will.[36]

The judge, within the framework of the "software-legal act". clarifies that the act's nature isn't necessarily public but can be private, as in this case. While it's not an administrative provision but an employer act, it remains an algorithmic act in essence.

While this new approach by the lower court is interesting, it remains to be seen if it will withstand scrutiny by the Council of State on appeal. However, regardless of the case's outcome in the higher court, one concept seems firmly established: the software itself constitutes a legal rule, either public or private depending on the type of power exercised, and not simply a tool for implementing decisions.

Structured as it is, the case law can serve as foundation for a broader analysis of the future of algorithmic administration, within the context of established legal principles.

4. *Glimpses at the Legal Future of Software: Algorithmic Challenges in the AI Era*

We've seen that the current legal pattern in Italy seems to be acknowledging algorithms as potential legal acts, encompassing both public and private spheres, and that software can function as a platform for expressing legally binding will.

However, a critical question remains: does this legal act classification apply to all software?

We are currently witnessing a significant shift from "classic" software to artificial-intelligence algorithms powered by machine learning. Unlike traditional programs based on pre-defined instructions, these algorithms learn and adapt autonomously.

una procedura concorsuale, chi decide in caso di ricorso contro punteggio decurtato, in *Orizzontescuola.it*, 4 August 2022.

[34] Vv.Aa., *Contenzioso per graduatorie d'istituto: è competente il TAR o il giudice ordinario?*, in *Diritto e Giustizia*, 9 September 2021.

[35] All quoted passages are taken from the decision at issue here, Lazio Regional Administrative Tribunal, Decision n. 8384, 16 May 2023.

[36] A. Masucci, *Procedimento amministrativo e nuove tecnologie*, Turin, Giappichelli, 2011, 85.

This evolving legal landscape raises a central question: when a public or private entity utilizes an artificial-intelligence system for legally significant decisions, does the underlying code itself still constitute a legal act?

The answer would probably not be affirmative. This isn't because AI software is less sophisticated than traditional algorithms. On the contrary, its very advanced functioning state creates an issue. As the computer acquires decision-making autonomy through machine learning, its actions become less directly attributable to pre-programmed instructions, consequently weakening the clear link between the software's actions and the intent of those who designed it. This makes it difficult to attribute the software's determinations to the will of a specific entity, potentially hindering its classification as a legal act.[37]

While it's true that both traditional software and AI rely on underlying code, the key difference lies in their functionalities. Traditional software provides clear instructions on "how to act" for each input received. In contrast, AI software focuses on "how to learn to act". It guides the machine's learning process, enabling it to develop its own responses based on the data it encounters. These outputs, driven by the machine's learning, are inherently unpredictable for the programmer.[38]

Compounding these issues is a significant technical hurdle with legal ramifications: the current state of artificial intelligence often lacks the ability to explain its decisions. This phenomenon, known as the "black box", makes it difficult to understand the reasoning behind the machine's determinations.[39]

Since machine learning isn't based on pre-defined rules, it's difficult to trace the exact steps that lead to the machine's decision.[40] In simpler terms, we can't rewind and see how the machine reached its answer.[41] This lack of transparency into the machine's reasoning process is a major challenge.[42]

These factors suggest that, at least in the current state, AI software may not be easily categorized as a "legal rule" in the same way as traditional algorithms. Furthermore, attributing machine-learning based actions entirely and directly to a human manager might be challenging within the current legal framework.

One can ask, therefore, whether these limitations imposed by the nature of AI software create an objective limit to its use in legal decision-making processes.[43]

The answer may differ based on the context, specifically whether it falls within the public administrative sphere or the private negotiation sphere.[44]

In the administrative field, the specific characteristics of machine-learning AI place limitations to its adoption for the development of legal measures. These limitations include the impossibility of predicting the machine's actions and reconstructing the internal decision-making process. These are aspects that conflict with two fundamental principles of administrative decisions: attribution of responsibility (requiring a clearly identifiable official) and transparency (ensuring access to the logical reasoning behind the decisions).[45]

Even if a public official tried to take credit for an AI-driven decision, they wouldn't be able to explain the machine's reasoning. This lack of transparency in the decision-making process would make it difficult to justify the decision with proper reasoning, which is a key requirement.[46]

[37] See C. Bignotti, *Focus sentenze G.A. su decisioni algoritmiche – Consiglio di Stato sentenza n. 2270 del 2019: Come incoraggiare l'utilizzo di algoritmi nei procedimenti amministrativi senza dimenticare la tutela dei cittadini?*, in *Irpa.eu*, 27 September 2022.

[38] The question of the difference between "classic" algorithm and artificial intelligence was also the focus of the Council of State, in decision no. 7891 of 2021. See C. Filicetti, *Sulla definizione di algoritmo (nota a Consiglio di Stato, Sezione Terza, 25 novembre 2021, n. 7891)*, in *Giustizia Insieme*, 8 February 2023.

[39] G. Lo Sapio, *La black box: l'esplicabilità delle scelte algoritmiche quale garanzia di buona amministrazione*, in *Federalismi.it*, 16, 2021, 117.

[40] S. Civitarese Matteucci, *Umano troppo umano. Decisioni amministrative automatizzate e principio di legalità*, in *Diritto Pubblico*, op. cit., 1, 2019, 29.

[41] P. Otranto, *Riflessioni in tema di decisione amministrativa, intelligenza artificiale e legalità*, in *Federalismi.it*, 7, 2021, 191.

[42] A. Valsecchi, *Algoritmo, discrezionalità amministrativa e discrezionalità del giudice*, in *Ius in itinere,* 14 September 2020.

[43] L. Previti, *La decisione amministrativa robotica*, Naples, Editoriale Scientifica, 2022, 232.

[44] M.C. Cavallaro and G. Smorto, *Decisione pubblica e responsabilità dell'amministrazione nella società dell'algoritmo*, in *Federalismi.it,* 16, 2019, 6.

[45] R. Calvara, *Provvedimento algoritmico: sì, ma come?,* in *Irpa.eu*, 7 December 2022.

[46] G. Lo Sapio, *La trasparenza sul banco di prova dei modelli algoritmici*, in *Federalismi.it*, 11, 2021, 245; M. Palma, *Gli algoritmi dell'amministrazione pubblica e l'amministrazione pubblica degli algoritmi*, in *Rivista Italiana di informatica e diritto*, 2, 2022, 42.

This creates a paradoxical effect. While machine-learning AI represents an advancement in technology, its very complexity hinders its application in administrative decision-making, which relies on clear attribution and transparent reasoning.

Conversely, traditional software is well-suited for the public administrative sector. Its predetermined nature offers significant advantages. Attribution is clear, as the actions trace back to the individuals who defined the software's instructions. Similarly, transparency is ensured because every decision-making step is reflected in the source code, allowing for examination and explanation.[47]

In the private sector, the equation might be different. Unlike the public sector, where clear justification and compliance to due process are paramount, private negotiations may offer more flexibility in adopting decisions made by AI. The absence of strict legal obligations regarding motivation in private negotiations creates a more open environment for exploring AI applications, although obviously this must be done with the utmost caution and with awareness of the risks involved.[48]

Therefore, even with the "black box" nature of AI, the private sector might find it more practical to adopt an AI's decision and claim ownership over it. Legitimacy concerns might be less stringent in private negotiations compared to the public sector, where clear justifications and transparency are essential. While the internal reasoning of the machine remains opaque (the outcome of the machine's "thought" cannot be retraced in every step), the absence of strict explanation requirements in private negotiations creates more space for utilizing AI decisions.

For this reason, the most advanced artificial intelligences of today, those founded on deep learning, are already finding a significant area of application in private contracts, while they face an obstacle in their potential use for the exercise of administrative power.

Considering these aspects, and the specific case we're discussing, a relevant question arises: when it is decided by the public administration as private employer, could the allocation of teaching positions be more amenable to advanced AI systems, even if the "black box" limits full explanation of the machine's choices?

Established legal precedent suggests a negative answer. Unlike private employers, public administrations acting as employers retain duties of impartiality and good performance. This translates to obligations arising from those duties, including the motivation of decisions within their employment documents.

Then, the administration, even when acting as a private employer, would struggle to reconcile the principles of good performance and transparency with the potential opacity of AI-driven decisions.

These discussions undoubtedly foreshadow potential future developments in AI adoption for administrative tasks. However, it's important to remember that the specific case we have discussed involved "traditional" automation, where every step of the machine's action is predetermined, and no machine learning is involved.

Definitively, it's important to notice that, given the current state of development and the significant lack of transparency in many AI systems, a transition towards machine learning for public-employment management seems unlikely in the immediate future. It will certainly be possible for artificial intelligence to support and help humans in making administrative decisions, but it is less likely that it will replace them, as for the foreseeable future, legal hurdles currently hinder the use of machine learning-based AI for assigning seats to teachers.

This could occur in a less immediate (but not necessarily distant) future. Under certain conditions, the use of artificial intelligence could become compatible with the transparency requirements of public administration. These conditions include the development of "self-explanatory" AI systems that can overcome the "black box" problem and allow for a full reconstruction of their decision-making processes. However, such developments are likely to happen in a more distant future, as they require significant technological advancements.[49]

[47] A.G. Orofino and G. Gallone, *L'intelligenza artificiale al servizio delle funzioni amministrative: profili problematici e spunti di riflessione*, 1740.

[48] A. Lo Faro, *Algorithmic Decision Making e gestione dei rapporti di lavoro: cosa abbiamo imparato dalle piattaforme*, in *Federalismi,it*, 25, 2022, 189 ff.

[49] A. Facchini and A. Termine, *Explainable AI: come andare oltre la black box degli algoritmi*, in *Agenda Digitale*, 20 January 2022.