PRINCIPLE OF PROPORTIONALITY AND THE USE OF ALGORITHMS IN PUBLIC POLICYIMPLEMENTATION

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1. INTRODUCTION

The concept of bureaucracy, as delineated by Max Weber, finds its legitimacyin rational-legal authority, characterizing bureaucratic organizations as rational social systems. These systems are based on the specialization of functions, formalism, a hierarchy of authority, a system of norms, and the prevalence of impersonality. In recentyears, the explosion of data generation has fueled the expansion of bureaucratic domination with the rise of big data tools. These tools play crucial roles in defining strategies, increasing productivity, enhancing efficiency, and decision-making. However,the growing automation and use of algorithms for decision-making raise ethical and practical questions.

Frank Pasquale's analysis of the shift in decision-making within institutions such as banks illustrates the transition from human judgment to algorithms. Although algorithms offer advantages in terms of efficiency and error reduction, they can also introduce bias and perpetuate inequalities, as demonstrated in the case of credit scores. Moreover, the implementation of algorithms in public policy raises concerns about transparency, accountability, and human participation in decision-making.

The rise of algorithmic governance is seen as a natural evolution of Weber's ideal type of bureaucracy, reflecting the historical pursuit of mechanization and efficiency. However, the transfer of decision-making authority to computational systems without adequate safeguards can result in adverse consequences, as demonstrated by widely reported cases of algorithmic bias and opacity.

The discussion on technocracy, especially in the contemporary era, highlightsthe importance of rationality and impartiality in decision-making but also emphasizes theneed to consider the social

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and ethical implications of technologies. The philosophy of technology and studies on the impact of technology on society offer important insights into understanding the role of algorithms and public policy. However, it is essential to ensure that algorithms are transparent, accountable, and subject to democratic scrutiny tomitigate the risks of abuse and injustice.

The integration of algorithms in decision-making and public policy emphasizes the importance of legal concepts such as the theory of administrative acts, aswell as the analysis of sustainability and proportionality. The relevance of the General Data Protection Law (LGPD) is also highlighted as a legal framework that reinforces already established ethical principles, such as privacy and informational self- determination.

The protection of data as a fundamental right must be reflected in light of theprinciples of proportionality, which is present in the LGPD, specifically in article 6, sections II and III, as well as the principle of reasonableness, which should not be confused with it but rather associated with it, as expressed in article 5, article 6, section I,article 12, paragraph 2, and article 18, paragraph 1. Both are essential when it comes to effective protection of fundamental rights, which are related, in turn, to human dignity, an intangible core of all fundamental rights, in accordance with the understanding of theprinciple of proportionality in a strict sense, with human dignity being enshrined as an axial principle of any Democratic State governed by the rule of law.

In light of the changes evidenced in the world, the relationship between Stateand society needs to incorporate these technological changes, which involves the regulation and raise of legal parameters. In this sense, the National Council of Justice – CNJ, issued Resolution nº. 332, of 08/21/2020, aiming to introduce guidelines for the useof Artificial Intelligence within the scope of the Judiciary.

The interesting thing is that this rule brings in its core the main elements thatmust be observed in the use of AI as a whole, especially in institutional relations with citizens. Some of these, which we can call principles, as they are essential elements, deserve to be highlighted, let's see:

i) Development and implementation of Artificial Intelligence must be compatible with fundamental rights;

ii) When applied in decision-making processes, it must meet ethical criteria of transparency, predictability, auditability, and guarantee of impartiality and substantialjustice. This implies the need for algorithms not to be secret, on the contrary, to be explained in a way that is understandable to the operator;

iii) judicial (or administrative) decisions supported by Artificial Intelligence must preserve equality, non-discrimination, plurality, solidarity and fair trial, with the feasibility of means aimed at eliminating or minimizing oppression, marginalization of human beings and errors of judgment resulting from prejudice.

In Brazil, not only the Judiciary uses AI tools to perform its role, but also thePublic Administration. In the near future, probably, the Legislature will also make use ofthis technology

to improve the elaboration of laws, doing prior research and making the proposal of normative intention compatible with the legal system.

In the global context, the increasing trend of digitalization in the public sphereis evidenced by the paradigmatic case of Estonia, where most services are made availabledigitally. Nevertheless, it is argued that public agents will continue to be indispensable, even in the face of advancing automation. Debates on the feasibility of machines executing administrative acts, such as traffic light control, are outlined. While some advocate for the need for human intervention, others propose that machines should only be instruments of human will.

The importance of motivation and proportionality in administrative acts is emphasized, particularly the necessity of indicating the reasons and legal foundations, especially in situations that impact individual rights or interests. Proportionality is highlighted as a fundamental principle, encompassing the elements of adequacy, necessity, and proportionality in a strict sense.

Finally, the principle of proportionality is meticulously explored, emphasizing its sub-principles such as adequacy, necessity, and proportionality in a strict sense. These foundations are crucial to ensuring that the measures adopted by public administration, inthe implementation of public policies, are consistent, necessary, and proportional to the pursued objectives, always in alignment with the fundamental rights of citizens.

2. LEGAL AND PHILOSOPHICAL ASPECTS

It is easily observed that much of what is prescribed for decisions made throughalgorithms is already, even if partially, encompassed by law. In this sense, for example, the use of algorithms in public policy implementation requires knowledge of the theory of administrative acts and the necessary sustainability analyses, as well as the principle of proportionality.

In addition, it is necessary to make a separation at the time of the use of ArtificialIntelligence in the so-called Public Policy Cycle. This is because there are steps that canbe a significant gain with the incorporation of more advanced information technologies. Starting with the recognition of the public problem itself, through the capture of the perception of the thermometer of the problem between the population and the different public actors.

Likewise, as the analysis that precedes the formulation of the policy, with the survey of indicators from various databases, there can be a gain in quality in the more technical elaboration of the policy. In the execution, with the training of transparent and auditable algorithms, there may be, for example, greater control of income distribution among beneficiaries of social programs.

In evaluation and monitoring, the creation of specific software linked to Public Policy can generate an increase in effectiveness, with indications of course correction andnecessary adjustments to adapt the action. In addition, it can assist in the compilation of data and facilitated production of analysis reports.

However, we have that the design itself of Public Policy, the decision, are eminently human

actions, the result of creativity or subjective and/or political perceptionof pertinence. In these stages, there must be a natural non-insertion of the use of algorithms, which can even hinder in the directions that should be adopted by the formulation of public policy and disturb the proposal to solve the public problem.

Moreover, the General Data Protection Law (LGPD), Law No. 13,709, of August 14, 2018, enshrines many principles that were already covered by ethical principles. After all, respect for privacy, informational self-determination, the inviolability of intimacy, economic and technological development, and innovation, human rights, the free development of personality, dignity, and the exercise of citizenshipby natural persons have ethical content.

It is observed that public administration is moving towards massive use of technology. Some countries even claim that most of their services are already offered to the population through digital means (BIGARELLI, 2018). This reality seems inexorable,no matter how great the difficulties in implementing projects of such magnitude may be.

> *A small country on the Baltic Sea, in northeastern Europe, Estoniais currently a reference in digital public administration. In the country, only three services require the physical presence of a citizen at a government institution: marriage, divorce, and property transfer. Everything else—from starting businesses to voting in presidential elections—can be done without any movement or paper, only with a digital signature* (BIGARELLI, 2018).

Despite the innovation represented by these projects, it is believed that public agents, despite the reduced number, will not lose their importance in the execution of most administrative acts. It is possible that many public servants will be replaced by technological devices, but there will always be the participation of a public agent or one of their delegates. In this sense, just as it is not advisable for technological devices to be recognized as having personality, it is argued that they should not be granted the competence to perform administrative acts.

For example, currently, the assessment of debts with the Workers' Severance Fund (FGTS) is conducted by labor auditors. In the absence of fraud, with the problem limited to mere delinquency, calculating the debt is quite simple. It involves identifying possible discrepancies between what should have been collected, based on the payroll, and the amounts actually collected in the employees' linked accounts.

A few small changes and it would be possible for this assessment to be done automatically. However, it is noted that there will always be a need for a responsible person, an auditor to sign off on the assessment or even to initiate the procedure. This is an essential requirement of the administrative act, which requires a competent agent to carry out the activity.

> *(...) an administrative act can be defined as the declaration of the State or its representative, which produces immediate legal effects, in compliance with the law, under the legal regime of public law, and subject to control by the Judiciary* (DI PIETRO, 2020, p. 464).

When addressing the topic, Fernanda Marinela advocates the possibility of performing

administrative acts by machines, such as when public services or activities are controlled by computers. In this sense, she cites the example of traffic light control centers, where the machine itself issues orders to "stop" or "go," which are legal and administrative acts, "although they do not stem from a true manifestation of human will"(MARINELA, 2017).

According to Justen Marçal Filho, the administrative act is a manifestation of will directed towards a specific purpose. In this sense, he identifies the existence of two distinct aspects: externalization, consisting of an action or omission, and an internal aspect, the will that is the cause of the action or omission (JUSTEN FILHO, 2014).

For the author, technological progress complicates the analysis of the topic since "administrative activity is increasingly being carried out with the aid and through automated devices." Legal effects are produced by equipment, without the apparent directintervention of a human being, as in the classic example of vehicle traffic control (JUSTEN FILHO, 2014).

To address the issue, the author presents two possible paths for analyzing the topic. In the first, it is argued that there is no volitional manifestation in the functioning of the equipment. In this case, it would not be possible to speak of an administrative act since the administrative will would be absent. In the second path, it is argued that the human will uses technological devices only as a means of its manifestation. In this sense,the existence of an administrative act with indirectly externalized will is recognized.

> *In almost all cases, the use of equipment and other instruments does not mean the absence of a will that orders and commands their functioning. Therefore, the will of the Public Administrationdoes not cease to exist when it uses automated instruments to multiply and simplify its actions* (JUSTEN FILHO, 2014).

It is clear that analyses involving traffic signals deal with simple electronic devices, which in no way encompass the capabilities of current technological apparatuses,capable of going far beyond surveillance through sensors installed on public roads. As has been observed, applications are branching out into all areas of administration and demonstrating a great capacity to decide and perform acts, often without the need for human intervention.

It is important to recognize that there is a human will that determines the creation of instruments, programs their operation, enables their use, and determines how they affect those being governed. Thus, even in cases where the externalization of the act is not carried out by a human, such as in the control of traffic lights or the enforcement of speed limits through radar, there is an administrative act that must follow the legal regimeof public law.

As such, administrative acts are subject to the legal regime of public law, insofaras these acts originate from public administration agents or delegates of public power andare intended to serve the public interest. In this sense, there are specific legal rules and principles that do not apply to private acts.

For example, in private law, in general, little consideration is given to the veracity of the expressed motives that drive an agent. In this context, there is always a will embodied in legal acts, independent of the externalized motives. Conversely, an act performed by a public agent must be

driven by public order motives, and any act that deviates from these motives is flawed.

> *No act of the Administration should be motivated by personal animosities, private interests, whims, or vanities. While in privatelaw, the psychology of the author of the act is irrelevant, in publiclaw, the psychology of the administrator is significant, and if this moment of interiority can be scrutinized and proven, the outcomeof the investigation will have greater or lesser consequences on the very validity of the measure or provision taken.* (CRETELA JUNIOR, 1977, p. 310).

Veracity and legitimacy characterize Public Administration, emphasizing the relevance of the intended purpose in the degree of legitimacy of the administrative act. Aprivate individual may seek ways to circumvent the law, a practice that cannot be carried out by a public agent. Administrative morality must always be present in the actions executed by public agents. It is always important to remember that an administrative actis authentic, deserving of faith and legitimacy, until proven otherwise (CARVALHO FILHO, 2020).

> *In the form of a proposition, the principle of truth and legitimacyof administrative acts can be expressed as follows: "Administrative acts carry with them the presumption of truth andlegitimacy, being therefore true and legitimate until proven otherwise, with the burden of proof falling on those who contest these attributes"* (CRETELA JÚNIOR, 1977, p. 311).

Truth, like law itself and everything that is human, is understood to be produced through language, as a practice that the ancient Greeks called poiesis, a creative poetic practice. However, this creation takes as its elements for construction what is real, whichis why it can help us face reality. When the construction is made without a foundation inwhat is real, it does not hold up, and collapsing, it will cause harm to those it was supposedto protect—everyone, including the unskilled constructors. It is worth drawing attention to this relationship between the magic of the word and the law. In my anthropological studies on law, very early on, I was able to ascertain what I later characterized as the original intertwining between law and magic, intertwined to produce what we are— humans, who thus self-produce. Being so, we can say that we are "autopoietic," to use the term coined by the Chilean knowledge biologist Humberto Maturana, a term or concept that became the guiding force for what Niklas Luhmann characterized as a true revolutionin sociological studies, including law. For Maturana, life is autopoietic; for Luhmann, inanother way, society is also autopoietic, just as, on an intermediate level between what isalive and human society, our thinking is autopoietic. Therefore, we are autopoietic beingsif we are social and thinking living beings, according to Aristotle's classic definition of the human being as "zoon politikon logon ekhon," which can be translated, in summary,as "a social animal endowed with language." The word "logos," thus translated as "language," was also translated, classically by the Romans, as "reason," "ratio," hence theconcept of "animal rationale." We prefer "language" because it is the means that brings us to reason, but also to its opposite, or simply something different.

In fact, if we are linguistically constituted and everything human is language orthe result of its use in some of its multiple forms, it is worth highlighting, with ToshihikoIzutsu (2011, p. 37–38), the magical function of language, as this great Japanese scholarnotes: (2011, p. 37 – 38),

> *"In many languages, the very term for 'word' has an intense magical or ceremonial connotation. Thus, in Sumerian, as we have seen, the same term, 'inim,' is alternately used in the sense of 'word' and in the sense of 'spell' or 'enchantment.' This is particularly notable in the case of archaic Japanese. Here, the twomain words for speech, 'noru' and 'ifu,' both have undeniable magical associations; a ceremonial, if not sinister, atmosphere floats around them, permeating and penetrating them.".*

And we don't need to go back to Sumerian or archaic Japanese to find this demonstration of the link between language and magic in language itself. Even in currentEnglish, 'to spell' is the verb for spelling, and the noun 'spell' means a charm or enchantment.

Through law, words gain the power to transform our lives, which the English philosopher John Austin called the performative function in his 1962 work "How to Do Things with Words." Indeed, everything we do is with words, and we create everything around us, thus creating our human world. The example Austin gives of a performative speech act is not by chance legal: someone pronounces a few words, a justice of the peace, and two people who were previously single become a couple because their marriage hasbeen performed.

Returning now to the topic from the administrative law perspective, it is noted thatmotive and motivation, despite being autonomous institutions, are concepts that are sometimes confused in the field of Administrative Law. In this sense, it is important to define motive as the "factual and legal assumption that serves as the basis for the administrative act," while motivation is the exposition of the reasons, that is, the written demonstration that the factual assumptions actually existed" (DI PIETRO, 2020).

In the doctrine of Administrative Law, there is debate about the necessity of motivation in administrative acts. Some believe that motivation is mandatory, while others argue that the obligation is limited to bound acts (CARVALHO FILHO, 2020).

However, it is believed that the absence of motivation cannot be defended whenthere is a guarantee of judicial review in cases of injury or threat to rights.

Thus, nothing is more opportune than for the interested party to have the right toknow the reason, the grounds that justify the acts performed by the administration, ensuring the right to contradictory and ample defense.

> *Motivation cannot be limited to indicating the legal norm on which the act is based. It is necessary that the motivation containsthe indispensable elements for controlling the legality of the act, including the limits of discretion. It is through motivation that it can be verified whether the act is in accordance with the law andthe principles to which Public Administration is subject* (DI PIETRO, 2020).

Just as motivation cannot simply indicate the legal norm on which it is based, when algorithms are used, the motivation cannot simply state that it was the result obtained through the use of an algorithm. In these cases, transparency in processing is required, the trail that was followed until the answer was reached. In the case of the National High School Exam (ENEM), where the score is obtained through the applicationof Item Response Theory (IRT), it is essential

that the examinee has access to the answersof other candidates and has viable means to verify the accuracy of the score awarded.

In this sense, Law No. 9,784, of January 29, 1999, which regulates administrative proceedings in the federal sphere, prescribes the mandatory motivation for certain types of administrative acts. In its Article 50, it establishes the need for motivation,with an indication of the facts and legal grounds, for example, in acts that deny, limit, or affect rights or interests, and those that decide administrative processes of competition orpublic selection (BRAZIL, 1999).

Decree-Law No. 4,657, of September 4, 1942, the Law of Introduction to theBrazilian Law Norms (LINDB) (BRAZIL, 1942), amended by Law No. 13,655, of April25, 2018 (BRAZIL, 2018), expanded this provision. In this sense, it reaffirmed the importance of motivation in acts, as it is the element that "will demonstrate the necessityand adequacy of invalidating an act, contract, agreement, process, or administrative rule,as well as any alternatives" (Article 20, sole paragraph). At the same time, it began to prescribe, in its Article 28, that the "public agent will be personally liable for their decisions or technical opinions in cases of willful misconduct or gross error" (BRAZIL, 1942).

It is important to remember that Public Administration, in accordance with the principle of self-regulation, exercises control over its own acts, with the possibility ofannulling illegal acts and revoking inappropriate ones. Finally, according to the Theory of Determining Motives, if the factual situation that impels the administrator's will is non- existent, the administrative act must be invalidated (CARVALHO FILHO, 2020, p. 264).

3. APPLICATION OF THE PRINCIPLE OF PROPORTIONALITY

Finally, the necessity of applying proportionality in decisions is to be emphasized, indicating the parameters used in judgments in order to prevent from the risks to have it misused as if it was some kind of magic formula. Willis Santiago Guerra Filho, when addressing the topic of proportionality, was a pioneer in national literature (1989, 2018), and he highlights:

> *The idea of proportionality is not only an important—indeed the most important, as it enables the dynamic accommodation of principles—fundamental legal principle, but also a true argumentative topos, as it expresses a thought accepted as fair andreasonable in general, of proven utility in addressing practical issues, not only in the various branches of law but also in other disciplines, whenever it concerns discovering the most appropriate means to achieve a specific objective"* (GUERRA FILHO, 2002).

The principle of proportionality has a content that is divided into its partial elements or three sub-principles: adequacy, necessity or exigibility (the command of theleast restrictive means), and proportionality in the strict sense (the maxim of balancing).

Through adequacy, it is verified whether a particular measure represents the rightmeans to achieve a goal, tied to the public interest. Arbitrariness is prohibited, as the aimis to match the means to the intended end. According to the principle of necessity, the measure "should not exceed

the limits essential to preserving the legitimate aim sought" (BONAVIDES, 2004, p. 197). Finally, in applying proportionality in the strict sense, theobligation is observed to use appropriate means while prohibiting the use of disproportionate means.

> The principle of proportionality, understood as a mandate to optimize maximum respect for every fundamental right in conflict with another(s), to the extent legally and factually possible, has a content that, in German doctrine and jurisprudence, is divided into three "partial principles or propositions" (Teilgrundsätze): "the principle of proportionality in the strict sense" or "the maxim of balancing" (Abwägungsgebot), "the principle of adequacy," and "the principle of exigibility" or "the maxim of the least restrictive means" (Gebot des mildesten Mittels) (GUERRA FILHO; CANTARINI, 2017).

For Willis Santiago Guerra Filho, "the principle of proportionality in the strict sense determines that a correspondence be established between the end to be achieved bya normative provision and the means employed." While the sub-principles of adequacy and exigibility "determine that, as far as possible, the means chosen should be appropriate for achieving the established end, thus proving to be 'adequate'" (GUERRA FILHO, 2002).

At another point, the author observes that the principle of proportionality allowswhat the Americans call "balancing" of interests and goods, which is equivalent to the German concept of balancing (Abwägung). Thus, its appreciation would compensate forthe deficit in legal theory and law itself, for "not juridifying the relationship between means and ends," leaving this treatment to other sciences (administration and economics).Through it, adequate solutions for each particular case can be offered. (GUERRA FILHO;CANTARINI, 2017).

Finally, it is important to note that the principle of proportionality does not justify "violating the 'essential content' (Wesensgehalt) of a fundamental right, with the intolerable disrespect for human dignity" (GUERRA FILHO; CANTARINI, 2017). Technological progress continually tests the limits of the human. Therefore, the principle of proportionality must act in protection of the human, to prevent limits from being crossed.

4. FINAL CONSIDERATIONS

In summary, the analysis of the integration of algorithms in decision-making andpublic policies highlights the importance of fundamental legal concepts, such as the theory of administrative acts and the principles of sustainability and proportionality. The General Data Protection Law (LGPD) emerges as an essential legal pillar to reinforce already established ethical principles, such as privacy and informational self- determination.

The growing movement towards digitalization in the public sphere, exemplified by Estonia's experience, where most services are offered digitally, underscores the importance of reconciling technological advances with the maintenance of human participation in public

administration. Discussions about the possibility of machines performing administrative acts reveal ethical and practical dilemmas that need to be carefully considered.

Motivation and proportionality emerge as crucial elements in the conduct of public policies, ensuring that administrative decisions are fair, legal, and proportional to the objectives pursued. In this context, the principle of proportionality, with its sub- principles of adequacy, necessity, and proportionality in the strict sense, plays a fundamental role in safeguarding the fundamental rights of citizens.

Therefore, it is imperative that the implementation of algorithms in public administration is accompanied by adequate safeguards, transparency, and accountability, ensuring that these technologies serve the public interest and do not compromise the democratic and ethical principles that govern our society.

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