# The Public Law Studies: Relationship between Accountability, Environmental Education and Smart Cities

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**Abstract**—Nowadays, the study of public policies regarding management efficiency is essential. Public policies are about what governments do or do not do, being an area that has grown worldwide, contributing through the knowledge of technologies and methodologies that monitor and evaluate the performance of public administrators. The information published on official government websites needs to provide for transparency and responsiveness of managers. Thus, transparency is a primordial factor for the execution of accountability, providing, in this way, services to the citizen with the expansion of transparent, efficient, democratic information and that value administrative eco-efficiency. The ecologically balanced management of a Smart City must optimize environmental education, building a fairer society, which brings about equality in the use of quality environmental resources. Smart Cities add value in the construction of public management, enabling interaction between people, enhancing environmental education and the practical applicability of administrative eco-efficiency, fostering economic development and improving the quality of life.

**Keywords**—Accountability, environmental education, new public administration, smart cities.

## I. INTRODUCTION

IN Brazil, from the promulgation of the 1988 Constitution [1], emphasis was placed on the need to retrieve the federalist spirit and the concept of citizenship in Brazil, in particular, through the strengthening of municipal autonomy, administrative decentralization, delegation of power, de-bureaucratization, modernization and transparency of the governmental apparatus.

It is the opportunity for a profound transformation and modernization of the public machine, adapting it to the new economy, democratic participation and popular organization. It is necessary to reduce the existing gap between the operational capacity of the administrative machine and the requirements resulting from the process of globalization and sustainable and eco-efficient development, substantially marked by greater aspirations for socioeconomic development, respect for the dignity of the citizen and implementation of the efficiency and effectiveness of public services.

Foremost in the process of modernization and transformation of Public Administration are strategy, values, assumptions, motivations and the reason for the change, for it to take place effectively, as the obstacles for administrative transformation and modernization vary according to the adopted strategy. Depending on why and how the process is carried out, the intervening variables are articulated in order to reinforce or weaken the dysfunctional and paralyzing repercussions of the obstacles.

Accountability, a term still without a specific translation into Portuguese, can be used to address government transparency, as well as accountability by authorities, or when citizens promote demonstrations when they consider the public management of a certain manager inoperative. Accountability is the set of mechanisms and procedures that lead government decision-makers to account for the results of their actions, ensuring greater transparency and exposure of public policies. Accountability and the transparency of financial information are expected to remain significant in achieving the reforms required for the country's citizens (as external stakeholders), as directed by the organization's leaders and civil servants (as internal stakeholders) [2].

One of the objectives of accountability would be transparency of the public manager, regarding dissemination of information to the community, so that the precepts relating to citizenship are put into effect in practice.

Horizontal accountability, the inspection that takes place between the bodies of public administration, is directly related to vertical accountability, which is the one through which social actors organize to demand from governments the correct use of the treasury, the rendering of accounts of public money, as well as the dissemination of results related to public policies. In vertical accountability, social actors tend to demonstrate discontent when public policies do not satisfy their wishes. Although horizontal accountability is related to the taking of accounts by a public agency to another overseeing body of the public administration, it would be interesting if, even in horizontal accountability, there would be public disclosure of what was found. This procedure tends to strengthen and legitimize the State in front of its citizens [3]

In Brazil, within the scope of public administration, bidding is generally mandatory for the contracting of goods and services by the public administration, which has a specific rite for such activity. Recently, Law No. 14,133/2021 [4], was enacted,

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which established the new bidding regime, providing for institutes with economic biases, such as greater economic return on hiring, competitive dialogue and efficient contracts. Furthermore, private institutes dedicated to efficiency are fully applicable to Public Law, as is the case with dispute boards, arbitration in public administration, efficiency contracts, public-private partnerships and, more recently, the innovations arising from competitive dialogue.

The accountability methodology aims to diagnose deficiencies and solutions that must be adopted, with a view to efficiency. Accordingly, it is important that the recommended solutions be implemented, that is, the strategy, because the great difficulty in modernizing and transforming bureaucracy is not the knowledge of the appropriate solutions, but formulating and providing strategies that make them a reality. It also has the scope of carrying out document analysis and knowledge of the current functioning of the organizational structure model that is most suitable for the various areas of Administration, proposing adjustments to existing models, such as the creation or extinction of Public Administration bodies, which make up the Executive Power of a nation.

The organizational structure in its operational, human and logistical aspects must be investigated, recommending the necessary actions and adopting with the capacity to absorb new activities. Such actions include identifying activities and areas in need of administrative organization, formulating criteria and suggesting alternatives for decision-making, and coordinating the development, implementation and maintenance of programs and projects.

It is about the harmonization of human resources and the volume of tasks in a given area of activity, based on the measurement of the expenditure of forces and the analysis of the environment and characteristics of the activities designed to increase productivity and raise managerial capacity.

Through specific determination of authorities and their respective responsibility, each person in the public administration will play their part in the plans, even though the other various members of the group may be geographically separated, formatting an organized administrative management, so that the agents carry out their work, performing a variety of specialized tasks.

## II. Discussion

### A. The New Public Administration: Analysis of the Brazilian Legal Landscape

Administration is defined as any action that determines the allocation of resources or the execution of objectives. The activity of administering is linked to the decision process where resources are moved in order to guarantee the realization of certain previously drawn plans. The public administrator is the professional qualified to manage financial resources, technology, inputs and people in State entities. It is an offshoot of Administration Sciences, which has specific characteristics to justify the creation of a Technologist. That is, an agent responsible for serving the population in certain public functions and extensions, such as hospitals, recreational centers, municipal public schools, among others.

Its origin dates back to the end of the 20th century, period in which developed nations started to employ techniques from private companies (e.g.: efficacy, cost reduction, efficiency maximization), transporting them to the public administration. This perspective allows public management to be carried out through a system that allows for constant exchange between new information and communication technologies, ensuring accessibility and economy in the expenditure of public resources for the public sector.

In Brazil, normally the first stage to be developed by Smart Cities in the Municipality consists of training public administration personnel, through courses aimed at the local public, with the objective of training civil servants to act in accordance with the legal system, as well as using the private institutes inherent to the New Public Management in the locality.

The legal analysis generates studies on a possible implementation in the Municipality of agreements with Higher Education Institutions for the training of civil servants and citizens, in accordance with a duly approved work plan, through distance courses in the undergraduate and graduate modality.

Administrative and legal advice on public policies is important, including, in case of irregularity in the public accounts, so the Legal Advisory team may deal with all contradictory issues necessary within the scope of the Courts of Auditors, applying the appropriate judicial understanding, as well as in thesis formulation.

As a result of the assumption of the attributions of electronic governance, public management is no longer exercised exclusively by the State entity, there being, therefore, a plurality of actors in the performance of the public service, and the following question may arise: what is the direct consequence of such peculiarity? Well, the reflection of the private initiative in the performance of the public service will lead to a new financing model called crowdfunding, following the '4P methodology' (public-private-people-partnership), that is, the interaction between duly associated public and private, fulfilling collaborative purposes in promoting essential policies for urban development. This form of financing involves both the contribution of the treasury and the remuneration made by private entities in a feedback situation.

Another relatively new resource in Brazil is arbitration, currently regulated by Law No. 9307/1996 [5], which expressly provides for its applicability to the Government, with the exception that, in this specific case, the arbitration procedure must be carried out in a compulsory form in a public procedure according to the principle of advertising. The attributes of efficiency directly affect this method conducive to the resolution of conflicts in the public sphere, not least because the arbitration award has a deadline to be delivered, which can be freely stipulated by the parties, or, in the absence of a stipulation, it must occur within a maximum period of six months.

Out-of-court dispute settlement is a growing trend in the private sector, whether in terms of assertiveness or in terms of the time properly spent to resolve the conflict. No wonder that

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arbitration is increasingly widespread in the business environment, especially in negotiations of high economic value. Another issue involving extrajudicial hetero-composition in business litigation concerns the use of litigation, which, according to Wald's definition, is as follows: "Litigation are panels, commissions or dispute resolution councils whose members are appointed at the time of signing the contract and monitor its execution until the end, and may, as appropriate, make recommendations (in the case of Dispute Review Boards - DRB) or take decisions (Dispute Adjudication Boards - DAB) or have both functions (Combined Dispute Boards - CDB), as the case may be, and depending on the powers conferred to them by the parts" [6].

### B. Environmental Education and the Impacts on Human Development

Environmental education is a process that allows individuals to explore ecological issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions. Environmental education does not advocate a particular viewpoint or course of action. Rather, environmental education teaches individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision-making skills [7].

Education is one of Youth 2030's key priorities of the United Nations: "We are advocating for quality education by engaging Member States and other partners to ensure universal access to such education, and to develop and deliver quality and inclusive education for young people that is learner-centered, adopts a lifelong learning approach, is relevant to their lives and the social and environmental needs of their communities, and promotes sustainable lifestyles and sustainable development. And also promoting non-formal education by advancing youth policy frameworks that support non-formal education and its role in the development of young people's knowledge, skills and competencies" [8].

The United States of America (USA) has the "The National Environmental Education Act of 1990", a law that authorizes the U.S. Environmental Protection Agency (EPA) to provide national leadership to promote the protection of the environment. In that country these measures are implemented by the Office of Environmental Education [9].

The American Federal Government, acting through the coordinated efforts of its agencies and with the leadership of the Environmental Protection Agency, should work with local education institutions, State education agencies, non-profit educational and environmental organizations, non-commercial educational broadcasting entities, and private sector interests to develop programs to provide increased emphasis and financial resources for the purpose of attracting students into environmental engineering and assisting them in pursuing the programs to complete the advanced technical education required to provide effective problem solving capabilities for complex environmental issues [9].

In a global perspective, the United Nations Educational, Scientific and Cultural Organization (UNESCO) analyzed educational plans and curriculum structures in about 50 countries, finding that more than half do not mention climate change, while only 19% mention biodiversity. The inclusion of environmental education is necessary in order to have a balanced environment: "We are confident that education is a powerful enabler of positive change of mindsets and worldviews and that it can support the integration of all dimensions of sustainable development, of economy, society and the environment, ensuring that development trajectories are not exclusively orientated towards economic growth to the detriment of the planet, but towards the well-being of all within planetary boundaries" [10].

Environmentally Sustainable Development (ESD) is essential for a real quality of life, especially as human needs are unlimited in an environment with limited resource capacity. So, from an early age, environmental education must be embedded in schools (as well as in non-formal education). It is up to local governments to foster this knowledge about eco-efficiency and sustainability.

The greatest intellectual challenge we and the rest of society face is embracing the idea that, as we develop new digital technologies, we use those same technologies to study the processes of their application, implementation and impact on society. It is already clear that an informed citizenry through the power of the network is starting to make a difference, as new forms of data and advice are being implemented through crowdsourcing. New forms of preference elicitation are being generated using mobiles and other apps, while the economy is essentially moving online with the disappearance of material tokens (money) [11].

The implementation of ESD in schools needs a series of public policies aimed at environmental conservation, social justice, social development and democratization of quality knowledge, in order to create personal and social change. Change also involves the way human beings behave in society and their cognitive training, aiming at the full exercise of citizenship, empowering citizens and, through them, social institutions, to play leading roles in this transition to a sustainable future. It is a global vision that involves the maturation of learning, public policies and the development of the citizen's role [12].

### III. CONCLUSION

With the pandemic, Brazil's Gross Domestic Product (GDP) dropped 4.1% in 2020, the worst rate in the last 24 years. According to the Brazilian Institute of Geography and Statistics (IBGE), an official federal government agency, there's a decline of 3.8% in the first quarter of 2021 alone. The data are alarming: Brazil's GDP in 2020 was R$7.4 trillion, in the first quarter of 2021 the value was R$ 2 048.0 billion [13].

In the Brazilian economic scenario, it is clear that currently the Inter-American Development Banks (IDB) and the World Bank (IBRD) have linked the granting of economic subsidies to the prior agreement of dispute board in the contractual objects. The model proposed by smart cities currently provides the combination of services and innovation to serve citizens more

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efficiently. This demands, on the part of the public administration, good policy, leadership and a regulatory framework, in addition to the unquestionable technological infrastructure, even because the participation of actors, hitherto unconceived, in the achievement of public management, is verified in a more accentuated way. This was demonstrated by the participation of the third sector, that is, parastatal entities in the provision of public services. This new administrative profile greatly influences relevant world public policies; accordingly, sustainable growth is intrinsically linked to the notion of eco-efficiency, sustainable economy, competitiveness and promotion of environmental education. However, the mere use of technology does not qualify a city as smart, but community engagement with management is what makes public management more efficient. The dominant Smart City model today is highly based on information technologies, and the smart city must have cultural facilities, environmental education and an effective health and safety system for its citizens. In addition, security for citizens also encompasses transparency in public management, through accountability, in which citizens can access information and ask the supervisory authorities to take measures to ensure that the purse is really used correctly. Even more so when it comes to a developing country like Brazil.

As soon as the population has access to quality environmental information and education, it will be able to play its role as an inspection agent of the State, taking care of public money.

Despite current Brazilian laws providing for public transparency, environmental education and the obligation of public managers to provide information to the general public, in practice, these behaviors are not usual, much of this picture is due to the lack of knowledge of the general public of these legal prerogatives.

## REFERENCES

[1] Brazil, "Constitution of the Federative Republic of Brazil," 5 October 1988. (Online). Available: http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm. (Accessed 14 July 2021).

[2] N. P. T. C. H. Yen Thi Tran, "The role of accountability in determining the relationship between financial reporting quality and the performance of public organizations: Evidence from Vietnam," Journal of Accounting and Public Policy, vol. 40, no. 1, January–February 2021.

[3] A. A. Bandeira, "Information and Accountability Exercise," June 2005. (Online). Available: http://www.cinform-anteriores.ufba.br/vi_anais/docs/AlineAlvesBandeira.pdf. (Accessed 2 February 2021).

[4] Brazil, 1 April 2021. (Online). Available: http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/lei/L14133.htm. (Accessed 2021 March 12).

[5] Brazil, "www.planalto.gov.br," 23 September 1996. (Online). Available: http://www.planalto.gov.br/ccivil_03/leis/l9307.htm. (Accessed 2021 July 12).

[6] A. WALD, "Dispute Resolution Boards:recent developments.," Arbitration and Mediation Journal , vol. 8, no. 30, pp. 139-151, July 2005.

[7] EPA, "United States Environmental Protection Agency," An official website of the United States government. (Online). (Accessed 11 July 2021).

[8] U. Nations, "https://www.un.org," United Nations, August 2019. (Online). Available: https://www.un.org/en/un-chronicle/transforming-youth-education-support-achievement-2030-agenda-sustainable-development. (Accessed 11 07 2021).

[9] EPA, An official website of the United States government., 16 November 1990. (Online). Available: https://www.epa.gov/education/national-environmental-education-act-0. (Accessed 11 July 2021].

[10] UNESCO, 17-19 May 2021. (Online). Available: https://en.unesco.org/news/unesco-declares-environmental-education-must-be-core-curriculum-component-2025. (Accessed 12 July 2021).

[11] K. A. F. G. A. P. A. B. M. Batty, "Smart cities of the future," The European Physical Journal, 5 December 2012.

[12] A. Barrable, "Refocusing Environmental Education in the Early Years: A Brief Introduction to a Pedagogy for Connection," Education Sciences, vol. 9, no. 1, 19 March 2019.

[13] IBGE, "Institute of Geography and Statistics," 2021. (Online). (Accessed 17 July 2021).