

Digital Government, Public Procurement, and Contracting in Brazil: A Technological Perspective on Procurement Law

André Guskow Cardoso

L.L.M at UFPR – Federal University of State of Paraná. Attorney. Partner at Justen, Pereira, Oliveira & Talamini – Soc. de Advogados. Member of the Digital Law and Data Protection Commission of the Brazilian Bar Association, State of Paraná Chapter (OAB/PR).

Abstract

Technological evolution has both influenced and imposed the digitization of many government functions. Public procurement and contracting serve as interfaces between the government and private contractors/providers and are directly impacted by technological developments. This paper examines the degree of development of digital government in Brazil and its practical implications for procurement and contracting. It addresses questions related to open contracting and the use of artificial intelligence tools to enhance government procurement. This examination aims to evaluate the effectiveness of implementing digital tools in Brazilian government procurement, especially following the enactment of Law n. 14.133/2021 (the new Brazilian Procurement and Contracting Statute). Furthermore, the potential implications of the development of a Brazilian CBDC (Central Bank Digital Currency), currently in its pilot phase and projected for release between 2024 and 2025, for procurement and contracting processes are explored. This includes considering the potential use of tools like smart contracts to automate certain aspects of public contracts, such as payment processes, bonds, and guarantees. The goal, as stated in the Digital Government Statute (Law n. 14.129/2021), of transforming the government into a platform is also analyzed to gauge the legal implications and potential outcomes for procurement and contracting processes in Brazil. This also encompasses enhancing private sector participation in these processes, as seen with GovTech and ProcTech solutions and partnerships. Evaluating the legal landscape and current practices related to these technological perspectives reveals significant potential. Adopting a pro-technology stance in this crucial government domain could lead to greater efficiency, transparency, oversight, and reduction of corruption.

1. Introduction

Technological evolution has both influenced and imposed the digitization of many government functions. As public procurement and contracting serve as interfaces between the government and private contractors/providers, these activities are directly impacted by technological developments.

Technology could represent a revolutionary role in relation to legacy procurement systems. It could overcome their limitations (such as inefficiency, susceptibility to

corruption, and lack of transparency) and provide new tools for enhancing procurement processes. Notwithstanding, the pace of technological evolution outpaces regulatory updates within the Brazilian context.

This text aims to examine some specific topics as (i) to what extent has Brazil embraced the digitalization of its procurement processes, (ii) how does the recent legal framework impact the potential for technological integration, and (iii) what are the benefits, challenges, and legal implications of specific technologies (such as AI, CBDCs, and smart contracts) in this context.

To that end, the context of technological evolution in government functions, especially related to public procurement and contracting, will be presented. The significance of technological advancements in facilitating interactions between the government and private entities in Brazil will also be addressed.

2 Evolution of Digital Government Initiatives in Brazil

2.1 Key Legislation

2.1.1 Law n. 14.129/2021

Law n. 14.129 was enacted in 2021. It defines principles, rules and tools for the *Digital Government* and for increasing public efficiency (article 1).

The need of digitization of the public administration and of the government is set out by articles 5, 6 and 7. The practice of acts by the interested party and government officials in digital medium, the provision related to electronic administrative processes and related rules are also contemplated by Law n. 14.129.

Law n. 14.129 established some principles and guidelines as: (i) the reduction of bureaucracy, modernization, strengthening and simplification of the relationship between government and society, through digital services, accessible even through mobile devices; (ii) the availability on a single platform of access to information and public services, subject to the legally established restrictions and without prejudice, when indispensable, to the in-person provision; (iii) the possibility for citizens, legal entities and other public entities to demand and access public services through digital means; (iv) transparency in the execution of public services and monitoring of the quality of these services; (v) the incentive to social participation in the control and inspection of the public administration; (v) the duty of the public authority to report directly to the population on the management of public resources; (vi) the use of technology to optimize public administration processes; (vi) the interoperability of systems and the promotion of open data; (vii) the

implementation of the government as a platform and the promotion of the use of data, preferably anonymized, by individuals and legal entities from different sectors of society, safeguarding the provisions of General Personal Data Protection Law, with a view, in particular, to the formulation of public policies, scientific research, business generation and social control; and (viii) the preferential adoption, in the use of the internet and its applications, of technologies, standards and open and free formats.

Open data is a matter that was expressly considered by Law n. 14.129. Article 4 define *open data* as “data accessible to the public, represented in digital media, structured in an open format, processable by machine, referenced on the internet and made available under an open license that allows its free use, consumption or treatment by any person or legal entity”.

As digitization is both a key concept to achieve the goals of open contracting and a premise to have technology-oriented procurement processes, Law n. 14.129 plays a relevant role in the evolution of public procurement in Brazil.

2.1.2 Law n. 14.133/2021

Law n. 14.133/2021 is the new Brazilian Procurement and Contracting Statute. It was enacted in 2021, but it was effective only in 2024. For this reason, the effects of the new provisions contained in Law 14.133 in procurement processes and public contracts are still to be broadly evaluated.

Previous procurement legislation (in special Law 8.666/1993) was largely criticized for the limitations imposed to the administrative action in public procurement and contracting. Some considered that the former procurement legislation imposed too many hurdles and red tape to procurement processes.

Law 14.133 was enacted with the purpose of modernizing the Brazilian procurement process. It encompassed and incorporated some provisions that were object of sparse legislation (as Law n. 10.520 and Law n. 12.462) as well as practices imposed by the Federal Court of Audit (TCU – Tribunal de Contas da União).

Marçal Justen Filho and Cesar Pereira mention the Law n. 14.333 “Does not depart from the basic structure of the existing laws and involves no radical changes but gives statutory status to significant prior practices and creates new tools that may prompt improvements if used effectively. Law 14.133 also provides for a new procurement method, competitive dialogue, and sets out novel requirements for centralized

transparency, efficiency-driven management and data availability, potentially advancing open contracting systems”¹.

An important feature of Law n. 14.133 is the institution of a more technology-prone legislation. Law n. 14.133 contains provisions related to technology and its use in public procurement and contracting. For example, Article 17, second paragraph establishes that “Bidding processes should preferably be conducted electronically”. In-person bidding sessions are permitted only if duly justified. And in this case, public sessions must be recorded in minutes and captured on both audio and video.

Law n. 14.333 also provides for the centralization of all the information regarding procurement processes and contracts in a single electronic portal (the National Portal of Public Contracting – PNCP – Article 174)². In addition, Law n. 14.333 sets out new transparency requirements that could lead to the notion of open contracting. Provisions related to the use of *BIM – Build Information Modelling* for the procurement of engineering works and services are also present in the new Brazilian procurement statute (article 19, third paragraph).

2.1.3 Additional relevant legislation

In addition to Laws n. 14.129 and n. 14.333 there are other relevant legislative acts that are part of the Brazilian “digital” normative landscape, as the following:

- (a) Law n. 11.419/2006 regulates the electronic process in Brazilian Courts. It establishes that each organ of the Judiciary may set up its own electronic system, preferably using open-source software.
- (b) Law n. 14.063/2020 provides rules for electronic signatures in interactions of the people with public entities and the acts of these entities. Additionally, article 16 of Law n. 14.063 defines that information and communication systems developed exclusively by the public administration are governed by an open-source license, allowing their use, copying, modification, and distribution without restrictions by all public bodies and entities.
- (c) Presidential Decree n. 10.332/2020 institutes the Digital Government Strategy.

¹ Emergency Procurement and Responses to COVID-19: The case of Brazil. In: *Public Procurement Regulation In (a) crisis?* Editors Sue Arrowsmith, Luke RA Butler, Annamaria La Chimia and Christopher Yukins, Hart Publishing, 2021, p. 418.

² A more detailed view of the National Portal of Public Contracting – PNCP is made in the following itens.

- (d) Presidential Decree n. 9.319/2018, that established the Brazilian Strategy for Digital Transformation - E-Digital.
- (e) Law n. 12.527/2011 and Presidential Decree n. 8.777/2016 set the provisions of the Open Data Policy.
- (f) Presidential Decree n. 10.046/2019 defines the governance provisions in data sharing, according to the Brazilian General Data Protection Regulation (Law 13.709/2018).
- (g) Presidential Decree n. 10.609/2021 defines the National Policy for State Modernization within the federal government.
- (h) Federal Decree n. 11.946/2024 creates the National Electronic Process Program – ProPEN aiming at expanding the use of electronic process tools at all levels of the Brazilian federation.

These examples confirm that legislation related to digital government in Brazil is broad and comprehensive. There are many normative provisions regarding the digitization of government activities and the relationship with the citizens. Laws and decrees encompass relevant aspects needed for the digitization of government.

2.2 *Some concrete initiatives by Brazilian Government*

In any case, the mere legal provision for the digitization of certain aspects of government is not sufficient. It is essential that specific concrete measures are adopted, and actions developed to implement digitization effectively.

2.2.1 *Digitization of public services*

The Brazilian government has advanced in adopting technology to render public services in a digital way. Digitization is a reality, at least at the federal level and at the main Municipalities.

The federal government has adopted a pro-technology approach. It has enacted a deliberate strategy for the digital government³. More recently, the internet domain *gov.br* has been the catalyst of this efforts. In this domain, which has more than 140 million users, Brazilian citizens could access a variety of public services. Identity is provided and

³ Presidential Decree n. 10.332/2020 institutes the Digital Government Strategy, which provides for some measures to be adopted by federal governmental entities in order to achieve broad digitization of public services. Decree n. 9.319/2018 establishes the National System for Digital Transformation and sets the governance structure for the implementation of the Brazilian Strategy for Digital Transformation.

ensured by this gov.br domain and is directly referred to each citizen's fiscal registry number (known as CPF, in the case of natural persons or CNPJ in the case of companies).

According to the Brazilian Ministry of Public Service Management and Innovation, there are currently 4,181 actions related to digitizing government activities and the citizen's access to the public services⁴. Some of these measures consist in negotiation of debits, national ID card, access to fiscal information, access to government aids and payments etc.⁵.

2.2.2 *Digitization of the judicial system*

A clear example of the degree of digitization within the Brazilian government is the complete digitization of the judicial system. All courts, including those at the federal and state levels, are fully digitized. Proceedings, procedural acts, and the majority of hearings take place via digital systems and videoconferencing.

This movement initiated around 2006, based on Law n. 11.419. The transition to a fully digital judicial process was gradual. The COVID-19 pandemic accelerated and ultimately concluded this process.

The current state of the Brazilian judicial system reflects the complete digitization of processes and actions. At least four types of digital process systems coexist within the system. The National Council of Justice (CNJ) intends to unify these systems; however, resistance remains due to differences in functionality and perceived ease of use of some systems among users⁶.

Overall, the digitization of the Brazilian judicial system is considered a positive e-government experience. The process was successful, and the public, including attorneys, judges, prosecutors, and parties involved, have widely acknowledged the benefits. This process has increased the agility of judicial proceedings and significantly reduced paperwork.

2.2.3 *DPI – Digital Public Infrastructures*

⁴ Data available at <https://www.gov.br/governodigital/pt-br/noticias/gov-br-alcanca-90-dos-servicos-publicos-digitalizados>, Access on 15 April, 2024.

⁵ Available at <https://www.gov.br/gestao/pt-br/assuntos/noticias/2023/junho/gestao-amplia-cobertura-de-servicos-digitais-que-chegam-a-150-milhoes-de-pessoas>, Access on 15 April, 2024.

⁶ The initiative is among the goals of the Brazilian Judiciary Digital Platform – BJDPA (<https://www.cnj.jus.br/tecnologia-da-informacao-e-comunicacao/plataforma-digital-do-poder-judiciario-brasileiro-pdpj-br/>, Access on 15 April, 2024).

The measures and infrastructure needed to digitize government performance and actions are a necessary step towards the idea of e-government. However, the mere digitization of the government and its processes could be seen as a restrictive view of this entire process. A step further is the notion of *digital public infrastructures (DPI)*.

According to a report by the United Nations Development Programme - UNDP, DPI can be defined as “A set of shared digital systems which are secure and interoperable, built on open standards, and specifications to deliver and provide equitable access to public and/or private services at societal scale and are governed by enabling rules to drive development, inclusion, innovation, trust, and competition and respect human rights and fundamental freedoms”⁷.

DPIs provide a base for the development of other systems and technologies that could be used both by the private and public sectors.

As mentioned by a compendium published by UNDP, there are four basic characteristics of the DPI: “it (1) is **interoperable** (forms the underlying infrastructure for a variety of use cases alongside a range of tools, technologies and service providers); (2) can be built on **open standards** (is available to anyone to build on to and integrate services for people); (3) operates at a **societal scale** (is not restricted by geography or demographic); and (4) has **robust enabling rules and regulations** (has unified and coherent governance frameworks to safeguard people and prevent misuse)”⁸.

DPI encompasses some technology categories as digital identity, digital payments and consent-based data sharing⁹. There are also emerging categories that could be considered part of DPI in a specific country.

The idea of digital public infrastructure – DPI constitutes a step further the idea of digitizing government activities or e-government. David Eaves, Mariana Mazzucato and Beatriz Vasconcellos affirm that “Building public-governed digital infrastructure might allow states to develop capabilities (Cingolani 2022) essential to running a 21st-century society (e.g. managing identity, payments and data exchange). Digital infrastructures create opportunities for new regulatory and operational mechanisms to

⁷ United Nations Development Programme. The DPI Approach. A playbook, p. 6, 2023. Available at <https://www.undp.org/sites/g/files/zskgke326/files/2023-08/undp-the-dpi-approach-a-playbook.pdf>. Access on April, 15, 2024.

⁸ Accelerating the SDGS Through Digital Public Infrastructure. UNDP, p. 4. 2023. Available at <https://www.undp.org/sites/g/files/zskgke326/files/2023-12/undp-accelerating-the-sdgs-through-digital-public-infrastructure-v2.pdf>. Access on April, 15, 2024.

⁹ Accelerating the SDGS Through Digital Public Infrastructure. Cit., p. 4. 2023. Available at <https://www.undp.org/sites/g/files/zskgke326/files/2023-12/undp-accelerating-the-sdgs-through-digital-public-infrastructure-v2.pdf>. Access on April, 15, 2024.

fight structural inequalities and offer an alternative to value extraction by corporate or foreign actors (O'Reilly et al. 2023)”¹⁰.

In this sense, Brazilian government efforts to digitize public services and procurement could be considered part of the development of a DPI. There are coordinated efforts and actions regarding public identity, payments, exchange of data (with consent, when it is needed). Additionally, digital access to government services has been incentivized and developed. There is a comprehensive legal framework and governance instances that are responsible for the development of this new infrastructure.

Evidently, this is a process. Not all aspects of the Brazilian DPI are ready or fully developed.

2.3 Current state of Government digitization in Brazil

2.3.1 Protagonism of the federal government and some states

Currently, the process of digitization of the government is advanced. Notwithstanding, it could be identified a clear protagonism of the federal government in this digital transformation. The federal government is leading the initiatives related to digitize the access to public services. As mentioned above, there it could be considered that it is in the path to constitute a digital public infrastructure (DPI).

In special, the federal level legal framework is at the forefront of this process. Federal laws providing for the development of a federal DPI are well structured and accompanied by concrete actions to implement the measures needed to this development.

Some States, as São Paulo, Paraná, and Rio de Janeiro, are also protagonists in the digital realm.

2.3.2 Disparities across different federative levels

Despite all the advances in government digitization, Brazil still has a long way to go. Federal government services are more advanced in digitization than their state and municipal counterparts. At the federal level, there is a clear view of the measures, programs and activities that had been adopted in order to enhance government digitization and implementation of a genuine digital public infrastructure.

¹⁰ Eaves, D., Mazzucato, M. and Vasconcellos, B. (2024). Digital public infrastructure and public value: What is 'public' about DPI ? UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2024-05). P. 10, 2024. Available at: <https://www.ucl.ac.uk/bartlett/public-purpose/wp2024-05>

At the states level, there are many differences between the twenty-six (26) states and the Federal District and their level of digitization. Municipalities, for their part, have a greater level of disparity. Brazil has more than 5,500 municipalities distributed across all the regions and states. This circumstance adds to the disparities in the development of a technology prone government structure.

Some federal government initiatives are aimed at reducing these disparities. One key initiative is the mandate primarily to use open-source software and systems, as prescribed by Law n. 14.126/2021 (article 3, item XXV). This same legal act stipulates that systems developed at the federal level may be utilized by other governmental entities and across different government levels, as further detailed in Law n. 14.063/2021 and complementary acts (as the Ordinance n. 46/2016 of the Information Technology Secretary of the Ministry of Public Service Management and Innovation). The open-source systems are integrated into a common database maintained by the federal government, known as git-gov¹¹.

It should also be mentioned that the recent Federal Decree n. 11.946/2024, which creates the National Electronic Process Program – ProPE, aims to expand the use of electronic processing tools by public administrations at all levels of the Brazilian federation.

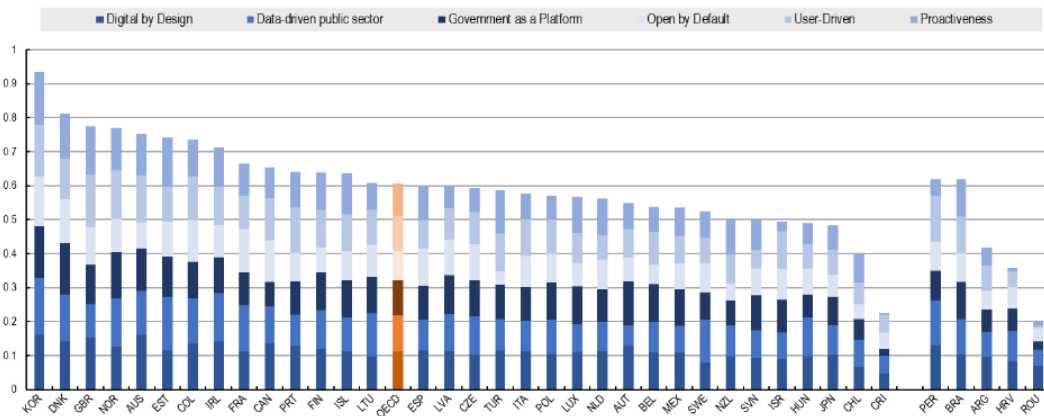
2.3.3 *Current state of digitization of the government in Brazil*

Brazil's efforts to digitize the government processes and actions has rendered concrete results. The Country was well positioned in the OECD Digital Government Index¹².

¹¹ Available at <https://github.com/spbgovbr>, Access on April, 15, 2024.

¹² “The OECD Digital Government Index is a tool that assesses the digital government maturity of countries by evaluating their strategies, services, and capabilities in leveraging digital technologies for public sector innovation and transformation. The index provides a comparative view of how countries are adopting and integrating digital technologies into their public sector operations and service delivery”. Available at OECD (2024), “2023 OECD Digital Government Index: Results and key findings”, *OECD Public Governance Policy Papers*, No. 44, OECD Publishing, Paris, <https://doi.org/10.1787/1a89ed5e-en>. Access on 15 April 2024).

Figure 2. OECD 2023 Digital Government Index, composite results by country



Note: The data collection period for this edition of the DGI is from 1 January 2020 to 31 October 2022. Data for Germany, Greece, Slovakia, Switzerland, and the United States are not included. Refer to Methodological note.
Source: OECD Survey on Digital Government 2.0.

OECD’s Index considers some specific aspects to determine the position of each country, as (i) digital by design, (ii) data-driven public sector, (iii) government as a platform, (iv) open by default, (v) user-driven, and (vi) proactiveness¹³.

All these aspects are contemplated both by the Brazilian legal framework as by the concrete measures adopted, specially by the federal government. According to OECD’s report on the index, “Typically, countries that score well in the OECD Digital Government Index have robust digital strategies, effective use of data in public administration, integrated digital services, high levels of transparency and citizen engagement, and services designed around user needs”¹⁴.

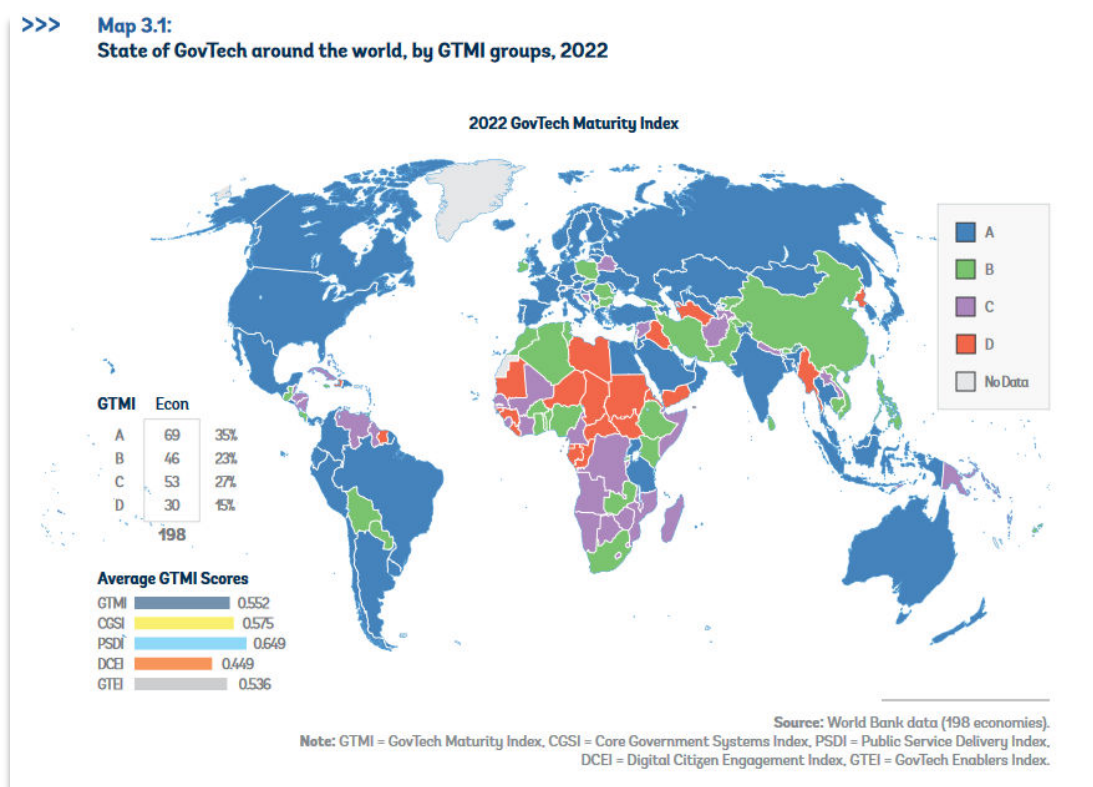
For this reason, Brazil’s position on the OECD ranking is relevant and put the Country among some developed countries, as Finland, Canada and France.

In addition, according to the World Bank *GovTech maturity Index*, Brazil is considered a “GovTech Leader” among 198 countries¹⁵.

¹³ OECD (2024), "2023 OECD Digital Government Index: Results and key findings", *OECD Public Governance Policy Papers*, No. 44, OECD Publishing, Paris, <https://doi.org/10.1787/1a89ed5e-en>. Access on 15 April 2024.

¹⁴ OECD (2024), "2023 OECD Digital Government Index: Results and key findings", *OECD Public Governance Policy Papers*, No. 44, OECD Publishing, Paris, <https://doi.org/10.1787/1a89ed5e-en>. Access on 15 April 2024.

¹⁵ World Bank. 2022. *GovTech Maturity Index, 2022 Update: Trends in Public Sector Digital Transformation*. Equitable Growth, Finance and Institutions Insight - Governance; Washington, DC. <http://hdl.handle.net/10986/38499>, Access on April 15, 2024.



2.4 Opportunities: a (long) way to go

Despite these circumstances, there is still room for improvement and further development of a truly digital public infrastructure in Brazil. Some obstacles, such as bureaucratic resistance, infrastructure gaps, and the need for digital upskilling, remain. The differences observed among federal, state, and local governments also pose barriers to overcome.

For example, the Federal Court of Audit ruled to recommend to the Secretary for Digital Government of the Ministry of Economy, among other measures, to “assess the convenience and timeliness of (...) 9.2.1. develop a standard digital government framework to guide the creation and execution of digitization plans, considering: 9.2.1.1. criteria for public services to be considered effectively digitally transformed (digital by design), such as being data-centric (open and transparent), interoperable, accessible through a single point of contact, and focused on societal needs, among other relevant aspects, as well as ensuring that new services meet these requirements from the outset (digital by default), in accordance with Decree 8.638/2016 (...)”¹⁶.

¹⁶ Decision 3145/2020, Reporting Minister Aroldo Cedraz, Available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/digitaliza%25C3%25A7%25C3%25A3o%2520do%2520governo%2520digital/%2520score%2520desc/1>, Access on 15 April, 2024.

Such initiatives confirm that there is a joint effort by the different government entities (including oversight bodies, such as the Federal Court of Audit) to ensure that a truly digital public infrastructure is achieved in Brazil. As perceived by the Federal Court of Audit, “Digital transformation in governments is a global trend that has been observed over the last few decades. At times when many democracies have faced scrutiny from their citizens, the development of more practical, accessible, and inclusive processes and services has been recognized as a key strategy to regain public trust”¹⁷.

3 Impact of technology on procurement practices

Technology could have a significant impact on procurement processes and contracting. Evidently, these impacts could vary. Transparency and broader access to procurement processes is one of the possible effects of the digitization of procurement processes.

However, digitization itself does not ensure better procurement processes or better contracting. Some specific tools and uses are more relevant to this end. Below, we will examine some aspects of digitization in the procurement processes in the Brazilian context.

3.1 Open data and open contracting practices

A direct consequence of the use of technologies and the digitization of public procurement processes is related to open data, and open contracting initiatives.

The idea of open contracting presupposes the use of some specific tools. As mentioned by the Open contracting Partnership, the idea of open contracting relates to a *journey*, to a series of steps and developments that could produce more open and transparent public procurement processes.

Even if these initiatives are possible in a non-technological environment, the use of new technologies could enhance the foundations of open contracting by granting broader access to information and more transparency.

As mentioned by this author, “In any case, digital transformation is an important factor to be considered when examining open contracting. The use of digital procurement

¹⁷ Decision 1.784/2021, Reporter Minister Vital do Rego, available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/digitaliza%25C3%25A7%25C3%25A3o%2520do%2520governo%2520digital/%2520/score%2520desc/2>, access on April, 15, 2024.

processes and new resources to procure ensured that new practices and requirements could be introduced to old government practices. Further, digitization of firms and the private sector also contributes to the development of public procurement, as the contractors could rely on new tools and practices to enhance their ability to become aware of and take part in public tenders”¹⁸.

Technology and digitization induce broader access to public information, which is an essential condition to achieve the objectives of open contracting. All these features add more transparency and accountability to the procurement process.

3.2 Technology and Law n. 14.133

Law n. 14.133 is the new Brazilian Procurement and Contracting Statute. It establishes some provisions that incentivize and impose using technology tools in procurement.

3.2.1 Legal framework applicable to public procurement and contracting

Note that Law n. 14.133 is not the only statute to be complied with when doing public procurement. The provisions related to digital government and the principles and rules contained in Law n. 14.129/2021 must be observed. In other words, procurement processes are not only ruled by Law n. 14.133 but must also observe the applicable legal framework for government actions, including those related to digital government principles and goals.

3.2.2 The National Public Procurement Portal

It can be said that one of the most significant aspects of Law n. 14.133 relates to the National Public Procurement Portal (PNCP in the Portuguese acronym) outlined in article 174. The new procurement law mandates the centralization of all information regarding procurement processes and contracts in a single digital portal.

The National Public Procurement Portal constitutes an innovation of Law n. 14.333 regarding the disclosure of information on public procurement. The centralization of information about procurement processes, contracts and bidders and the holding of tenders in a single electronic portal is a novelty introduced by Law n. 14.333.

¹⁸ CARDOSO, André Guskow. Public procurement and open contracting: a Brazilian perspective. In. *Public Procurement Law Review*, n. 3, 2022, Sweet & Maxwell, Thompson Reuters, p. 107.

This centralized electronic portal brings together: (a) the publicity of the bidding notices (article 54); (b) the entire content of the notices of procurement and their annexes (article 54); and (c) a unified bidder register (article 87).

Article 174 sets out that the National Public Procurement Portal was created as an official electronic site intended for: “I - centralized and mandatory disclosure of the acts required by the Law; II - optional holding of the tenders by the bodies and entities of the Executive, Legislative and Judiciary Branches of all federative entities”

The National Public Procurement Portal contains information on: (i) annual procurement plans (article 174, paragraph 2, item I); (ii) electronic standardization catalogs (article 174, paragraph 2, item II); (iii) accreditation and pre-qualification notices, direct contracting notices and bidding notices and respective attachments (article 174, paragraph 2, item III); (iv) framework agreements (article 174, paragraph 2, item IV); (v) the terms of the contracts and their amendments (article 174, paragraph 2, item V); and (vi) electronic invoices, when applicable (article 174, paragraph 2, item V).

Regarding the disclosure of information to the society, the National Public Procurement Portal will contain a shared information management system regarding the performance of the contracts, which will allow: a) sending, recording, storing and disseminating text messages or images by the previously identified interested party; b) access to the computerized system for monitoring works and services referred to in item III of the caput of art. 19 of Law n. 14.333; c) the communication between the citizens and representatives of the Administration and the contractor designated to provide the pertinent information and clarifications, in the form of secondary regulation; and d) the disclosure of a final report with information on the achievement of the objectives that have justified the contracting and any conduct to be adopted for the improvement of the Government's activities (article 174, paragraph 3, item VI).

Among the features of the National Public Procurement Portal are: (i) a unified cadastral registration system; (ii) a price consultation panel, health price database and access to the national database of electronic invoices; (iii) a procurement planning and management system, including the registration of a certificate of compliance with obligations provided for in paragraph 4 of art. 88 of Law n. 14.333; (iv) an electronic system for holding procurement disputes; and (v) access to the National Register of Debarred and Suspended Suppliers (CEIS in the Portuguese acronym) and to the National Register of Sanctioned Companies (CNEP in the Portuguese acronym) (Article 174, paragraph 3).

The validity of the contracts and contractual amendments is conditioned to their disclosure on the National Public Procurement Portal (Article 94). The law establishes the maximum deadlines for this disclosure, counted from the date of their signature.

An essential feature to be considered is that Law n. 14.333 provides that the National Public Procurement Portal will adopt the *open data* format and comply with the requirements set out in Law n. 12.527. This provision would require compliance with all the legal and normative provisions related to open government data, including to information regarding public procurement, contract and their performance.

Notwithstanding the provisions of article 174 of Law n. 14.333 (that impose the use and disclosure of information by all the public entities in the National Public Procurement Portal), other federative entities (as states and municipalities) can still create their own digital portals for complementary disclosure and holding the procurement disputes (article 175).

The legal provisions related to the National Public Procurement Portal, while essential and relevant to increase transparency and participation in public tenders, are also ambitious. Only time and incremental practical implementation will confirm the advances that are intended to be obtained with the new Law n. 14.333. Nevertheless, in concrete terms, all these provisions are relevant and are in line with best practices related to open contracting.

Currently, the National Public Procurement Portal is not fully operative. Its implementation has been gradual. The Federal Court of Audit examined this implementation and recommended that the competent entities adopt a series of measures toward its effectiveness¹⁹.

Some of these measures confirm the relevance of the use of technology in the PNCP (and in public procurement).

For example, the Federal Court of Audit recommended the need for “Definition regarding the solution aimed at making the electronic standardization catalog a "computerized system" with a "price indication" feature, possibly linked to the Price Panel and the Health Price Database, in order to meet the requirement, set forth in item LI of Article 6 of Law 14.133/2021” and “9.1.1.4. Resumption of discussions with the

¹⁹ Decision 1.420/2023, Reporter Minister Jhonatan de Jesus, available at https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/*/NUMACORDAO%253A1420%2520ANOACORDAO%253A2023%2520/DTRELEVANCIA%2520desc%252C%2520NUMACORDAOINT%2520desc/0, Access On 15 April, 2024.

Brazilian Federal Revenue Service aimed at obtaining information related to electronic invoices, for the purpose of complying with the provisions of item VI of paragraph 2 of Article 174 of Law 14.133/2021, and also in the final part of item II of paragraph 3 of the same article”.

Integration of the National Portal with specific price databases, such as those of the Federal Revenue Service, will ensure that the prices offered in bid processes are compared with market prices in the relevant period.

The Federal Court of Audit has also made recommendations related to the use of AI tools to enhance the portal’s functionalities. It recommended “to the Secretary of Management and Innovation of the Ministry of Management and Public Service Innovation (Seges/MGI) to promote, using data analytics and artificial intelligence resources, the mapping of items most frequently purchased by the Public Administration that also have considerable budgetary relevance. Additionally, define, in collaboration with the bodies and entities responsible for standardization, a strategy to expand the items in the Electronic Standardization Catalog in order to make it useful for the real objectives of the functionality envisioned in Articles 19, item II, and 174, paragraph 2, item II, of the NLLC [Law n. 14.133]”.

3.2.3 Risk management practices and oversight

Law n. 14.133 also provides for the use of technology resources as tools for the risk management and oversight of public procurement processes and contracting.

Article 169 defines that “Public contracts shall be subject to continuous and permanent risk management and preventive control practices, including through the use of *information technology resources*”. According to this provision, public contracts shall adhere to three lines of defense: “I - First line of defense, consisting of civil servants and public employees, procurement agents, and authorities who are part of the governance structure of the agency or entity; II - Second line of defense, made up of the legal advisory units and internal control units of the agency or entity itself; III - Third line of defense, comprised of the central internal control body of the Administration and the courts of audit”.

Evidently, the mere mention of the need to use information technology resources is not enough. This should be integrated with the other digital resources and strategies defined by Law n. 14.129/2021. Open data, and the full development of the National

Portal functionalities, are essential to the risk management practices and oversight of public contracts.

On the other hand, by referring to the use of information technology resources, Law n. 14.133 establishes an actual duty for public officials to utilize these resources. Failure to do so could be considered a breach and non-compliance with the legal mandate.

3.3 *Artificial Intelligence (AI) as a tool*

As mentioned above, the use of artificial intelligence systems and tools is integral to the strategy to digitize the government²⁰. Considering the large volumes of data and the need to process them, the use of AI tools seems inevitable.

The Brazilian Ministry of Science, technology and Innovation has published the Brazilian Strategy for AI (EBIA)²¹.

The document defining this strategy mentions that “Within the Brazilian Strategy for Digital Transformation (E-Digital), approved in March 2018 by Decree No. 9,319/2018 and by Ministry of Science, Technology, Innovations and Communications (MCTIC) Ordinance No. 1,556/2018, there was already an indication of the importance of prioritizing the topic of Artificial Intelligence (AI) due to its widespread impacts across the country. The Ministry of Science, Technology, Innovations, and Communications (MCTIC), through MCTIC Ordinance No. 1,122/2020, defined the field of Artificial Intelligence as a priority in terms of research projects and the development of technologies and innovations for the period from 2020 to 2023. In this context, the Brazilian Artificial Intelligence Strategy – EBIA was developed”²²

3.3.1 *Use of AI in procurement*

²⁰ Recently, the Federal Court of Audit made a comprehensive assessment of a bill aimed at regulating AI in Brazil. The analysis was object of the decision 616/2024, reporter Minister Aroldo Cedraz (available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/digitaliza%25C3%25A7%25C3%25A3o%2520do%2520governo%2520digital/%2520/score%2520desc/6>, access on 15 April, 2024). The decision identifies nine risks related to the AI regulation proposal contained in the examined bills. Among them are: “limitation of innovation capacity in the public and private sectors, and creation of barriers to the digital transformation of the Brazilian state and the potential loss of progress in providing more and better public services to citizens”.

²¹ Available at https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ebia-diagramacao_4-979_2021.pdf. Access on 15 April, 2024.

²² Available at https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ebia-diagramacao_4-979_2021.pdf. Access on 15 April, 2024, p. 3.

Despite its great potential in bid analysis, supplier risk assessment, and fraud detection the use of AI in procurement processes is still in its infancy in Brazil. AI tools and systems are not broadly used²³.

There are some initiatives. The State of Paraná government has been working on a system called project Harpia²⁴. The aim is to integrate the registry of procurement processes using blockchain technology and AI to match product prices registered in the state tax authority data base to give the State's procurement processes more certainty and transparency.

Private firms and bidders can also benefit from technological resources to gain greater access to and monitor public procurement processes of interest. Although it is not necessary, there is even a field for private companies to develop systems aimed precisely at facilitating and consolidating access to such information, adding intelligence and specific assessments for those interested.

3.3.2 Use of AI in oversight functions – the role of the Federal Court of Audit

The Federal Court of Audit (TCU) makes extensive use of AI tools. There are at least 18 systems based on AI currently in use by TCU.

For example, *ADELE - Analysis of Dispute in Electronic Bidding* is a dashboard that displays the dynamics of bids in electronic auctions; *MARINA - Map of Risks in Acquisitions* evaluates the risk level of contracts from the Federal Executive Power; *CARINA - Crawler and Analyzer of National Gazette Records* tracks and analyzes information in publications of the Official Gazette of the Union regarding government acquisitions; *Zello* is a virtual assistant of TCU, available on various channels, such as TCU Mobile, Twitter, and WhatsApp; *e-TCE - Assisted Instruction of Special Account*

²³ “The Federal Court of Audit (TCU), under the supervision of Minister Aroldo Cedraz, conducted a survey aimed at assessing the current stage and future prospects of using Artificial Intelligence (AI) in the federal public administration (APF), identifying associated risks, understanding the impacts on oversight, and evaluating the proposal for a Brazilian Artificial Intelligence Strategy (EBIA).

More than a third (38%) of federal organizations are at zero maturity level in AI, meaning they neither use nor plan to use this exponential technology. Another third of the APF (33.5%) is at level 1. This indicates that they are having internal discussions about artificial intelligence, but these are still speculative.

About three in ten APF institutions (28.5%) are at levels 2, 3, or 4 of AI maturity. Most of these (17.1% of the total) are in the experimentation phase, with proof of concept developed or already in pilot phase. Around 8% of federal organizations are in the stabilization phase, with their first AI projects in production. Only 3.4% of the total have reached level 4, expanding to new AI projects”. (Decision 1139/2022, available at [file:///C:/Users/gusko/Dropbox/PC%20\(3\)/Downloads/idSisdoc_24240332v9-48%20-%20ACORDAO-MIN-AC-2021-10-7.pdf](file:///C:/Users/gusko/Dropbox/PC%20(3)/Downloads/idSisdoc_24240332v9-48%20-%20ACORDAO-MIN-AC-2021-10-7.pdf), access on 15 April, 2024).

²⁴ <https://www.cge.pr.gov.br/Noticia/Controlador-geral-detanha-Projeto-Harpia-de-combate-corrupcao>. Access in February, 20th, 2022.

Statements provides assisted instruction for Special Account Statements and automatic document classification, reducing workload²⁵.

Recently, TCU developed an artificial generative intelligence tool, *ChatTCU*, which supports various tasks such as document analysis, legal research, translation, and administrative requests.

4 Government as a platform and its impact on procurement

The idea of the government as a platform is a powerful concept that is likely to have a profound impact on public procurement.

4.1 Legal framework – Law n. 14.129/2021

Law n. 14.129/2021 contains specific provisions relating to government as a platform.

First, it defines as a principle of the digital government and public efficiency “The implementation of the government as a platform and the promotion of data use, preferably anonymized, by individuals and legal entities from different sectors of society, while safeguarding the provisions of Articles 7 and 11 of Law No. 13,709, dated August 14, 2018 (General Personal Data Protection Law), is aimed particularly at formulating public policies, conducting scientific research, generating business, and facilitating social oversight” (article 2, item XXIII).

Furthermore, it defines government as a platform as “a technological infrastructure that facilitates the use of publicly accessible data and promotes interaction among various agents in a secure, efficient, and responsible manner, to stimulate innovation, economic activity, and service provision to the population” (Article 4, item VII).

And thirdly, Law n. 14.129/2021 includes an entire chapter (articles 29 to 37) that regulates government as a platform.

There are some interesting provisions in this chapter worth mentioning, such as the notion that “Data made available by public service providers, as well as any information pertaining to active transparency, are freely usable by society, subject to the principles set out in Article 6 of Law No. 13,709, dated August 14, 2018 (General Data Protection Law)” (article 29).

²⁵ <https://portal.tcu.gov.br/imprensa/noticias/uso-de-inteligencia-artificial-aprimora-processos-internos-no-tcu.htm>, access on 15 April, 2024.

The data provided to society as a result of the duty of active transparency should: I - Adhere to the principle of public access to non-personal data as a general rule, and confidentiality as an exception; II - Guarantee unrestricted access to data, which must be *machine-readable* and available in an open format; III - Describe the databases with sufficient information about the structure and semantics of the data, including data quality and integrity; IV - Grant unrestricted permission to use databases published in an open format; V - Ensure the completeness of databases, which must be made available in their primary form, with the highest degree of granularity possible, or reference primary databases when provided in aggregated form; VI - Be subject to regular updates, maintaining historical data, to ensure the permanence of data, standardization of information structures, and the data's value to society and to meet the needs of its users (Art. 29, first paragraph).

4.2 *GovTech and ProcTech solutions*

Using public data, private providers and entrepreneurs could develop systems and solutions that would help improve both the delivery of public services and procurement activities. The potential for combining public data with private initiatives built on this data is enormous.

This is precisely the field of GovTech and ProcTech solutions. The former refers to solutions developed to meet the needs of the government or to complement the government's role in providing public services. The latter refers to companies that provide solutions related to public procurement processes and practices, serving both public entities and the private sector.

4.3 *Current landscape and its potential*

Unfortunately, the number of providers of GovTech and ProcTech tools is still low. Brazil does not have a consolidated tradition of startups and companies using public data and information to build new technology-based systems. According to a study by BrazilLab and Oracle, “475 startups and SMEs operating in the GovTech sector in Brazil were identified (see Chapter 5), and on the other hand, 338 public sector innovation initiatives were mapped in this study”²⁶.

²⁶ Mapa GovTech - Brasil 2024. Available at <https://brazillab.org.br/mapa-govtech>, access on 15, April, 2024.

Law n. 14.133 contains a provision establishing that “The Administration may request the private sector, through an open procedure for expressing interest initiated by the publication of a public call notice, to propose and conduct studies, investigations, surveys, and projects for innovative solutions that contribute to issues of public relevance” (article 81).

This procedure could be restricted to the participation of startups, including individual micro-entrepreneurs and small and medium enterprises - SMEs “with high potential, dedicated to researching, developing, and implementing new products or services based on innovative technological solutions that can have a significant impact. In the final selection of the innovation, prior validation based on objective metrics is required to demonstrate that it meets the needs of the Administration” (article 81, fourth paragraph).

Thus, there is potential for the development of the GovTech and ProcTech sector in Brazil. There is a solid legal framework and a mandate that requires public data to be made available for this kind of initiative.

4.3.1 The use of private platforms for procurement

An interesting provision of Law n. 14.133 is related with the possibility to establish private electronic procurement portals (article 175, first paragraph). In any case, these private portals must be integrated with the National Public Procurement Portal, as will be defined by secondary legislation.

The Federal Court of Audit examined the case of these platforms and portals and recommended to “the Secretary of Management and Innovation (Seges) of the Ministry of Management and Innovation in Public Services that, during the enacting of secondary legislation related to Article 175, paragraph 1, of Law 14.133/2021” to consider some guidelines²⁷. The guidelines defined by TCU are the following:

“9.2.1. The contracting of a digital platform for conducting electronic tenders must (...) be preceded by a preliminary technical study (PTS), duly based on objective parameters regarding existing technological solutions, which must cover the following aspects, among others: 9.2.1.1. Ease of access and registration; 9.2.1.2. Technical support provided; 9.2.1.3. Integration with management systems used by

²⁷ Decision 2154/2023, Reporting Minister Benjamin Zymler. Available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/governo%2520como%2520plataforma/%2520score%2520desc/1>. Access on 15 April, 2024.

the contracting agency or entity, and, mandatorily, with the PNCP; 9.2.1.4. Provision of training/capacity building actions for its use; 9.2.1.5. Historical level of dispute in contests conducted on the platforms; 9.2.1.6. Transparency, to ensure access and social control, materialized by making data from private platforms available to the public in open data format, as well as to control and oversight bodies through the permission of access and extraction of information via the provision of structured databases; 9.2.1.7. Capillarity, to ensure maximum coverage of the tender; 9.2.1.8. Largest volume of registered suppliers; 9.2.1.9. Free of charge or modest fees charged, to encourage participation of interested parties and competitiveness; 9.2.1.10. Security of operations and data (inviolability of the environment), based on the presentation of certifications; 9.2.1.11. Usefulness of the functionalities provided”.

TCU also defined that 9.2.2. it is “admitted the charging of fees for the use and maintenance of platforms, provided that they are reasonable and that the possibility of payment for participation in a single tender is offered, and not only through subscription plans, commissioning or the incidence of variable fees such as, for example, a percentage of the proposal of the winning bidder, as an affront to the constitutional principle of reasonableness and broad competition”²⁸.

Furthermore, “as a rule, the choice of the portal by the public entity should be the subject of a specific tender procedure, as there are several platforms available in the market”.

4.3.2 Use of bots by the bidders to automate bids and the Federal Court of Audit’s understanding

One example of a technological tool that was developed and used by bidders in reverse electronic auctions is the case of bots that automate bids and ensure that a bidder can submit hundreds of bids within a certain period of time.

In the past, the Federal Court of Audit (TCU) considered this use fraudulent because it violated the principle of treating all bidders equally. The use of bots by one specific bidder could give them an advantage over others.

²⁸ Decision 2154/2023, Reporting Minister Benjamin Zymler. Available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/governo%2520como%2520plataforma/%2520score%2520desc/1>. Access on 15 April, 2024.

However, more recently, the TCU has revised its stance, acknowledging that bots can be used without harming the bidding process or other bidders²⁹. It recognized that “Equality is a principle applicable solely to Public Administration, which must guide its actions impartially, without granting privileges and/or discriminations to any bidder. In the private sector, it is not feasible to demand identical, equal treatment. The market demands the exact opposite, urging companies to continually seek strategies that differentiate them from their competitors. These strategies include, for example, hiring well-qualified employees with extensive experience in public tenders, or using efficient software that maximizes their chances of securing contracts with the Public Administration”.

Furthermore, the TCU considered that “in the current digital age, with a plethora of technological tools at our disposal, attempting to prohibit or limit the use of programs that automate any aspect of life seems like a regression. The use of these software tools by bidders becomes inevitable and is already widely used”. It complemented this by stating that “if even the public sector (such as the TCU itself), with all the normative guidelines surrounding it, seeks to utilize various 'robots' to maximize the efficiency of its actions, it is natural that companies would adopt, with even greater eagerness, technological tools that provide them with superior market performance”.

4.3.3 Government-developed systems and the effects on the private market of GovTech tools

Government-developed systems and privately developed ones should coexist and be used in different cases and situations. The existence of both systems could incentivize the private sector to develop more efficient GovTech and ProcTech systems.

However, there is a risk that public-developed systems may disincentivize the development of private systems. The presence of a public-developed system could act as a barrier to the entry of new competing systems.

Take, for example, the system developed by Brazil's Federal Revenue for the annual income tax declaration. The system is updated annually and works very effectively, integrating well with other systems of the Federal Revenue. In this case, it is

²⁹ Decision 2.959/2020, Reporting Minister Raimundo Carreiro. Available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/rob%25C3%25B4%2520E%2520preg%25C3%25A3o/%2520%2520/DTRELEVANCIA%2520desc%252C%2520NUMACORDAOINT%2520desc/22>, access on 15 April, 2024.

very difficult for a private developer to emerge who intends to launch a system that competes with the official system released by the government³⁰.

This is a risk that must be examined and considered when dealing with government as a platform. It is essential to ensure the coexistence between public and private systems, without this leading to inefficiencies for the Public Sector or the private sector.

5 Implications of a Brazilian CBDC for public procurement and contracting

Central Bank Digital Currencies (CBDC) could also play an important role in public procurement and contracting.

5.1 Understanding CBDCs

A Central Bank Digital Currency (CBDC) is a digital currency issued and regulated by a country's central bank. It is considered a digital form of fiat money, issued and backed by the issuing country's central bank. CBDCs are a global trend adopted by various countries.

According to the Central Bank of Brazil³¹, a significant portion of central banks are studying, exploring, or testing systems for issuing CBDCs. According to a study by the Atlantic Council, published by the Brazilian Federation of Banks (Febraban), 114 countries, representing more than 95% of the global GDP, are in the development phase, and 11 countries have already officially launched a CBDC³².

CBDCs are an essential part of the digitalization of the government and could also represent a new and efficient tool in public procurement and contracting.

5.2 Smart contracts and public procurement

A Smart Contract is a self-executing contract made in computer code. Once the contract code is deployed to a Distributed Ledger Technology (DLT) network, it becomes

³⁰ The situation is diametrically opposed to that in the U.S., where the platforms used for the annual income declaration are private and paid, and there was a recent launch of a free public platform. This initiated a debate about the necessity of the public sector spending resources on platforms and systems that were already served by the private sector. See <https://www.nytimes.com/2024/01/05/your-money/irs-tax-filing-free-online.html>, access on 15 April, 2024.

³¹ *Drex - Real Digital*. Banco Central do Brasil, 2023. https://www.bcb.gov.br/en/financiestability/drex_en. Access on 5 April, 2024.

³² CBDC tem avanço e é explorada por mais de 110 países, Federação Brasileira de Bancos (Febraban), 2023. Available at <https://febrabantech.febraban.org.br/blog/cbdc-tem-avanco-e-e-explorada-por-mais-de-110-paises>. Access on 5 April, 2024.

immutable and self-sufficient. This means the contract cannot be modified, and it can independently execute actions based on predefined conditions set by the involved parties.

Its main function is to automate and ensure the execution of contractual clauses without the need for intermediaries, executing contractual terms autonomously and securely. This not only reduces costs but also increases efficiency, as actions are automatically executed once the conditions stipulated in the contract are met.

One of the main issues raised about the use of smart contracts in public contracts refers to the prerogative of the Public Administration to unilaterally change the terms of the contract.

In this context, it would be appropriate to establish a main smart contract, which would contain the actual obligation of the administrative contract, and additionally, other auxiliary smart contracts.

Additionally, nothing prevents the main contract from remaining in traditional form, but establishing smart contracts only for certain aspects of the obligations, such as payment and guarantees. According to Jurgen Groossens, the use of smart contracts in the administrative sphere can bring benefits by reducing uncertainties since the guarantee can be self-executed in the event of non-compliance with a specific clause³³.

According to Groossens, “As noted by some legal scholars, the specificity of smart contracts is not that their enforcement is automated. Rather, they reduce counterparty risks, that is, uncertainty about whether the contracting party will actually abide by her contractual obligation. Loosely speaking, they can be considered the technical solution to the principle that contracts should be honored (*pacta sunt servanda*). Moreover, smart contracts can be used not only between private parties; they can also lend support to administrative tasks rather than using external contracts, thus reducing transaction costs and improving the governance structure of public administration. On the other hand, they can be used to enhance the credibility of obligations vis-à-vis the citizenry, for instance granting public permissions. I shall refer to such arrangements as smart public contracts”.

Minister Aroldo Cedraz, Reporter of Decision 1613/2020 - Plenary of the TCU, listed opportunities and risks of using blockchain and DLT (Distributed Ledger Technology) by the public power. Among the functionalities identified in the decision is

³³ GROOSSENS, Jurgen (coord. POLLICINO, Oreste; DE GREGORIO, Giovanni), *Blockchain and Public Law*; Chapter 5, *Blockchain and democracy: Challenges and opportunities of blockchain and smart contracts for democracy in the distributed, algorithmic state*; 1 ed. USA, Northampton: Edward Elgar Publishing. 2021. p. 199

the management of agreements and programs among different public entities and agreements, explaining that "through blockchain technology, financial resources can be tokenized and passed on by the public power to other entities, so that such resources can be adequately monitored by public managers for their correct application."³⁴

5.3 *Bonds and guarantees*

Drex could be utilized in the future for guarantees that private partners offer to public entities. Likewise, rather than obtaining an insurance, a private bidder could set up clauses in a smart contract that, upon execution, would transfer a specified amount of Drex to the other (public) party as compensation.

6. Conclusion

Considering the above, it is evident that Brazil has a legal system that encourages the digitalization of government activities and the development of the government as a platform. The legislation includes some relevant provisions and encompasses a wide range of governmental activities. In a way, the actual compliance and execution of what is established by the legislation could lead the country to develop a truly Digital Public Infrastructure (DPI).

Evidence of this is the recognition by multilateral entities of the efforts and practices carried out by Brazil in the domain of digital government.

This also has implications in the realm of public procurement and contracting. The new Law 14.133, together with Law 14.129, defines concrete parameters to be observed by the government, which could produce significant results in this domain, promoting the integration of systems and technological practices that can improve procurement processes and contracting, increasing transparency, accountability, and reducing the risk of corruption.

The National Public Procurement Portal is a central point in the effort to digitize and use technological tools in public contracting. Once fully implemented, it will represent a significant milestone in the digital evolution of public contracting.

³⁴ Available at <https://pesquisa.apps.tcu.gov.br/documento/acordao-completo/1613%252F2020/%2520%2520/DTRELEVANCIA%2520desc%252C%2520NUMACORDA%2520OINT%2520desc/0>, access on 5 April, 2024.