Fiscobras: work in progress

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ABSTRACT

This paper approaches the evolution of the oversight of public works performed by the Federal Court of Accounts – Brazil (TCU) since it systematized the Fiscobras, and highlights its social achievements. The methodology consisted of a qualitative biography review, which presented the application of expertise and procedures employed by Fiscobras to oversee works carried under public services concession contracts. Also, this paper describes the use of technological innovations to enhance the TCU's public works oversight, such as georeferenced data. In addition, from a vanguard perspective, it deals with citizen participation in the oversight process, according to the Mobile Crowd sensing concept.

Keywords: Fiscobras, concession contracts, georeferenced data, and mobile crowd sensing.

1. INTRODUCTION

Twenty years ago, based on the Brazilian Senate Temporary Committee's Report on unfinished works funded by the Union, the Federal Court of Accounts – Brazil (TCU) started to systematically and effectively oversee works as part of the implementation of the Fiscobras. Today, it is not necessary to emphasize the relevance of public works oversight nor to pay tribute to those who achieved results in this field. The merit of the work and effort of professionals in this field is widely known in Brazil and abroad.

Souza and Batista's study (2015) illustrated the importance of oversight. They showed that the audits performed by Fiscobras between 2011 and 2012 in the state of Rio Grande do Norte saved public coffers around R$ 119,529,497.78.

Therefore, we must recognize the importance of a product that will always be unfinished, in face of the dynamics of public administration, and maintain the Fiscobras based on the same principles that underpinned its creation.

Considering the dynamics of TCU's oversight and aiming to contribute to the evolution of such work, we will present challenges for the near future: introducing Fiscobras in public services concessions by applying expertise and procedures often employed in public works oversights using information technology resources, such as georeferenced data; and including citizens' participation through Mobile Crowd sensing.

2. BACKGROUND

The plenary decision 674/1995 of the Court of Accounts originated a new form of performance, which was legally conceived and dedicated to the principle of isonomy. The High Chamber, who wished to see a protagonist to conduct an ongoing program to

audit engineering works and services, found that TCU was dedicated to the audit of stalled priority investments. After teams or specialized units were formed, the TCU tested its technical procedures, which were so strict they could be applied to other fields. At this point, utopian perspectives became true.

The first provision directly related to TCU's public works oversight was clause VI, Paragraph 3rd, article 3rd of Law n°. 9293, of July 15th, 1996 (LDO, 1997). However, it was vetoed.

In spite of this decision, Brazil's Constitution of 1988 allowed the TCU to audit public works on its own, and that is what the Court did.

The TCU sent to the National Congress reports with evidences of serious irregularities in the works audited. Then, the Congress published the first budget lock in the Annual Budget Law of 1997. This persistence financially benefited and improved Public Administration, and these changes were largely noticed by society.

Law no. 9473, of July 22nd, 1997 (LDO, 1998), determined that the TCU submit information related to the public works oversight to the National Congress. Since then, due to the successive budget guidelines laws, the Court has reported, every year, to Parliament the works with evidences of serious irregularities so that it can decide to block or release resources to works based on technical reports.

TCU's performance with Fiscobras collaborated so that the Public Administration could stop signing contracts with limited local surveys, in which prices were usually forged. Fiscobras invigorated and disseminated the official budgetary systems. Once the initial resistance ceased, everybody was convinced of the necessity to establish parameters of acceptable prices in contracts of engineering works and services. The use of technical parameters was a pacific issue in the precedents and it was maximized in public works contracts.

The extinct *Banco Nacional de Habitação* (National Housing Bank – BNH) implemented the *Sistema Nacional de Pesquisa de Custos e Índices da Construção Civil* (National System of Costs Survey and Indexes of Construction – Sinapi) in 1969. After Law no. 10524/2002 (LDO, 2003), this system became the legally mandatory parameter in public works built with resources from the Union's General Budget. Today, the Brazilian savings bank Caixa Econômica Federal manages the Sinapi based on a large database that allows the direct consultation of many types of services.

On the other hand, the *Sistema de Custos Rodoviários* (System of Road Costs – Sicro) is an evolution of the *Manuais de Custos Rodoviários* (Manuals of Road Costs), edited by the *Departamento Nacional de Estradas e Rodagens* (National Department of Roads – DNER) between 1972 and 1980. Today, this material is published by the Departamento Nacional de Infraestrutura de Transportes (National Department of Transport Infrastructure – DNIT).

These budgetary systems use theoretical modelling that are largely tested. Nevertheless, in some situations there is a need to adapt this modelling to actual field conditions. This is properly analyzed in TCU's oversight.

Auditors work every day to turn construction budgets into professional and transparent documents, and this process is very dynamic. Detailed budgets, acceptability criterion, ABC analysis, overpricing, manipulation of spreadsheets, etc. are examples of technical terms present in many debates at the TCU. In the near future, the debates will also mention other concepts: perfect, imperfect, or monopolistic competition market, risk-free rate, and elasticity, among others.

By issuing a law that required a detailed budget of the global cost of a work, based on the number of services and properly evaluated supply, the legislator seemed to foresee an accurate and controlled action of the Public Administration and a real world strongly influenced by TCU's precedents (BRASIL, 1993).

Today, emphasizing the relevance of public works oversight by TCU or the results achieved in this field is no longer necessary. Neither is it necessary to pay tribute to the ones responsible for this project. The merit of the work and effort of the professionals is widely known in Brazil and abroad.

3. CURRENT CHALLENGES

3.1 INCLUSION OF WORKS OF DENATIONALIZATION OVERSIGHT

To maintain the dynamics of TCU's public works oversight and its contribution to external control, it is important to always evaluate their reach considering the guiding principle of examining to what extent resources applied in public works obey the law. At this point, Fiscobras can contribute to the oversight of works included in public services concessions.

In the Brazilian law, the concept of public service is directly related to its social importance. Pietro (2015) defines public service as "every material activity legally attributed to the State to be performed directly or by delegates to concretely satisfy the collective needs in a totally or partially public legal regime."

Therefore, the public interest surrounding the public service is always present, even when a private company has to account for it, like in concessions and permissions. The State is entitled to provide the service, even if it delegates the work to a private company (PIETRO, 2015).

Article 175 of the Brazilian Constitution highlights that public services must be properly provided by the State or by means of concession or permission. Also, Law no. 8987/1995 considers that an adequate service should satisfy "the conditions of regularity, continuity, efficiency, safety, constant update, generality, courtesy in the provision, and moderate costs." (art. 6th, § 1st, Law no. 8987/1995). Law no. 8987/1995 also states that the Granting Power must "regulate the service conceded and permanently oversee it."

According to the regulations mentioned previously, overseeing a concession or a public work is very similar. In both cases, the quality of the work (constant update, efficiency, safety) and its expenses (moderate costs) are crucial issues. Also, Public Administration needs to permanently oversee the contracts and, consequently, perform external control.

Regarding the public interest, the major difference between a public work and a work by concession concerns the source of resources: in the former, society indirectly bears the expenses of the work (via budgetary resources); in the latter, society (users) directly defrays the work by paying a fee. However, this difference cannot change the public nature of the service, because the State is responsible for it. For example, users of a road operated by a concession must have their rights guaranteed like the user of a road managed by the Public Administration, regarding quality and obedience to technical and contract parameters. In a concession or in a public work, the State aims to fulfill a notably public purpose: the public constitutional right to use a determined infrastructure at adequate prices and with minimum quality, guaranteed by the State. Granting the service provision to a private company does not eliminate its public nature neither changes the legal assets – which must be protected – and the society's charge in case of deficient work. Thus, this situation demands the Court's oversight.

We will mention the case of roads as an example. A typical road concession contract has three stages: initial works, recovery, and maintenance. The concessionaire is supposed to perform a series of engineering interventions included in the fee. If the concessionaire fails to perform any of these stages, it can harm users, who pay for a service that they cannot use.

Thus, Fiscobras can be used in valuable concessions for Brazil by applying expertise and routine procedures in the oversight of public works. The only difference here is the focus, because the emphasis is not on the work budget, but on fulfilling the contract performance parameters. However, at some moments Fiscobras could analyze the costs of works in concessions, for example, when new investments are added to the original contract. When the external control directly contracts a concessionaire, it must require a detailed analysis of the engineering budget, because all costs will be transferred to the users via fee, without any competitive process (bidding) to mitigate budget excesses. For example, the new Programa de Investimentos em Logística (Logistics Investment Program) estimates to invest R$ 15.3 billion in current concessions to build works not expected in contracts, which users will have to pay for (2015).

Nowadays, Fiscobras is responsible for producing a report to the National Congress, which classifies works according to the level of irregularities found in the oversights to evaluate the forward of budget resources to enterprises.

However, this tool could be more dynamic and relevant if adapted to oversee concessions as well. Considering the increase in the number of concessions in Brazil and the peculiarities of a concession (focused on service rather than on the work itself), changing the concept of Fiscobras to include denationalized works can be very useful to society and even to the National Congress, because it can reduce costs and improve the oversight of adequate services.

3.2 TECHNOLOGICAL INNOVATION

Sharing information through technology is part of the modern society's reality. Many options can enable such communication, but the challenge is to organize what is being shared and use simple tools to properly employ information. The internet map server technology and the geographic information system (GIS) have a high number of users and present many types of applications and important products (NERY et al., 2015).

According to Branco (2014), since 1995 the TCU uses different forms of including information technology in their work processes with the aim of generating better information and knowledge to perform their institutional mission and obtain more satisfactory results for society.

The use of information technology, especially related to georeferenced data, is a reality in the Brazilian Public Administration. The *Instituto Nacional de Colonização e Reforma Agrária* (National Institute of Colonization and Agrarian Reform – Incra) requires that all rural properties in Brazil have their boundaries georeferenced so that every individual property has a specific location on Earth (BRASIL, 2013).

Furthermore, the *Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics – IBGE) established the *Rede Brasileira de Monitoramento Contínuo do Sistema GPS* (Brazilian Network for Continuous Monitoring of the GPS System – RBMC) in 1996, which covers the whole country. The IBGE aimed to construct a geodetic infrastructure using GPS-based modern techniques to serve as reference for locations so that users could easily access the system, and the quality of the results would be guaranteed.

Researches have shown the possibility of using georeferenced data in the construction of road infrastructure, such as the Infoambiente, a map server coupled to a file manager that provides documents, pictures, and geographic data layers online in a georeferenced environment. This tool helps monitor the actions of the environmental management in the roads of the state of Rio Grande do Sul, Brazil (PANAZZOLO et al., 2013).

The TCU has been using georeferenced data in its oversights. In a performance audit to diagnose the preservation units in the biome Amazonia, the Federal Court of Accounts created an *Índice de Implementação e de Gestão de Áreas Protegidas* (Index of Implementation and Management of Protected Areas – Indimapa), which is a georeferenced tool to evaluate, communicate, and monitor the Brazilian Amazon biome through a map. The index provides individualized data about the management of each preservation unit and consolidated information of evaluations performed by the TCU and the nine state court of accounts of the Amazon biome (BRASIL, 2013).

Another possibility to improve construction oversights is the use of remotely piloted aircrafts (RPA), popularly known as drones or unmanned aerial vehicles (UAV). Due to the technological evolution, the theoretical development substantially diversified the manufacturing of RPA models, which have been adapted to many types of civil and military activities. The use of RPA as an operational tool has a strong multiplying effect and provides all the benefits of a

multidimensional, integrated system. It eliminates the risk of human capital loss in missions, reduces the stress of the operator, and optimizes the operation management (RAMOS, 2014). Brazil has been introducing drones in some types of oversights (2015).

Therefore, the TCU must introduce georeferencing, satellite images, and even drones in public works oversights so that audits will be shorter and more precise, and their results will be more effective for society.

3.3 CITIZEN PARTICIPATION

Continuous technological progress provides citizens with new technologies to be daily used in the corporate environment or in the governmental environment. In the governmental environment, technologic tools must allow citizens to effectively participate in the decisions by expressing their opinions or even engaging themselves in the processes of formulation and oversight of public policies. In this manner, the government guarantees a legitimate political action (SILVA et al., 2013).

The idea of a web participation through new information technologies engages citizens in actions of public interest as a form of exercising their citizenship and using internet to serve society (OLIVEIRA, 2012).

The spread of technological applications generated a phenomenon known as mobile crowd sensing, a new paradigm based on the **power of the crowd** associated with the possibility of detecting various mobile devices, such as smartphones and portable devices.

According to Estellés and Gonzáles (2012), crowd sensing is a participative online activity in which an individual, an institution, a non-profit organization, or a company makes use of the capillary action of mobile devices to propose a voluntary task to a group of heterogeneous and different skilled subjects through an open, flexible call.

Ganti, Ye and Lei (2011) affirm that crowd sensing can contribute with infrastructural, environmental and social activities. These authors mentioned citizens' participation through mobile applications as an example of an infrastructure activity, for they provide information concerning traffic jams, road conditions, parking availability, interruption of public works (malfunctioning hydrants and broken traffic lights, for example), and real-time traffic monitoring.

Following this innovation trend, the TCU has used these tools to familiarize citizens with oversights and its results. The Court has recently released mobile applications that allow users to monitor the oversight of public resources. Also, Android and IOS devices can download applications to watch the TCU's plenary sessions, and access publications of jurisprudence and legal proceedings (2015).

One of the challenges now is to apply this system to public works oversight. Through mobile applications, users can participate as oversight agents. They can help the TCU select works to be overseen and provide information related to works in progress. This resource allows citizens to participate and familiarizes with the Court's works and help the TCU to accomplish its institutional mission. Besides, such application can mitigate the crisis of popular representation in public services.

4. FINAL REMARKS

Based on the successive budget guideline laws that determined forwarding of audit reports to the National Congress, the TCU developed a new posture in oversight – the Fiscobras –, which enhanced TCU's collaboration with the Public Administration and disseminated defined the official budgetary systems.

This paper presented an initial debate on the current challenges of this new model: introducing Fiscobras in public services concessions by applying expertise and procedures often employed in public works oversights; using information technology resources, such as georeferenced data; and including citizens' participation through mobile crowd sensing.

As the Fiscobras is constantly evolving, further studies on this matter may suggest improvements and new discussions.

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