

## **ANALISYS OF IT OUTSOURCING CONTRACTS AT THE TCU (FEDERAL COURT OF ACCOUNTS) AND OF THE LEGISLATION THAT GOVERNS THESE CONTRACTS IN THE BRAZILIAN FEDERAL PUBLIC ADMINISTRATION**

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### **ABSTRACT**

Information technology (IT) outsourcing has for a long time been a major trend in business and government. Accountability of IT outsourcing contracts in the public administration is recognized as an important factor contributing to government transparency and public services quality, given the legislation governing these contracts and the amount of related expenditures. Considering the trend towards open government data publishing, including data on outsourcing contracts, there is an interesting opportunity for citizens to participate in the open auditing of these contracts as a means to assess the good application of public resources. In this study we explore this possibility by analyzing open data published by the Brazilian Federal Court of Accounts (TCU is its acronym in Portuguese), an interesting case since this agency has a paramount role in auditing the whole Brazilian Federal Public Administration. To this end, we gathered open data from the TCU regarding all outsourced IT services contracts maintained by the agency during the years 2000-2013. This data is analyzed to verify, from an external point of view, the related duration and values, identifying differences between the predicted and actual amounts spent and evaluating the administration of such contracts regarding legislation. This analysis is based on a detailed survey of the relevant legislation as well as the verification of original contract terms and their addendums. As a result, we observed substantial differences in the amount spent on execution with respect to those predicted in the original contracts. Also, we identified the utilization of special justifications prescribed by law to sustain the extension of some contracts. Given these results, it is possible that IT outsourcing is not necessarily proved to be the best solution for the public sector problems regarding the lack of skilled personnel, which implies the need to assess the cost-benefit of maintaining these contracts. Also, it is possible that the existing legislation needs development in order to provide more flexibility to outsourcing contract management.

**Keywords:** IT Services, IT Governance, IT Outsourcing Contracts, Open Social Auditing, Brazilian Federal Public Administration, Brazilian Federal Court of Accounts (TCU).

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## 1. INTRODUCTION

The activity of information technology (IT) outsourcing<sup>1</sup> has had significant growth rates within the IT service segment<sup>2</sup>, a trend that is valid both for the Brazilian and global markets (Hendry, 1997).

In Brazil, Public Administration is one of the main contractors of outsourced IT services, thus contributing to the strengthening of this growth rate. Decisions to adopt such contracts are in line with Decree-Law No. 200/67, Art. 10 §7º, which mandates that administration should focus its efforts on management activities and not on operational tasks. In addition, Decree 2.271/97 established that computer-related activities should preferably be contracted to third parties. However, some authors who have examined the hiring of IT services by the public sector reported performance problems due to lack of formalization of the hiring process, lack of knowledge about this process and shortcomings in its implementation (Barbosa, Junqueira, Laia and Faria, 2006; Cardoso, 2000 and Cardoso, 2006).

Thus, the process of hiring of IT services needs to be more efficient, requiring extensive planning to guide investment and to ensure the desired benefits to the business processes. This planning should permeate the entire organization, providing IT alignment to the direction and goals of the organization. Consequently, all procurement of IT goods and services should have as a major goal to support one or more strategic objectives, detailing the intended benefits and evaluation indicators as well as specific goals to be achieved (Cruz, 2008).

Accountability of IT outsourcing contracts in public administration is recognized as an important factor contributing to government transparency and public services quality, given the legislation governing these contracts and the amount of related expenditures. Considering the trend towards open government data publishing<sup>3</sup>, including data on outsourcing contracts, there is an interesting opportunity for citizens to participate in the open auditing of these contracts as a means to assess the good application of public resources. In this study we explore this possibility by analyzing open data published by the Brazilian Federal Court of Accounts (TCU is its acronym in Portuguese), an interesting case since this agency has a paramount role in auditing the whole Brazilian Federal Public Administration.

This methodology is nearly analogue to a black box software testing and validation approach (Howden, 1980) where external indicators are collected and analyzed so as to verify conformance to requirements. This approach presents interests that allow the evaluation of the effects of the whole organizational functioning, abstracting its internal structure and constituents, though this imposes limitations to the approach since it does not assess internal motivations and constraints. It is also noteworthy that this approach is adequate for an open social verification of government data as there is more independence between the observer and the object

<sup>1</sup> IT outsourcing is defined as hiring an external organization to provide specialized IT services. This occurs when the contractor does not want to use its internal resources to operate and/or implement its own IT sector.

<sup>2</sup> The IT industry can be roughly divided into three main segments: (i) hardware; (ii) software; and (iii) IT services. In the IT services segment, the different categories or types of services include: (i) outsourcing; (ii) advice; (iii) integration and development; (iv) support and training. The outsourcing services can in turn be subdivided into: (i) outsourcing of software applications (development and maintenance); (ii) outsourcing of IT infrastructure management (machines, servers), and (iii) outsourcing processes highly dependent on IT business, such as purchasing, human resources, among others.

<sup>3</sup> Brazil is a founder member of the Open Government Partnership, a multilateral initiative that aims to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance (<http://www.opengovpartnership.org/about>).

of interest. Alternative approaches such as this were foreseen by (Broadbent and Guthrie, 1992).

Moreover, the chosen methodology reflects a commitment of this paper to contribute to the social control of public services, an idea that has been gaining thrust in Brazil in recent years, contemporary to the maturing of the Brazilian democracy (Schomer, 2012). It is an important attitude towards transparency of public services in Brazil, and the TCU openly provides information on its IT contracts, since it is one of the most important institutions to control the use of public resources (Speck, 1999) and has a significant performance and effectiveness auditing role combined with the release of recommendations for improving the performance of public federal agencies (Robinson, 2007), being an exemplary organization for these agencies.

This paper, which constitutes an extended version of (Guarda, Oliveira and de Sousa, 2014), comprises a literature review addressing the concepts of outsourcing and IT outsourcing within public administration. Also, a survey of the TCU expenses on IT outsourcing is presented covering contracts for the period 2000 to 2013. The ensuing analysis using the gathered data was divided into two stages, since the years 2000-2011 refer to concluded contracts, while the years 2009-2013 refer to contracts still in progress.

## 1.1. GOALS

The central goal is to analyze all contracts related to IT outsourcing through the years 2000 to 2013 by the TCU, in order to observe contract durations and values. The gathered data is then used to identify differences between planned and actual duration and spending values, as well as to analyse the management of these contracts in light of the related legislation and public regulations.

## 1.2. MOTIVATION

Until 2008, the Brazilian Federal Public Administration has lacked a unified standard to regulate the process of hiring IT services or resources, such as the purchase of hardware and software, and the procurement of computing and/or information services.

In april 2008, the Brazilian Ministry of Planning, Budget and Management (MPOG is its acronym in Portuguese) published a normative instruction (NI) for the purpose of disciplining the hiring of services, whether continuously or not, by member agencies of the General Service System (SISG). This regulatory document, formally NI SLTI/MPOG No. 02/08, presented rules and guidelines for hiring services in public administration, adopting the expression "hiring services" in a generic sense, indeed applying the regulations to all types of services contracted by government.

Then, in addition to NI 02/08, in May 2008 the MPOG published NI SLTI/MPOG No. 04/08, which provides instructions specifically for the hiring process of IT services by directfederal public administration. On November 16<sup>th</sup>, 2010, NI 04/08 was replaced by NI SLTI/MPOG 04/10, which entered into force on January 2<sup>nd</sup>, 2011, establishes the necessary IT service hiring phases: planning for procurement, vendor selection and contract management.

In addition to NI 04, with nearly concomitant new rules, the TCU has reiterated and further developed the theme, producing a new and challenging legal framework for government IT managers. These facts demanded the development of new professional skills, which are still lacking in most public bodies, as the TCU itself has come to this conclusion in its audits since then. This new legal framework causes significant impacts on public bodies, requiring special care for its adoption by top managers, in view of the restrictions related to public budget, existing staff, operational situation and government strategic planning.

Considering this legislation, it is an interesting research subject to take into account the challenging problems faced by the Federal Public Administration with respect to IT outsourcing. It is important to assess spending on the outsourcing of IT services in this context, especially considering that the government has invested in hiring personnel specifically assigned to and trained for performing public procurement.

### **1.3. RESEARCH PROBLEM**

According to (Hendry, 1997), the services sector has been one of the fastest growing in Brazil and around the world in recent decades. Apart from its positive and negative points, outsourcing has become a reality in Brazilian companies and organizations, and especially in public service, where it has been used increasingly in recent years. Therefore the development of this research was performed to identify whether the practiced IT outsourcing contract management contributes to the quality of public spending, given that IT outsourcing involves a significant amount of public resources.

Thus, in this study the analysis of all contracts held by the TCU during the years 2000 to 2013 also has the intention to verify if the option for IT outsourcing has been financially and managerially appropriate to public service, considering that an alternative solution was to maintain those services in the hands of public employees.

One of the main problems identified in Brazilian public administration, with respect to outsourcing, is that the government has already identified items for improvement, but has not kept an adequate pace for developing actions to enable the required improvement. These problems were identified by the TCU itself in various public agencies, resulting in a TCU recommendation for MPOG to publish a specific standard for IT service hiring, which was consolidated in NI 04/08 and later in NI 04/10.

Thus, it is motivating to make a detailed analysis of the advantages and disadvantages of outsourcing IT services in public administration, so this study aims to contribute to the body of knowledge on this subject, particularly by verifying whether the process of hiring these IT services has been effective for the public administration.

### **1.4. METHODOLOGY**

This section specifies the materials used to develop the study, and presents the methodology used for analysis and results interpretation.

### **1.4.1 MATERIALS**

The materials used throughout the development of this work include the following:

- Current Brazilian legislation on hiring IT in Public Administration;
- IT Contracts data regarding the years 2000-2013 and addenda published by the TCU.

These documents are available as open data published by the MPOG and the TCU in their respective web portals.

### **1.4.2 RESEARCH STAGES**

Theoretical Review: The first stage of the work consisted in a literature review about the main issues addressed in this study. This phase proved to be of paramount importance in order to elucidate some of the basic concepts related to the topic of IT outsourcing in the Federal Public Service, and other related topics.

Survey and Choice of the TCU Contracts: a number of 35 contracts were chosen to be objects of analysis. The sources of data were contracts and addendum terms available on the TCU web portal regarding the provision of IT services. Contracts solely aimed at purchasing or leasing of computer equipment and software licenses were excluded from the data set. The chosen contracts were separated into a set for the analysis of finalized contracts (2000-2011) and a set for contracts in progress (2009-2013), giving way to the following lists:

- Concluded: 56-2000; 57-2000; 78-2001; 84-2001; 85-2001; 86-2001; 48-2003; 04-2004; 09-2005; 17-2006; 25-2006; 05-2007; 06-2007; 08-2007; 37-2007; 53-2007; 59-2007; 67-2007; 39-2008; 53-2008; 61-2008; 57-2009 e 34-2011.
- In Progress: 08-2009; 01-2010; 17-2010; 24-2010; 33-2011; 61-2011; 69-2011; 13-2012; 52-2012; 02-2013; 11-2013 e 20-2013.

Compilation of Information: The information gathered was compiled in the following separate tables:

- Concluded Contracts – table that contains relevant information of 23 finished contracts between 2000 and 2011;
- Contracts in Progress – table that contains relevant information of 12 ongoing contracts between 2009 and 2013;
- Summary of Concluded Contracts – table showing the amount and percentage of actual spending related to all IT services contractors during the period 2000 to 2011;
- Summary of Contracts in Progress – table showing the amount and percentage of actual spending related to all IT services contractors during the period 2009 to 2013;
- Highest Contract Values in the sampling period (13 years) – table intended to identify companies and classify by value their related IT Outsourcing contracts with the TCU (Indeed this table shows data regarding a single company).

## 2. LITERATURE REVIEW

### 2.1. CONCEPTS RELATED TO OUTSOURCING

Outsourcing, in what seems to be its broadest sense, means the purchase of any product or service from another company. In general, companies outsource products and services that they can not or will not produce for themselves (Turban, McLean & Wetherbe, 2004). Thus, outsourcing is a management approach that delegates to an external agent the operational responsibility for processes or services hitherto performed in the organization. As outsourcing has different approaches, it is important to understand the concepts of some authors before assessing which model fits best in a given organization.

Although there are several contradictions among researchers on the definition of outsourcing, the evolution of this practice led to a richer theoretical background of the phenomenon (Hätönen and Eriksson, 2009). The classic form of outsourcing can be defined as a management process based on transferring support activities to third parties - establishing a partnership with them so that the company concentrates only on tasks directly linked to the business in which it operates (Guarda, 2008).

There are authors arguing that outsourcing is the transfer of functions and services to third parties (Foina, 2001) or that business process outsourcing is the transfer of all activities that are not part of the company core competency (Beal, 2005). These authors also state that outsourcing has emerged in order to reduce costs, increase business productivity, and increase the quality and productivity of services, even if these factors are not always met.

Notwithstanding these factors, outsourcing requires a transformation in organizations, forcing them to concentrate their energies on their primary value-added business activity, thus better results are created to favor the effectiveness and optimization of management. According to (Queiroz, 1998), the quality resulting from outsourcing is linked with the specialty of the partners, as the more experience the third party has in relation to its service, the better the efficiency and effectiveness in the practice.

### 2.2. OUTSOURCING IN INFORMATION TECHNOLOGY (IT)

Outsourcing IT services has been increasingly common in the organizational context, especially in the public sector, since these services are now almost indispensable in any field and many organizations prefer to outsource IT (to specialized companies) while focusing their management on core activities, thus building more confidence in being ahead of their competitors and obtaining better profits.

According to (Earl, 1998) IT outsourcing is motivated by the need to cut costs and reduce staff. Also IT outsourcing has been defined as an organization's strategy to maintain control over deadlines and quality of service (Leite, 1997). For (Araújo, 2008), the reason why companies outsource the IT area is related to the amazing and rapid advances in this technology field, so it is easier to be more productive by

outsourcing these services to specialized companies that keep pace with these advances.

### 2.3 ADVANTAGES AND DRAWBACKS OF IT OUTSOURCING

IT Outsourcing main advantages are related to the provision of various multidisciplinary professionals to solve the problem of the contracting organization, resulting in cost reduction, concentration of activities, adequate skills, labor savings and the elimination of routine activities. In general, the expected IT outsourcing benefits are (Hätönen and Eriksson, 2009):

- Financially: cost reduction, stability of capital outflows with periodic payments for services;
- Technically: improvement of the quality of IT services, gaining access to new technologies; and,
- Strategically: Focusing on core business, time to market, and the possibility of attracting skilled professionals to the job.

According to (Laudon, 2004), outsourcing advantages include to reduce or to control IT costs, while producing information systems even when internal resources are not available or are disabled. In this regard, (Leite, 1997) argues that IT outsourcing allows the company to have access to experts on the subject while still focusing on IT considering business priorities.

On the other hand, IT outsourcing drawbacks include problems of contract termination, loss of activities control, excessive bureaucracy, loss of professional experiences and conflicts of interest (Dias, 2000). This author further states that the lack of internal management for IT services implies the loss of knowledge which is given to third parties, hindering services continuity if the outsourcing company is no more available. An interesting drawback example is documented by the TCU in its Judgment No. 1.521/03-Plenary Session showing that excessive IT outsourcing in the federal public administration resulted in the loss of business intelligence.

Table 2.1 highlights the main IT outsourcing advantages according to (Leite, 1997) and (Vidal, 1993), as well as the main drawbacks to outsource the provision of IT services according to (Laudon and Laudon, 2004), an author who states that, despite the benefits resulting from outsourcing services, not all organizations benefit from this process, which, if not properly understood and managed, can cause serious problems for contractors.

In light of the findings by the authors referenced above, many IT outsourcing risks exist for the Brazilian Federal Public Administration, including major non-conformities to contractual statements and non-use of the delivered services, especially by means of information systems. The lack of contract management and supervision processes can result in getting services that do not always meet the goals set. In some cases it is observed that failures come from the specifications for outsourcing procurement, a step before hiring suppliers. If the rules for the provision of services are not well specified and do not provide administrative sanctions in case of non-compliance, outsourcing risks increase considerably.

**Table 2.1 – IT Outsourcing Advantages and Drawbacks.**

	<b>Advantages</b>	<b>Drawbacks</b>
1	Unconcern with the process of providing supplies.	Lack of training / qualification of the third party.
2	High level of services, with increased user satisfaction.	Difficulties by the third party to understanding the contractor business.
3	Technical Flexibility.	Loss of control over quality, costs and deadlines.
4	Objectivity of cost-benefit analysis for new projects.	Internal resistance of the technical staff and users in regard to outsourced professionals.
5	Expenditure forecast.	Culture differences of the outsourced services in regard to company standards.
6	Transfer of responsibility regarding the operation of information systems.	Poorly planned goals.
7	-	Labor claims.
8	-	Leakage of confidential information.
9	-	Increase in costs and difficulties in bidding processes since the volume of expenses at the end of a contract are hardly the same as originally planned.

Given these potential problems, (Foina, 2001) proposes the following precautions regarding IT outsourcing:

- Clearly define in the contract the area of operation for the third company;
- Establish metrics for managing the quality of services;
- Set a minimum number of monthly hours to be developed by the service provider.

#### **2.4. IT OUTSOURCING IN THE BRAZILIAN FEDERAL PUBLIC ADMINISTRATION**

Currently, most IT services in the Brazilian Federal Public Administration are provided under outsourcing contracts, since this is the management model adopted based on the assertion that the core objective is the proper functioning of the public administration while IT services comprise support objectives.

The paper by (Ramos, 2001) states that outsourcing has been used especially at the federal level to hire services related to support activities or complementary to core activities, these ones being defined as strategic since they can not be assigned to third parties in full as this would jeopardize public safety and interest.

In public companies and agencies, the outsourcing of IT has been considered a way to improve the services provided by the State, following exemplary experiences from the private sector. To (Willcocks, 1994) the government embraced the idea based on the fact that, in some, cases private companies could obtain better performance performing some government functions, thus outsourcing IT services were envisioned to improve government processes.

#### **2.5. THE BRAZILIAN FEDERAL LAW REGARDING OUTSOURCING**

A considerable set of laws and regulations govern the procurement of IT services and goods for the Brazilian Federal Public Administration. This section summarizes the key pieces of this corpus, using Table 2.2 to arrange the instruments in the order of time. This compilation, illustrating the evolution of the law from 1991 to

2010, includes the official instrument name and number, its publication date, a brief description and comments on the instrument objectives and legal obligations related to outsourcing, including relationships with other instruments.

**Table 2.2** – Brazilian federal legal instruments used in hiring IT services and goods.

	<b>Instrument</b>	<b>Publication Date</b>	<b>Description</b>	<b>Comments on Objectives and Relation with Outsourcing</b>
1	Law No. 8.248/1991	23/10/1991	Provides the capacity and competitiveness of the IT and automation industry, and makes other provisions.	Defines in Article 8 what common automation and data processing goods and services are.
2	Law No. 8.666/1993	21/06/1993	Regulates article. 37, item XXI, of the Federal Constitution, establishing rules for biddings and contracts by the Public Administration and makes other provisions.	Establishes rules for biddings and contracts to be performed by the Public Administration. Defines in Article 22 the procedure for bidding and in Article 24 the cases in which the bidding is dispensable.
3	Decree No. 1.048/1993	21/01/1994	Regulates the Information and IT Resource Management System of the Federal Public Administration.	Regulates the Information and IT Resources System (SISP), which is responsible for planning, coordination, organization, operation, control and monitoring of IT resources. Defines in Article 2 the goals of the SISP.
4	Decree No. 2.271/1997	07/07/1997	Regulates the procurement of services by the Federal Public Administration, direct, autonomous agencies and foundations and makes other provisions.	Defines which activities may be subject to hiring via bidding. States in its Article 1 that incidental, instrumental activities, or those complementary to matters that constitute the area of legal competence of the organ, may be subject to indirect execution. Its Article 3 states that the object of the contract must be explicitly defined in the bidding announcement.
5	Decree No. 3.555/2000	08/08/2000	Establishes the rules for the public bidding processes in the form of auctions for the procurement of common goods and services.	Constitutes a complement to Law No. 8.666/1993 (item 2 in this table). Its Article 5 states that auctions do not apply to engineering works and services nor to real estate leasing and sales.
6	Decree No. 3.931/2001	19/09/2001	Regulates the Prices Registration System which is governed by article 15 of Law No. 8.666/1993 (item 2 in this table), and makes other provisions.	Defines the Prices Registration System (SRP) which is a set of procedures for the formal recording of prices in relation to the provision of common services and the procurement of goods. Defines in its Article 2 when the SRP should be used.

	<b>Instrument</b>	<b>Publication Date</b>	<b>Description</b>	<b>Comments on Objectives and Relation with Outsourcing</b>
7	Law No. 10.520/2002	17/07/2002	Establishes, on the realm of the Union, States, Federal District and Municipalities, in accordance with article 37, item XXI, of the Federal Constitution, the bidding method by auctions for the procurement of common goods and services, and makes other provisions.	Modifies the Law No. 8.666/1993 (item 2 in this table), including electronic auctions as a bidding method. Complements this Law items 5 and 6, establishing that the process may be held by means of electronic auctions for the purchase of common goods and services. Defines in its Article 11 that the procurement and purchasing of common goods and hiring of services must be made using the SRP (item 6 in this table).
8	Law No. 11.077/2004	30/12/2004	Modifies Law No. 8248/1991 (item 1 in this table), Law No. 8237/1991, and Law No. 10.176/2001, providing the capacity and competitiveness of the IT and automation industry, and makes other provisions.	Modifies Law No. 8248/1991 and supplements Decree No. 3.555/2000 (item 5 in this table), regulating the capacity and competitiveness of the IT and automation industry. Recommends the use of electronic bidding for procurements defined by Law.
9	Decree No. 5.450/2005	31/05/2005	Regulates electronic auctions for the purchase of common goods and services, and makes other provisions.	Convalidates the Decree No. 3.555/2000 (item 5 in this table), and determines that the electronic auctions should be mandatory in the procurement of common goods and services as highlights its Article 4.
10	Decree No. 5.504/2005	05/08/2005	Establishes the requirement for using the public auction, preferably in its electronic form, by public and private entities, for the procurement of common goods and services performed as a consequence of voluntary public funds transfers from the Federal Government <sup>4</sup> .	Reinforces the Decree No. 5.450/2005 (item 9 in this table). Expands the mandatory use of electronic auctions for public and private entities for the procurement of common goods and services due to voluntary public funds transfers from the Federal Government.
11	IN No. 02 MPOG/SLTI	30/04/2008	Provides rules and guidelines for the procurement of services, continued or not.	Complements the instruments defined in items 2, 4, and 7 in this table. Controls rules and guidelines for hiring services continued or not.

<sup>4</sup> Transfer of resources from the Federal Government to another government level, as financial assistance, cooperation, or help, which is not a result of a constitutional or legal requirement, or destined to the public federal healthcare system.

	<b>Instrument</b>	<b>Publication Date</b>	<b>Description</b>	<b>Comments on Objectives and Relation with Outsourcing</b>
12	Ordinance No. 11 MPOG/SLTI	30/12/2008	Defines the General Information Technology Strategy (EGTI) for the Federal Public Administration.	Complements the instrument described in item 11 of this table and enforces compliance with the instrument described in Item 3. Lays the foundation for transitioning from the current state of the Federal Government IT environments. The EGTI aims to define a set of improvements and is the foundation for a governance model for the renowned Information Technology Resources Administration System (SISP), serving as contextualization between the parties to reach maturity.
13	Decree No. 7.063/2010	13/01/2010	Approves the Regimental Structure and the Demonstrative Table on Commission and Gratified Functions of the Ministry of Planning, Budget and Management, and makes other provisions.	Complements the instrument described in item 3 of this table.
14	Decree No. 7.174/2010	12/05/2010	Regulates the procurement of IT and automation goods and services by the Federal Public Administration, direct or indirect agencies, foundations instituted and maintained by the Government and other organizations under the direct or indirect control of the Union.	Complements the instruments described in items 1, 2 and 7 in this table and modifies the instrument in item 5. Highlights in its Article 2 that the acquisition of IT goods and services should be preceded by the procurement planning, including basic design or reference specifications containing the object to be hired.
15	IN No. 04 MPOG/SLTI	16/11/2010	Provides the process of hiring IT solutions by members of the SISP of the Federal Executive Branch agencies.	Revokes the instruments defined in items 3 and 11 of this table and builds upon the instrument in item 14. Reorganizes the topics and steps that must be completed for the hiring of IT solutions within SISP.

Table 2.2 is aimed at summarizing how outsourcing rules have developed over the last decade, given law modifications and the creation of new perspectives. In this context, it is noteworthy the inclusion of the electronic bidding method for the acquisition of common goods and services. Before that inclusion, the bids for the purchase of goods or hiring IT services used competitive bidding.

According to Decree 3.555/00, public auctions constitute the category by which the competition for providing common goods or services is made in public sessions, by means of written pricing proposals and verbal bids, giving way to a decision in which the winning bidder will necessarily be the one that offers the lowest price. Thus, in Brazil, materials or services procurement occurs through public bidding processes (auctions) held by the government, either in-person or electronic auctions.

There is evidence that electronic auctions represent a substantial evolution in public hiring of services because it entails considerable gains in economy,

transparency, competitiveness, and control of the process as a whole (Santanna, 2007). The advantages of using this bidding category include savings in time and cost. Regarding time, the typical deadline for the traditional competitive bidding is 45 days while the auction category is 15 days, which represents a reduction of one third of the time for completion of the process, due to fewer bureaucratic obstacles. In relation to cost, the auctioneer has the opportunity to negotiate in real time the values with the bidders, so that the amount spent on bids tend to be smaller, resulting in potential savings for the Public Administration.

### 3. RESULTS AND DISCUSSION

This section aims to compile the published data and then analyze IT outsourcing contracts by the TCU covering the years 2000-2013, including the analysis of contracts already finalized (2000 to 2011) and contracts still in progress (2009 to 2013).

The actual expenses are calculated by adding the initial values to the values given in each addendum. The results are grouped into the following tables: Table 3.1 – Concluded Contracts – 2000 to 2011; Table 3.2 – Contracts in Progress – 2009 to 2013; Table 3.3 – Summary of Concluded Contracts – 2001 to 2011; Table 3.4 – Summary of Contracts in Progress – 2009 to 2013.

**Table 3.1 – Concluded Contracts – 2001 to 2011.**

<b>Contract 56-2000-DF</b>					
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>		Company: <b>CTIS</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	517.704,00	-	14/11/00	Hiring services to design, implement and deploy the system for Electronic Collection of Statement of Accounts.	
Total Value:	<b>517.704,00</b>				
<b>Contract 57-2000-DF</b>					
Category: <b>Unenforceability of Bid</b>			Status: <b>Concluded Contract</b>		Company: <b>LINK DATE</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	31.200,00	-	20/11/00	Hiring a company specializing in IT, to perform maintenance for the "Automation System of Inventory" software, related to Equity and Warehouse modules.	
Total Value:	<b>31.200,00</b>				
<b>Contract 78-2001-DF</b>					
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>		Company: <b>FÓTON</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	364.320,00	-	31/12/01	Hiring systems development consultancy, based on the systems development methodology Rational Unified Process - RUP or a similar methodology, based on the Unified Process - UP, as specified in the Annexes of the Call.	
Addendum 1	364.320,00	100.0	31/12/04	Extension until 31.12.2003.	
Addendum 2	364.320,00	100.0	31/12/04	Extension of the Term of the Contract until	

				31/12/04.
Addendum 3	486.712,92	133.5	31/12/04	Renegotiation of prices in the Contract.
Total Value:	<b>1.579.672,92</b>			
<b>Contract 84-2001-DF</b>				
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>	
			Company: <b>CTIS</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	4.215.577,50	-	31/12/01	Development and implementation of information systems, corrective and adaptative maintenance and documentation based on the methodology Rational Unified Process - RUP.
Total Value:	<b>4.215.577,50</b>			
<b>Contract 85-2001-DF</b>				
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>	
			Company: <b>CTIS</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	1.623.072,00	-	31/12/01	Development of information systems currently in operation at the TCU. The service warranty is 36 months, according to clause 16.
Addendum 1:	81.153,60	5.0	30/12/03	Promote growth of 5% to the value of the original contract.
Addendum 2:	1.704.225,60	105.0	31/12/04	Extends until December 31 <sup>st</sup> , 2003 the validity of the original contract.
Addendum 3:	-		31/12/04	Changes the First and Fourth Clauses of the Contract.
Addendum 4:	1.704.225,60	105.0	31/12/04	Extension of the term until December 31 <sup>st</sup> , 2004.
Addendum 5:	245.578,90	15.1	31/12/04	Renegotiation of the contract value.
Addendum 6:	1.949.804,50	120.1	31/12/05	Extension of contract validity until 31/12/05.
Addendum 7:	1.949.804,50	120.0	31/12/06	Extension of validity.
Total Value:	<b>9.257.864,70</b>			
<b>Contract 86-2001-DF</b>				
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>	
			Company: <b>CTIS</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	1.099.460,60	-	27/12/01	Provision of support services to computer services users - remote and local support.
Addendum 1:	1.170.380,60	106.5	27/12/03	Extension of Contract until 27.12.2003 and to promote a 6.4505% increase of the initial contract value.
Addendum 2:	1.170.380,60	106.5	27/12/04	Extension of the term of the contract until 27/12/04.
Addendum 3:	112.841,16	10.3	27/12/04	Renegotiation of contract prices.
Addendum 4:	1.284.170,04	116.8	27/12/05	Extension of validity.
Addendum 5:	1.284.170,04	116.8	27/12/06	Extension of validity.
Addendum 6:	1.284.170,04	116.8	27/12/07	Exceptional extension of the contract validity until 27/12/07.
Total Value:	<b>7.405.573,08</b>			
<b>Contract 48-2003-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Concluded Contract</b>	
			Company: <b>SERPRO</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	336.000,00		01/07/03	Provision of information and IT services for continuous online access to the CPF and CNPJ registry data.

Addendum 1:	54.000,00	16.1	01/07/07	Increase of 16.07%.
Total Value:	<b>390.000,00</b>			
<b>Contract 4-2004-DF</b>				
Category: <b>In-person Auction</b>			Status: <b>Concluded Contract</b>	
			Company: <b>CAST</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	83.040,00	-	10/02/04	Hiring of technical support services and software versions update.
Addendum 1:	83.040,00	100.0	10/02/06	Sixth clause- On the Validity and Effectiveness.
Addendum 2:	83.040,00	100.0	10/02/07	Extension of the term until 10/02/07.
Addendum 3:	83.040,00	100.0	10/02/08	Extension of the term until 10/02/07.
Total Value:	<b>332.160,00</b>			
<b>Contract 9-2005-DF</b>				
Category: <b>Competition</b>			Status: <b>Concluded Contract</b>	
			Company: <b>SOFTEK</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	447.760,00	-	11/04/05	Supply, installation and configuration of a software integrated solution for support, upgrade and remote assistance services, and training for the construction and administration of an extract, transform and load data service (Extract, Transform and Load - ETL).
Addendum 1:	88.560,00	19.8	06/06/07	Extension of the term.
Addendum 2:	88.560,00	19.8	06/06/08	Extension of the term of Contract No. 09/2005 entered into force between the parties on 11/04/05, corresponding to the item 1.1 of the seventh clause.
Addendum 3:	88.560,00	19.8	06/06/09	Extension of CT n° 09-05.
Addendum 4:	88.560,00	19.8	06/06/10	Extension of the Term of the Contract 09/05.
Total Value:	<b>802.000,00</b>			
<b>Contract 17-2006-DF</b>				
Category: <b>Unenforceability of Bid</b>			Status: <b>Concluded Contract</b>	
			Company: <b>LINK DATE</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	15.600,00	-	01/04/06	Hiring maintainance for the "Automation System of Inventory" software, related to Equity and Warehouse modules. Posted on 23/03/06.
Total Value:	<b>15.600,00</b>			
<b>Contract 25-2006-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Concluded Contract</b>	
			Company: <b>SERPRO</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	12.500.000,00	-	31/05/06	Provision of data extraction and transmission services from SIAFI and SIASG services, as well as services for the production of a data warehousing solution named Intelligence and Support System for the External Control (SÍNTESE).
Addendum 1:	-	NA	30/11/08	Amendment of terms and deletion of items.
Total Value:	<b>12.500.000,00</b>			
<b>Contract 5-2007-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>	
			Company: <b>HEPTA</b>	
	Value:	%↑	Date:	Rationale:
Initial Value:	119.000,00	-	13/03/07	Provision of technical support services to

				products pertaining to the Microsoft platform integrating the computing infrastructure of the TCU.
Total Value:	<b>119.000,00</b>			
<b>Contract 6-2007-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>	Company: <b>UNIMIX</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	194.190,00	-	13/03/07	Provision of technical support services to products pertaining to the Oracle platform integrating the computing infrastructure of the TCU.
Addendum 1:	194.190,00	100.0	13/03/09	Extension of contract validity until 13/03/09.
Total Value:	<b>388.380,00</b>			
<b>Contract 8-2007-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>	Company: <b>CAST</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	45.840,00	-	13/03/07	Providing technical support services for OLAP Business Objects solutions integrating the computing infrastructure of the TCU.
Addendum 1:	45.840,00	100.0	13/03/09	Extension of Contract 08/07.
Addendum 2:	45.840,00	100.0	13/03/10	Extension of the term of the Contract Signed on 13/03/2007 between the parties for the provision of technical support to computer services.
Addendum 3:	45.840,00	100.0	13/03/11	Extension of the term of the Contract until 13/03/11.
Addendum 4:	45.840,00	100.0	13/03/12	Extension of validity of the CT 08/07.
Total Value:	<b>229.200,00</b>			
<b>Contract 37-2007-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Concluded Contract</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	42.840,00	-	01/06/07	Provision of Data Processing services for the Tape 50 aggregate values all over Brazil.
Addendum 1:	42.840,00	100.0	01/06/09	Extension of contract validity until 01/06/09.
Addendum 2:	42.840,00	100.0	01/06/10	Extension of the term of the Contract until 01/06/10.
Addendum 3:	42.840,00	100.0	01/06/11	Extension of the term of the Contract n° 37/07.
Total Value:	<b>171.360,00</b>			
<b>Contract 53-2007-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Concluded Contract</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	322.000,00	-	03/09/07	Provision of information and IT services (queries to CNPJ and CPF).
Total Value:	<b>322.000,00</b>			
<b>Contract 59-2007-DF</b>				
Category: <b>In-person Auction</b>			Status: <b>Concluded Contract</b>	Company: <b>DG10</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	241.400,00	-	16/10/07	Provision of specialized IT technical services, including planning, development, implementation and execution of the operation

				and monitoring of the Information Technology environment. Note: The closure of the Montana activities occurred on 24/10/07 and the Data Graphics company started delivering services on 25/10/07.
Total Value:	<b>241.400,00</b>			
<b>Contract 67-2007-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>	Company: <b>CTIS</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	1.945.000,00	-	28/12/07	Provision of specialized technical IT services, including planning, development, implementation and execution of remote and onsite technical support activities to Information Technology clients within the TCU.
Addendum 1:	101.724,69	5.2	28/12/08	Increase of 12.81% in the value of services, with a temporary and a permanent instalment.
Addendum 2:	2.194.121,64	112.8	28/12/09	Extension of the term until 28/12/09.
Addendum 3:	0,01	0.0	28/12/09	Suspension of software and information systems services - item 3 of "remote support services".
Addendum 4:	141.864,76	7.3	28/12/09	Renegotiation of contract values that, in the period from 01/05/2008 to 31/07/09, changes from R\$ 181.843,47 to R\$ 188.129,52 and, after 01/08/08, changes from R\$ 181.843,47 to R\$ 189.107,64.
Addendum 5:	567.322,92	29.2	28/03/10	Extension of the term of the Contract until 28/03/10.
Addendum 6:	378.215,28	19.5	28/05/10	Extension of the term of the Contract n° 67/07.
Addendum 7:	109.009,95	5.6	28/05/10	Renegotiation of prices in the Contract n° 67/07.
Total Value:	<b>5.437.259,25</b>			
<b>Contract 39-2008-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Concluded Contract</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	488.254,35	-	18/08/08	Provision of information and IT services, consolidated in the delivery of data drawn from the Registry of Individuals – CPF, the National Registry of Legal Entities - CNPJ and Individual Income Tax - IRPF, pertaining to the Secretariat of the Federal Revenue of Brazil, by means of special calculations on databases localized in the Federal data Processing Service SERPRO.
Addendum 1:	-	NA	18/02/11	Deletion/modification of items of the basic design.
Total Value:	<b>488.254,35</b>			
<b>Contract 53-2008-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>	Company: <b>DG10</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	157.289,34	-	17/10/08	Provision of specialized IT technical services, including planning, development, implementation and execution of the operation and monitoring of the information technology environment.
Total Value:	<b>157.289,34</b>			

Contract 61-2008-DF					
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>		Company: <b>REDECOM</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	172.800,00	-	02/12/08	Provision of technical support services for network solutions.	
Addendum 1:	172.800,00	100,0	01/12/10	Extending the term of Contract No. 61/08 signed between the parties on 01/12/2008, according to the terms in its Fifth Clause.	
Addendum 2:	172.800,00	100,0	01/12/11	Extension of the term until 01/12/11.	
Addendum 3:	172.800,00	100,0	01/12/12	Extension of the CT 61/08.	
Total Value:	<b>691.200,00</b>				
Contract 57-2009-DF					
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>		Company: <b>REDECOM</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	51.194,00	-	30/12/09	Provision of upgrade and technical support services for the IBM Tivoli Storage Manager backup solution, as specified in Annex I - Terms of Reference of the Electronic Auction Bid No. 71/09.	
Total Value:	<b>51.194,00</b>				
Contract 34-2011-DF					
Category: <b>Electronic Auction</b>			Status: <b>Concluded Contract</b>		Company: <b>AMÉRICA</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	2.854.491,00	-	21/12/11	The provision of data storage solutions, including training, installation and configuration services, additionally to onsite technical support to the products during the warranty period. ATA - SRP.	
Total Value:	<b>2.854.491,00</b>				

For the composition of Table 3.1, the 'Value' rows as well as the 'Date' and 'Rationale' columns were all gathered from the querying of Contracts and Addendum terms, available on the TCU web portal at <https://contas.tcu.gov.br/contrata/ConsultaPublica?opcao=resultado>.

To calculations for the '%↑' column consist of percentage increases in amounts spent within the listed Contracts.

The 'Total Value' represents the sum of the values in column 'Value' for Contracts where Addendum terms were found.

**Table 3.2 – Contracts in Progress – 2009 to 2013.**

Contract 8-2009-DF					
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>		Company: <b>DG10</b>
	Value:	%↑	Date:	Rationale:	
Initial Value:	325.850,00	-	15/04/09	Provision of specialized technical IT services, including planning, development, implementation and execution of the operation and monitoring of the Information Technology environment of TCU.	
Addendum 1:	325.850,00	100,0	14/04/11	Extension of the term until 14/04/11.	

Addendum 2:	2.319,43	0.7	14/04/11	Renegotiation of prices of the Contract signed between the parties on 14/04/09.
Addendum 3:	326.159,19	100.1	14/04/12	Extension of the term of the Contract 08/09.
Addendum 4:	49.435,92	15.2	14/04/12	Adding one more monitoring and operation round (from 0 to 6 hours) to contract n° 08/09.
Addendum 5:	0,01	0.0	14/04/12	Modification of official and commercial name.
Addendum 6:	421.556,29	129.4	14/04/13	Extension of the term and modification of the sixth clause.
Addendum 7:	452.220,84	138.8	14/04/14	Extension of the CT 08/09.
Total Value:	<b>1.903.391,68</b>			
<b>Contract 1-2010-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>HEPTA</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	240.876,00	-	21/01/10	Provision of technical support services to Microsoft products integrating the computing infrastructure of the TCU, under contract by unit price, under the contract unit price for Microsoft products services, including preventive and reactive support, as specified by the Electronic Auction Notice # 73/09.
Addendum 1:	240.876,00	100.0	21/01/12	Extension of the term until 20/01/12.
Addendum 2:	254.450,40	105.6	21/01/13	Extension of the term of the contract n° 1/10.
Addendum 3:	254.450,40	105.6	21/01/14	Extension of the term of 21/01/2013 to 01/20/14.
Total Value:	<b>990.652,80</b>			
<b>Contract 17-2010-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>CTIS</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	3.224.000,00	-	31/05/10	Execution of specialized technical services in the field of information technology for the organization, development, implementation and ongoing execution of remote and local technical support to users of information technology solutions, including performing regular routines, guidance and clarification of questions and receiving, recording, analysis, diagnosis and care of user requests.
Addendum 1:	3.224.000,00	100.0	28/05/12	Extension of validity for CT 17/10.
Addendum 2:	3.224.000,00	100.0	28/05/13	Extension of the term until 28/05/13.
Addendum 3:	357.166,71	11.1	28/05/13	Renegotiation of prices in the contract n° 17/10.
Addendum 4:	3.545.208,35	110.0	28/05/14	Extension of technical services for organization, development, implementation and ongoing execution of remote and local technical support, for users of IT solutions.
Addendum 5:	104.088,79	3.2	28/05/14	Review and Renegotiation of prices for contract n° 17/2010.
Total Value:	<b>13.678.463,85</b>			
<b>Contract 24-2011-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Contract in Progress</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	151.207,87	-	23/05/11	Provision of information and IT services, for data extracted from the CPF, CNPJ and IRPF systems, of the Secretariat of the Federal Revenue of Brazil, by special calculation in databases located in SERPRO.

Total Value:	<b>151.207,87</b>			
<b>Contract 33-2011-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Contract in Progress</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	56.133,24		02/07/11	Provision of Data Processing services for Tape 50 added values.
Addendum 1:	56.133,24	100.0	01/07/13	Extension of the term of the contract n° 33/11.
Addendum 2:	56.133,24	100.0	01/07/14	Extension of the term of the contract n° 33/11.
Total Value:	<b>168.399,72</b>			
<b>Contract 61-2011-DF</b>				
Category: <b>Exemption of Bid</b>			Status: <b>Contract in Progress</b>	Company: <b>SERPRO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	300.034,56	-	01/11/11	Provision of information and IT services.
Total Value:	<b>300.034,56</b>			
<b>Contract 69-2011-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>AMÉRICA</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	2.232.691,36	-	28/12/11	Provision of data storage solutions, including training, installation and configuration services, and onsite technical support to products during the warranty period.
Addendum 1:	-	NA	13/10/12	Extension of the term specified in Item 1 of 5 <sup>th</sup> Clause of contract n° 69/11, signed by the parties on 28/12/11.
Addendum 2:	-	NA	27/12/12	Extension of the term provided in Item 1 of 5 <sup>th</sup> Clause of contract n° 69/11.
Total Value:	<b>2.232.691,36</b>			
<b>Contract 13-2012-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>TECNISYS</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	209.000,00	-	08/05/12	Provision of onsite technical support to software (item 1 - Red Hat Enterprise Linux Server and Item 2 - JBoss Enterprise Application Platform).
Addendum 1:	209.000,00	100,0	07/05/14	Extension of the validity and amendment to fifth clause of contract n° 13/12.
Total Value:	<b>428.000,00</b>			
<b>Contract 52-2012-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>AÇÃO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	295.000,00	-	28/12/12	Provision of onsite technical support to VMware products, with an estimated employment of 1.000 credits, to be consumed on demand, under contract by unit price.
Total Value:	<b>295.000,00</b>			
<b>Contract 2-2013-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>AÇÃO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	605.000,00	-	10/04/13	Provision of management software for the virtualized environment, official training and implementation service the management

				solution.
Total Value:	<b>605.000,00</b>			
<b>Contract 11-2013-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>AÇÃO</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	559.000,00	-	30/04/13	Provision of management software for the virtualized servers in the headquarters and state branches, including the execution of official training and the implementation service of the management solution.
Total Value:	<b>559.000,00</b>			
<b>Contract 20-2013-DF</b>				
Category: <b>Electronic Auction</b>			Status: <b>Contract in Progress</b>	Company: <b>CAST</b>
	Value:	%↑	Date:	Rationale:
Initial Value:	2.869.980,00	-	20/05/13	Provision of onsite and remote information systems development, maintenance and testing, under contract by unit price, as specified in the Annexes of the Electronic Auction Notice n° 16/13.
Total Value:	<b>2.869.980,00</b>			

For the composition of Table 3.2, the same rules explained for Table 3.1 were applied, also on data gathered from the querying of Contracts and Addendum terms, available on the TCU web portal at <https://contas.tcu.gov.br/contrata/ConsultaPublica?opcao=resultado>.

The consolidation of data from Tables 3.1 and 3.2 results in Tables 3.3 and 3.4 which show values regarding the original contracts and addendums for the provision of IT services during the period 2000-2013, as well as the percentage increase ratio of total value to initial value for all contracts.

**Table 3.3 – Summary of Concluded Contracts – 2000 to 2011**

Contract	Company	Bid Category	Initial Value	Sum of Addendums	Total Value	↑%
56-2000	CTIS	Competition	517.704,00	-	517.704,00	0.00
57-2000	Link Date	Unenforceability	31.200,00	-	31.200,00	0.00
78-2001	Fóton	Competition	364.320,00	1.215.352,92	1.579.672,92	333.59
84-2001	CTIS	Competition	4.215.577,50	-	4.215.577,50	0.00
85-2001	CTIS	Competition	1.623.072,00	7.634.792,70	9.257.864,70	470.39
86-2001	CTIS	Competition	1.099.460,60	6.306.112,42	7.405.573,08	<b>573.56</b>
48-2003	SERPRO	Exemption	336.000,00	54.000,00	390.000,00	16.07
04-2004	Cast	In-person Auction	83.040,00	249.120,00	332.160,00	300.00
09-2005	Softtek	Competition	447.760,00	354.240,00	802.000,00	79.11
17-2006	Link Date	Unenforceability	15.600,00	-	15.600,00	0.00
25-2006	SERPRO	Exemption	12.500.000,00	-	12.500.000,00	0.00
05-2007	Hepta	Electronic Auction	119.000,00	-	119.000,00	0.00
06-2007	Unimix	Electronic Auction	194.190,00	194.190,00	388.380,00	100.00
08-2007	CAST	Electronic Auction	45.840,00	183.360,00	229.200,00	400.00
37-2007	SERPRO	Exemption	42.840,00	128.520,00	171.360,00	300.00
53-2007	SERPRO	Exemption	322.000,00	-	322.000,00	0.00
59-2007	DG-10	In-person Auction	241.400,00	-	241.400,00	0.00
67-2007	CTIS	Electronic Auction	1.945.000,00	3.492.259,25	5.437.259,25	179.55
39-2008	SERPRO	Exemption	488.254,35	-	488.254,35	0.00
53-2008	DG-10	Electronic Auction	157.289,34	-	157.289,34	0.00

61-2008	Redecom	Electronic Auction	172.800,00	518.400,00	691.200,00	300.00
57-2009	Redecom	Electronic Auction	51.194,00	-	51.194,00	0.00
34-2011	América	Electronic Auction	2.854.491,00	-	2.854.491,00	0.00
		$\Sigma =$	<b>27.868.032,79</b>	$\Sigma =$	<b>48.198.380,14</b>	<b>57.82</b>

Table 3.4 – Summary of Contracts in Progress– 2009 to 2013

Contract	Company	Bid Category	Initial Value	Sum of Addendums	Total Value	↑%
08-2009	DG-10	Electronic Auction	325.850,00	1.577.541,68	1.903.391,68	<b>484.13</b>
01-2010	Hepta	Electronic Auction	240.876,00	749.776,80	990.652,80	311.27
17-2010	CTIS	Electronic Auction	3.224.000,00	10.454.463,85	13.678.463,85	324.27
24-2011	SERPRO	Exemption	151.207,87	-	151.207,87	0.00
33-2011	SERPRO	Exemption	56.133,24	112.266,48	168.399,72	200.00
61-2011	SERPRO	Exemption	300.034,56	-	300.034,56	0.00
69-2011	América	Electronic Auction	2.232.691,36	-	2.232.691,36	0.00
13-2012	Tecnisys	Electronic Auction	209.000,00	209.000,00	428.000,00	100.00
52-2012	Ação	Electronic Auction	295.000,00	-	295.000,00	0.00
02-2013	Ação	Electronic Auction	605.000,00	-	605.000,00	0.00
11-2013	Ação	Electronic Auction	559.000,00	-	559.000,00	0.00
20-2013	CAST	Electronic Auction	2.869.980,00	-	2.869.980,00	0.00
		$\Sigma =$	<b>8.198.793,03</b>	$\Sigma =$	<b>24.181.821,84</b>	<b>33.90</b>

In Table 3.3, observing each percentage increase in the ratio of final contract value to the initial value (↑%), there are significant increases in a number of contracts with a maximum **573.56%** increase. The results also show that the sum of initial contract values between 2000 and 2011 is **R\$ 27.868.032,79** and that with addendums these values were increased to **R\$ 48.198.380,14**, which represents a total increase of **57.82%** during the analyzed period.

In Table 3.4, observing each percentual increase in the ratio of final contract value to initial value (↑%), there are significant increases in a number of contracts with a maximum **484.13%** increase. The results also show that the sum of initial contract values between 2009 and 2013 is **R\$ 8.198.793,03** and that with addendums these values were increased to **R\$ 24.181.821,84**, which represents a total increase of **33.90%** during the analyzed period.

These results indicate that the estimated values for the hiring of IT services are far below the amounts actually spent in the end. Since the Law says that a contract may be valid for a period of 60 months, it means that the best practice is to estimate the expenditures for the possible 5-year contract duration, considering that in practice the contract usually continues until the last possible deadline. This also indicates that maybe hiring IT outsourcing is strategic enough to justify longer contracts.

Another important aspect of the results are the real contract characteristics that differ from legislation governing the hiring of IT services by the public administration. For instance, Article 65 item II §1° of Law 8.666/93 defines that in case of procurement of services, the allowed percentage additions or reductions in addendums is up to 25% of the initial contract value. Also, Article 65 item II §2° instructs that no increase or reduction may exceed the limits established in the previous paragraph, except reductions resulting from an agreement between the contractors (terms stated by Law n° 9.648/1998). The present analysis observes that added addendum values are above the percentage allowed by law in different contracts, the highest ones being the following:

- Concluded contract 78-2001: in addendum 3 a value of R\$ 486.712,92 represents an increase of 133.5% compared to the initial value of the contract;
- Contract in Progress 08-2009: in addendum 7 a value of R\$ 452.220,84 represents an increase of 138.8% compared to the initial value of the contract.

This is a contract management difficulty imposed by Law as a means to preventively restrain fraud. Notwithstanding this fact, maybe the observed contract modifications in this case seem to indicate the need to develop the Law, since there is evidence that some IT outsourcing contracts would benefit if they were signed for longer periods. Also, considering new IT services provision modes, such as Cloud Computing (Mell and Grance, 2011), continuous or periodic payment per service should be allowed instead of fixed period contracts.

Finally, another observation is that a single company (CTIS) has got the highest values in the TCU IT outsourcing contracts, with its 6 contracts in a total of 35 analyzed contracts, as shown in Table 3.5. Considering that the sum of concluded contracts, R\$ 48.198.380,14 and contracts in progress, R\$ 24.181.821,84, totals **RS 72.380.201,98**, the observation is that the company earned **55.97%** of the total amount spent by the TCU for outsourced IT services during the 13 years of the sampling period. So, a single company is bound to more than 50% of the values employed in IT outsourcing with its 6 contracts in a total number of 35 contracts (**17,14%**).

**Table 3.5 – Highest Contract Values in the sampling period (2000-2013).**

Company	Contract	Status	Total Value R\$
CTIS	56-2000	Concluded	517.704,00
CTIS	84-2001	Concluded	4.215.577,50
CTIS	85-2001	Concluded	9.257.864,70
CTIS	86-2001	Concluded	7.405.573,08
CTIS	67-2007	Concluded	5.437.259,25
CTIS	17-2010	In Progress	13.678.463,85
<b>Total R\$</b>			<b>40.512.422,28</b>

This concentration on one provider gives way to an undesirable side effect that, by signing the successive contracts, the provider becomes expert in the object and in the client, thus becoming the most able to win the following bids on the same object.

#### 4. FINAL CONSIDERATIONS

Long-term IT services planning is a necessary process for good IT governance. This exploratory study shows that there still are some issues to be dealt with in this process, specifically in regard to IT outsourcing planning. Although there is much talk in related cost savings, some discussion is lacking regarding necessary adaptations of outsourcing practices to existing conditions in the Brazilian public sector, in the light of Law and regulations. This study shows indicators that the Government still needs to mature its IT long-term planning, given that IT outsourcing has been broadly adopted for fundamental services by public bodies, although the respective contract management processes are characterized by difficulties regarding modifications in values, duration and specifications, as observed in this paper case study.

In Brazil there is an extensive set of Laws and regulations applied to IT contracts, whose evolution was summarized in the literature review in this study. The modifications in legal instruments over recent years make it clear that the Government has been developing and maturing in some issues, specially the bidding categories that

eased the acquisition of IT goods and services bound to a Federal Administration IT spending that exceeds six billion dollars per year, according to data from the Integrated Financial Management System (SIAFI) and the Department of Coordination and Governance of State Owned Enterprises (DEST).

The improvement of procurement rules as well as the consolidation of related knowledge contributed to the reduction of risks, given that hiring IT services imply in high investments. Also this enables to verify whether management practices are really efficient, considering that the correct application of IT resources is part of good management and promotes the protection of critical information, helping organizations achieve their institutional goals. The improvements in this area also depend on strengthening management skills and qualification of people and processes within the agencies that use outsourced IT services. Another concern is that, considering some of the related contract values, possibly there are situations favoring the utilization of public employees for provision of some IT services in place of outsourced personnel. Independent of the adopted solution, it seems that either way requires investments in management policies, indicators and metrics for managing quality of service, and the adequate binding from IT services to overall government goals.

In which respects this paper methodology, although it has the interest of preserving the independence between the object and the observer, the chosen approach for this study shows some limitations since the object of study is considered under a black box verification method and the analysis is based solely on external indicators, although there surely are internal motivations and constraints that have been determinant for IT outsourcing contract management decisions regarding the duration and financial extensions of contracts.

It is also important to point out that the data used in this study is public and published by the source agency itself, as all analyzed information was taken from the TCU website. Thus, the information is delivered to the population openly, which is indeed positive in regard of the Public Administration transparency. It would be yet more useful if these publications were in the form of linked open government data, including data sets and related ontology, such as those concerning the Brazilian Federal Budget (Silva, Sousa, Veiga, Martins, Exposto and Mendonca, 2104). By proposing an effective analytic approach in this context, the present paper methodology contributes to empowering citizens to use these open data sets for exercising the necessary social control on government activities.

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