Fiscalito TI conecta - software for fiscalization of public contracts

Crossref doi 10.56238/homeinternationalanais-050

Juliana Aparecida Vaz
Master's student - Professional Master in Technological Innovation at the Federal University of Triângulo Mineiro - UFTM

Elder Vicente de Paulo Sobrinho
Professor - Department of Electrical Engineering - Federal University of Triângulo Mineiro - UFTM

Ana Cláudia Granato Malpass
PhD Professor - Department of Chemical Engineering, Federal University of Triângulo Mineiro - UFTM

Keywords: Control, Public Contract, Software, Training, Records.

1 INTRODUCTION

The outsourcing of accessory services[1] in the public sphere in Brazil gained strength in the mid-1990s. In this context, when the outsourcing of some services is made possible, the public administration, in promoting the materialization of the needs for goods and services, follows a universe of mandatory procedural rites that are linked from the requisition of the good or service to its execution.

In this context, specifically in the performance of the contract, the Government has the duty to verify and record whether the supplier has delivered or is performing the contracted good or service and fulfilling its obligations as agreed in the contract. For such follow-up and registration, an extremely important figure emerges, called the contract inspector.

For (MEIRELLES, 2012) "the public authority must have the corresponding prerogative to control its contracts and adapt them to the requirements of the moment, supervising, monitoring and inspecting their execution or intervening in it."

The contract inspector is a public servant, appointed by the competent authority, through an ordinance, to perform inspection activities for each contract to which he or she is bound. The legal basis that addresses the issue is Normative Instruction No. 5 of May 26, 2017, which addresses the types of inspectors, as well as the management activities of the inspection.

The servant appointed to act as an inspector cannot refuse the function, he can claim the need for training. For (REIS, 2018, p.18) an efficient fiscalization comes from training, "without training, the activities will be carried out on impulse, with a huge possibility of not working out."

[1] Complementary services that provide administrative support to the public administration, not being the main activities performed by the Government.

In the expectation of checking whether fiscal management software exists in the public sector, we proceeded with a search in the INPE database[2] with the keywords "fiscalization" and "contracts" and "public", which generated zero results; for "fiscalization" and "contracts" generated one result; and only "fiscalization" generated twenty-nine results, but the theme of the latter is not related to the theme of fiscal management tools for public procurement.

For (PRESSMAN, 2009, BEZERRA, 2017) define software as a grouping of computational data that when executed results in desired applicabilities, flowing and interacting in improving a company's business processes.

Thus, in this sense this study aimed to deepen the survey of data related to technological tools customized for the inspection of public contracts at the Federal University of Triângulo Mineiro, as well as some federal public agencies, randomly selected.

In view of this niche and in possession of the data collected, a software was developed, entitled *Fiscalito Ti Conecta*. Considering that the researcher is graduated in Administration and has no knowledge in computer program development, a *No Code*[3] platform was used, which has a ready-made graphical interface, thus dispensing the presence of a computer program professional.

With the software for fiscalization of public contracts, this was tested with some inspectors and with such software it will be possible to provide security, organization, efficiency, interaction, greater productivity, and it is also possible to replicate the software to other public agencies.

2 METHODOLOGY

An exploratory, descriptive research was carried out with a virtual interview, through Google Forms, composed of twenty closed multiple-choice questions, regarding inspection registration routines, as well as training for inspection activities.

The research was authorized by the Ethics in Research Committee - CEP of the University, according to CAAE nº 45439021.1.0000.5154, opinion nº 4.682.672 being sent, in the period from May 05, 2021 to May 31, 2021, to one hundred and forty-six inspectors of the University, sixty-seven inspectors effectively participated in the research.

According to (GIL, 2002, p.42) "descriptive research is, together with exploratory research, the kind of research usually carried out by social researchers concerned with practical performance."

The data collected were tabulated using an electronic spreadsheet and analyzed together with the legislation in force.

It was also conducted through the Electronic System of the Citizen Information Service (e-SIC), based on Law No. 12.527/2011 of Access to Information, in the period February/2021 to March/2021, a

[2] Instituto Nacional de Pesquisa Espaciais - INPE, a unit linked to the Ministry of Science, Technology and Innovations - MCTI, with the objective of enabling the country in scientific research and space technologies.
[3] In literal translation into Portuguese: "without code, a platform with a ready-made graphical interface for developing applications, software, websites for building innovations.

consultation with forty-three federal public agencies using a descriptive qualitative approach that according to (VERGARA, 2004 p. 47) "exposes characteristics of a certain population or a certain phenomenon. It can also establish correlations between variables and define their nature. It has no commitment to explain the phenomena it describes, although it serves as a basis for such an explanation. "

The query data were categorized by reading the answers, performing a semantic analysis, and tabulating in an electronic spreadsheet the nominal polytomous qualitative variables identified in the answers.

With the tabulated data we proceeded to the development of the software, entitled *Fiscalito Ti Conecta*. For the use of the chosen platform of the *No Code* type, whose method exempts the participation of a professional computer program developer, a survey of the most used platforms in this category was made considering the available configurations. Thus, it was decided to use the *Bubble* platform.

Thus, 217 hours of training were conducted to learn how to use the tool and thus develop the software for overseeing public contracts.

3 CONCLUSION

The data collected in the consultation conducted via e-SIC revealed that in most public agencies the training of public servants appointed to act as inspectors, resort to hiring private companies to train the public servants, and this training is not held frequently. The same results are presented in the research done at the University.

It is well known that contract oversight is a complex activity, with great impact on the operation and financial management of institutions.

Still in both data surveys it was identified that most inspectors request training, and seek to clarify doubts with the contract sectors.

For (SANTOS, 2013, p. 51) "if there is no effective, efficient and effective execution and supervision, there is a great chance of waste of public resources. Still corroborates (HAHN, 2011) when alerting that the server without specific training related to the contracted object, to act in the supervision, is an extremely critical point in the public sphere.

As for the data survey on how inspectors carry out their fiscal routine registers, most of the participants informed that they use electronic spreadsheets, text editors, and even manual registers, and that they spend an average of half an hour a week registering their inspections.

The spreadsheet has its own universe where formulas, incorrect data can remain hidden and propagate in several versions, incurring in incorrect results, generating insecurity about the integrity of the information (SISPRO Enterprise Software, 2017).

The surveyed entities were also questioned about the search for evaluation of the user's tax audience, and the answer was that most of them do not do it, and when they do it is in an informal way, without registering the evaluation.

BUCHANAN and TULLOCK suggest (1962, as cited in SILVA, CRISOSTOMO, 2019) that the individual interests of the public manager may not be in communion with the interests of the collectivity, as the manager may end up making decisions that prioritize his personal interest.

In possession of the data, the software development was carried out. There are programming software, game software, system software, tutorial software, and application software, the last one being the one used for the inspection software, because it performs several tasks and can be used individually or globally.

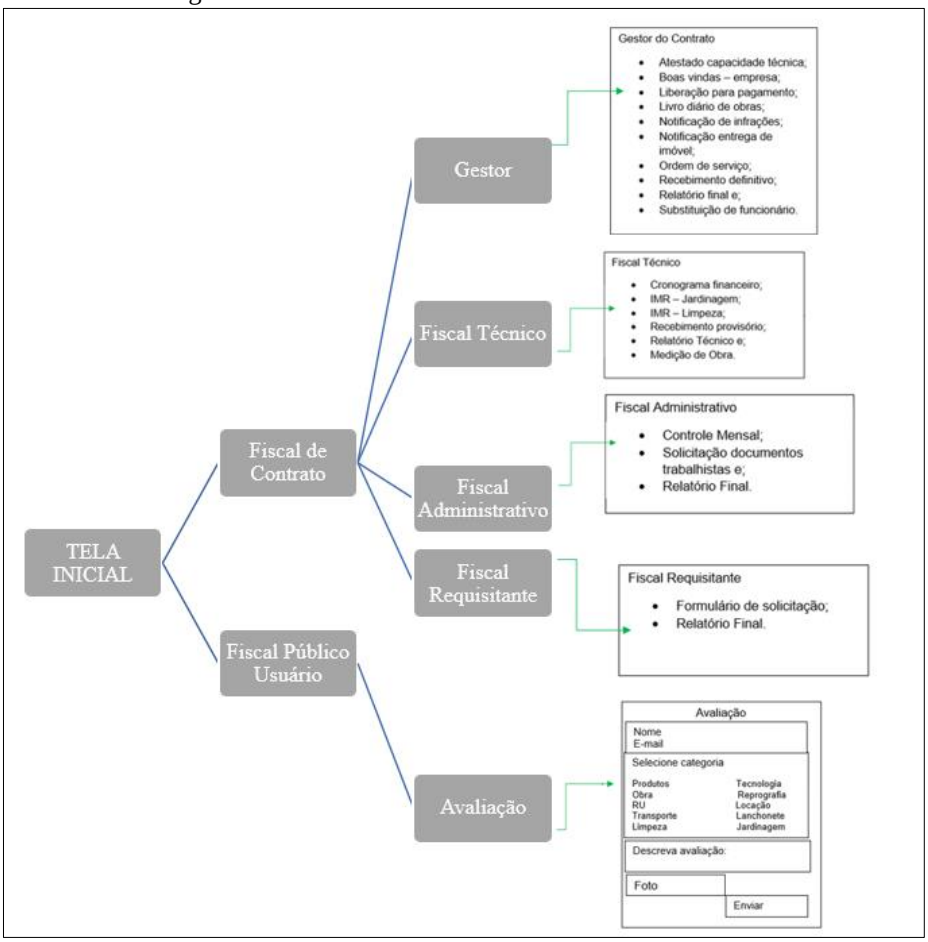
Software is increasingly evolving and present in various activities whether simple or complex (PRIKLADNICKI, WILLI, MILANI, 2014).

For the purposes of agility, autonomy, and cost reduction, a No Code platform was used, which already has a graphic interface ready to be customized as needed, so the software structure was developed with modules for each type of inspector, manager, technician, administrative, requester, and user.

The modules for each type of inspector have their routine forms, while the user public inspector has in his module the evaluation of the outsourced services existing at the University, and it is possible to attach images for registration purposes in the evaluation (Figure 1).

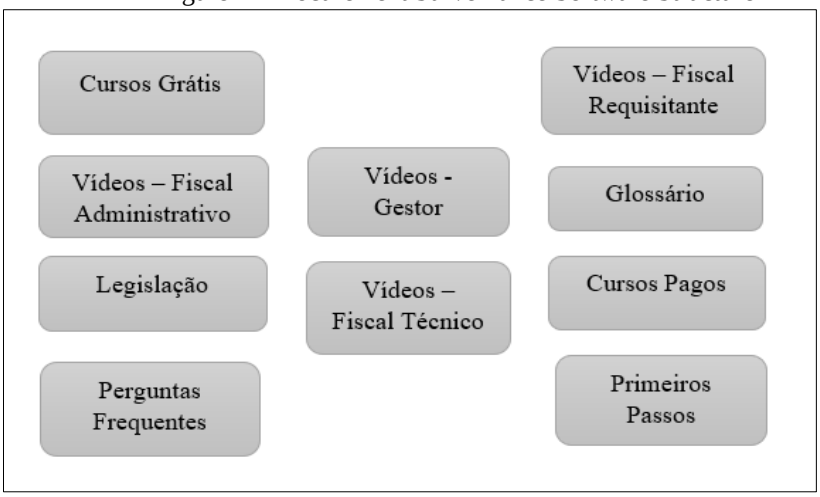
The software also has a training module aimed at the types of inspectors where they will have access to legal devices, free courses, paid courses, and videos of fiscal routine content as per (Figure 2).

Figure 1 - Procurement Surveillance Software Structure



Source: Authors (2021)

Figure 1 - Procurement Surveillance Software Structure



Source: Authors (2021)

Once the software development was finished, it was made available to six inspectors who were invited to test it for its performance, usability, and learning potential. At the end of the software evaluation, they answered a questionnaire related to their experience using the software.

In general, the inspectors approved the usability of the software, considering it easy to navigate, intuitive, easy to fill out, agile, organized, fast, with contributive training. Some suggestions for adjustments in the software were made and these were accepted and changed.

The software was registered with the University's Technological Innovation Center, under registration number 014140202291, to guarantee intellectual property rights.

To ensure the efficiency of a software the evaluation with those who will use it takes place in the testing phase, since this phase is the most appropriate time for possible corrections (RANGEL, ÉVORA, OLIVEIRA, 2012).

To inspect is to ensure the faithful fulfillment of the contract between contractor and supplier, with a record of the follow-up for later release of the payment. Because it is a detailed work that confronts: contract, execution, legislation, the inspector needs safe, agile technological tools to support his routine fiscal activities.

A customized centralized management software ensures better use of time, interaction, productivity, efficiency, and security. As a future goal it is intended to plead with the competent authorities a study for the effective implementation of the software at the Federal University of Triângulo Mineiro.

REFERENCES

BEZERRA, E. Princípios de Análise e Projeto de Sistema com UML. 3a ed. Rio de Janeiro: Elsevier Brasil, 2017.

BUCHANAN, J. M., &TULLOCK, G. (1962). The calculus of consent: logical foundations of constitutional democracy. Ann Arbor, MI: University of Michigan Press.

GIL, A. C.. Como elaborar projetos de pesquisa. 4. ed. São Paulo: Atlas, 2002.

HAHN, S. J. O psicólogo na instituição de ensino superior: intervenções do serviço de psicologia na realidade universitária. Gestão Pública. Vol. 3. 2011. Disponível em: <https://www.academia.edu.> Acesso em 5 de set. 2022.

MEIRELLES, H. L.. Direito administrativo brasileiro. 38ª ed. São Paulo: Malheiros, 2012. Disponível em:< https://www.conteudojuridico.com.br/consulta/Artigos/32325/o-contrato-administrativo-e-suas-peculiaridades >.Acesso em: 17 mar. 2021.

PRIKLADNICKI, R.; W, R.; M. F. Métodos Ágeis para Desenvolvimento de Software. Bookman Editora, 2014.

PRESSMAN, R. S. Software Engineering A Practitioner's Approach. 7th. ed. New York, NY: McGraw Hill, 2009.

RANGEL, A. L.; ÉVORA, YDM, OLIVEIRA MMB. O processo de avaliação do software de geração automática de escala de trabalho da enfermagem e da escala por ele gerada. Journal Of Health Informatics: 2012. Disponível em: <file:///C:/Users/hanay/Downloads/208-934-1-PB.pdf> . Acesso em: 07 mar. 2021.

REIS. R. B. Negócio Público. Curitiba. Maio 2018. Negócios Públicos do Brasil. 2018. ISSN 19842589. Disponível em: <https://www.passeidireto.com/arquivo/60006546/negocio-publico-maio-2018> . Acesso em 05 jun 2021.

SANTOS, F. B. Determinantes de custos na limpeza predial terceirizada: benchmarking em universidades federais. Orientador: Valmor Slomski. 2014. 157 f. Dissertação (Mestrado em Ciências). Universidade de São Paulo,São Paulo, 2014. Disponível em: <https://repositorio.cgu.gov.br/handle/1/41966>. Acesso em 23 mar. 2021.

SISPRO. O que pode dar errado ao usar planilhas na gestão? Disponível em: <https://www.sispro.com.br/blog/o-que-pode-dar-errado-ao-usar-planilhas-na-gestao/#:~:text=Isto%20porque%20consideram%20que%20trabalhar,v%C3%AAm%20acompanhadas%20de%20seguran%C3%A7a%20fr%C3%A1gil >.Acesso em 12 mar. 2021.

VERGARA, S. C. Projetos e relatórios de pesquisa em administração. 5. Ed. São Paulo: Atlas, p. 47, 2004