



Employees' Perception of Public Purchases at the Federal University of Campina Grande in State of Paraíba

Percepción de los servidores sobre la contratación pública en la Universidad Federal de Campina Grande en el Estado de Paraíba

Guayra Afonso Querino Alves¹, José Ribamar Marques de Carvalho² & Enyedja Kerlly Martins de Araújo³

Abstract: Government purchases have become a major concern for managers by requiring more efficient use of public resources. Therefore, The present work aims to analyze the perception of public servants involved in the bidding processes of the Federal University of Campina Grande (UFCG) about the purchasing practices adopted by the institution. Based on a survey of the servers directly involved with the UFCG purchasing sector, the results indicated that the respondents consider the constant updating of the professionals responsible for the purchases important and evaluated the efficiency of the purchases made through electronic trading. They also considered shared purchases as an economically viable option, reducing the time, costs and quantity of bids, despite the reluctance of some servers regarding this option. However, it was evident that the UFCG seeks to justify the need when carrying out adhesions, but does not always carry out price research demonstrating the advantage for the administration.

Keywords: *Public Administration; Public Purchases; Bids.*

Resumen: Las compras gubernamentales se han convertido en una de las principales preocupaciones de los gestores, ya que exigen una mayor eficiencia en el uso de los recursos públicos. Teniendo en cuenta esto, este trabajo tiene como objetivo analizar la percepción de los servidores públicos involucrados en los procesos de licitación de la Universidad Federal de Campina Grande (UFCG) sobre las prácticas de compras adoptadas por la institución. A partir de la realización de una encuesta con los servidores públicos directamente involucrados con el sector de compras de la UFCG, los resultados obtenidos indicaron que los encuestados consideran importante la actualización constante de los profesionales responsables de las compras y evaluaron como eficientes las adquisiciones realizadas por comercio electrónico. También consideraron la contratación compartida como una opción económicamente viable, proporcionando reducción de tiempo, costes y cantidad de ofertas, a pesar de la reticencia de algunos servidores con respecto a esta opción. Sin embargo, se evidenció que la UFCG busca justificar la necesidad de realizar adhesiones, pero no siempre realiza estudios de precios que demuestren la ventaja para la administración.

Palabras-clave: *Administración Pública; Contratación Pública, Licitaciones.*

*Author for correspondence

Received on 2022/11/25; approved on 2023/05/30

¹Master's degree in Public Administration - PROFIAP/UFCG, UFCG Staff, e-mail: guayraafonso02@gmail.com, ORCID: <https://orcid.org/0000-0002-7438-5957>; *

²PhD. Accounting Sciences (UNISINOS), Professor, Accounting Sciences Course, UFCG, e-mail: jose.ribamar@professor.ufcg.edu.br; ORCID: <https://orcid.org/0000-0003-3482-9231>;

³Professor, Faculdade São Francisco da Paraíba, e-mail: enyedjakm@gmail.com; ORCID: <https://orcid.org/0000-0002-3031-5922>.

INTRODUCTION

Given the paradigm of efficiency and the purchasing power of public administration, government procurement began to play a crucial role as an instrument of public policy. Thus, they became a major concern for public managers, to the extent that they began to demand from them more quality in the use of public resources available (RAPOSO et al. 2016).

The activity of purchasing in the public sector has peculiar characteristics. Unlike the private sector where the manager can choose which product to purchase, indicating the brand, in the public sector this happens differently. Public purchases have as main objective to make the administration buy well, following the principles of economy, legality, impersonality, publicity, administrative probity, binding to the call for tender, among others, contained in the relevant legislation (FENILI, 2015). In this context, it must consider aspects such as price savings, product quality and speed in the acquisition process.

The bidding method most used by public agencies is the Pregão (Auction), established by Law 10.520/02, for goods and services of common use, i.e., those in which the standard of performance and quality can be defined objectively in the notice and that are considered usual in the market (DOMAKOSKI, 2013). In the federal administration, specifically, the Pregão is used in the electronic mode (Decree No. 5.540/05), where suppliers launch their proposals in real time via the Internet, to win the contest.

Several studies have been developed within this theme denoting its importance and scientific relevance, either by evidencing the governmental public procurement as a strategic tool to support local development (CALDAS & NONATO (2013), or by evidencing the conditioning factors of participation and success of micro and small enterprises (MPE) in public procurement from changes in legislation (CABRAL, REIS & SAMPAIO, 2015), or by identifying the perception of different actors of public procurement, the performance, the efficiency and quality of the bidding processes within two federal educational institutions (OLIVEIRA, 2015), as well as in understanding how the State has contributed to sustainable development from its purchasing power (OLIVEIRA & SANTOS, 2015) or even in the analysis of the scientific production on Public Procurement and the focus given to sustainable procurement (ROSSET & FINGER (2016) and in the analysis of the activities and results of the innovation process in the public sector in the light of the Alice robot case in Brazil (PANIS et al. 2022).

Given the relevance that this theme has for public administration, and in this case, for the Federal University of Campina Grande, the choice to study it was due to the following aspects: Need for a more strategic vision of public procurement; Adequacy of procurement planning and management; Greater efficiency in the use of public resources.

Regarding these aspects, this study is justified by the relevance that public procurement has for organizations with regard to the services provided to citizens, in the case of an educational institution, also to the academic community. Despite this, even today they are still seen as a merely bureaucratic activity, as stated Motta (2010), when emphasizing in the public sector, the purchasing function has as its priority the compliance with the law and does not receive the proper importance to the results it brings to the administration, i.e., it is not considered a strategic activity. Thus, it is necessary that public institutions, and more strictly the UFCG, realize this new phase that the public administration is going through and start recognizing purchasing as a strategic instrument and that it deserves to be better planned.

Considering the planning then as an ally to a better quality of purchases that are made by public agencies, the study is also justified by the need for adequate planning of purchases that will be made during the year and their management.

In view of the above, and given the relevance of the exposed theme, this article sought to answer the following question: What is the perception of the servers involved in the UFCG's bidding process about the purchasing practices adopted by the institution? To do so, it aims to identify the perception of public servants involved in UFCG's bidding process about the purchasing practices adopted by the Federal University of Campina Grande.

Thus, the general objective of this research is to analyze the perception of public servants about the public accounts considering the procurement practices adopted by the Universidade Federal de Campina Grande.

THEORETICAL FOUNDATION

Public Procurement

In contemporary times, some scholars such as Almeida, Machado and Costa (2002); Azevedo (2011), Nascimento (2015), Nishiyama (2016) have spoken about public procurement. Although it is noticeable that the theme is not yet in the focus of academic discussions of administration and is seen as another formal procedure, it is important to emphasize its strategic character for organizations.

Thus, all concepts related to public procurement are of fundamental importance to the understanding of this activity in public administration. According to Schmidt and Assis (2011, p. 1), "public procurement is considered a process by which the government seeks to obtain services, materials and equipment necessary for its operation in accordance with the laws and regulations in force". The authors argue that, even the acquisitions and contracting that have as objective the fulfillment of

governmental goals, one cannot fail to consider the use of the economic potential of these activities, which can enable other governmental goals related to development.

Following this line of thought, which does not consider public procurement as a solely bureaucratic activity, Azevedo (2011) asserts that the procurement and contracting of services are activities that require responsibility and conscious use of public resources, and that are necessary for the execution of the organization's objectives. The public procurement process directly impacts the aspects of procurement quality and service efficiency (NISHIYAMA, 2016). In this sense, it is observed that the attitude of scholars tends to consider public procurement as an activity that must follow the formalities that the legislation imposes, however, the public administration must observe the potential that this activity has and the development it can bring to public organizations.

In Brazil, public institutions adopt a procurement process that is considered complex, with rules formerly governed by Law No. 8,666/93 and more recently by Law No. 14,133 of April 1, 2021 (New Bidding Law), which establishes general rules for bidding and contracting for the direct public administrations, independent agencies, and foundations of the Union, the States, the Federal District, and the Municipalities.

The New Bidding Law (Law No. 14,133/2021), establishes general rules on bidding and defines procurement as any remunerated acquisition of goods to be supplied at once or in installments, with the main purpose of selecting the most advantageous proposal for the public administration, with relative quality of acquisitions and/or contracting.

Azevedo (2011) lists some important factors that must be observed in the purchasing process, such as the requirement of bidding, resulting in the purchase of products with lower price; ensuring competitiveness among suppliers; and giving preference to Brazilian companies or whose products are manufactured in Brazil.

With this, the Brazilian legislation became the target of criticism for its excess of formalities, as evidenced by Justen Filho (2005), the new legal provision emerged with the intention of minutely and exhaustively all the hypotheses in which it could be applied. It sought to reduce the freedom of the Public Administration and thus is characterized by exacerbated formalism. The author highlights the need to adapt the bidding discipline to technological evolution, bringing more speed to contracting.

It is understood that most Brazilian government agencies or institutions do not currently use appropriate techniques in planning the acquisition of materials and services aligned with the strategic plan (TRIDAPALLI; FERNANDES; MACHADO, 2011). The authors also highlight that countries such as Chile, Portugal and Mexico are adopting new practices in order to improve procurement performance, which is the annual planning.

Nishiyama (2016) states that in the public sector, the procurement activity is as essential and strategic as in the private sector, being even more sensitive due to the fact that its possible failures or inefficiencies have a direct impact on the services provided to society. Thus, for the public administration to offer a quality service and with more efficiency, it must be able to manage its purchasing and supply activities. In this sense, it is important to emphasize the need for public organizations to plan and seek new ways to manage their purchasing activities and, together with the technical and technological innovations available, ensure the quality and efficiency of public services.

Related Studies on Government Procurement

Many studies have been developed in order to contribute to the improvement of management and planning of public purchases. Some of these studies are described below, which were used for the theoretical foundation of this work and highlight the approaches of the theme in the context of public agencies.

In this context, the study of Bevilaqua (2012), seeking to highlight tools for procurement planning in the public sector, aimed to evaluate the effectiveness of the procurement calendar adopted by the Federal University of Pampa (UNIPAMPA) in 2011. The implementation of this tool focused on electronic auctions carried out through the Price Registration System. The study concluded that the adoption of the calendar was an excellent alternative for improving the planning of the institution's bids.

Melo (2012), conducted a study in a federal institution of higher education seeking to develop a purchasing methodology that would be able to meet institutional deadlines. As of the purchasing sector, the administrative structure and routines pertinent to the bidding process were analyzed. The results of the study indicated that the institution needed more simplified procedures and more organization regarding the planning of the purchasing process.

In the study conducted by Madruga et al. (2013), an analysis of the process of shared purchases through the price register system in a Federal Institute of Higher Education, involving 20 organizational units, was carried out with the objective of verifying the advantageousness and efficiency of this process and the innovation implemented by the institution in the bidding processes.

Junior and Olave (2013) presented a study seeking to analyze how the use of the Electronic Auction influences positively or negatively as a purchasing instrument. The study was applied in the Regional Electoral Court of Sergipe and the results pointed out as the main positive aspects the economy of resources, competitiveness and speed, however the unpreparedness of many suppliers was evidenced as the main negative aspect.

The study conducted by Nascimento (2015) aimed to propose a work structure that would increase efficiency in shared public procurement from the identification of existing dysfunctions in two Higher Education Institutions. Through the results, it became evident that planning is vital for the success of shared procurement. Another work focused on the efficiency of public procurement was presented by Silva (2016), which aimed to analyze the efficiency of rides carried out in the bidding processes of the Army Management Units in Rio de Janeiro. Through the results of the research, it was found that between the years 2009 and 2015 the rides were not carried out in the auctions of best price and thus, evidenced the importance of conducting price research to ensure the efficiency of rides.

Nishiyama (2016) developed a study seeking to build a model of performance evaluation of the procurement and supply process at the Federal University of Santa Catarina. The result of the construction of this model allowed the identification of 50 evaluation criteria for the management of the procurement process. From this it was possible to evaluate, through a scale, the acquisitions made by the institution and to measure the situation of the purchasing processes in place at the time of the research. In turn, the research presented by Souza (2016) addressed shared procurement and aimed to describe the factors that influence the decision-making process regarding sustainable shared procurement in 14 federal agencies in Rio de Janeiro in the year 2014. The results of the study revealed a complex decision-making process concerning sustainable shared procurement and influenced by rational, organizational, and political factors, however with a predominance of rational and organizational factors.

Mourão and Marinho (2022) analyzed the performance of the procurement process of a public research company, given the importance of the process for the government, and for resource savings and efficiency in the service provided. From a mixed approach using quantitative and qualitative methods, with the application of a specific questionnaire with employees of two units; document analysis; interview and report of the experience itself. The research provided contributions in the theoretical and methodological field when analyzing the performance of public procurement processes through variables used in the performance evaluation of the supply chain; and managerial when proposing improvements to the process providing the manager with a tool to monitor performance.

Panis et al. (2022) analyzed the activities and outcomes of the innovation process in the public sector in light of the case of the Alice robot. The framework used to analyze innovation was from the Integrated Model of Innovative Public Management (GESPUBLIN), proposed by Isidro (2018), considered the most adherent strategy to access the phenomenon as a whole, since it made it possible to analyze the innovation process from its creation to its results. The results show, in general, that innovation occurred mainly for the introduction of a new product, in order to solve problems in processes and services of the analyzed public organization. It is concluded that the GESPUBLIN model was essentially

well adapted to the analysis of the Alice robot case, and its applicability should be encouraged in similar models, in order to make the innovation process in public administration clearer and more concise, optimizing the public sector in this complex sphere.

International studies have also been developed in order to foster the debate about government procurement. Eichenbaum and Fisher (1998) conducted a study aiming to determine the effects of increased government purchases on the U.S. economy by evaluating the properties of different rules and institutions for defining fiscal policy.

The work developed by Ramey (2011), on the other hand, sought to analyze the relationship of growth or reduction in government purchases with a US government spending multiplier. The results of the research indicated that for an increase in government purchases, those that have no direct effect on the private sector, the spending multiplier was between 0.8 and 1.5.

Bachman and Bai (2013) sought to discuss the implications of economic and political inequality for the movement of government purchases with macroeconomic fluctuations. They set up and calculated a neoclassical growth model where households value government purchases that are financed by taxes arising from income. In the study the authors define government purchases as expenditures on consumer goods and investments, excluding transfers and interest payments.

The work of Uyen and Mejia (2014) sought to discuss the advantages and disadvantages of implementing the Testigo Pricing System, which would address the problem of overestimated purchases in reverse auctions for certain countries in the Latin American region.

D'Agostinho, Dunne, and Pieroni (2016) based their study on the effects of corruption and government spending on economic growth. They evidenced such effects on military spending and investment spending using economic model simulations. The results of this study showed that the interactions between corruption x investment and corruption x military spending have quite negative impacts on economic growth and suggest that public policies to combat corruption along with those to reduce military spending, such as regional security agreements, would have a considerable impact on economic growth.

Ellahie and Ricco (2017) sought to approximate the flow of information received by economic agents to investigate the effects of changes in government procurement. They identified that state and local consumption, which captures investment in education and health, provokes a strong response in government purchases. Considering the use of fiscal measures to stimulate the economy, rising public debt and at the same time rising unemployment in OECD countries.

Holden and Sparrman (2018) sought in their study to estimate the effect of government procurement on unemployment in 20 OECD countries over the period 1980 to 2007. These authors

observed that an increase in government purchases, equivalent to 1% of GDP, reduces unemployment by 0.3 percentage point in the same year.

From these studies, it was observed that most of the approaches at the national level are directed to the analysis and evaluation of the public procurement process as a tool. At the international level, the focus of the research was directed to the role that government procurement plays in the economy. Therefore, it was evident that there is a gap within the theme about the positioning of the people involved in the public procurement activity.

METHODOLOGY

This study was focused on the existing purchasing units at the Federal University of Campina Grande (UFCG). The research universe was composed of the servers involved with public purchases within the institution, which totaled 60 people. For the sample, the Head of the Materials Division, the Contracts Manager, the Financial Manager and the Broker from all UFCG Campuses (7 in total) were considered for convenience, considering that they have the necessary knowledge about the purchasing procedures adopted in the institution. Thus, 28 questionnaires were applied, 25 of which were returned. They were applied over a period of 2 months, and there was no pre-test.

For the investigation, the data collection procedure was done through the application of a questionnaire composed of closed questions (survey) with the purpose of identifying the perception of the servers that work directly with the purchasing sector of the Federal University of Campina Grande. The research instrument was composed of 4 closed multiple choice questions, which aimed to identify the profile of those involved directly with the public procurement process and 21 questions (assertives), which sought to understand how they perceive public procurement from the electronic auctions, use of the price registration system and adhesions. Thus, the questions in the second part of the questionnaire were grouped into three categories: electronic procurement, price registry, and accessions. The idea was to map the practices of the institution studied about public procurement.

The questionnaire used a seven point Likert Scale (1 = I totally disagree to 7 = I totally agree) in order to assess the practices related to the procurement services carried out in the UFCG. Since it is a social scale, we tried to measure behaviors and attitudes of the group (GIL, 2008). In the view of Corrar, Paulo and Dias Filho (2009), "the Likert scale is a scale in which respondents not only record their relationship of agreement with the statements, but also report the degree of the relationship of preference or agreement".

To prepare the research instrument, the models proposed by Azevedo (2011) and Nascimento (2015) were adopted and adapted, which contemplate questions about public purchases in federal

institutions. Naturally, these models were adjusted to the UFCG's institutional reality. The questionnaires were applied personally when possible and also sent via institutional and/or personal emails of the servers involved. With the answers obtained from the questionnaire application, a descriptive analysis was performed using the IBM SPSS Statistics 21 software.

RESULTS AND DISCUSSIONS

The first part of the questionnaire involved 4 questions: Age; Position (middle or higher level); Function (currently held in the Institution); and Education. The result was based on the percentages and frequency obtained from the multiple choice questions, related to the identification of the interviewee. Regarding the profile of the respondents, it was possible to observe that 32% are less than 35 years old; 40% declared to be between 35 and 45 years old; 24% of the servers are between 45 and 55 years old; and 4% are over 55 years old. In addition, 64% hold mid-level positions, predominantly administrative assistants and/or accounting technicians. While 36% of the respondents occupy higher level positions.

TABLE 01: Function exercised in the institution.

<i>Function</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Head of Materials Division	7	28%
Contracts Manage	5	20%
Finance Manager	6	24%
Pregoeiro	7	28%
Total	25	100%

SOURCE: Survey data (2018).

As can be seen in table 1.28% of the employees interviewed are the Head of the Materials Division. It was also observed that these were the ones who most collaborated in completing the questions proposed in the field "comments".

The respondents hold the position of procurement agent, which corresponds to 28%; of the total respondents, 24% hold the position of financial manager; and 20% of contract manager. With regard to this question, it should be noted that the Campus of Patos, PB, has no server currently occupying the position of financial manager, and the relevant activities of the sector are performed by the server occupying the position of Head of the Materials Division.

With regard to the educational level of the interviewees, it was evident that 56% of the respondents have a postgraduate degree in some area. The employees who have started or are in the process of finishing a post-graduation course at the specialization or masters level represent 8% and 16%,

respectively. It was also found that 8% of the employees who already hold a master's degree are interviewed. The percentage of respondents who have completed higher education is 8%; however, 4% of the employees did not finish a degree course. From the observations made, it was possible to notice the interest of the employees in the search for training, especially regarding post-graduation courses. About the perception of public employees about the purchasing practices adopted in the UFCG. Twenty-one variables were analyzed, divided into three categories, being, respectively, electronic pregão, price registers and adhesions.

Initially, it was sought to analyze the data through the application of Factor Analysis. Thus, in order to verify whether the data were adequate for the application of the FA, we sought to identify the internal consistency of the variables through Cronbach's Alpha coefficient. According to Hora, Monteiro and Arica (2010), the alpha measures the correlation between answers in a questionnaire by analyzing the profile of the answers given by respondents.

Regarding the value obtained for this coefficient, Venegas et al. (2015), consider that the ideal interval, acceptable for the reliability of a questionnaire, is between 0.7 and 0.9. Thus, it is possible to see in Table 5 that the coefficient is acceptable with $\alpha = 0.811$.

TABLE 02: Cronbach's alpha.

Reliability Statistics	
<i>Cronbach's alpha</i>	N of items
0.811	21

SOURCE: Survey data (2018).

Using the SPSS software, the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin Measurement (Measure of Sample Adequacy or KMO test) were also applied. According to Corrar, Paulo and Dias Filho (2009), the KMO test measures the degree of partial correlation between variables. It assesses whether factor analysis is appropriate. Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix. For Vicini (2005, p. 35), "the KMO serves to assess the input value of the variables to the model, and its value makes it possible to provide results in the range from 0.5 to 0.9, if you get values in this range, then the variables can be used to perform the PA". Thus, for values around 0.5 or below the factor analysis is considered inappropriate.

As can be seen in Table 6, this measure for the values presented in this study was unsatisfactory (0.204), indicating that the factor analysis, in this case, would be inadequate, even though it presented a satisfactory Cronbach's alpha. Perhaps one of the arguments that justify this evidence is the sample size.

TABLE 03: KMO and Bartlett's test.

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0,204
Approx. chi-square		395,413
Bartlett's test of sphericity	df	210
	Sig.	,000

SOURCE: Survey data (2018).

We then proceeded to the data analysis through descriptive statistical techniques, seeking to highlight the frequency of responses obtained from the Likert Scale questions. For the set of answers obtained in this scale, the median and the mode were calculated. According to Pereira (2004), median and mode are descriptions of categories, when used to describe a set of observations of a phenomenon. They highlight a specific category. The mode highlights the category of higher frequency and the median the category that divides the observations into two halves.

Table 4 shows the frequencies (absolute and percentage) of the answers referring to the Electronic Auction dimension.

TABLE 04: Electronic Trading Dimension.

Electronic Trading Dimension	1	2	3	4	5	6	7	Me dia	M oda
1. It is important that the institution purchases as many items as possible, even if there is a disagreement between the description presented by the requesting sector and the material or service being bid for.	2 (88%)	0 (0%)	2 (8%)	0 (0%)	1 (4%)	0 (0%)	0 (0%)	1,00	1
2. It is important to purchase only items that fully meet the specifications, even if not all items requested and listed in the terms of reference are purchased.	0 (0%)	0 (0%)	2 (8%)	0 (0%)	0 (0%)	5 (20%)	8 (72%)	7,00	7

3. The purchase by the lowest value, the method used in electronic auctions, can be considered an inhibitor to meeting the real needs of the institution.	4 (16%)	4 (16%)	5 (20%)	1 (4%)	8 (32%)	3 (12%)	0 (0%)	3,00	5
4. The institution should always be concerned with the time elapsed between the opening of the administrative process and the provision of the service or delivery of the requested goods.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (4%)	6 (24%)	18 (72%)	7,00	7
5. When conducting the electronic pregão, the institution must be concerned with the supplier's ability to honor its commitments.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (8%)	7 (28%)	16 (64%)	7,00	7
6. I see as vital the constant updating of the professionals responsible for public purchases through courses, seminars, workshops and other events related to the theme.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (4%)	5 (20%)	19 (76%)	7,00	7
7. The Institution's contracting by means of electronic bidding has been carried out in a fully efficient manner.	0 (0%)	2 (8%)	2 (8%)	0 (0%)	7 (28%)	11 (44%)	3 (12%)	6,00	6

1 I strongly disagree; 2 I strongly disagree; 3 I partly disagree; 4 I neither agree nor disagree; 5 I partly agree; 6 I strongly agree; 7 I totally agree.

SOURCE: Survey data (2018).

As noted, the statements that obtained the highest degree of agreement (value 7) were 2, 4, 5 and 6, which addressed respectively, the importance of acquiring items that fully meet the specifications, the

time elapsed between the opening of the administrative process and the delivery of goods or services, the ability of the supplier to honor its commitments and the importance of constant updating of the professionals responsible for procurement. Among these, it should be noted that assertion 6 obtained the total agreement of 76% of the respondents, showing the importance given to training in the area.

It was noticed, however, that the training focused on the purchasing area has been insufficient in UFCG and often takes place at the end of the financial years, which prevents the participation of many servers, especially those located on Campina Grande Campus (Campina Grande, PB). Batista and Maldonado (2008) emphasize the need for intellectual improvement of those involved in public procurement, stating that for the public purchaser to have a satisfactory performance, it is necessary to improve their skills and qualifications, and that this is obtained through the accumulation of knowledge and training.

Assertion 7 also obtained a high level of agreement (grade 6), where 44% of the respondents strongly agreed that the hiring carried out in the Institution through Electronic Trading has been fully efficient. In addition, they signaled that the electronic pregão brought considerable financial savings, besides speeding up hiring, considering the deadlines for publication of the bid notices and the presentation of proposals. Although the data obtained point to the efficiency of the Electronic Auctions within the institution, aspects such as saving resources are not always evident. In the study of Junior and Olave (2013), for example, it was observed that, in 2009, the savings gain in the Presencial Auction was higher than in the electronic form, a fact that often occurs when the local market is able to meet, without restrictions, the body's demand.

Assertion 3, in turn, received a grade of 5 of agreement from most respondents, showing that 32% of the employees agree in part that the purchase by the lowest value, the method used in electronic auctions, is an inhibitor to meeting the real needs of the institution. This result refers to the thought of Ferrer (2015), when he states that the purchase by the lowest price is a false economy, especially outside the territory in which the government collects, considering that there are negative aspects that have a real impact on the final price paid for the product. Nascimento (2015) reinforces this understanding when he argues that the price, when considered as the only criterion in acquisitions, is a serious dysfunction in the procurement process and can culminate in its failure.

The assertion 1, on the other hand, obtained a higher degree of disagreement by the respondents, i.e., the majority (88%) strongly disagreed that it is important for the institution to purchase the largest possible quantity of items, even if there is disagreement between the description presented by the requesting sector and the material or service bid. The respondents also pointed out the importance of analyzing each situation individually in the acquisitions by electronic pregão, always seeking economy

and efficiency for the public administration. Besides, they showed that the purchasing procedure should be better elaborated in the UFCG, without, however, clarifying how this could be achieved. Table 5 shows the results achieved for the assertions about price registration.

TABLE 05: Price Register Dimension.

Price Register Dimension	1	2	3	4	5	6	7	Rm	Rmd
1. Price Register is a form of acquisition that provides cost reduction and optimizes contract management.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (40%)	11 (44%)	4 (16%)	6	6
2. The Price Register reduces the time for contracting services and acquiring materials that are bid for frequently.	0 (0%)	4 (16%)	1 (4%)	0 (0%)	8 (32%)	7 (28%)	5 (20%)	5	5
3. The Price Register always reduces the number of contracts for a certain good or service.	1 (4%)	2 (8%)	3 (12%)	1 (4%)	10 (40%)	4 (16%)	4 (16%)	5	5
4. It is always possible to partner with another Federal Institution for shared procurement by price registration as a participating agency.	0 (0%)	2 (8%)	2 (8%)	1 (4%)	10 (40%)	9 (36%)	1 (4%)	5	5
5. With shared bidding, the various campuses of the institution could contract services and purchase materials and equipment of the same specification together, which would reduce costs.	0 (0%)	0 (0%)	1 (4%)	1 (4%)	4 (16%)	8 (32%)	11 (44%)	6	7
6. It is always advantageous to use acquisitions by Price Registry, both as a managing body and as a participating body.	0 (0%)	0 (0%)	5 (20%)	0 (0%)	10 (40%)	9 (36%)	1 (4%)	5	5
7. The contracts carried out through Price Register are always efficient, both those in which the Institution acts as manager, as well as those in	0 (0%)	0 (0%)	4 (16%)	3 (12%)	11 (44%)	6 (24%)	1 (4%)	5	5

which it acts as participating agency.									
--	--	--	--	--	--	--	--	--	--

1 I strongly disagree; 2 I strongly disagree; 3 I partly disagree; 4 I neither agree nor disagree; 5 I partly agree; 6 I strongly agree; 7 I totally agree.
 Rm- Reference; Rmd - Modal reference
SOURCE: Survey data (2018).

According to what is observed in table 5, it was found that there is a strong agreement (grade 7) by most of the respondents, that with the shared bidding, the various campuses of the institution could hire services and purchase materials and equipment of the same specification always together which would reduce costs (assertion 5), this shows the interest of the servers that the institution adopts this practice for acquisitions of materials where this is possible.

For Oliveira et al. (2017), the price register allows the organ that promotes the bidding to share with the rest of the Public Administration its intention to purchase goods or services, allowing the realization of a single bidding with the unification of the demands of other organs and entities. The results of the study by Nascimento (2015) showed that the formation of the specifications of the materials to be tendered in a shared manner can be a problem, because as the managing agency performs this procedure, it is individualizing its needs, and this may harm the needs of the entire rest of the public service.

Assertion 1, which states that the price register is a form of acquisition that provides cost reduction and optimizes the management of hiring also received a high degree of agreement (grade 6) from 44% of the respondents. In this context, among the various advantages of SRP can be cited the reduction in the number of redundant bids, the speed in hiring and the total freedom for the public agency, which may or may not make the acquisition (SEBRAE, 2017). When answering assertions 2 and 3, the employees agreed in part (grade 5) that the price register reduces the time in hiring and the amount of hiring for a particular good or service, respectively. However, when conducting a study in the Federal Institute of Santa Catarina, Madruga et al. (2013) could show that the joint acquisitions carried out by the SRP in the agency, proved to be advantageous, as they reduced the amount of public bids in 41% and consequently the economy with publication of notices.

Regarding assertion 4, most (40%) of the employees also set a grade of 5, agreeing in part that it is always possible to associate with another Federal Institution for the shared acquisition by price registration as a participating body. The respondents also showed that the price register has to be well planned, especially when other institutions show interest in buying together, because the specifications of the materials to be purchased, as well as the price surveys must reflect the reality of each institution and

the location where it is located. In this way, deserted bids and acquisitions with prices above market level would be avoided.

Considering the advantage in using the SRP and the efficiency in hiring, both for the managing body and the participating body (assertions 6 and 7), the respondents agreed in part that it is always advantageous to use this type of acquisition and that the hiring are always efficient. Nascimento (2015) considers that the success of shared procurement lies in the synchronization of procedures, especially those of the initial planning phase, because only working together can result in an efficient acquisition for the institutions involved.

Through the inferences made it was possible to verify that there is a reluctance on the part of some servers regarding the shared purchases made by UFCG, since many materials end up being acquired in excess. And, besides, many suppliers make it difficult to deliver the materials to the off-site campuses. It was also possible to observe that the respondents consider the price registration system as an economically feasible option for the institution and preferably to be used in relation to the others. For these respondents, most of the time spent for the acquisitions both by traditional electronic pregão and by SRP is with price quotation, which has led to damages, especially in the hiring of services and in places and/or regions with little diversity of suppliers as shown in table 6.

TABELA 06: Dimensão Adesões.

Dimensão Adesões	1	2	3	4	5	6	7	Rm	Rmd
1. The adhesion to a Price Registry can be considered a form of acquisition that provides cost and time reduction in contracting.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (28%)	8 (32%)	10 (40%)	6	7
2. It is always possible to use the Price Register of another Federal Institution as a "hitchhiker", as long as there is a remaining balance and there is evidence of economy.	1 (4%)	0 (0%)	1 (4%)	0 (0%)	5 (20%)	13 (52%)	5 (20%)	6	6
3. It is always advantageous for the Institution to use the Price Register of other	0 (0%)	0 (0%)	3 (12%)	0 (0%)	10 (40%)	10 (40%)	2 (8%)	5	5

Institutions when there is an object of the same interest.									
4. It is always advantageous for the supplier to contract through "free-riders", considering the possibility of a greater volume of sales.	0 (0%)	0 (0%)	4 (16%)	0 (0%)	9 (36%)	9 (36%)	3 (12%)	5	5
5. The adhesions minimize the bureaucratic obstacles that the legislation imposes for the purchasing procedure in the federal administration.	0 (0%)	1 (4%)	0 (0%)	0 (0%)	8 (32%)	11 (44%)	5 (20%)	6	6
6. The use of "free rides" by the institution is frequent for the hiring of services and acquisition of materials and equipment.	0 (0%)	5 (20%)	2 (8%)	2 (8%)	8 (32%)	6 (24%)	2 (8%)	5	5

1 I strongly disagree; 2 I strongly disagree; 3 I partly disagree; 4 I neither agree nor disagree; 5 I partly agree; 6 I strongly agree; 7 I totally agree.

SOURCE: Survey data (2018).

According to what is shown in Table 6, it was found that there is a strong agreement by most of the respondents that the adherence to a minute of price registration can be considered a form of acquisition that provides cost and time reduction in hiring (assertion 1). Campos (2013) considers that the possibility of adhering to a minute of price registration allows managers to save time and also redirect resources that would be spent with the formalization of an electronic pregão. However, Silva (2016), asserts that one must pay attention to the prices recorded in the minutes, since there is no clarity as to whether the price of the bid used is the best among the other existing SRP auctions.

The employees also strongly agreed with assertion 7 of this dimension, that the institution always justifies the need to hire through accessions, but clarified that they are not always preceded by extensive price research and that such a procedure, if it were continuously adopted, would in fact show the advantage to the administration.

The findings of the study corroborate the thought of Silva (2016) when he states that the rides, carried out by the managing units of the Army in the city of Rio de Janeiro, from 2009 to 2015, did not

provide the use of bargaining sessions with lower prices and that such rides, because they were carried out without price research, confirm the need for there to be proof of the advantage of adherence to ensure the efficiency of hiring.

Regarding the statement in assertion 2 that it is always possible to use the Price Register of another Federal Institution as a "free-rider", as long as there is a remaining balance and that it is proven economical, the answer obtained by most of the respondents (52%) was level 6 of agreement. It is noteworthy that the Brazilian legislation allows the use of price registration minutes by other agencies not participating in the bidding, however, it imposes conditions to be observed when applying for membership: proven justification of the advantage of joining, the minutes being in force, prior consultation and consent of the managing body, the quantitative limits of the object, the supplier's acceptance of the intended hiring and the conditions provided in the tender (BRASIL, 2021).

A 6 level of agreement was also established by most of the respondents for assertion 5, which states that the accessions minimize the bureaucratic obstacles that the legislation imposes for the purchase procedure in the federal administration.

When asked about whether there is always an advantage in using the minutes of other institutions when there is an object of the same interest (assertion 3), the respondents established level 5 of agreement, i.e., they agree in part that there is an advantage in this type of contracting, but that in some cases, given the needs of the administration, it is more appropriate to opt for other forms of acquisition. This value was also established for assertion 4, which stated that it is always advantageous for the supplier to hire by adherence, given the possibility of increasing sales.

Although the respondents partially agree with the statement, Filho et al. (2012), consider the supplier as the greatest beneficiary of the "free-rider" figure, since it can supply to the managing body for a period of 12 months. Moreover, if the price remains adequate, the supplier may be consulted to propose the extension of the Minutes of Price Registration for further periods of 12 months.

When asked about the frequency of the use of "free rides" by the institution, the respondents also agreed in part with the proposed assertion. For them, the accessions brought speed to the purchase process, however, the consent of agencies and suppliers should be done using more technology, because the letters that are commonly used by the agencies still cause waste of time.

This reinforces the idea of Fernandes (2017) who considers the prior consultation with the managing body and the supplier and their approval as a disadvantage. However, it is necessary to note that the Ministry of Planning, Development and Management has implemented since March 1, 2018 a new module "SRP Minutes Management" in SIASG for ride authorizations and requests, thus eliminating the use of letters for this purpose.

CONCLUSIONS

According to what was exposed in this paper, the purchasing process in public administration is considered complex. The demand for efficiency in contracting is increasingly present and this demands a more objective posture from the public manager, since he must take advantage of the economic potential of public purchases and use the resources strategically and with more quality.

The results obtained point out that in the public administration the acquisitions are made by means of traditional electronic auctions or by a price registration system. Moreover, there is the figure of the "free rider", a faster and less bureaucratic alternative for public procurement.

In relation to the purchases made within the UFCG, the study sought to reveal the benefits and dysfunctions existing in relation to the procedures adopted around the problem of public purchases. Thus, it was possible to highlight benefits such as: the existence of justification when the institution chooses to perform adhesions; and the financial savings brought by the electronic pregão. On the other hand, dysfunctions were observed in the procedures, such as: the lack of price research to justify the advantage of the adhesions; the time spent with price quotes to carry out the auctions; and the use of official letters to authorize free rides.

Regarding the perception of the respondents, it was possible to identify that they consider the constant updating of the professionals responsible for procurement. Despite the time spent with price quotations, they evaluated as efficient the acquisitions made by electronic auctions. In addition, they emphasized the importance of, at the time of purchase, meeting the specifications of the items, even if there is a reduction in the quantity purchased. In regards to shared purchases (price register), the employees considered it an economically viable option, reducing time, costs and the number of biddings.

It was evident that some of the employees were reluctant about the option of shared purchases within the institution, considering that many materials end up being acquired in excess and the difficulties imposed by suppliers for the delivery of materials to the off-site campuses. Another point to be highlighted in the survey is the frequent use of rides. However, even if there is justification, the accessions are not always preceded by price research that significantly prove the advantage to the administration.

The public employees also pointed out that the purchase process at UFCG needs improvements regarding planning and execution. In order to collaborate with this, a series of actions are pointed out so that the purchasing process in the institution can progress and thus guarantee more quality in acquisitions, among them, the adoption of a purchasing calendar and an internal purchasing management software. It is

noted in the institution that the system still presents a very fragile managerial control that hinders the management of the purchasing sectors' activities.

The study showed how essential the purchasing area is for the public administration, because it is not only a bureaucratic activity, but also a strategic activity. It is essential the training of the people involved in this process, because those involved will contribute for the management to achieve its main goals, performing a good planning and thus enabling the efficiency of public procurement.

REFERENCES

- [1] ALMEIDA, E. F. de.; MACHADO, R. O. de; COSTA, A. L. Gestão de compras públicas: lead time e informatização. In: Encontro Nacional da ANPAD, 26., 2002, Salvador, BA. **Anais eletrônicos...** Salvador: Anpad, 2002. Disponível em: < <http://www.anpad.org.br/admin/pdf/enanpad2002-gpg-1940.pdf>>. Acesso em: 11 abr. 2017.
- [2] AZEVEDO, V. C. R. **Estudo e avaliação da eficiência no processo de compras públicas: caso EMBRAPA.** 2011. 54 f. Trabalho de Conclusão de Curso (Graduação em Administração) – Universidade de Brasília, Brasília – DF.
- [3] BACHMAN, R.; BAI, J. H. Politic-economic inequality and the comovement of government purchases. **Review of Economic Dynamics**, v. 16, p. 565-580, 2013.
- [4] BATISTA, M. A. C.; MALDONADO, J. M. S. de. O papel do comprador no processo de compras em instituições públicas de ciência e tecnologia em saúde. **Revista de Administração Pública**, Rio de Janeiro, 42 (4), p. 681-699, jul./ ago. 2008.
- [5] BEVILAQUA, L. D. **Planejamento de compras públicas: o estudo de caso Unipampa.** Trabalho de Conclusão de Curso (Especialização em Gestão Pública) – Universidade Federal do Rio Grande do Sul, São Sepé – RS, 2012.
- [6] BRASIL. Lei nº 10.520, de 17 de julho de 2002. Institui, no âmbito da União, Estados, Distrito Federal e Municípios, nos termos do art. 37, inciso XXI, da Constituição Federal, modalidade de licitação denominada pregão, para aquisição de bens e serviços comuns, e dá outras providências. **Diário Oficial da União**, Brasília, DF, 18 jul. 2002. Disponível em: <http://www.planalto.gov.br/ccivil_03/leis/2002/110520.htm>. Acesso em: 29 mar. 2017.

- [7] BRASIL. Lei nº 14.133, de 1º de abril de 2021. Institui a Lei de Licitações e Contratos Administrativos. **Diário Oficial da União**, Brasília, DF, 10 jun. 2021. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/lei/L14133.htm Acesso em: 21 mar. 2022.
- [8] _____. Decreto nº 5.540, de 31 de maio de 2005. Regulamenta o pregão, na forma eletrônica, para aquisição de bens e serviços comuns, e dá outras providências. **Diário Oficial da União**, Brasília, DF, 01 jun. 2005. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/decreto/d5450.htm. Acesso em: 03 abr. 2017.
- [9] _____. Decreto nº 7.892, de 23 de janeiro de 2013. Regulamenta o sistema de registro de preços previsto no art. 15 da Lei 8.666, de 21 de junho de 1993. **Diário Oficial da União**, Brasília, DF, 23 jan. 2013. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/decreto/d7892.htm. Acesso em: 10 maio 2017.
- [10] CALDAS, E. L. C. de; NONATO, R. S. Compras públicas e promoção do desenvolvimento local. **Revista do Serviço Público**, Brasília, v. 64, n. 4, p. 465-480, out./dez. 2013.
- [11] CAMPOS, S. J. A. de. **Compras públicas**: estudo de caso da Universidade de Brasília. Dissertação (Mestrado em Economia) – Faculdade de Economia, Administração e Contabilidade da Universidade de Brasília, Brasília – DF, 2013.
- [12] CABRAL, S.; REIS, P. R. C, da; SAMPAIO, A. H. de. Determinantes da participação e sucesso das micro e pequenas empresas em compras públicas: uma análise empírica. **Revista de Administração da USP**, São Paulo, v. 50, n.4, p. 477-491, out./nov./dez. 2015.
- [13] CORRAR, L. J.; PAULO, E.; DIAS FILHO, J. M. **Análise multivariada**: para os cursos de administração, ciências contábeis e economia. 1 ed. São Paulo: Atlas, 2009.
- [14] D'AGOSTINHO, G.; DUNNE, J. P.; PIERONI, L. Government spending, corruption and economic growth. **World Development**, v. 84, p.190-205, 2016.
- [15] DOMAKOSKI, A. **Como o governo compras**: análises e procedimentos adotados. São Paulo: Atlas, 2013.

- [16] EICHENBAUM, M.; FISHER, J. D. M. How does an increase in government purchases affect the economy? **Economic Perspectives**, v. 22, issue 3, p. 30-43, 1998.
- [17] ELLAHIE, A.; RICCO, G. Government purchases reloaded: informational insufficiency and heterogeneity in fiscal VARs. **Journal of Monetary Economics**, v. 90, p. 13-27, 2017.
- [18] FENILI, R. R. **Gestão de materiais**. Brasília: ENAP, 2015.
- [19] FERRER, F. Diagnóstico da situação das compras públicas no Brasil. In: FERRER, F; SANTANA, J. E. **Compras públicas Brasil**. 1ª edição. Rio de Janeiro: Elsevier, 2015. Capítulo 1, p.17-33.
- [20] FILHO, J. N.; SILVA, J. E. O.; MELO, P. A. de; COSTA, A. M. Reflexões da figura do carona no sistema de registro de preços das universidades públicas federais. **Revista Universitas, Gestão e TI**, v. 2, n. 2, p. 73-81, jul./ dez. 2012.
- [21] GIL, A. C. **Métodos e técnicas de pesquisa social**. 6ª ed. São Paulo: Atlas, 2008;
- [22] HOLDEN, S.; SPARRMAN, V. Do government purchases affect unemployment?. **Journal of Economics**, v. 120, p. 124-158, 2018.
- [23] HORA, H. R. M. da; MONTEIRO, G. T. R.; ARICA, J. Confiabilidade em questionários para qualidade: um estudo com o coeficiente alfa de cronbach. **Revista Produto e Produção**, Porto Alegre, v. 11, n.2, p. 85-103, jun. 2010.
- [24] FERNANDES, J. U. J. **Carona em sistema de registro de preços: uma opção inteligente para redução de custos e controle**. 2017. Disponível em: <<http://www.jacoby.pro.br/Carona.pdf>>. Acesso em: 10 maio 2017.
- [25] JUNIOR, J. D. S. dos.; OLAVE, M. E. L. Gestão de compras em órgãos públicos: o uso do pregão eletrônico no tribunal regional eleitoral de Sergipe. In: Encontro da Anpad, XXXVII, 2013, Rio de Janeiro, RJ. **Anais eletrônicos...**Rio de Janeiro: Anpad, 2013. Disponível em: <http://www.anpad.org.br/admin/pdf/2013_EnANPAD_APB1056.pdf>. Acesso em: 17 abr. 2017.
- [26] JUSTEN FILHO, M. **Curso de direito administrativo**. São Paulo: Saraiva, 2005.

- [27] JUSTEN FILHO, M. **O sistema de registro de preços destinado ao regime diferenciado de contratações públicas.** 2017. Disponível em: <http://www.justen.com.br/pdfs/IE61/IE61_Marcal_RDC>. Acesso em: 11 maio 2017.
- [28] MADRUGA, E. A de; SCHNEIDER, M. C. K.; LUZ, E. F.; MARTINS, W. Compras compartilhadas através do sistema de registro de preços no instituto federal de educação, ciência e tecnologia de Santa Catarina. In: Coloquio de Gestion Universitaria en Americas, XIII, 2013, Florianópolis, SC. **Anais eletrônicos...** Florianópolis: UFSC, 2013.
- [29] MELO, A. S. **Gestão de compras públicas: um estudo de caso na Unipampa – Campus Dom Pedrito.** Trabalho de Conclusão de Curso (Especialização em Gestão Pública). Universidade Federal do Rio Grande do Sul – RS, 2012.
- [30] MOURÃO, A.; MARINHO, S. V. Análise do desempenho do processo de compras em uma empresa pública de pesquisa. **Gestão & Regionalidade**, v. 38, n. 114, p. 327-344, 2022.
- [31] NASCIMENTO, W. R. Proposta de estrutura de trabalho para aumentar a eficiência das compras públicas compartilhadas. Dissertação (Mestrado Profissional em Gestão Pública) – Universidade Federal do Espírito Santo – ES, 2015.
- [32] NISHIYAMA, M. A. **Gestão de compras no setor público: uma proposta multicritério para avaliação de desempenho.** Dissertação (Mestrado em Administração) – Universidade Federal de Santa Catarina, Florianópolis – SC, 2016.
- [33] OLIVEIRA, S. A. M. de; TORRES, K. A.; MENDONÇA, F. M. de; BORBA, E. L.; MARTINS, P. L. A influência econômica do sistema de registro de preços junto as contratações do 4º grupo de artilharia antiaérea. In: Seminários em Administração, XX, 2017, São Paulo, SP. **Anais eletrônicos...** São Paulo: FEA USP, 2017.
- [34] OLIVEIRA, I. G. S. de. Análise de correspondência aplicada a preposições sobre a eficiência e eficácia do processo de compras públicas a partir da percepção de diferentes atores envolvidos. **Revista Ciências Administrativas**, Fortaleza, v. 21, n.1, p. 131-162, jan./jun. 2015.

[35] OLIVEIRA, B. C. S. C. M. de; SANTOS, L. M. L. dos. Compras públicas como política pra o desenvolvimento sustentável. **Revista de Administração Pública**, Rio de Janeiro, v. 49, n. 1, p.189-206, jan./fev. 2015.

[36] PANIS, A. C.; ISIDRO, A. S. F.; CARNEIRO, D. K. O.; MONTEZANO, L.; RESENDE JUNIOR, P. C.; SANO, H. Inovação em compras públicas: atividades e resultados no caso do robô Alice da Controladoria-Geral da União. **Cadernos Gestão Pública e Cidadania**, v. 27, n. 86, p. 1-19, 2022.

[37] PEREIRA, J. C. R. **Análise de dados qualitativos**: estratégias metodológicas para as ciências da saúde, humanas e sociais. 3^a ed. 1 reimpr, São Paulo: Editora da Universidade de São Paulo, 2004.

[38] RAMEY, V. A. Can government purchases stimulate the economy?. **Journal of Economics**, v. 49, n. 3, p. 673-685, 2011.

[39] RAPOSO, M. H.; FREITAS, M. S. de; FILHO, M. T. S. da; FERNANDES, M. S. B.; SILVA, R. L. da. A importância do planejamento de compras para a gestão estratégica de suprimentos. In: Congresso de Gestão Pública, IX, 2016. Brasília – DF. **Anais...Brasília**: CONSAD, 2016. Disponível em: <<http://consad.org.br/trabalhos-ix-congresso/>>. Acesso em 04 abr. 2017.

[40] ROSSET, A. C. S.; FINGER, A. B. Compras públicas sustentáveis: uma revisão sistemática da pesquisa brasileira. **Revista de Administração, Contabilidade e Economia da Fundace**, Ribeirão Preto, v. 7, n.3, p. 105-120. 2016.

[41] SCHMIDT, F. H.; ASSIS, L. R. S. O Estado como cliente: características das firmas industriais fornecedoras do governo. **Boletim Radar: Tecnologia, Produção e Comércio Exterior - IPEA**, n. 17, 2011.

[42] SEBRAE. **Sistema de registro de preços**. Cartilha. Brasília: Sebrae, 2017.

[43] SILVA, J. L. da. **Compras públicas: a eficiência das adesões às atas pré-existentes**. Dissertação (Mestrado Profissional em Administração Pública e de Empresas) – Fundação Getúlio Vargas, Rio de Janeiro – RJ, 2016.

[44] TRIDAPALLI, J. P.; FERNANDES, E.; MACHADO, W. V. Gestão da cadeia de suprimento do setor público: uma alternativa para controle de gastos correntes no Brasil. **Revista de Administração Pública – RAP**, Rio de Janeiro, v. 45, n. 2, p. 401-433, mar./abr. 2011.

[45] UYEN, J. G.; MEJIA, G. M. Mecanismo de detección de corrupción en compras del estado: sistema de precios testigo como política pública. **Pensamiento y Gestión**, n. 36, p. 136-154, 2014.

[46] VENEGAS, M. E.; ALVARADO, O. S.; ELIZONDO, N. R.; CAMILO, K. S. Validação do construto e da confiabilidade de uma escala de inteligência emocional aplicada a estudantes de enfermagem. **Revista Latino Americana de Enfermagem**, Concepcion, v. 23, n. 1, p. 139-147, jan./fev. 2015.

[47] VICINI, L. **Análise multivariada da teoria à prática**. Santa Maria: UFSM, CCNE, 2005.