



## MODELING OF THE PROCESS OF MOVEMENT OF PERMANENT GOODS BETWEEN UNITS OF PUBLIC AGENCIES

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### ABSTRACT

**Highlights:** The article proposes a simple but efficient process of disposing of permanent goods that are idle; proposes the execution of the process with quality techniques; uses business modeling tools; and values sustainability. **Objective:** Propose the process of undoing, more specifically, movement of goods between units of a public agency, so that resources that are idle in one unit can be reused by another, preserving financial resources, generating savings in public coffers, saving of physical space and contributing to the sustainable character of the institution. **Methodology:** To identify the problems in this process, the Analysis and Troubleshooting Method (MASP) is used as the quality methodology. After the problems are identified, a process modeling will be proposed using the Business Process Model and Notation (BPMN), then, a sustainability indicator will be proposed and measured as a way to validate the success of the proposed modeling. **Results:** As a result, we have a process model to be used in the handling of goods, which generated resource savings, reuse of goods and a positive image for the organization. **Limitations of the research:** The difficulties encountered are at the level of human involvement, where there is a need for cultural change to carry out new procedures, since the main survey and initiative for the execution of this process depends on people. **Practical implications:** The study contributes by presenting the practical and simple step-by-step that organizations must follow to give purpose to items that are not used. **Originality:** Besides the article proposing a solution to the problem of accumulation of assets in public organizations, it still measures the success of the execution, highlighting the sustainable side of such process.

**Keywords:** Method of analysis and problem solving; Business process model and notation; Sustainability; Patrimonial management; Undoing.



## 1. INTRODUCTION

In a context where competitiveness is increasingly present due to the global integration provided by globalization and the speed of the flow of information, resorting to devices that provide process management focused on continuous improvement becomes an essential premise for the survival of organizations.

In the quest for excellence in their management processes, organizations turn to quality concepts and tools ranging from problem prioritization methods to statistical monitoring of process outcomes.

With the adoption of quality practices that involve continuous improvement, institutions seek to solve problems by rationalizing the resources of a process, in order to avoid waste, as well as the variation in the results obtained.

With regard to public institutions, the current fiscal and economic situation in the country, which points to a shredding of public finances, further corroborates the adoption of good management practices aimed at increasing the degree of resource optimization and eradicating waste.

Among the challenges faced in the search for efficient management, many organizations are faced with a chronic problem for which they cannot find a satisfactory solution or, in many cases, no solution: this is the case of disposal of goods. Besides the difficulty in implementing methodologies that comply with legislation and management goals in the same context, bureaucracy is another obstacle when it comes to public agencies.

This discarding is known as “undoing” and consists in excluding the asset from the assets of the institution, assuming the authorization of the head of the institution and observing the current legislation.

The accumulation of items that are not in use causes an iniquitous balance sheet, since their value is accounted for in the organization’s fixed assets accounts. Moreover, the item is no longer used for the maintenance of the organization’s activities, in addition to causing another problem, which is the storage of those items that require a place to be stored until an end is given to them.

In addition, the organization becomes less competitive as it does not properly monitor the allocation of financial resources to a fixed asset that will not require immediate use and that often becomes obsolete if it is to be used in the future.

If economic inefficiency were not enough, the accumulation of assets is a damaging practice for the organization in the view of sustainability. A sustainable environment must have organizational and personal attitudes that aim at the use of resources with economy, besides taking into account social and environmental aspects for the acquisition and use of these resources.

It is important to be aware that any storage of material generates costs for the organization, such as depreciation, rent, handling equipment acquisition, deterioration, obsolescence, insurance, wages, and conservation (Bulgari, 2014). Therefore, the greater the number of goods without destination, the higher the cost.

Dealing with assets undoing in public bodies is a complex and bureaucratic matter. For this process, there are laws that must be followed, and, in accordance with these laws, the organs can create internal procedures aiming at understanding and standardization to carry out the activities of this process. Decree No. 99.658, of October 30, 1990, regulates the movement, reuse, alienation and undoing of material within the Federal Public Administration (Brazil, 1990). In practice, there are several interpretations of laws.

Facing this scenario, finding a solution that seeks to adapt good management practices, especially in the public sphere, culminating with sustainable benefits in the search for optimization of resources and configuring as an advance to meet the legal requirements of the theme, becomes a point of great relevance for a management of excellence.

The purpose of this paper is to propose a model of transfer of assets between units of a public agency, so that resources that are idle in one unit can be reused by another unit, preserving financial resources and generating savings in the public coffers and in the economy of physical space. To validate the work, the generated model will be applied in a Public Teaching Institution. In order to identify the problems, a quality method will be used, in order to analyze and prioritize them, identifying situations that were not well defined and to elaborate corrective and preventive actions, and then the proposed modeling of the process will be done, in a way to standardize them, structure them and show their phases.

Moreover, as an additional justification, the model proposed in this study indicates that the process is done electronically, contributing to the fulfillment of another legal provision, Decree No. 8,539, of October 8, 2015, called PEN - National Electronic Process, which provides for the use of the electronic means to carry out the administrative process within the organs and entities of the



federal public administration, autarchic and foundational. In practice, it is inferred that any process to appear in electronic means should be primarily mapped (Brasil, 2015).

Before this introductory section, the work is organized as follows: Sections 2 to 5, presenting concepts about the proposed theme and tools used; Section 6, related works; Section 7, the proposed methodology; Section 8, validation of the methodology through a case study; finally, in Section 9, the final considerations of the present study.

### Legislation (Undoing)

Decree No. 99,658 concerns the regulation and procedures for the elimination of items in the Public Administration. This decree defines material in a generic way, such as any equipment, components, spare parts, accessories, vehicles in general, raw materials and other items that are used in activities of public bodies, more specifically permanent goods. Permanent assets are defined as those items that have an asset value for the institution that are necessary for their activity, which do not lose their physical conformity as they are used and which generally have a useful life of more than two years. They are goods that cannot be considered as "consumption" (items that have a short shelf life, which will be consumed and then discarded, such as a pen or printer cartridge). A permanent good is something that adds value in accounting in the company, a computer, a mobile, among others. And each such item should be listed (cataloged) by the Institution's Assets Sector and conferred by the Accounting Sector, in order to have control of the physical assets and to check their values in the Balance Sheet of the Accounting Department (Brasil, 1990).

As highlighted by Heinz et al. (2011), the main problem is the people and their understanding of the patrimonial responsibility, besides the lack of procedures to be followed. The problem with regard to the breakdown is in the handling or disposal of these items.

According to the aforementioned decree, it is possible to transfer the asset, which is the movement of material, with an exchange of responsibility within the same body or entity; the transfer, movement of material from the collection, with free transfer of ownership and exchange of responsibility, between organs or entities of the Federal Public Administration, autarchic and foundational of the Executive Power or between these and others, members of any of the other Powers of the Union; alienation, which is the transfer of the right of ownership of the material, upon sale, exchange or donation; or other forms of

undoing that would be the waiver of the property right of the material, by means of destruction or abandonment (Brasil, 1990).

This article will deal with the movement of goods, and their consequent exchange of responsibility within the same body.

### Sustainability Indicator

Sustainability is strongly linked to the subject of the present work. The theme Sustainability and Sustainable Development is a challenge in our times, because the resources of the planet are used in a rampant way without thinking about the impacts caused and how the future will be. Institutions that cherish for excellence have devoted great effort to measuring the economic, social and environmental impacts that consumption without resource planning entails, and then opting to rationalize their choices to the maximum. This choice is the premise of the Triple Bottom Line concept, according to Elkington (2011).

The correct disposal or destination of the item for another use contributes to the environmental sustainability, besides contributing with the context of social sustainability. Aiming to show how this process can impact on the sustainable development of the organ, an indicator of sustainability of the execution of the process will be calculated.

According to Almeida et Cavalcanti (2016), sustainability indicators represent qualitatively and quantitatively the level of sustainable development in a country, state or city; however, there is no sustainability indicator per se, but several indicators, such as e-waste collection, emission of carbon dioxide in nature, etc..

Almeida et Cavalcanti (2016) proposed a formula for the creation of a quantitative sustainability indicator, with this greater focus on the collection of electronic waste, described in Equation 3, based on Equations 1 and 2.

For this work, the calculation of a sustainability indicator focused on the movement of goods will be proposed.

$$\text{Electronic collection} = \frac{\text{Quantity of Eletronic Junk Reused}}{\text{Quantity of Eletronic Junk Produced by Region}} \quad (1)$$

$$\text{Efficacy} = \frac{\text{Quantity of Eletronic Junk Reused}}{\text{Goal}} \quad (2)$$



$$\text{Contribution Factor in the Collection of Electronics} = \frac{\text{Electronic collection}}{\text{Efficacy}} \quad (3)$$

### Methodology of Analysis and Problem Solving (MASP)

The quality of the proposed modeling is paramount for the process to be successful in its execution. For this, there are methods that help understanding a problem, to know its causes, and then, to treat it in the proper way, tracing actions to reduce it or to eliminate it, such as the PDCA (Plan-Do-Check-Act) and MASP. According to Oribe (2011), MASP incorporates rationality, objectivity, organizational learning and, above all, action, since knowledge without action is innocuous.

According to Mattos (1998), the methodology MASP (Methodology of Analysis and Problem Solving) is based on obtaining data that justify or prove theories or hypotheses previously raised, seeking to identify the causes that may be related to the problem under study, their importance to the objectives of the business.

In this work the MASP quality method will be used to list the problems encountered and, according to them, propose the modeling most appropriate to reality. For application of this method eight steps should be followed, as shown in Table 1.

**Table 1.** Steps of MASP implementation

Steps	Description
Problem Identification	Definition and history of the problem, losses and gains
Observation	Characteristics of the problem and data collection
Analysis	Discover the causes
Action plan	Develop action strategy to eliminate the problem
Action	Execution of the action plan
Verification	Verify that the action had results
Standardization	Elaboration of a standard so that the cause does not recur
Conclusion	Final considerations and list of remaining problems

Source: Adapted from Pires (1998) apud Mattos (1998)

### Process Model

Campos (2014) defines model as being a small-scale representation of an object. In turn, business process is a sequence of activities performed to achieve some goal. The process modeling is a graphic representation of all

stages of the process, with the purpose of understanding the organization's functioning and assisting in business control, and can contribute with improvements in terms of what is done in the organization, standardization, elimination of processes that do not generate value, process automation, among others.

The mapping of a process consists of drawing step by step the flow of its activities. It is basically a snapshot of the current state of the process, so that it can be understood in its entirety and provides the understanding needed to think of a way to improve it.

Torres et al. (2014) emphasize the importance of the models to represent the business vision in different perspectives, so that it is possible to carry out a propositive analysis of improvement of the realization of the businesses in the organizations.

In this context, BPM (Business Process Management) has the purpose of storing information on how processes are executed, in order to enable improvements and process management, helping in decision making and business vision. In addition to presenting other advantages, such as process transparency, administrative control, productivity increase, cost reduction, greater efficiency, assertiveness and capacity to change. Briefly, it represents and documents business processes in models, using certain methodologies and techniques (BPM CBOK, 2013).

For Leite et Rezende (2007), with BPM, it is possible to model processes so that decision-making power is shared, as well as allowing more than just automation of processes, but also a new view of them, and how to control them, to model them in an agile and efficient way with the use of technology associated with innovative management methods.

Adesola et Baines (2005) cite seven necessary steps in the BPM application: understanding the business need; understanding the process; process modeling and analysis; redesign of the process; implementation of the new process; evaluation of the new process and methodology; and review of the process.

There are several notations for process modeling such as Petri diagram, IDEF0, Aris, SPEM, and BPMN, which were created at different times, motivated by different technical, political and economic conjunctures, and therefore with different objectives. BPMN notation was originally created for the modeling of business processes and has been shown to be efficient to model several types of processes, besides being an expressive and simple notation (Campos, 2014).



Business Process Modeling Notation (BPMN) is a notation used for BPM modeling that consists of a series of standard icons for process design, which facilitates understanding.

Modeling is commonly done in two situations: current situation and desired situation. Modeling the current situation, also called “business process analysis” or “as is” is precisely to model the current situation of the process so that it is possible to analyze them. Once the current situation model is already available, one can do an adjusted modeling to achieve business objectives, modeling a new situation, which is known as modeling the desired situation, or “to be” (Campos, 2014).

There are several tools for modeling processes with BPMN notation, such as ARIS, Modelio, Bonita, Bizagi, etc. In the current work, Bizagi will be used, being a widely known and free tool.

### Related Work

A similar work was carried out by Matias (2015), where the mapping of the Patrimonial Management process of the Federal University of Rio Grande do Norte was carried out, considering the procedures of reception, registration and preservation, control and movement, and inventory and undoing of assets. However, in the aforementioned study, the institution already has a software to move goods, unlike the study proposed in this article, which will propose an initial model for a process that is not yet routine in the institution, besides proposing a process of movement between units for the purpose of reuse of items, and sustainability and economy, unlike the work of Matias (2015).

Barbosa et Santos (2017) made a case study at the Federal University of Recôncavo da Bahia, in order to analyze the procedures adopted for the patrimonial management with a view to the dismantling of inservible goods in the light of Decree 99,658/90 and realized that the Coordination of Material and Patrimony already partially applies the requirements set forth in Decree 99,658/90, but that there is a need for efforts to correct existing nonconformities.

Another study, done by Heinz et al. (2011) at the Federal University of Rio Grande do Sul had the objective of analyzing the manner in which the Federal Universities of Rio Grande do Sul control their permanent assets, highlighting the most positive aspects, as well as the methods used to control property, and propose a patrimonial control methodology that meets current needs. In view of the problems encountered, the authors suggested that

seminars should be held for all the public of the University to know the responsibilities and penalties related to the treatment of assets.

## 2. METHOD

A method is a number of processes that make it possible to know certain information, produce a particular object, or develop certain procedures or behaviors (Oliveira, 2015). The scientific method is the choice of systematic procedures for describing and explaining the situation to be studied. It can be classified according to the nature of the objective to which it is applied, the purpose of the study and the procedure used to collect the data (Fachin, 2006).

As for the objective, the research can be classified as: exploratory, aiming to develop, clarify and modify concepts and ideas, in order to formulate more precise problems or searchable hypotheses for later studies; descriptive, which has the purpose of describing the characteristics of a given population or phenomenon, or the establishment of relations between variables; or explanatory, that has as objective the identification of the factors that determine or that contribute to the occurrence of a phenomenon (Gil, 2008).

As for nature, Gil (2008) states that research can be classified as qualitative, which does not concern itself with numbers, but explains the reason for things; or quantitative, which seeks results that can be quantified through the collection of data.

Also, it can be classified according to the procedure used in the data collection, such as bibliographic research, which is developed from material already elaborated; documentary research, based on data that did not receive any analytical treatment; survey, characterized by the direct interrogation of the people whose behavior one wishes to know; a case study, frequently used for data collection in the area of organizational studies.

Current research can be classified as exploratory, since it seeks to develop and modify concepts, qualitatively, since it shows in numbers the benefits found, and a case study, since it used a specific case for research development and validation.

The methodology is divided into seven phases, such as:

- Phase 1: Select the asset sector of an institution and conduct a documentation / analysis study of the content of the asset movement process to





identify how the process is currently executed. Review existing documentation including organizational structure, industry laws and manuals;

- Phase 2: Use the ethnography observation method, which consists of an analysis of the tasks performed in the sector in order to develop a complete and detailed understanding;
- Phase 3: Apply the MASP methodology to identify the problems with the stakeholders (people interested in the process);
- Phase 4: Model the process proposal using Bizagi software;
- Phase 5: Validate the proposal by means of a case study;
- Phase 6: Calculate the Sustainability Indicator according to the situation carried out in phase 5;
- Phase 7: Validate the modeling and value of the Sustainability Indicator with the directors of the institution.

This methodology must be performed repeatedly, in search of continuous improvement of the process. Thus, at the end of phase 7, phase 1 can be run again, and the processes analyzed to see if something can be improved as many times as needs are identified.

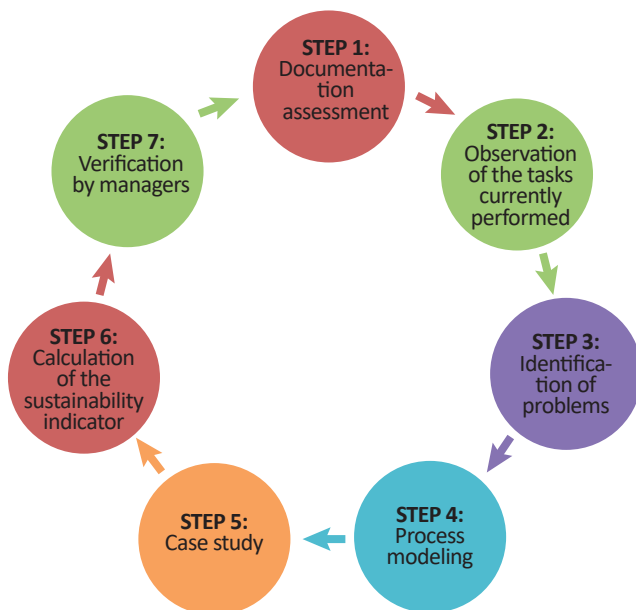


Figure 1. Cycle of applied methodology

Source: The Authors (2017)

The methodology can be easily and briefly understood by the cycle shown in Figure 1. Therefore, it is a flow for obtaining continuous improvement. The analysis and verification of the process must be continuous.

### 3. RESULTS

The *Instituto Federal Fluminense* (IFF - Federal Fluminense Institute) is a teaching institution located in 11 municipalities in the northern Fluminense (Bom Jesus do Itabapoana, Itaperuna, Cambuci, Santo Antônio de Pádua, Campos dos Goytacazes, São João da Barra, Quissamã, Macaé, Cabo Frio, Itaboraí and Maricá) in the State of Rio de Janeiro. It has 12 campuses, an Innovation Center, a Reference Center on Technology, Information and Communication in Education and the Rectory, besides the poles of Distance Education in the municipalities of Casimiro de Abreu, Bom Jardim, Porciúncula and Miracema, bringing together 14,238 students, 938 teachers and 742 administrative technicians. It offers initial and continuous training, Technical Courses, mostly in the form integrated with High School, Undergraduate, Advanced Technology Courses and Bachelor's degrees, extending the offer of training until Postgraduate *lato* and *stricto sensu* (IFF, 2017).

It has a proposal of internalization, providing opportunities for access to education for thousands of young people and adults in places with educational advancement needs, reaffirming an institution's position to anticipate the social movement (IFF, 2017).

The initial study comprised in locating information with the Heritage sectors of the IFF in relation to the process of moving permanent assets in order to understand the activities performed. As an initial part, the documentation of the sector was analyzed, as well as electronic manuals that can be consulted according to IFF, 2015. In the ethnographic observation of the tasks of the sector and the manuals involving the process of movement of goods, one has the identification and listing of the problems, with the use of the MASP technique:

- Problem Identification: The problem is the accumulation of permanent goods that are not being used. These items are in stock awaiting some demand, and if this demand does not occur, they are accumulated, subject to depreciation, obsolescence and taking up space for storage that could be used for other purposes. Inefficiency in this process generates costs with storage, loss of value with depreciation and wastage of resources, since investment has been made in something that is not in use;



- Note: when giving some destination to these items, even in another unit, the cost savings of these costs are generated and contribute to meet some need of another unit that had not been foreseen. The goal is to minimize this “stock” of permanent goods that should not exist;
- Analysis: Until this time no action was planned due to lack of procedures;
- Action Plan: to Initiate a process of movement of goods between units so that what is not being used in one unit can be used by another;
- Action: Initiate the execution of movement of assets in the equity sector of the units of the organ, listing the idle assets and disclosing to other units to verify the interest and then execute the transfer of the items;
- Verification: Analysis of the space that was vacated, of the value of the items moved, that is, economy that was generated by avoiding the purchase of these items by the other unit and various indicators;
- Standardization: Create a model of the process of moving goods between units, thus having a formal means and procedures to be followed. And transfer of these procedures to the patrimony sectors;
- Conclusion: The problem should be minimized, but it may not be fully resolved, since some items may continue without destination; thus, some donation to external organs should be planned in the future, or discarded if they are not available.

In modeling, the start of the process can be performed by the user of the source or destination unit. The user of the source unit, which has the items, must list them with the specification and quantity in a spreadsheet, or other suitable electronic means, and disclose this information to other units also by electronic means. This information should always be available and have a field to indicate whether the item is still available or has already been moved.

Users of other units, possible target units, must have access to this path in order to view and evaluate interest in an item. It is recommended that this evaluation should be done before beginning any procurement process. If there is interest, they should signal with some information before the item, as well as inform the desired quantity and if it has transport to do the movement between the units.

It is up to the users of the material source units to track their items to see whether another unit has shown interest. If there is interest, it should be checked whether there was any sign of transport to transfer the item. If the unit of destination and/or source does not have the necessary transport, the possibility of borrowing transport from other units must be assessed and this availability to proceed with the flow must be awaited.

If there is transport, the sending date must be scheduled by the user of the source unit and informed to the user of the destination unit to accept the date or request change. When the date is accepted, the item must then be physically transferred together with a transfer memo, issued by the user of the source unit. Upon receipt of the item and the memorandum by the user of the destination unit, the user of the source unit who has the competence of the Assignor Coordinator must transfer the asset to the destination unit within the equity control system (SUAP - Unified Public Administration System, in the case of the Federal Fluminense Institute) and then

Thus the process and the modeling of this one was proposed, using the tool Bizagi, according to Figure 2.

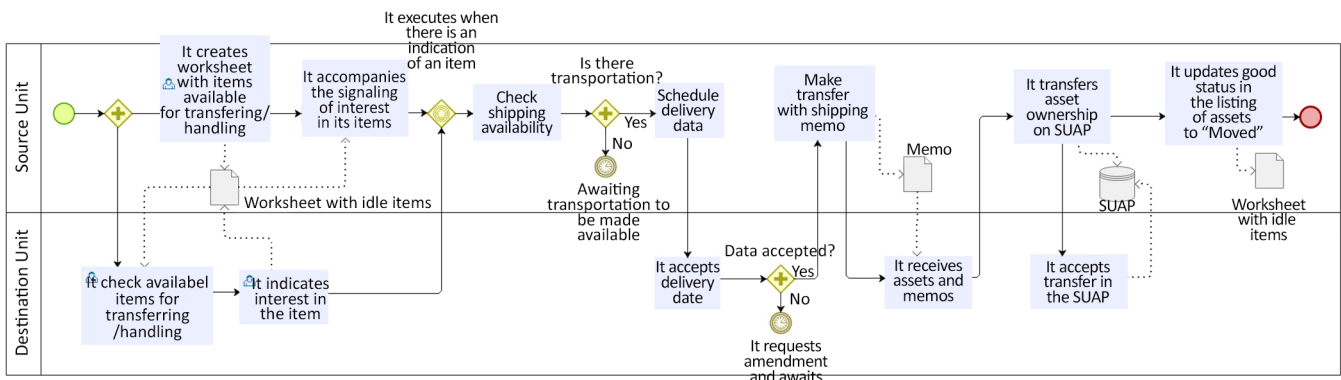


Figure 2. Modeling the process of Goods Movement

Source: The authors (2017)



the user of the destination unit accepts it. To terminate the process, the user of the destination unit indicates in the idle worksheet that the item is no longer available with the status of "moved".

To validate the proposal, an IFF1 unit of the Institute listed its idle items and made the disclosure to the other units. The IFF2 and IFF3 units showed interest in some items and then started the execution of the process modeled in this work. Twelve computer desks with sliding shelves and three teacher desks from the IFF1 unit to the IFF2 unit were moved along with eight surveillance cameras and four varifocal lenses from the IFF1 unit to the IFF3 unit, releasing approximately 6m<sup>3</sup> of storage space from the IFF1 unit and saving approximately R\$ 2,400.00 in the purchase of these items by the IFF2 unit and R\$ 3,117.00 by the IFF3 unit.

The work of Almeida et Cavalcanti (2016) will be used as a basis for the calculation of the Sustainability Indicator Focused on the Movement of Goods between Institutions. The authors used the Productivity and Efficiency formula as the basis of calculation, described in Equations 4 and 5.

$$\text{Productivity} = \frac{\text{Production Obtained}}{\text{Inputs used to obtain production}} \quad (4)$$

$$\text{Efficacy} = \frac{\text{Output}}{\text{Objective}} \quad (5)$$

Based on Equations 4 and 5, a formula was created for the Sustainability Indicator Focused on Assets Movements, as shown in Equation 8. This indicator was used to measure the sustainability gain in the application of this work. The goal of the effectiveness indicator should be defined by the leader of the unit of origin of the asset to be moved.

$$\text{Goods collection} = \frac{\text{Number of Idle Assets}}{\text{Number of Moved Assets}} \quad (6)$$

$$\text{Efficacy} = \frac{\text{Number of Moved Assets}}{\text{Goal}} \quad (7)$$

$$\text{Contribution Factor} = \frac{\text{Goods collection}}{\text{Efficacy}} \quad (8)$$

A When applying the calculation of Equation 8 in the movement effected, considering the goal defined by the leader of the IFF1 unit in 83 assets to be moved, with the justification that the goal is to discard all idle assets,

and considering the quantity of idle items that was made available for movement, the amount of 9,458 was found, representing its contribution factor in this collection to society, as shown in Equations 9, 10 and 11.

$$\text{Goods collection} = \frac{83}{27} = 3,074 \quad (9)$$

$$\text{Efficacy} = \frac{27}{83} = 0,325 \quad (10)$$

$$\text{Contribution Factor} = \frac{3,074}{0,325} = 9,458 \quad (11)$$

Considering that if all items are moved, the result of Equations 9 to 11 will be 1, we have that the value 1 is the total success in the execution, so the closer to 1, the better. Based on this, Table 2 was created to evaluate the result.

Table 2. Contribution Factor Assessment

Contribution Factor	Greater than or equal to 16	Between 16 and 1,7	Minor or equal to 1,7
Assessment	Bad	Regular	Good

Source: The authors (2017)

The result presented in this study was considered regular. Since this is the first execution of the proposed model, the tendency is to improve with the wide execution in all the units.

After validating these data with the leader of both units, the execution was considered satisfactory, meeting both objectives and bringing positive results to the Institute as a whole. For the continuous improvement of the process, after each of its execution, a new analysis of the documents can be made in the current situation of post-modeling, and what can still be improved must be analyzed, applying the methodology again.

#### 4. CONCLUSION

The study proposed the electronic modeling of the process of movement of goods between units of a public body in order to use goods that are idle in a unit. Such a purpose can be stated as met, since the process was modeled and evaluated by performing two moves, supported by storage space release values and values in Real Brazilian (BRL) of how many the units can save by reusing items that were idle in another, besides adding value of social responsibility to the organization.





In the search for optimization of resources and continuous improvement of processes, and since institutions become responsible for the choices and their consumption pattern within the concept of sustainability, this paper proposes and recommends that access to the database containing the assets available for movement between units should become a standard procedure before any asset acquisition process is initiated at the Institution. Consumption without planning directly impacts the environment.

Meeting this requirement proposed in the procedure of this study contributes directly to the sustainable efficiency of the Institutions, since, in addition to contributing to the utilization of idle resources in a unit, it avoids the expenditure of public financial resources, which can in turn be reversed to another social priority.

In addition, the proposal for the creation of sustainability indicators seeks to involve and compromise the direction of the institution, generating parameters that measure the objectives proposed for a given period of time and contribute to the implementation of a culture focused on sustainability.

Proposing and validating a solution that contributes to the adequacy of good management practices, especially in the public sphere, which culminates with sustainable benefits in the search for optimization of resources and, also, configuring as a considerable advance to meet the legal requirements that involve the theme of the movement of goods, as demonstrated in practice in the presented case study, becomes a point of extreme relevance for a management of excellence.

In times of contingency of public resources, the introduction of good practices that positively impact the optimization of the use of idle resources that are available in public institutions becomes paramount to meet the necessary austerity when it comes to the management of the public treasury.

Moreover, when good practices, besides involving managerial improvements, still collaborate to comply with and meet legal aspects that govern Public Institutions, in this case Decree 99.658/90 and more recently Decree 8.539/15 - denominated PEN, validate in a significant way the proposal of the present study.

As a suggestion of future work, there is the possibility of a modeling proposal to move between other bodies when there is no more interest in moving between internal units, as well as other types of decomposition men-

tioned in Decree 99.658/90, such as disposal or reverse logistics.

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