

Innovation in Cleaning Services in the Public Administration - Idealism or Need?



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ABSTRACT

It seems logical and common sense saying that in all contracts, the government should seek alternatives to help address the needs at the lowest possible cost, attending to the principles of efficiency and economy. However, no matter how clear such guidelines are, in many cases, the actual or apparent clash with other principles and rules puts the public administration in a disadvantageous situation, difficult to elude.

This article aims to show how, in the case of procuring cleaning services for the public administration, the legal and the technical reference frameworks have been associating the administration with uneconomical and inefficient situations, and managers, in most cases, do not realize the gravity of the waste.

To this end, this paper presents the problems resulting from the indiscriminate use of the Regulatory Instructions (IN) of the Ministry of Planning, Budget and Management (MPOG) as a reference for productivity and cost in procurement estimates. It also addresses, the failures related to the generality of most of the standards, or nonspecific use, indistinctively; and the deficiencies revealed by the evidence of undersizing productivity. Both represent a high risk for contract overpricing.

In addition, in order to curb deviations and overbillings and to safeguard the administration of joint and subsidiary accountability, respectively, in social security



and labor matters, the legal framework for public procurement has been insisting too much in the control of the means used by companies, to the detriment of supervision over the desired object. Such behavior, as demonstrated in this study, besides resulting in unnecessary transaction costs, it hinders the increase of the company's efficiency and innovation.

In order to overcome this model, which has proved costly and outdated, this study proposes innovations at various stages of the procurement process, all of them pursuing increased efficiency, economy, and even sustainability, since they are determined by greater rationality in the management of resources for the implementation of services.

We propose, here, to develop a concrete project for the cleaning solution during the planning phase, especially considering the routines actually needed, and the respective resources, instead of using MPOG regulatory instructions indistinctively. It is also demonstrated not only the need, but also the perfect opportunity, to change the paradigm which states that all cost reductions by contractors that result from efficiency improvements, must be addressed with contractual rebalancing.

The intention is, in short, to provide a purposeful, innovative model, based on gain sharing, a concept that has for a long time now been implemented in US government agencies. A model with which the Public Administration has much to gain, both in the short term, by eliminating waste, and in the long term, through the

exchange of knowledge and the incorporation of the technologies used in the most efficient practices.

Key Words: Cleaning Services; Project; Innovation; Increased Efficiency; Focus on Results.

1. INTRODUCTION

Nowadays, almost all non-core services for public organizations, including cleaning, are mostly outsourced. With a few exceptions, in which the institutions have government employees to carry out these tasks, outsourcing is the norm.

The professional cleaning market earned BRL 10 billion in 2009 and has been growing at an approximate rate of 10% per year since then (ESCOBAR, 2010, apud SANTOS, 2014, p. 16). The government is responsible for about 60% of this demand. The Federal Government alone paid BRL 2.4 billion in 2014 for cleaning and conservation services. By way of comparison, the value is larger than the entire budget of the Ministry of Agriculture Development, or equivalent to 30% of the Transport Ministry's budget for 2015, according to the 2015 Annual Budget Law.

Despite the magnitude of this expense, there is certain amateurism in public procurement of cleaning and maintenance services and a total disinterest in a "solution project". Yes, contracting cleaning services requires a project with its own methodology, based on

empirical studies and surveys. It is a false assumption that cleaning services are trivial and easy to be estimated, planned and executed. This follows from reductionism, and it is only maintained because of the overall lack of management on the subject. Indeed, “hiring people”, providing a bucket, a mop, a vacuum cleaner and other instruments; and “letting them get to work” in a building with the mission to do the cleanup can be simple, and indeed it is. However, this is far from being a professional cleaning service contract.

In this study, we analyze the impacts of the lack of expertise in the procurement of cleaning services, which, at the same time, are the cause and consequence of the imprudent use of parameters set by the Federal Government. Moreover, we discuss the delays fomented by the incorrect application of the legal framework to public procurement, which has been hindering company’s initiatives aimed at increasing efficiency.

2. HIRING CLEANING SERVICES – CURRENT REFERENCES

The lack of expertise and lack of interest in the study of cleaning services is partly triggered by the initial regulatory framework. Under the reform of the state structure and in accordance with the strategy to move towards a managerial public administration, the Federal Government, on October 30, 1996, issued the Regulatory Instruction MARE No. 13. During this period, it was issued the first ordinance for setting the maximum amounts for each state for procuring cleaning and conservation services.

In 1997, the Normative Instruction 18, known as IN MARE 18/1997 revoked the IN No. 13/96, however, it maintained the system of setting maximum amounts for procuring cleaning services through an ordinance, issued annually. Conjointly, the MPOG outlined basic guidelines for the specification of cleaning services and set minimum productivity levels to be observed in basic procurement projects¹. The standard thus defines, for example, that under normal conditions a professional cleaner, in an 8-hour workday, should be able to clean at least 550 m² of internal areas. Similarly, productivity rates were set for cleaning external areas, and window frames, among others.

The beneficial effects of these measures are undeniable, especially since it added uniformity and standardization into what before was devoid of any criteria. Two agencies that eventually had similar premises structure could have gross cost differences of 100% or

200% per cleaned square meter, and there was no objective criteria to question such a difference. These indexes were subsequently amended in quantities and levels of detail by IN - SLTI/MPOG 2/2008 and 3/2009, and we must point out that the former is even today the main reference for procuring continued accessory and instrumental services. In fact, from now on, in this article, the IN 02/2008 will be only identified by the initials “IN”.

Thus, the contracting model for cleaning services, which is now being used by the government as a whole, was prepared based on the productivity levels set by the IN 18/1997 and its new editions.

However, the use of the standard has conflicting aspects that should be considered. The first one arises from the very nature of generalization: dangerous and reckless – which violates the specifics of concrete situations. We are not saying that the standard has imposed this generalization, because in the text of the article itself minimum productivity values are indicated for “normal conditions”. However, it is clear that the existence of a standard, or a default, induces the user to apply it to the detriment of alternative values.

Nevertheless, the problem lies in what the standard was not intended for. The rule was not set to undergo more than 15 years of managers’ apathy to study its characteristics, propose detailing, design the cleaning of the respective premises, and conduct empirical surveys. Finally, the standard was not meant to be the symbol of the lack of innovation implemented in the following decades. It came into existence to become a generic beacon in what were best practices, but managers ended up outsourcing the cleaning services projects to the IN, and this, due to the generalization already mentioned, and because of its own weaknesses, which we will mention later, is not a suitable mean for that purpose.

We must not hurry and jump up to conclusions, especially to condemn the planners of contracts. The responsibility for the complacency is partly due to the standard, but we must emphasize that it is only partly responsible for that. The standard provides a comfortable framework, where one does not need to act. In order to procure cleaning services, one needs just to estimate the area of the building and apply the coefficients of the standard. Believe it or not, that is what almost everyone does.

So far, nearly two decades since the issue of the IN Mare 18/1997 went by, and the administration has not evolved in the cleaning services project. It reminds us of the parish story of the backyard room. Who has never had or known someone who had a provisional

and precarious room in the backyard? The backyard room certainly happens to be a temporary thing, built to address a momentary need, and eventually be replaced by something better, definite. Well, the IN figures should be just that: temporary, subsidiary, referential. However, in order to replace them, we must change the course of action; it is necessary for the agencies and entities to work on their own estimates, that they know the details of the services and their possible variations, depending on the type of building, use, type of finishing, coating of surfaces, etc.

3. FRAGILITY OF PRODUCTIVITY AS DEFINED IN IN 02/2008

Knowing this, and already starting to analyze the contents of the IN, we observed that its values and standards of productivity have no technical or empirical basis (SANTOS, 2014, p. 68-69). The explanation obtained as to the sources of such indices, was, ultimately, that they follow from productivity indices used by the Government of São Paulo State, which, in any case, only reproduce the average of contracts in force at a given time.

Furthermore, the productivity values indicated in the IN show to be clearly undersized when compared with standards set in the ISSA 540 standard, published by the American institution ISSA - The Worldwide Cleaning Industry Association, which has been dedicated to the study of Facility Management since 1923.

Let's consider, for instance, the hypothetical situation of the activity "carpet vacuuming": According to the ISSA 540, the productivity by the cleaning worker for carrying out the activity is up to 929 m² per hour or 7,432 m² per day (considering an 8-hour workday), depending on the technology of the vacuum cleaner used and the type of area to be cleaned (large areas, areas with obstacles, etc.).

The IN sets that the indoor carpeted areas must be cleaned at a rate of at least 600 m² per day. However, it does not attribute an isolated single productivity in-

dicator for the activity of "carpet vacuuming" as in the ISSA 540. The IN includes values for other indoor activities: cleaning furniture, emptying bins, cleaning walls and partitions, among others.

Thus, in order to compare the two productivity indicators it is necessary, first, to establish a common basis for comparison in which both sides consider equivalent services. This will be the basis for the following example: the "cleaning of an indoor area of 10,000 m² with carpet floors, containing 100 bins". Thus, as shown in Table 1, in order to measure work force based on the ISSA 540, it is necessary to relate and calculate individually the effort for each of the activities, such as removing garbage, cleaning furniture, etc. Note that in the table, next to the description of each activity, there is the amount of estimated employees needed. In the IN estimates this is not required, because the set value (600 m² per day) is supposed to include all activities necessary to maintain the area clean. As a result, the work force needed with reference to the ISSA 540 is 5 employees; and, according to the IN, 17 people are needed.

The difference is evident. If we followed ISSA 540 productivity indicators, the number of employees would be reduced to less than a third compared to the number calculated by the IN, under the same conditions.

There is a high risk that the entire government is oversizing its structures for cleaning services, and, we must point out that they do it without incurring into strict illegality, since they act based on the IN. And, that is the problem: the standard legitimates waste. It can be argued that it merely lays down a minimum productivity level, but it would be up to the manager to properly design the solution under real conditions. However, this is an at least simplistic, abstraction, to address the problem. The standard induces the behavior of managers, which, lacking the expertise on cleaning and trying to avoid risks, prefer to follow it.

What is worse is that, once the number of workers resulting from the application of the IN are contracted at certain public building, the difficulty to decrease it

Table 1:

Comparison between the ISSA 540 and IN 02/2008 standards – Calculation of work force needed for cleaning a 10,000 m² indoor area, with 100 bins.

Standard	ISSA 540	IN 02/2008
Activities involved	Rubbish removal: 0.144 workers Cleaning all horizontal surfaces up to 1.50 m high (furniture): 1.789 workers Vacuuming, removing stains and carpet floor washing: 2.622 workers Careful cleaning of corners, edges and baseboards: 0.054 workers Cleaning walls and partitions: 0.118 workers	Cleaning of indoor areas: 17 workers
Estimated work force	5 workers	17 workers

in future procurement will be much higher. The public servant responsible for re-procuring the service which is already being executed according to the parameters set by the regulatory instruction will be further forced to maintain the status quo. This is because it will look like the model is “working out” (as in most cases the structure is swollen, the minimum expected is “that it works”); an attempt to plan a solution again, with a possible decrease in the quantity of workers will face suspicion from in-house sectors; pressures from the outsourced company itself, for fear of losing their job; possible quarrels promoted by Unions; challenges and questions from bidders.

In short, a whole chain of resistance will be imposed on the manager who, pressed by the urgency and by that lack of technical expertise, will let himself to be led by the IN numbers. On principle, there will be no questions and everyone will seem to be satisfied, except the public interest.

4. THE RISK OF AN UNENFORCEABLE PROPOSAL

The IN is not the only cause of the drawbacks discussed here. As a rule, the bidding method used for procuring cleaning services is the Electronic Auction, suitable for common goods and services. In addition, it is known that one of the biggest problems faced by administrative contract managers is the famous “dive” that takes place in the electronic auction sessions. Adventurous companies, unprepared, which, careless, during the public session, start lowering their bids to win the contract. While Law 8666 of 1993, art. 48, and the IN itself in art. 29, provide for mechanisms to assess the feasibility of the proposals submitted in the bid, giving the administration the right to refute what may be considered unfeasible, in practice it is very difficult to get such disqualification, especially when it comes to cleaning services. There are no productivity indicators to serve as a minimum standard. To mitigate this risk, the alternative most widely used in procurement procedures is to fix the quantity of people to be included in the proposals. Thus, the amount of the estimated work force in the planning phase, based on the IN, becomes fixed as the minimum required in the proposals, under penalty of disqualification. In fact, in these circumstances, companies do not have much else to offer, since the work force quantity, which represent over 70% of the contract, was previously set by the administration. Then, they will just fill in spreadsheets of costs for payment of work force.

5. THE OVERESTIMATION OF MEANS AT THE EXPENSE OF PURPOSES

The procuring process that was initially focused on providing cleaning services starts to be excessively concerned about the quantity of people. This is where the administration loses focus on the procurement purpose. Once the contract has been signed on such terms, it is agreed that the service will be provided by a given number of people, which becomes the supervision keynote. It seems natural for the supervisor that, considering the consignment in the announcement, in the proposal and in the service agreement, the minimum personnel structure is “x” workers, so, it must be checked that all of them are actually working.

In addition, the company, in order not to suffer sanctions and items cancelled, will religiously provide the number of people as agreed, and it is not required, at any time, to evaluate whether this number of people is necessary. At this point, neither party is any longer concerned with increasing efficiency. That number of people will be a constant, even for future contracts.

And why cannot that number be decreased? Can it be possible that an outsourced company, running the same services for five years in the same government agency, is not able to redefine or optimize routines, add technology, in short, that it cannot, in no way, increase productivity and decrease the number of its employees? Obviously, the companies can, but they do not want that.

In the current contracting logic, in which the company puts certain number of people and certain amount of material in the institution, and earns over this a management fee and profit, it is true that the higher the value of the contract, the better for the company. There is no reason for it to make efforts trying to make the contract more efficient. On the contrary, in this system, a possible decrease in the personnel structure due to gain in business efficiency, will unequivocally generate a contractual rebalancing due to the removal of the corresponding values. Now, anyone facing such prospect would never propose a readjustment.

This is precisely the second cause of immobilization and perpetuation of the IN values. Firstly, due to inertia, security and trust in the standard, the public administration uses it indiscriminately and procures cleaning services based on the productivity parameters set by it; secondly, in order to protect itself from the risks of “diving” during the bidding stage, this structure must be observed by the outsourced companies, under

penalty of disqualification of tenders; and, thirdly, the rationale is: "if the company considered a number of employees in its proposal, then it is obliged to provide them in the contract execution, under penalty of being accused of overpricing;" and lastly, at a fourth stage, any attempts to decrease this quantity by increasing business efficiency is considered a reason for rebalancing the contract in order to reduce the values.

It thus forms a vicious cycle, tough to be stopped. The aura of legality given to the indicators and the crusade to curb any extra gain by the service providers generate waste in the public administration.

6. THE NEED FOR INNOVATION

It is necessary to rethink the rules for defining the required structures. Managers should truly justify the proposed numbers to perform cleaning services, not only formally, by telling in a few words like "the structure is within the minimum limits set by the IN"; no, this is the least they can do! It is imperative that much more is projected: the details of routines, timing of performance of each routine, related equipment, alongside with their respective productivity parameters, the main materials to be used, etc. Always considering the different possible alternatives. These studies will indicate a structure for a particular institution and a specific building.

We are all aware of the difficulties and limitations to achieve a proper cleaning project; it is also known that this project will be improved over the years. The preceding paragraph was not written with an idealistic vision, disconnected from the practical reality. It is perfectly possible and desirable to innovate in this direction already, without having to wait for big occasions. It is true that, in a first contract, the detailing of routines and the accuracy of the productivity parameters are not perfect, and therefore there will be some contractual setbacks to readjust them, which is natural in any change. Over time, the administration will gain the necessary expertise.

We must acknowledge the inexperience and take the first step. If we had not blindly followed the IN 18/1997 and its subsequent editions over the past 20 years or so, the public administration would have now another skill level in the subject; so it is essential to recover the lost time, find the path for continuous improvement, invest in projects for innovative cleaning solutions, recognize the limitations and seek alternatives to overcome them.

As mentioned above, the second issue is establishing minimum quantities in the proposals as classification criteria in the bid. This seems more difficult to overcome at a first stage of coping with this situation, precisely because there are no objective data and minimum indicators with necessary levels of detail to assess the feasibility of the proposals. It is thought that in the long run if the administration starts to effectively create cleaning services projects, this scenario will change. For now, recognizing the fragility of the situation, it is considered foolhardy to suggest that we simply do not set the minimum structure, as required, for bidding. However, after the stage of selection of service provider and the enforcement of the contract, there is much to be gained from the change of attitude in public administration in this regard. Therefore, it is mandatory that, at first, we separate very well the object of procurement: a) cleaning services, from its means: b) people, materials, equipment and business management.

7. FOCUS ON RESULTS

The first paradigm to be broken is that overseeing the contract means to control people or any of the means used by the company to provide the service. The service supervisors need to get rid of the "man-badger" model according to which the absence of an employee, if not promptly replaced, generates a reprimand. To point out how uneconomic the situation can so often be: companies keep spare employees at customer sites in order to be able to quickly cope with any absence and avoid discounts. In the end, the public administration unnecessarily pays for these extra personnel, just to maintain a rule that does not help anyone and is even questionable (irregular outsourcing, see Rulings of the Federal Court of Accounts, TCU 1.002/15, 3.489/14 and 1.391/14, all from the Plenary). Actually, cleaning services are not urgent, and do not generate great trouble if delayed by an hour or two. In fact, they are essential and very important, but in the absence of an employee, the company can redesign how tasks are performed on that day, resetting the priorities, granting productivity bonus to an employee who takes responsibility for more than one sector at a given time, it can pay exceptional overtime remuneration for an employee to cover the absent one; it can add a device, it can agree with management to reschedule the routine procedures to an alternate time, that is, there are several possible solutions to the absence of an employee in order to preserve the contract object.

Therefore, if by any of these means, the company makes arrangements and there is no prejudice to the expected results, there is no room for the administration to cancel an item, because doing so would mean breaking the contractual rules. In addition, it would not be proper to solemnize the principles of supremacy of public interest and the non-availability of the public interest by administration to impose such oppression to the company.

It is important to point out that we do not forget the labor (subsidiary) and social security (joint) responsibilities of administration in relation to outsourcing, which requires a supervisory focus on the employees of the company. To reassure the most conservative minds, we must just state this: one thing has nothing to do with the other. All employees working for the company at the contracting party premises should be registered and have their labor and social security rights assured. However, the control of the attendance of each one is up to the service provider. However, the administration cannot allow that non-registered employees work at its facilities.

In this same vein, it is essential to give the service provider the possibility to change the structure initially planned to perform the services. Of course, the company, after three or four months of contract execution, since the cleaning services are repetitive, will have new perspectives on the implementation and can reset routines, contemplate new equipment and materials, increasing productivity and efficiency. And thus, it is very likely that one can reduce the personnel allocated.

For this to actually happen, the company needs to have an incentive. Earnings from increased efficiency and innovation should benefit them in some way; in practical terms, reducing the quantity of people allocated to the contract should not give rise to a contractual adjustment, for suppression of their costs. We must implement the gain-sharing model or contracting based on performance, as it has been the practice of government agencies in the United States for many years². Note that these changes boil down to the means used by companies to fulfill the object, but the object remains untouched – so, it does not make sense to discuss an amendment for qualitative change or quantitative suppression in the contract object.

As a rule, it is also not reason for a contract review, with a view to restoring the economic and financial balance. The grounds for granting the rebalancing is the occurrence of an event of extraordinary economic implications that significantly affects the execution of the

contract. Indeed, it has been noted that this should not be a way for ill-intended managers to project clearly anti-economic situations during the planning of recruitment and, subsequently, the cost reduction to appear as a merit of the company, which was precisely addressed by the Federal Court of Accounts, in the TCU Ruling 826/2013 - Plenary. The condition for the practical application of what is intended here is the proper planning of procurement; precise and streamlined design of the quantities, considering the best prospects envisioned at the time.

We recognize the possibility of undue capital allocations by companies in a given period. It is a risk which actually exists, but that needs to be controlled. In fact, considering that, as a rule, contracts last for 12 months, , even if any companies in bad faith attempt to overbill, they will be able to do so for a short period. That means: assuming that at the end of the 4th month the company decides to decrease by 20% its quantities and that is able to do so without any increase in equipment costs, materials, or with its own work force (by increasing wages, for example). In this case, in theory, the company was improperly billing those 20% from the quantity of work force. Let us also consider that in such a situation, there has been no drop in quality, and services continued to be satisfactory, in short, that the decrease did not affect negatively the contracted services. Therefore, there was no reason for the administration to sanction the outsourced company for failures in services. So, in theory, the company will earn, “unduly”, for just 8 months (we can call, without fear, this “just eight months,” considering that the waste with contracts of this nature has been happening, at least, since the issue of IN MARE 18/1997, almost 20 years ago). At the end of these 8 months, the administration will have internalized the company’s practices, the applied technologies and, most importantly, they will know how many people can execute the contract.

Again, even if there is the much-feared marginal gain for the company, which was already stressed out, it is a fairly low risk, and at the end of the process the benefits that the administration may reap will be infinitely higher.

8. SERVICE LEVEL AGREEMENT

As a last remark, and without any intention to delve into the subject, since it itself calls for a specific study, the proposed contractual management strategy in the last paragraphs requires a high-level results evaluation system.

As mentioned, the target of the supervision goes from people to the results of the services provided. Therefore, it is essential that in the procurement-planning phase a Service Level Agreement – SLA is prepared, to be included in the public bid, and able to effectively manage the contract by results, imposing variable remuneration, bonuses or discounts depending on the degree of achievement of the agreed goals. The control environment marked by an SLA is what will ensure the maintenance of the quality of services and will bind all the changes in structure that the company may imagine. This, for example, will just reduce the quantity of people up to a limit, and this limit will be given by the SLA, based on results, and not on the means used by the company.

9. CONCLUSION

The stagnation scenario in developing techniques for the design of cleaning services solutions that has endured for nearly 20 years must give way to specialization. In the market there are several options, techniques, technologies, materials, and finally, there is a huge range of factors that arise and change every day, and that interfere in the design of services, and it is not reasonable to apply generic productivity indices which are now outdated.

Moreover, the legal framework for public procurement, including case law, must evolve to control results, investing in ways to define and verify the achievement of goals, so that the object of procurement is guaranteed by end controls and not by counting the means used.

We must innovate, start a propositional win-win model, controlling the risks and deviations, of course, but especially aiming at gains in efficiency, reduced waste of resources, continuous improvement, sharing knowledge and improvement. It is worth remembering that the purpose of public procurement is meeting a need that somehow addresses a public interest. In addition, the manager in charge of procurement planning should always seek, among the available alternatives, the one that, in view of this need, results in lower costs for the administration.

NOTAS

- 1 Item 4.3.1 of IN MARE 18/1997.
- 2 In 1981, the GAO recommended to the US government: Stop setting minimum hours (team), as this removes the incentive for companies to increase productivity and save on working time - (GSA's Cleaning Costs Are Needlessly Higher Than in the Private Sector AFMD-81-78: Published: Aug 24, 1981. Publicly Released: Aug 24, 1981).

REFERENCES

MENDES, Gilmar Ferreira; BRANCO, Paulo Gustavo Gonet. *Curso de Direito Constitucional*. 9ª ed. São Paulo: Saraiva, 2014.

FILHO, José dos Santos Carvalho. *Manual de Direito Administrativo*. 26ª ed. São Paulo: Atlas, 2013.

MENDES, Renato Geraldo. *O Processo de Contratação Pública – Fases, Etapas e Atos*. 1ª ed. Curitiba: Zênite, 2012.

SANTOS, Franklin Brasil. *Determinantes de custos na limpeza predial terceirizada: benchmarking em universidades federais*, Dissertação de Mestrado – Universidade de São Paulo; São Paulo, 2014. Disponível em <http://www.teses.usp.br/teses/disponiveis/12/12136/tde-11122014-175209/pt-br.php>, acesso em 22/7/2015.

BRASIL. Secretaria de Logística e Tecnologia da Informação – SLTI do Ministério do Planejamento Orçamento e Gestão. Instrução Normativa 2, de 30 de abril de 2008. *Disciplina a contratação de serviços, continuados ou não, por órgãos ou entidades integrantes do Sistema de Serviços Gerais – SISG*. Versão Compilada com redação dada pela Instrução Normativa 6, de 23 de dezembro de 2013. Publicada no Diário Oficial da União - DOU n. 250, Seção 1, em 26 de dezembro de 2013, com retificação publicada no DOU n. 252, Seção 1, de 30 de dezembro de 2013.

ISSA – The Worldwide Cleaning Industry Association. *ISSA 540 Cleaning Times*. Disponível em <https://www.parish-supply.com/pdf/ISSA-Cleaning-Times.pdf>, acesso em 22/7/2015.

GAO. *GSA's Cleaning Costs Are Needlessly Higher Than in the Private Sector*. AFMD-81-78:1981.