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Measuring the returns from investments on e-government

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This article intends to present some of the elements that must be considered to analyze public sector investments in information technology. Although it is theoretically possible to demonstrate that investments in information technology bring a high return, to take the decision to implement or to modify administrative systems through investments in information technologies is, for many governments, something very difficult to make.

The reason for this is that developing and implementing management systems, most of the time does not produce immediate results and the return on these investments occurs over a long period of time. Moreover, it is not always possible to adequately measure the final results for investments made. Therefore, the necessary investments in technology are postponed, receive low priority, or they are simply removed from public policies. It is important to demonstrate, that beyond economic benefits, social benefits also exist.

This subject has been object of academic studies in several places around the world. Many research centers dedicate considerable efforts in defining methodologies that allow the evaluation of the investments governments make in IT. The works from the Center for Technology in Government at SUNY¹, the Bedrosian Center on Governance of the USC², the Dubai School of Government, the Networked Readiness Index produced by the INSEAD³ and the WEF⁴, as well as many other studies sponsored by UNPAN⁵ and several other institutions, are the proof of this interest.

The works developed by Dra. Florencia Ferrer, in Brazil, stands out for the specific analysis of the results from the adoption of innovative public policies in electronic government. Some of its studies are published in the "[*Clock of the Economy*](#)"⁶ of São Paulo State and show how the State Government saved almost 20 billion Reais (approx. US\$ 11Billion). This sum was reached by adding the economies for the Government, for the citizens and businesses.

In the private sector, it is usual to analyze and to make investment decisions under the strict optics of an economic analysis. Thus, parameters as Return on the Investment (ROI) and Pay Back period are the basic elements for decision making. However, when we move into the public administration environment, there are other dimensions that must be considered. These dimensions go beyond the analyses made for the private sector and include values of public interest not always easily quantified. For governments, it is important to measure the impact on economic and social values and not only the accounting data. It is necessary to demonstrate how much the society saved as a whole, with things such as, commuting, hours in lines, taxes and fees, etc., while at the same time, increasing the quality of the government, with lower costs for

¹ The State University of New York

² University of Southern California

³ Institut Européen d'Administration des Affaires

⁴ World Economic Forum

⁵ United Nations Online Network in Public Administration and Finance

⁶ <http://www.relogiodaeconomia.sp.gov.br/>

the population and for the national economy as a whole, reducing therefore, the “country cost” .

Thus, we consider that the main components that must be measured in the analysis of return for e-government systems are the following ones:

1- Transparency

In a perfect system of public administration, it should be possible to any citizen to query and look at how public resources are being used and thus monitor the progress, the actions and the results from a given investment. However, to measure the value of this transparency is something very difficult to achieve, but of vital importance in a democratic society. It is a complex task to translate into economic values the transparency factor. Therefore, we should look into comparative and relative metrics of evaluation where we can quantify the relative level of transparency that a public administration system offers. Those systems that offer to the constituents, access to the information about government actions, have a bigger intrinsic value of those that limit or do not allow such access.

2- Equal opportunity

The guarantee of having equal chance to access public resources can also be seen as another face of the transparency in public administration. Therefore, systems that improve and control government procurement have become a paramount and best practice of good management and electronic government. Chile is certainly a good example of success in this question, since its procurement system manages on-line, purchases carried out for the government at all levels of the public administration.

Beyond full transparency in all the stages of the procurement and buying process, these systems allow the governments using them, best prices and a reduction of administrative costs. Moreover, these systems make possible the participation of a greater number of companies in the bidding processes, allowing companies equal opportunity and fair conditions to compete, independently of their geographic localization, or the lack of experience and knowledge in doing business in public sector. Thus, this mechanism can foster regional economic development, where the production of certain goods is natively inherent, but there are no capabilities to distribute or sell into other regions. A clear example of this is found in the agricultural business, where the productive zones can normally offer better prices to those who sell from distribution centers.

3- Efficiency

The immediate and more visible consequence of management systems implementation is cost reduction and the corresponding improvement in efficiency on handling administrative processes. This is the most common factor used to evaluate the results from the implementation of e-government systems since this efficiency can be measured through traditional tools of evaluation. In this in case, methods of ROI, analysis of productivity and other key performance indicators can be applied. The main components for these metrics must consider the benefits generated to the citizens and the economy of resources obtained by the state upon the deployment of these services. For the citizen, measuring the lost and non-productive time spent in lines or queues and the costs of transportation to the public administration offices, are key considerations. For the state the procedural inputs must be accounted, office supplies, forms and other printed materials as well as lease cost for the Public administration offices, telephony and utilities and labor cost, including wages and benefits.

Moreover, other efficiency parameters must be considered and metrics assigned to the number of transactions handled, so we can analyze, for example, number of processes resolved of per day, number of processes per employee, number of incomplete transactions due to documentation missing, among other key performance indicators.

4- Quality

The objective of all governments is to provide services to its citizens. Thus, in any analysis to evaluate the benefits of technology investments, it is necessary to consider the impact that the implantation of new systems brings to the citizens from a quality of services prospective. Quality improvement measurement can be made through the evaluation of user satisfaction pools and must contemplate specific indicators, such as reduction on waiting times in order to get a service or to get reply to a solicitation. To measure the availability of the services are also important. The services offered to the citizens cannot be limited to only one type of service channel. A system that forces the citizen to be in a line has, therefore, less quality compared to one that allows a request to be serviced by telephone. Thus, all the investment in IT must consider the quality of a given service as one of the evaluation metrics for the investment done.

Conclusion:

As a conclusion, we can say that the analysis of return of investments in IT within Public Sector has components that are much more complex to what we normally considered on a simple economic evaluation. The need of IT investments in the deployment of e-government systems is unquestionable, however the great challenge that government leaders will face in the next years is to find a balance among investments in technology and other investments in areas offering an answer to the demands of social areas, such as education, health, security, transportation and jobs. These investments have a higher visibility in political terms and get much more attention. To know the correct economic and social returns from the investments made in each one of these areas, is a key and vital element to establish public policies that contemplated the real needs of the society.