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Public Sector Management of Information Technology and the case of Finance Secretariat in Bahia State – Sefaz

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1. INTRODUCTION

1.1. PRELIMINARY CONSIDERATIONS

Competitiveness among organizations in today's globalized world is ruled by the capacity companies have to innovate and to how fast they can make this innovation come true. The fierceness of market demand and competition forces organizations to continually search for improvement. The use of information technology (IT) in this scenario becomes essential for the survival of organizations. IT has contributed to the redesign, simplification and innovation in work processes making organizations more agile in the implementation of innovations and their insertion in the global market.

Outsourcing, the process of delegating a service to a external service provider which would otherwise be an in-house process, has become the main management philosophy in the search for production cost reduction and consequent improvement of service and product quality. By adopting outsourcing, the company can concentrate on its end activity.

This management approach, considered by many a business philosophy, has been discussed, improved and broadened over the years. Faria[1] states that, especially in the IT field, it is crucial for managers to keep updated with the best market practices given the continuous and dynamic nature of the field. This daily evolution has brought into the market new methodologies of IT management.

Government administration finds itself within this context as well and, as a result, there is a constant need to adapt its heavy structure to this new world, searching for ways to implement new methodologies in technological management in an attempt to keep up with the modern techniques used by the market.

1.2. OBJECTIVES

The objective of this paper is to show how IT evolution has interfered in the management process and how the public sector has been adapting to the various models suggested by the market. It demonstrates how, many times, the government creates its own management model and intelligently mixes several market methodologies in order to adapt the models to its structure.

[1] ALBERTIN Alberto L., MOURA Rosa Ma. – organizadores. ***Tecnologia de informação*** – São Paulo: Atlas, 2004.

Nowadays it is necessary a broad understanding of e-government. It means not only the elaboration and accessibility of sites on the Internet, but also the transformations which cause a more fertile informational environment within the organization. These changes have to aim at organizational processes, people, systems and IT infrastructure. Investing in this transformation will surely generate a cultural change in the organization which will enable the implementation of a consistent and definite e-government.

On the other hand, the use of this technology by the end-user, especially the citizen, causes a major change in the profile of the organization. The proximity with the computer and the easy access to information substantially increases the quality of the relationship between government and citizens.

According to Seco[2], information is essential to business in all sectors of the government, especially in the fiscal sector. In fact, taxpayers are protected by law which guarantees them fiscal information secrecy norms. As a result, when adopting IT outsourcing in public finance administration, it is necessary to cautiously evaluate which areas can be outsourced and what the legal implications involved are in making such decisions. All contracts must contain specific protection clauses against dissemination of this kind of information.

1.3. THE CONTRIBUTION OF THE FINANCE SECRETARIAT IN BAHIA (SEFAZ)

Over the past nine years, the Finance Secretariat in Bahia (SEFAZ from here on), has been adopting IT outsourcing in the areas of needs analysis; systems pre-requisites and specifications; projects; systems implementation, training and implantation; systems maintenance; data administration; methodologies and components; projects in the areas of technique architecture, technology and networking; data bank administration; administration and support for present information architectures; techniques and systems, in addition to consulting services in the area of technique architecture, systems architecture and information. It is also included in the outsourcing process the areas of internal user service and data communication. The partners involved work both inside and outside the actual SEFAZ building always under its supervision and management.

The present study will discuss in depth the issues related to the IT outsourcing process at SEFAZ without, however, pointing at an easy way out given that there is no such easy way. A detailed analysis of the process SEFAZ has experienced will be given in order to show how complex and difficult it is to implant an IT management model in its most strategic area – IT.

[2] SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

2. THEORETICAL BACKGROUND

2.1. THE EVOLUTION OF TECHNOLOGY AND MANAGEMENT MODELS

Human beings have depended on information from the very beginning. This constant search for technological development is nothing else but the need to increase the power to process this information. Evolution has been a constant. From the abacus circa 500 AC to the paper in the year 100 AC and later in 1834 with Charles Babbage's invention of his analytical machine (considered the starting point for the electronic computer) together with Herman Hollerith's first perforated card which could store data in 1890 plus all the other inventions of the 20th century, man has been continuously searching for the best way to process and store information.

Paul Tom (apud Cook)[3] states that computers were first commercially used to automatize the accounting process and stocking at General Electric in 1954. According to Moravek (apud Cook)[4] in the end of the 50s there were around 600 computers being used in commercial computing. Computers took over the repetitive tasks previously performed by people. As a result, the use of computers by organizations concentrated mainly on administrative tasks and rarely focused on the business proper. As a result, the management model was rather simple with a specialist directing the data processing department disconnected from the rest of the company as a whole. This professional had little or no knowledge of general administration.

Cook[5] argues that computers became important administrative assets and not important commercial assets since they contributed only indirectly to organization profits. He goes on saying that the lack of understanding and direct involvement of managers in computing was the beginning of today's serious problems in commercial computing.

In the end of the 60s, large organizations had already started having trouble managing the resources of their data processing centers (DPC), as known at the time. This fact forced them to create new planning areas within the centers. In the beginning of the 70s, these difficulties increased with the appearance of the first online computer networks based on mainframes in which the end user was served by work stations without their own processing capacity.

As difficulties increased, technology suppliers realized that they would need to support their clients in developing management techniques in order to make it possible to help orderly growth. As a result, IBM, for example, developed and launched Business Systems Planning – BSP based on their own internal experience in controlling and planning systems. The program, according to

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[3] COOK, Melissa A. ***Buildin enterprise information architecture, Reengineering Information Systems***. 1.ed. Upper Saddle River, NJ: Prentice Hall PTR, 1996. p.7
[4] Ibidem, p.7.
[5] Ibidem, p.8.

IBM[6], showed organization executives that their involvement in was vital if they wanted to develop and use successful information systems.

According to Souza Filho[7], it was still not clear how to administrate the area of information systems and that it was still a headache for technicians and administrators alike. In 1976, IBM started a research in more than 4000 data processing centers in the USA and Canada in order to survey the management techniques used by those centers. The result showed that the most advanced centers used only six or seven management techniques such as problem control and change management. Souza Filho states that the results of those techniques were very good and that in some cases there was a reduction of almost 90% of problems caused by the information systems. It was noticed that the difference was in the way successful organizations optimized their resources and used general administration knowledge to manage the centers compared to others not so successful cases.

After the 80s, techniques and management methods expanded considerably. However, the complexities of the environment also increased due to the globalization of the economy, the appearance of new technologies, such as the Internet, and a new area of performance for the government - the e-government.

The Transactional era with the automatization of repetitive processes which characterized the 60s and 70s was replaced by the Operational era in the 70s and 80s and later by the Information era in the 80s and 90s. In this last decade, the main product was information. According to Toffler[8], information is the main product for organizations since business is founded on the quality, speed and safety of information. Nowadays, we live in the Knowledge era where the transformation of knowledge into information generates interdependency among information originated in different sources. This information is now considered and valued as a strategic asset of an organization.

The administration of IT departments can no longer be in the hands of technicians alone. Many times those professionals have little or no knowledge of the general principles of administration. The impact of IT in organizations is too great these days to be left in second plan. This scenario calls for the need of professional management of IT.

The approaches to IT management must be integrated and aligned to the approach to business of the organization so that they become dynamic and reflect the changes in the business of the organization. According to Nogueira & Reinhard[9], aligning IT functions to corporate strategies will

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[6] IBM, ***Business System Planning***, op. Cit., p. 2-3.
[7] SOUZA FILHO, José B. ***Uma Metodologia para Planejamento de Arquitetura de Informações***, 2001, p.16–17.
[8] TOFFLER, A. ***Powershift: Knowledge, wealth and violence at the edge of the 21st century***. New York: Bantam, 1990.
[9] NOGUEIRA, A. R. R.; REINHARD, N. ***Strategic IT management in brazilian banks. Proceedings of the Hawaii International Congress on System Sciences***– Maui – Hawaii – USA. 2001.

produce better service in IT and will strengthen the effectiveness of the operations of organizations (Battaglia[10]) thus, reinforcing the belief that this kind of alignment is a pre-condition for successful organizational transformations (Morton[11] and Venkatraman[12]). As argued by Bahiense[13], aligning business strategic planning to IT brings about congruence between strategic IT management and strategic business management and is considered a powerful tool in levering great changes in organizations.

Given the fast-pacing market, it is necessary continuous company restructuring. Knowing when and where not to invest in IT is as important as knowing where and when to invest. This strategic role must be taken into account by executives in the area since it will certainly determine the survival of the organization in a globalized business world.

The approach for managing government information by public organizations must be based on the principle that information used and produced by the government should be adequately classified and made available according to public policies and that this information must be considered public asset. Obtaining, storing and distributing this information will raise the government capacity to answer to several of its public function demands such as the general principle of rendering public accounts, providing the right to information and increasing government democratic space.

2.2. APPROACHES FOR IT MANAGEMENT IN PUBLIC ADMINISTRATION

Several approaches to IT management have been used by public administration over the past years. In Brazil, at both federal and state level, the model which predominated for many years was centered in public data processing companies which held all the development of information systems and provided the government with all the necessary technological infrastructure. According to Seco[14], from the time when the Finance Ministry of the Américas and Western Europe used computers intensively until mid-70s, the main objective of IT was to control tax collection. At that time, two approaches to IT management appeared: one based on an internal data processing center (DPC) in the Ministry and the other based on an autonomous government

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[10] BATTAGLIA, Greg. ***Strategic information planning: a corporate necessity***. Journal of systems management, pp. 23-26. February 1991.

[11] MORTON, Michael S. Scott (ed.). ***The corporation of the 1990s: information technology and organizational transformation***. New York: Oxford University Press, 1991.

[12] VENKATRAMAN, N. ***IT enabled business transformation: from automation to business scope redefinition.*** **Sloan Management Review**, pp. 73-87. Winter 1994.

[13] BAHIENSE, Geraldo C. ***Alinhamento estratégico de tecnologia da informação no setor público: a oferta de serviços eletrônicos em secretarias de fazenda no Brasil***, FGV/EASP, 2002.

[14] SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

information agency. In the former, providing IT services was restricted to the administrative departments in the ministry; in the latter IT services were provided to the whole government.

This approach was valid at the time because of the size of the hardware and the concentrated capacity of processing data, not to mention its high cost. There were few computer technicians available in the market and users played only a timid role in the process of definition and project follow up. Technology was restricted to developing computer systems with limited applications aiming mainly at data input and report production. Thus, adopting such model at the time seemed appropriate.

However, this state monopoly soon showed weaknesses mainly regarding cost and effectiveness in answering the demands of government clients. The inefficient work of state companies was incorporated to costs and those were then passed on to final users. Tax administration departments which deal directly with tax collection such as the Finance Ministry and State Finance Secretariat began to question this approach and started looking for a different approach to managing IT.

These organizations decided to assume the role of systems developers and technological infra structure providers for themselves. In his article, Seco[15] claims that the most common alternative found by those organizations was to bring into the organization the whole IT department in order to establish a vertical control of all the stages in the process. Following this model, there are still many national and sub-national tax administration departments that managed to successfully develop and internally operate excellent IT systems which meet their objectives and necessities and evolve satisfactorily by absorbing new technological processes at a required speed. Seco also states that while some organizations in Latin America were successful; others failed at medium or long term. Most of the time, failures came because companies could not keep their well trained specialists in their staff due to restricted career plans, salary inflexibility, periodical budget cuts, stagnation of the IT infra-structure associated with lack of investment as a result of poor strategic vision of the organization.

Given this state of affairs, the government started looking for a mixed approach by adopting outsourcing at least in part of its technological area in order to improve its effectiveness.

In an article written for the Interamerican Development Bank (BID), Baião e Seco[16] argue for a reform in the IT system in the public sector and suggest that the management model based on outsourcing must be approached with care:

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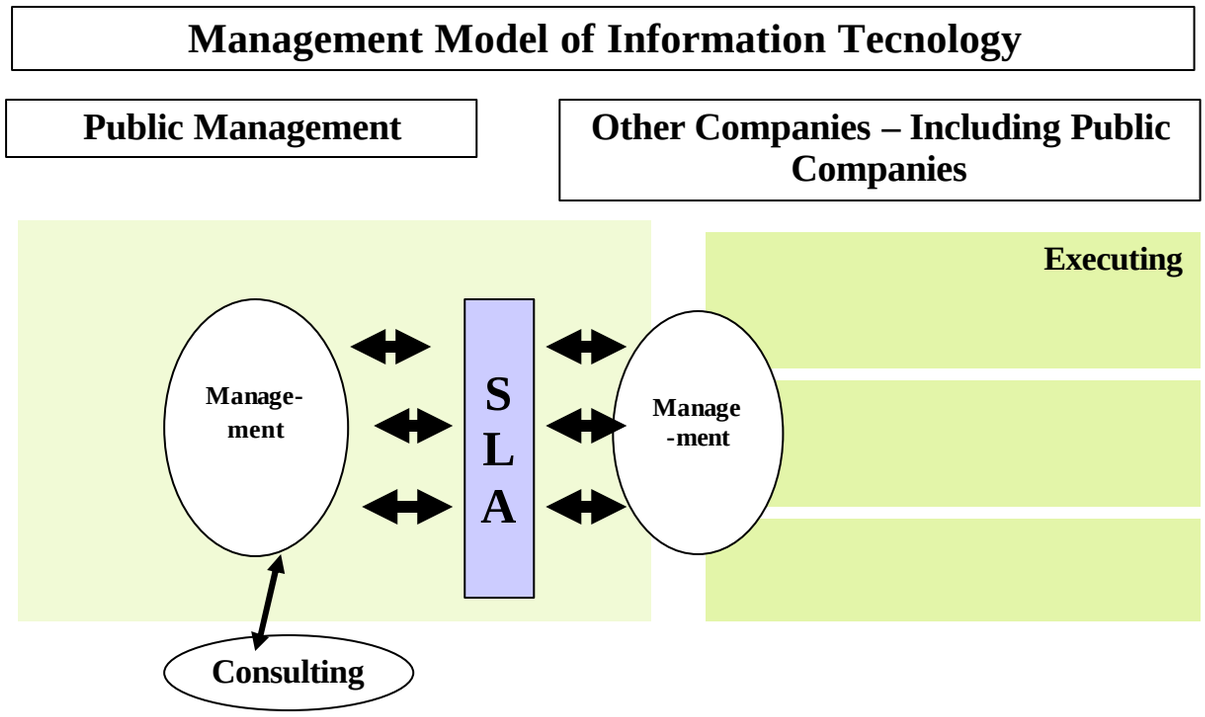
[15] SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.
[16] BAIÃO, J.; SECO, A. ***Gestión de los Recursos de Tecnología de la Información en el Contexto de la Modernización Gubernamental***, BID, 2000.

> *El papel de la tecnología de la información en la reforma del sector público solamente podrá cumplir con las expectativas cuando exista una gestión adecuada de su aplicación, que implique en el proyecto, diseminación y utilización efectiva de los sistemas de información que sustentarán los procesos.*
>
> *Asimismo, la tercerización (outsourcing) de la ejecución de funciones no estratégicas debe ser considerada como una alternativa factible. El éxito de un proceso de tercerización está asociado a un conjunto de prácticas que abarcan desde la definición de los servicios a ser contratados hasta la selección del proveedor. Asimismo, los términos del contrato a ser firmado y el establecimiento de acuerdos de nivel de servicio tienen importancia fundamental. Sobre este tema el BID ha acumulado experiencias en proyectos de modernización de administraciones fiscales que financió en América Latina.*

A mixed model of management pressuposes no dependence on state or private providers nor a public administration that will assume all the IT functions.

According to Seco[17] the management and coordination of IT in a mixed model must be carried out by the government. However, the various IT functions may and must be outsourced in order to improve the effectiveness of the organization. Seco also argues that for this model to be efficient, the administration must be well trained to set its needs, to hire and to manage these contracts effectively. This means developing an IT strategic planning in which the areas to be outsourced must be determined as well as adequate preparation to manage this process. Thus, the administration must know how to define bid prerequisites, to establish contracts that are measurable and correct, to negotiate compatible penalties and to develop technical and managerial skills to administrate these contracts. (figure 1)



Adapted from SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

[17] SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

2.3. INFORMATION TECHNOLOGY IN THE PUBLIC SECTOR

González de Gomez[18] concept of informational governing refers to the availability and implementation of information structure and flow within the State aiming at both government efficacy as well as optimization of its relationship with society through facilitating and subsidizing ways to provide public information in decentralized and horizontal decision making processes. This concept reveals the importance of information for the public sector generated by information systems. Bahiense[19] claims that when one speaks of debureaucratization , the public sector must be considered at all levels – federal, state and municipal and at all stances – executive, legislative and judiciary. He claims for a better service for the citizen, a better application of resources and more transparency in public expenses, less bureaucracy and corruption, more community participation in government planning and control, in short, a better performance of public organizations. An organized society sees in the supply of electronic services a great possibility and a safe path to reach , if not all, at least some of these objectives.

Within this perspective, IT in the public sector will be treated in this paper from the point of view of e-government and how this new way of acting adopted by public organizations is reflected in the sustainability of the concept of informational governing.

2.3.1. NEW TECHNOLOGIES CHANGING END USER BEHAVIOR

Internet has changed consumer behavior. Nowadays, consumers are not only exposed to billboard information, and street advertising on newsstands. There is a whole world of information in the computer and cell phones or any other device capable of connecting itself to an information network. The influence of the virtual world is a determiner for consumer behavior. Some are more hooked to the online world than the offline one. On the Internet people are in constant contact with ads, opinions, and technical information.

The overflow of information and the interconnection of environments inside and outside the computer determine how a purchase will take place. A person may buy a product at a real store after having consulted an Internet forum or may purchase goods on the Internet after having checked the price in a magazine or viewing a billboard on the streets. Consumers who are familiar with online tools may also carry out a price survey in other cities or find products that are not available in actual stores.

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[18] GONZÁLEZ DE GÓMEZ, Ma. N. ***Relatório de Pesquisa: Cidade, cidadania e informação*** (parte), 2002b. (não publicado)

[19] BAHIENSE, Geraldo C. ***Alinhamento estratégico de tecnologia da informação no setor público: a oferta de serviços eletrônicos em secretarias de fazenda no Brasil***, FGV, 2002.

Users of public services have also had their behavior altered. Nowadays, they search for new public services on the Internet in order to avoid long lines and bureaucracy. Although a number of services are already available on the Internet such as doctor's appointment in public hospitals, income tax filing, public school registration and tax payment, public demand for new services keep on increasing. The government cannot limit itself to serve well but also to be available 24 hours a day providing quality service and reliable information. The easiness in which information can now be provided also reaches another government area: the transparency of processes and public expenses. At present, anyone may access the Internet for information, or as a research tool, to learn more about public expenses. A site created by the government of the state of Bahia, Prestando Contas ao Cidadão (Rendering the citizen information): http://www.sefaz.ba.gov.br/administracao/prestando_contas_cidadao/index.htm allows any citizen to have access to the government accounting in an easy and simplified language.

A new consumer profile has taken shape supported by the amount of information and the interaction of the global and local on the Internet. This new character is both cyber and face to face. He/she may give opinion over the counter, at a public office or on a social network forum on the Internet.

New technologies have enhanced the power of successfully creating or destroying a brand, a product or a government given their easy way of grouping and spreading ordinary ideas. Every businessperson knows that access to information in essential to establishing an advantageous relationship in a deal. Before the Internet, this privileged position belonged to the company, the supplier and the government. Now, this reality has changed.

2.3.2. E-GOVERNMENT: A NEW DIMENSION OF IT

According to Ribeiro[20], e-government represents a new way to manage and to offer public service. He quotes Ferguson[21], " the main target of e-government is to transform government services and governing in benefit of consumers and citizens." Vaz[22] and Soares[23] claim that the most relevant aspect of these necessary changes is the quality of the service offered with an eye on the user and a focus on the citizen. If an e-government site is disconnected from the transformation process inside state organizations, it runs the risk of continuing bureaucratic practices with a new interface.

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[20] RIBEIRO, Carla A. ***Governo Eletrônico na Reforma do Estado: inter-relações e Perspectivas***, iP-Informática Pública – v.7 n.1 mar-ago 2005.

[21] FERGUSON, Martin. ***Estratégias de governo eletrônico: o cenário internacional em desenvolvimento***. In: EISENBERGER, José; CEPIK, Marco. ***Internet e política:teoria e prática da democracia eletrônica***. Belo Horizonte: Ed. UFMG,2002.

[22] VAZ, José C. ***Limites e possibilidades do uso de portais municipais para a promoção da cidadania: construção de um modelo de análise e avaliação***. Tese de Doutorado FGV, 2003.

[23] SOARES, Ana Paula F. M. ***Instrumentos gerenciais utilizados na admnistração pública com foco no cidadão***. Dissertação de Mestrado, FGV, 2002.

Given the lack of agility of the government, implanting e-government in its broadest sense is a difficult task, leaving the government behind private organizations. Bahiense[24] cites that most of the government sites are mainly for display of institutional information. They do not offer service or are interactive although there has been some effort to change them. Cunha[25] (2001), in a multiple case study of the three levels of government, concluded that , so far, the objective of government in creating Internet sites has been efficiency and not the main goals the sites are meant for which are the actual democratic and citizenship practices.

It is not enough to build a site on the Internet. It is necessary to invest in the transformation of the information systems which will support the services offered. It is crucial that services are provided in real time, consulting data bases and adding or deleting the necessary information as a direct reflex of production banks. This new vision has forced the field of applications development to rethink the way projects are designed and solutions are implemented. The web systems must be light and have a user-friendly interface since their main target is now the client or citizen. In addition to simplicity, there is a need to invest in safer systems and environments since production banks are now being directly accessed by a web user.

2.3.3. WHEN AND WHERE TO USE OUTSOURCING AS A MODEL

As discussed before, the management of IT has evolved to a mix of self management and outsourcing of technical tasks. This model has consolidated in public administration mainly if we follow the concepts of outsourcing technical tasks and focus on the business itself. In the case of the government, technology is definitely not its business.

Outsourcing is used in systems development in order to reach the public faster and supply momentary demands. Given the difficulties in hiring personnel, it is more practical for public organizations to use already existing outsourcing contracts with labor hand or software companies whenever necessary. This way the number of employees may increase or decrease without creating any major problems. In the operational and infrastructure areas, public administration is freed from having to deal with large work teams without bringing any major impact to these areas.

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[24] BAHIENSE, Geraldo C. ***Alinhamento estratégico de tecnologia da informação no setor público: a oferta de serviços eletrônicos em secretarias de fazenda no Brasil***. Tese de Doutorado, FGV, 2002.

[25] CUNHA, Maria Alexandra V.C.; REINHARD, Nicolau. ***Portal de Serviços Públicos e de Informação ao Cidadão: estudo de casos no Brasil***. In: XXV Encontro Anual Associação Nacional dos Programas de Pós-graduação em Administração. Anais em CD. Campinas: Anpad. Setembro 2001.

According to Seco[26], good candidates for immediate outsourcing are support services and activities. These are further away from the main focus of the business and easier to be specified. In his opinion, they are:

? Equipment maintenance

? Administration of communication networks

? Operation of processing equipment (servers, networks, equipment centers)

Bad candidates to outsourcing are the services or activities directly related to the "business" of taxes and finance, which are highly strategic. They are:

? Data administration

? Prospect ion of technology applied to the business

? Use strategy and information management

When outsourcing, care must be taken in the following areas: do not transfer to outsourcing tasks which are not well documented or defined; a well defined management methodology must be requested from partners; more than one company must be hired in the same area; the most important systems and processes of the organization must be rigorously followed; knowledge of the business must not be transferred and team management should not be outsourced.

The table below shows our responsibility matrix – what can and cannot be outsourced in a fiscal administration. According to the author, "O" indicates what may be outsourced and "A" what must be under fiscal administration.

Role/Function	Management/ Coordination	Execution
Strategic Planning and Technology:		
Strategic planning of the information system	A	A
Prospection and evaluation of technology applied to business	A	A
Norms and standards	A	A
Institutional systems: (Development and maintenance)		
Planning	A	A
Specification/Logic Project	A	A
Building	A	O
Homologation	A	A
Implementation	A	O
Evaluation/Quality Control	A	A
Maintenance	A	O
Systems operation and use	A	A
Documentation, Advertising and Control	A	O
Specific systems/Business support		
Planning	A	A

[26] SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

Specification/ Logic project	A	A
Building	A	O
Homologation	A	A
Implementation	A	O
Evaluation/Quality control	A	A
Maintenance	A	O
Systems operation and use	A	A
Execution normas and documentation	A	O
Institutional Data / Normatization / Standardization		
Data management	A	A
Data bank management	A	O
Support and operation		
Software and hardware purchase planning	A	A
Software and hardware purchase	A	A
Equipment operation	A	O
Help Desk	A	O
Data input	A	O
Operation support	A	O
Network		
Planning	A	O
Network project	A	O
Operation	A	O
Security and auditing		
Auditing	A	O
Access security	A	A
Data security	A	A

Source: SECO, Antonio S.F. ***Gestão da Tecnologia da Informação na Administração Fiscal*** – artigo, 2000.

3. CASE STUDY: FINANCE SECRETARIAT IN THE STATE OF BAHIA, BRAZIL (SEFAZ)

3.1. HISTORY – FROM 1991 TO 2005

Based on his personal experience and the 1998/2001 Report published by SEFAZ, Souza[27], says that "The use of IT in the administration of public finance in the state of Bahia was extremely limited and restricted" The predominant infrastructure was a centralized environment in an mainframe installed at PRODEB (Bahia Data Processing Company), complemented by terminals and emulation through PC-XT micros equipped with "hirma" boards.

The few information systems available at the time were used for basis operational processes such as data collection, tax collection and accounting. At the same time, there was little or no interaction with the internal user and no interaction with taxpayers. As a consequence, the answer to the most common demands and questions was rather slow. Souza gives as an example that the issuing of a simple no-debt certificate would take at least 15 days to be delivered to a taxpayer. The account balance was only available 60 days after the month was over. There was no control system over penalties and no management systems. In short, there were a few "dumb terminals" and a few microcomputers for some of the managerial functions through the used of templates. To top it off, the team had no tools that allowed them a broad view of the taxpayer. According to Souza, taxpayers were viewed just as taxpayers and nothing else.

At that time, Bahia government started a project in order to "clean the house" and to reach public account balance. It was one of the first states in Brazil to reach account balance. The first steps taken in this direction were: the consolidation of a collection system (which provided an actual control of tax income); the establishment of agreement with the bank system to collect more precise information about payments made as well as the receipt of this payment within a maximum of 72 hours after payment was made; the development of a system of tax collection control e installments made; the creation of a " one-only account" where all resources and payments made by the state were deposited thus allowing better yield of investments and better control of government expenses.

This whole process, which started in the beginning of the 90s, consolidated after 1995 with the creation of the Market Planning and Management (PGM). PGM is the segmentation of the main taxpayers and the establishment of specialized management according to economic area. As a

[27] SOUZA, Carlos R. S. ***Um Case de Transformação Organizacional Através da TI***, Centro Latino-Americano de Administracion para el Desarrolo - CLAD, 2002

result, a new system was created with a focus on a global view of the business and a management model based on results and merit. A new system for managing and monitoring tax collection had to be developed to support this new approach. A new work philosophy also had to be implemented . This new philosophy consisted in following collection and planning supervision through specialized management departments which focused on main taxpayers and potential generators of tax and defined different strategies for each segment.

There was then an urge to use more modern tools so as to focus on the increase of tax collection by the state through a better and more effective supervision and at the same time a need to improve technicians and executives' managerial skills. A revolution in IT and in the technological infrastructure at SEFAZ took place.

In order to reach today's results, the PROMOSEFAZ (Modernization Program for the Finance Secretariat) was created in 1996. The program was possible through the financing from Inter-American Development Bank (IDB) and acted directly in all areas at SEFAZ. New organizational restructuring, process redesigning, technological and personnel training were a few of the actions taken at the time.

3.2. A PROJECT TO MODERNIZE AND TRANSFORM THE ORGANIZATION

This was the beginning of an ambitious project of organizational transformation with the use of IT as a strategic differential and as a cabalistic agent of the process of modernization and transformation at SEFAZ. This project , with its short, medium and long term goals, elected as its strategic goal the increase the organization efficacy within four global goals:

- Actual increase of tax collection through a firm attack to tax evasion and simultaneously through a tax awareness raising campaign.
- Maintenance of the fiscal balance through management of cost x income based on the legal document of fiscal responsibility well known nowadays.
- Search for excellence in serving the users of SEFAZ both the external and the internal users.
- Improvement of public expenses. It is not important only how much money is spent but also where it is spent. Quality spending means a direct return to society.

3.2.1. PROCESSES

In the last years investments have been made in redesigning the process in the business areas of SEFAZ: the tax collection area and the finance area. The main results of this redesigning have been as follows:

- The creation of a department of support which includes face to face service as well as a call center and a web site.
- Investments were made in revising and implementing corporative systems in both areas thus changing the main procedures into a more modern concept. In the tax collection area, the creation of a fiscal current account and in the finance area, the creation of a system in which the planning and execution of budgeting are put together.
- The technological platform of both systems was transferred to a web environment.

3.2.2. PEOPLE

The idea that a change in the organization implied a change in personnel behavior was crucial to the success of the project. A consistent and continuous training program was created so as to update personnel knowledge in both business and technology as well as in behavior. SEFAZ has invested in graduate courses and nowadays there is a partnership with local colleges and approximately 80% of the team have got a graduate degree. Given its importance, updating knowledge and training have become one of the main pillars in the career plan.

3.2.3. COMPUTERIZED SYSTEMS

There was a clear need for new systems. The operational environment at SEFAZ was based on a huge architecture with old systems. There was no way it could answer to the new demands of the organization which required fast implementation of projects, easier ways in accessing information and adaptation to new models of organization management. The first decision made was to carry out a project to extract data from the old architecture and move them into a friendlier technological platform. This way, it would be possible not only to implement new projects but also provide the end user with powerful tools for data accessing. The new developed systems did not reach the corporative and operational core, which were kept in the same platform. New satellite systems were installed in order to access corporative data and transformed them into managerial information. This strategic decision turned the technological area into a fast problem solving tool and could answer the questions posed by the institution. Credibility and support increased and the new systems development department grew and became the landmark of the change process in the organization.

Years have gone by and now the technology project has reached consistency and maturity, lately, supported by the redesigning of these processes, SEFAZ has been investing in the change of the corporative and operational systems. Over the past three years, the organization has been

developing a new tax credit and collection system and about a year ago, a new system in the areas of planning and finance has started and is predicted to be ready in two years. This indicates that if this path had been taken in the beginning it would have taken a long time for data to become information and information to become knowledge, determining factors in the decision making process of the organization.

3.2.4. TECHNOLOGICAL INFRASTRUCTURE

With the changes in the technological platform, there was a need to create an infrastructure independent from the state processing data company. Supported by PROMOSEFAZ, new equipments were acquired and a communication network infrastructure was created connecting the various departments at SEFAZ. This investment was updated and broadened over the years and the capacity for storing, processing and making available information increased.

Currently, as shown below, the infrastructure supports large projects and last generation methods and techniques such as the Business Intelligence project, Workflow, Internet services and mobile computers. SEFAZ offers production services and support 24 to 7 and there is also a technological prospect ion area which is always searching for whatever is new in the market.

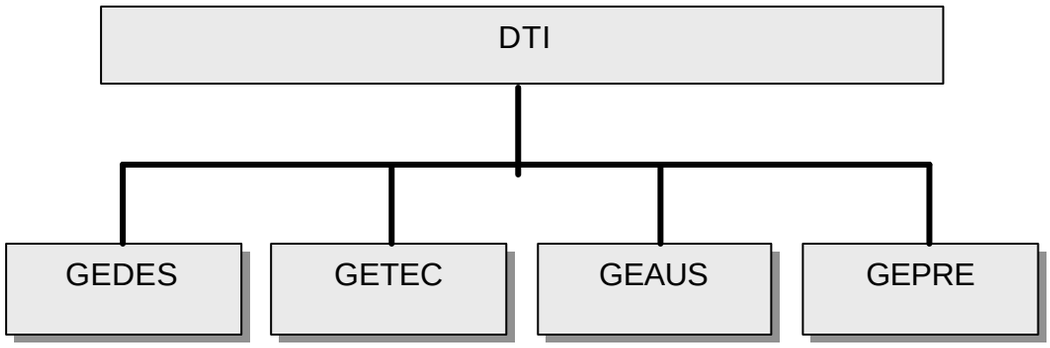
3.3. THE SEFAZ MODEL OF IT MANAGEMENT

Since 1996 SEFAZ has been intensively using IT as an agent of change and modernization of tax management. This has resulted in a number of investments in actions and projects in the IT area.

After a reevaluation meeting of IT routes at SEFAZ, it was concluded that the attitude in the past years had been one of focusing strongly on efficiency and not so much on value aggregation to the processes. As a result, the IT Board (DTI) begins to occupy a new strategic position in the organization. A new pro-active attitude is adopted and there is a more effective participation in the strategic decision making process. DTI assumes an entrepreneur attitude identifying opportunities and proposing projects that will aggregate values through the use of new technology.

IT, in this context, plays a relevant role always aligned with the goals as defined by SEFAZ, especially those of maintaining the fiscal balance through the gain of real increase in tax collection and improvement of public expenses. It aims at supporting actions towards the combat to tax evasion, debureaucratization and improvement in the management capacity. In summary, it aims at providing society with a better service.

IT Board, subordinated to the Development Superintendence of Finance Management (SGF), is responsible for planning and managing the resources in IT at SEFAZ so as to support the strategies, objectives and goals established by the organization. Currently, the organizational structure of DTI is as follows:



The duties and responsibilities for each area according to SEFAZ norms are:

GEDES (Systems Development and Data Administration Management) :

- To administrate and maintain the model of corporative data;
- To develop, implant and maintain the information systems according to SEFAZ guidelines and methodologies;
- To define, update, maintain, follow up and guarantee that standards, methodologies and techniques established by the information systems are followed;
- To coordinate projects and systems development services outsourced so as to guarantee that they are working according to standards and methodologies established by SEFAZ..

GETEC (Technology Management)

- To elaborate, specify, follow up and execute updating projects in the technical architecture;
- To prospect and evaluate technologies and products available in the market that might serve the needs and requisites at SEFAZ;
- To prospect, evaluate, select Technologies and products available in the market that might serve the needs and requisites at SEFAZ;
- To coordinate the acquisition, installation and maintenance of computer resources, including the data bank;
- To administrate and optimize the computer environment regarding operational systems, data banks, development tools and communication software;
- To specify products, establish and implement hardware and software control and standards;
- To establish guidelines and safety standards.

GEPRE (Network and Production Management):

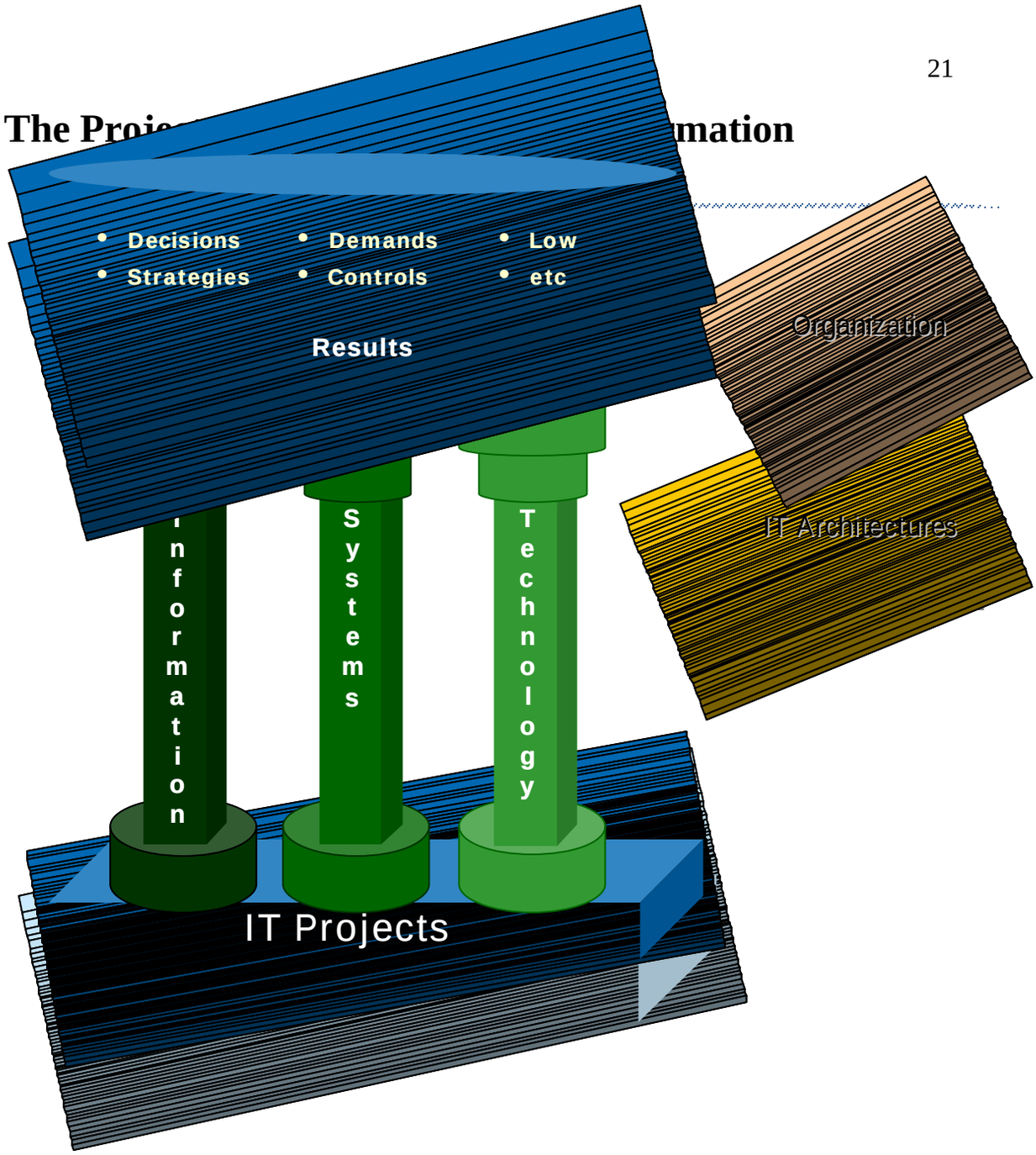
- To operate SEFAZ production environment performing routines in the computer systems properly documented for production;
- To design projects and implant physical and logical networks;
- To administrate SEFAZ network keeping the computer environment working properly and to operate the server equipment;
- To conduct and maintain network software and servers.

Help Desk Management (GEAUS):

- To disseminate the use of IT resources and support SEFAZ users as how to use them;
- To plan, together with other DTI managers, and coordinate changes in the end user environment;
- To coordinate computer technicians working in different units;
- To administrate equipment maintenance together with technical assistance suppliers.

3.4. INFORMATION TECHNOLOGY ARCHITECTURE – OUR MANAGEMENT MODEL

The premises that guide SEFAZ IT Management model are crucial for the success of the IT Project. The project is pillared by the information , systems and technology architectures. The aim is to search for better results in bringing the institution information to improve the decision making process, the control process, a better demand management and, finally, knowledge generation that will help to adopt strategies that will place SEFAZ in a better position in its business. (Fig. 2).



3.4.1. PREMISES

Sponsorship of an IT project by top administrators in an organization is fundamental for the success of the project. It is known that the organization, many times, challenges the project, mainly in the area of systems development, when implementation speed does not fulfill the need of the organization regarding the amount of demand to be administrated and prioritized according to strategic planning. In this regard, it is of utmost importance to count on support and orientation of top administrators in protecting and guiding as well as redirecting resources in the area. The amount of investment in the technological sector and in maintenance is another aspect that deserves direct support from the top.

The best way is to design one's own methodology and standards, adequate to the organization's needs, since what is available in the market is, many times, complex and difficult to use thus

creating resistance in technicians as to the use of such methodologies. If they resist to methodology, it is also difficult to implement any project. Another aspect that needs attention is that techniques and methods well known in the IT area must be used so as to preserve already made investment.

Another premise to be following is the strengthening of the data administration data and process area to be followed. A consistent technology process must be integrated and this integration must take place through data layers. This makes the data administration area vital to the whole project. Technicians must be guided in how to use the data models whose centralized administration guarantees the integration of applicative and data integrity.

The management of SEFAZ owns technology with the participation of public servants guarantees the maintenance of knowledge within the organization. This is one of the weakest points of outsourcing. Since management roles are guaranteed, the public servants will act in areas such as strategy definition and in the connection with the business area and outsourcing contracts.

Another investment considered essential for the project is the building up of an information technology for the users. SEFAZ has offered not only specific courses in technology tools but also an extension training program for IT project managers.

Outsourcing of technical tasks has also been adopted. Initially, a model for labor hand placement was adopted; however, this always implied a search for commitment with results on the part of suppliers. At present, the model not only foresees labor hand contraction but al project contracts through the concept of software factories.

One other premise was the adoption of standard tools, well known in the market and at the same time, the adoption of a consistent investment policy aiming at keeping tools constantly updated thus avoiding the obsolescence of the installed plant.

Based on the above premises, the following information, systems and technology architectures were built.

3.4.2. INFORMATION

Since 1996, SEFAZ has implanted data administration (DA) aiming at guaranteeing data integrity, to make the integration of the organization viable through the use of reliable information and to support the decision making process. Within this context, a corporative method of data was created and maintained with methods, techniques and tools designed according to security and integrity standards usually adopted in the IT market.

DA is based in a set of principles established by guidelines aligned with the systems architecture and other organization cultural aspects. They are:

- treating the data as organization asset;
- data centralized administration;
- adoption of standards and procedures established by systems development and maintenance methodologies;
- the use of supporting tools;
- adherence to implementation of data structures to the corporative model;
- integration with:
    - areas responsible for strategic decisions in the organization;
    - face to facer and remote service areas at SEFAZ;
    - user and management areas who are familiar with the work process;
    - systems development and maintenance areas;
    - technology area responsible for securing data integrity in the data bank

The architecture of information includes also an updating and distribution data model which controls an automatic replication of data carried out by the database SQL Server to all the tax administration and inspection board of directors.

Data integration between mainframe and client/server environments is done through the Download/Upload Project in order to guarantee that data is updated at only one entry spot and that data is consistently stored in the various environments.

The administration of data integration encompasses compatibility and consistency between the mainframe environment with MVS/Adabas/Natural and the client/server environment with Windows 2000, SQL Server and Visual Basic. The integration of these two environments is implemented through data download and upload. Data integration with other state secretariats has also been implemented as well as with other public and private organizations such as banks, electric companies, secretariats at other states, city hall, federal government and other states Finance Secretariat.

3.4.3. SYSTEMS

The applications currently developed at SEFAZ are divided into two major groups: the mainframe systems hosted at the State of Bahia Data Processing Company – PRODEB, and the low platform systems in the client/server architecture or web with a Windows interface. SEFAZ makes available services to both internal and external users (taxpayers, accountants, visitors and public servants) through a corporative intranet and the Internet based on a Windows environment also operating access tools to text information base such as ICMS and other general laws and bills.

Since 1996, the systems have been developed following SEFAZ own methodology for systems development (MDS Sefaz) This system is based on Essential Analysis using case System Architect tool and adopting standards and procedures necessary for the development, implantation and maintenance of the information systems.

In 2000, MDS Sefaz was updated adopting an object orientation and UML notation technique for modeling and implementation in the multi-layer client/server architecture and component technology . The goals were to increase the productivity of the technical team, to make the applications more robust and flexible and to be able to answer requests from the various areas in a shorter period of time. The pilot project in this new development environment was the ICMS taxpayer personal information data bank.

- In 2001, a Project for implantation of SEFAZ component administration was elaborated with the objective to develop the culture of code reutilization. As a consequence of this Project productivity increased; test effort reduced; code consistency improved; the efficiency in interface development increased; and the single business layer for different environments (client/Server, web, etc.) was built.

The implantation of administration component will require an update in MDS Sefaz. Unilib is being used as a tool at present for some object oriented applications allowing component data collection and control as well as procedures to be reused.

- In 2001 a Function Point Analysis Metric Project was elaborated and put into practice in 2002. The project aimed at determining more precisely the size of an application; establishing code production metric; and estimating more realistically resources, costs and deadlines.

The counting rules of the function point analysis established in the CPM4.1.1 (Counting Practices Manual) from IFPUG (International Point Users Group) are being used in order to measure the functionality requested and receiver by the user and the development and/or maintenance of the

system apart from the technology used for implementation. This methodology will be used both in systems development and maintenance.

In 2001, the Data warehouse (DW) Project was also initiated. This project has been answering requests from several areas. In 2003, the data marts were modeled and implanted in the tax collection area and, at present, are being implanted in the finance area.

This informational environment provides SEFAZ with the following benefits:

- It gives strategic level users the possibility of writing their own reports, checks and graphs.
- It provides a historical view of the business information by keeping data exactly as extracted at the time.
- It improves the results for the systems development area because it is easy to compose new reports, checks and graphs.
- It provides a specialized environment for non-structured or eventual checks in a way that they don't have to be made in the operational environment.
- It provides a more efficient service regarding information needs at various levels of the organization: operational, managerial and strategic.

The Project involves the whole SEFAZ with continuous implementation. At first only issues in the tax collection area were dealt with. Currently, issues from the accounting-financial and administrative areas are being incorporated.

In 2002, a systems maintenance methodology (MMS) was developed. This methodology was designed according to the essential analysis techniques and the object orientation and UML orientation. The methodology aims at structuring the whole systems maintenance process from the manager requests to the implantation of a new version. There are control points built into the methodology so as to guarantee better planning, organization and quality of the generated products.

In the second semester of 2003, DTI began to develop projects in software factories and to implant the management methodology in them.

The implanted systems are accessible to authorized users in a Systems Gate whose main screen follows:


PSS - Portal de Sistemas SEFAZ Versão 1. 2. 0
Arquivo Administrativo Crédito Corporativo Informações Fiscais Ferramentas do Fiscal Financeiro Fiscalização Trânsito Tecnologia Janela Ajuda
Fiscalização
PGF
PGM
MCEX
ECF
INC Inspetoria
SIST
SEAI Inspetoria
SINTEGRA
Ferramentas do Fiscal
Monitoramento
SAFA
SEAI Auditor
INC Fiscal
Trânsito
Passe Fiscal
CFAMT
SEAIT Posto
SENF
SEAIT Inspetoria
SEFAZ - SAT
ANTC
SCOMT
Crédito
SICRED
SAJA
SGC
SPAT
Informações Fiscais
DSCAD
AIDF
Arrecadação
SIT
SRTA
IEF
Simbahia
IPVA
FEASPOL
Dia 9
PRI
CPT
Tecnologia
CDA
ASA
SHD
Intranet
EQP
PROD
Financeiro
SICOF
ICF
SIGAP
GER
SDP
SARF
ACP
SAIBA
SIASP
Administrativo
SERV
Gratificação
CSI
SAP
SCA
NSHOW
SIE
Tabelas Gerenciais
SCD
CDF
RM
Corporativo
SIPRO
Sig Sefaz
Iniciar
PSS - Portal de Siste...
14:46

The systems portfolio divided into application areas can be found below (See Appendix 1 for translation of the screen):

Aplicação	Sistemas
Atendimento ao público externo e interno	Projeto internet Sefaznet – Intranet SAAW – Sefaz Auto Atende CSI – Controle de Solicitações via Internet PTA – Projeto de Teleatendimento Integrado com o Open Center
Administração tributária	INC – Informações do Contribuinte SIDAT – Sistema Integrado de Administração Tributária, composto pelos sistemas de cadastro, pauta, diferimento, arrecadação e crédito PGF – Planejamento e Gerenciamento da Fiscalização e indicadores de desempenho da DPF GF – Gratificação Fiscal (em levantamento) MCEX - Módulo de Comércio Exterior DSCAD – Sistema de Cadastro DICe – DIC eletrônico SAJA – Sistema de Acompanhamento dos Julgamentos Administrativos PGM – Planejamento e Gerenciamento de Mercado SGC – Sistema de Gerenciamento do Crédito IPVA /GIPVA – controle e gerenciamento do IPVA IEF – Informações Econômico-Fiscais. Com módulos de cálculo do IPM e módulos de contribuintes para DMA, DME e DMD AIDF – Autorização para Impressão de Documentos Fiscais SEPD – Sistema de Utilização de Processamento de Dados SIT – Sistema de Informações Tributárias SENF – Sistema de Emissão de Notas Fiscais Avulsas SRTA – Sistema de Recepção e Transmissão de Dados da Arrecadação SRTAO - Sistema de Recepção e Transmissão de Dados da Arrecadação on line REP – Repasse GNRE – Sistema de Recepção dos Dados de Guia Nacional de Recolhimento Estadual SIST – Substituição Tributária ECF – Equipamento Emissor de Cupom Fiscal SPAT – Sistema de Pagamento da Antecipação Tributária SAFA – Sistema de Auditoria Fiscal MONIT – Monitoramento SEAI – Sistema de Emissão de Auto de Infração SINTEGRA SCAM – Sistema de Controle de Arquivos Magnéticos SEAIT – Sistema de Emissão de Autos de Infração do Trânsito CFAMT – Controle de mercadorias em trânsito CFAMT Entrada de Dados – Módulo de Digitação (em levantamento) SPF - Passe fiscal SFSAT – Projeto Sefaz SAT ANTC – Projeto de Antecipação Tributária SCOMT – Sistema de Controle de Mercadorias em trânsito DACEL – Dados via Celular SNFE – Sistema de Nota Fiscal Eletrônica (em análise) PGF Trânsito – Planejamento e Gerenciamento da Fiscalização de Trânsito (não iniciado)
Administração Financeira	SICOF – Sistema Contábil Financeiro SIGAP – Sistema de Gestão de Gastos Públicoss SIASP – Sistema de Administração dos Pagamentos a Concessionárias Públicas ICF – Informações Gerenciais Contábeis e Financeiras SDP – Sistema da Dívida Pública

	GER – Guia Especial de Recolhimento SAIBA – Sistema de Acompanhamento de Investimentos na Bahia SCR – Sistema de Controle de Restituição do FUNPREV SIGRA – SICOF Contábil Financeiro Gráfico ACP – Sistema de Apropriação de Custos Públicos SARF – Sistema de Acompanhamento de Recursos Financeiros
Administrativo	SIPRO – Sistema de Protocolo CPT – Controle de Pareceres Tributários SIE – Sistema de Informações Econômicas SERV – Sistema de Informações dos Servidores Sefaz SERV Gratificação – Módulo de Gratificação NSHOW – Acompanhamento Programa Sua Nota é um Show ASA – Acompanhamento de Solicitações e Atividades SHD – Sistema de Help Desk EQP – Controle do Parque de Equipamentos PSS – Portal de Sistemas PROD – Sistema de Produção SHF – Sistema Histórico Funcional RM – Requisição de Materiais SCA – Sistema de Controle de Assinaturas Sistemas da DIRAD STG – Sistemas de Tabelas Genéricas DSN – Sistema de controle de DSN FAZuniversitário (não iniciado) Controle de Contas da DIRAD (não iniciado)
Procuradoria Fazendaria	SAP – Sistema de Acompanhamento de Processos Jurídicos
Informações Gerenciais	SIGSefaz – Sistema de Informações Gerenciais SIG *web* – Sistema de Informações Gerenciais na *web* (não iniciado) Indicadores de Desempenho da Sefaz SGM – Sistema de Gerenciamento de Metas Projeto de data warehouse SIE – Sistema de Informações Econômicas

3.4.4. TECHNOLOGY

The model used is one of decentralized computer resources through a client/server and web architectures with local networks at inspection posts, service posts, and fiscal posts and a WAN interconnection using public network of package commutation, frame relay protocols, TCP/IP and 64 to 512 kpb links hired at the local telecommunications company – Telemar. It is now being negotiated the integration of SEFAZ to the Government Network Project, which will be one only network to serve all government organizations in the state of Bahia.

SEFAZ Network encompasses the headquarters of the Secretariat at the Centro Administrativo in Salvador, Bahia, 35 inspection posts in the countryside, 04 service posts in the urban area of Salvador, 06 customer service posts (SACs) and 18 fiscal posts located in the main roads in the state of Bahia.

There are 83 servers providing various services such as intranet/Internet, emails, archives, printing, applications, and data bank; 2,304 work stations; 832 printers and 359 notebooks to serve more than 4,000 registered users.

It is worth mentioning that taxpayers may access all SEFAZ services provided on the Internet through the Electronic Service Monitor (MAE).

SEFAZ has been using the mobile computation service Autotrac via satellite to communicate with traffic supervision moving units. There are 129 equipments installed that allow moving units to check data previously defined in SEFAZ databank. In addition, it makes it possible to follow and monitor the moving units through the use of GPS. For this case, the use of cell phones is now under study.

The present technical architecture has the following characteristics:

- conformitiy with market standards;
- computer network interconnected via WAN, Windows 2000 operational system, and one only domain thus allowing Access to any point in the network;
- SQL Server 2000 relational data bank replicated in remote units;
- servers with Intel platform;
- application integration of the mainframe Adabas/Natural environment with the client/Server environment via Entire-X software ,data download and upload.
- development environment based on two and three-layer architecture, Visual Basic 6.0 and Microsoft NET programming language object orientation and component technology in Windows 2000 Server, applications developed in a web environment using ASP and access to SQL Server 2000 relational data bank.

BI Environment

- Microsoft SQL Server 2000 and Analysis Service.
- Microsoft Office 2000.
- OLAP Tool

SEFAZ network structure is divided as follows:

? Headquarter Network:

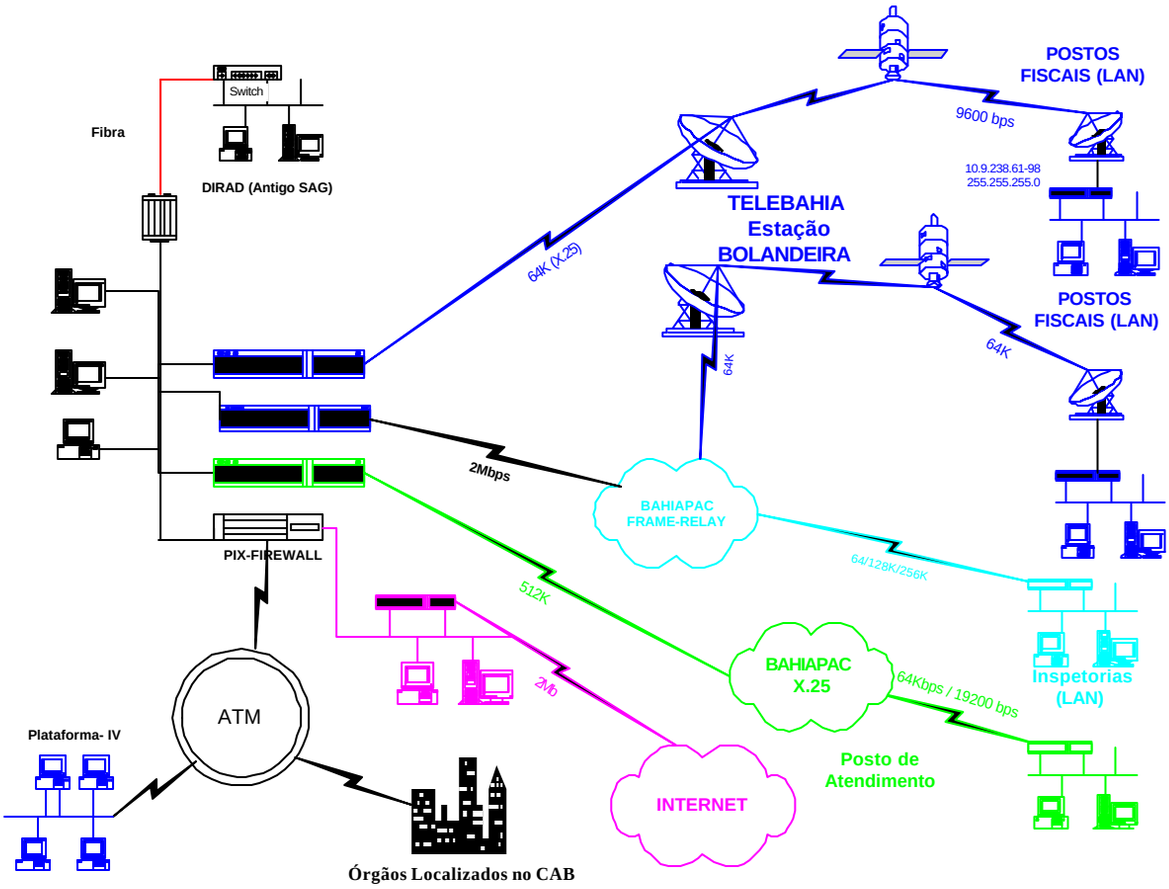
The computational environment at SEFAZ headquarter is based on servers with Intel processors with Windows 2000 operational systems and workstations based on Intel processors and Windows 95/98 and 2000 Professional operational systems.

The software used in the Windows 2000 are part from Microsoft BackOffice, that is, SQL Server 2000, Exchange 2000, IIS 5.0 while the workstations use Windows 9x or 2000 *Professional*, MS Office 97/ MS Office 2000 Professional or Standard and XP, Internet Explorer 5.x or 6.x, in addition to other products.

? Fiscal and Inspection Post Network

SEFAZ computerized units have a local network (LAN) consisting of a Windows 2000 server and connection with SEFAZ WAN allowing access to e-mail service, internet, intranet and other applications and services. The link speeds are specified in the section "IT Architecture Evolution".

The computational environment in the inspection, fiscal and service posts are based on Intel processor, Windows NT operational system, SQL Server relational data bank version 7.0 with stations using Windows 9x, 2000 Professional and XP. The migration of the operational system and data bank to an MS2000 environment is expected for the end of 2003 (See section IT Architecture Evolution) (Fig. 3).



The following definitions complement the technical architecture at SEFAZ:

Security Architecture

- Specific Infrastructure Equipment and software for site security.
- Firewall;
- Routers;
- Digital certificates (SSL) / cryptography.

Corporative Backup Software

- Corporative Backup Software for environment base don tape library (backup robot) storage and servers connected to SAN network.

The environment has been administrated through the use of tools that will automatize performance management control and analysis. Software distribution, inventory control, remote control and monitoring agents are available from Unicenter-TNG, a Computer Associates (CA) tool. In addition, server performance and active network equipment are available for specific cases. is available It is necessary more investment in personnel and software in order to reach the implantation goal of a methodology adequate to resource capacity planning in addition to clear identification of bottlenecks or the origin of an overload in the environment.

3.4.5 IT MANAGEMENT PLAN – PGTI

Given the strategic position of IT in the organization it is essential that an IT management plan be elaborated and maintained. The plan – PGTI – conforms to the Organization Strategic Plan and brings, within its guidelines, the goals, objectives and programs determined by the Finance Secretariat. The plan has a two-year deadline and it is revised annually so as to correct routes and resource and investment allocation. The following general guidelines have directed it:

- Maintain SEFAZ as a reference center in the use of IT in public administration.
- Align IT actions to goals, strategies and projects prioritized in SEFAZ strategic plan and state government modernization programs.
- Place IT in the organization as a pro-activity aiming at attitudes and projects to aggregate value.
- Strongly position SEFAZ in a search for integration with external policies of municipal, state and federal IT.
- Broaden the use of internet/intranet as a tool to improve the quality of service provided to taxpayers and a means of communication with the citizen as a well as an internal supporting tool.
- Encourage the use of IT at all levels within the organization.
- Keep the technology, information and systems architectures updated in order to answer the demands of the organization and ensure that investments made are preserved.
- Make real the redesigning of the internal processes at DTI.

The document is divided into six chapters:

Organizational Identity

The recording of the mission and strategic objectives of SEFAZ as validated in its recent strategic planning.

DTI Structure

The presentation of the IT Board (DTI) regarding its organizational structure and the main attributions of each manager.

Present Situation

The description of the current IT solution at SEFAZ through its architectures.

- Information Architecture – The description of the organization from the point of view of its data model and upon which systems must be built.

- Systems Architecture – Identification of systems presently in use by the organization which support work processes.
- Technical Architecture – Specification of technical components such as hardware, basic software and support, communication network development environment and end user.

Diagnostic of the present situation

Evaluation of the present stage of IT at SEFAZ identifying its strengths and needs for improvement.

Proposed Solution

Presentation of guidelines, scenarios and necessary actions for the evolution of IT architectures in order to support strategies defined by SEFAZ.

Action Plan

Identification of action and priority projects and estimation of necessary investment for execution.

3.5. RESULTS

Below are the results in several areas at SEFAZ which prove that goals have been met and that it is today a totally different organization.

In the economical-fiscal area, fiscal forms are exclusively filed through Internet. As a result, criticisms and consistencies of information provided are processed in real time thus making the data bank more reliable. As a consequence, speed and integrity of data reception has increased since errors have been eliminated and cross checking information has become possible which gives support to the supervision planning team.

Systems and tools have been created to help in the supervision of businesses and shops. Planning, programming and execution of supervision action is now done through the systems since with information cross checking facility, the tool itself indicates whenever there is tax evasion.

Taxpayers are now monitored in a preventive way. Fees and other documents were standardized thus reducing the quantity of errors. As a result, better planning has been obtained which has generated an increase in quality and productivity in the supervising actions. There has been a decrease in inappropriate issuing of fees and a faster judgment of fees. These results have a direct effect in real increase of tax collection.

Technology for checking in transit goods has allowed interconnection between the various mobile units and their access to this centralized data base. There is now greater control of goods that come through the state of Bahia in the direction of other states. There has been a gain in agility and mobility for the teams with more quality information. This control has also increased tax collection.

In the area of tax collection control, the investment in managerial and integrated systems has substantially improved the quality of information. This has made possible integration with banks and projects such as automatic debt of tax payment. Tax collection has also increased in this area.

The financial administration of the organization has also received managerial systems to control public expenses. This investment has resulted in a greater transparency in public expenses and reduction in contract prices.

The concept of the implantation of e-government for customer service has resulted in 100% of the services being offered on the Internet. The results have been a gain in speed and quality service in addition to excellence index in the area. The increase has been enormous. In 2000 only 7 services were offered on the Internet. Nowadays there is a total of 96 services and in 2004 almost 4 million accesses were registered.

4. CONCLUSION

Several IT management models in both private and public organizations have been presented here with a special focus on the model used at SEFAZ. The SEFAZ model aims at implementing a modernization project whose main objective is to change the organization. It has also been shown how the constant evolution of technology generates a need for revision in IT management models demanding that several models used by public administration be adapted to market practices.

The use of broader concept of e-government in organizations presented in this research shows how a new view of information systems has been changing the end user behavior who is now capable of accessing several public services, in real time, from home or office and is also able to directly interact with several public organizations.

The specific case of SEFAZ described here shows a modernization process that had as its transformation pillars the investment made in processes, people, information systems and technology infrastructure. In its modernization process the organization opted for a model which focused on three main areas: information, systems and technology. As a consequence, it was noticed that there was a need for the elaboration of an IT management plan – PGTI. This plan aligned with SEFAZ-BA strategic plan describes the environment used, the diagnostic made, and strengths and weaknesses identified. This plan also presents a solution with guidelines, scenarios and necessary actions to support defined strategies.

As could be noticed, the excellent result reached by SEFAZ leads to the conclusion that the IT management model adopted is inserted in the world context of management models and was crucial for the organization great performance.

APPENDIX 1

Translation of the system portfolio

External and internal client service	Internet Project Sefaznet – Intranet SAAW – Self Service Sefaz CSI – Request control via Internet PTA – Tele service integrated with Open Center project
Tax Administration	INC – Information to taxpayers SIDAT – Integrated System of Tax Administration composed of a personal information data bank, collection and credit systems. PGF – Supervision Planning and Management and DPF performance index GF – Fiscal Bonus (in progress) MCEX – Foreign Trade Module DSCAD – Personal Information System DICe – Electronic DIC SAJA – Follow up System of Administrative Judgement PGM – Planejamento e Gerenciamento de Mercado SGC – Credit Management System IPVA /GIPVA – IPVA Management and Control IEF – Fiscal-Economic Information with an IPM calculation module and a taxpayer module for DMA, DME and DMD AIDF – Printing Authorization of Fiscal Documents SEPD – Data Processing Use System SIT – Tax Information System SENF – Individual Invoice Issuing System SRTA – Data Collection Reception and Transmission System SRTAO – Data Collection Reception and Transmission System On line REP – Passing over GNRE – Data Reception System of the National Guide for State Collection SIST – Tax Substitution ECF – Receipt Issuing Equipment SPAT – Anticipated Tax Payment System SAFA – Fiscal Auditing System MONIT – Monitoring SEAI – Fee Issuing System SINTEGRA SCAM – Magnetic File Control System SEAIT – Traffic ticket Issuing System CFAMT – In transit goods Control CFAMT Data Input – Typing in Module (in progress) SPF – Fiscal Password SFSAT –Sefaz SAT Project ANTC – Anticipated Tax Project SCOMT – In transit goods control System DACEL – Data via Cell Phone SNFE – Electronic Invoice System (in analysis) PGF Trânsito – Traffic Supervision Planning and Management (not initiated yet)
Financial Administration	SICOF – Financial Accounting System SIGAP – Public Expenses Management System SIASP – Payment Administration to Public organization System ICF – Managerial Accounting and Financial Information SDP – Public Debt System GER – Special Collection Form SAIBA –Investments in Bahia Follow Up SCR – FUNPREV Restitution Control System SIGRA – SICOF Accounting Financial Graphic System

	ACP – Public Expenses Appropriation System SARF – Financial Resources Follow Up System
Administrative	SIPRO – Protocol System CPT – Tax Law Control SIE – Economic Information System SERV – SEFAZ Servant Information System SERV Gratificação – Bonus Module NSHOW – Sua Nota é Um Show Follow Up Program ASA – Request and activity follow up SHD – Help Desk System EQP – Equipment Control PSS – Systems Gate PROD – Production System SHF – Functional Historical System RM – Material Request SCA – Signature Control System DIRAD Systems STG – General Table Systems DSN – DSN Control System FAZuniversitário (not initiated yet) DIRAD Account Control (not initiated yet)
Finance Attorney	SAP – Follow up of lawsuit system
Managerial Information	SIGSefaz – Managerial Information System SIG *web* – Managerial Information SYstem on the web (not initiated yet) SEFAZ Performance index SGM – Goal management system Data warehouse Project SIE – Economic Information System

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