Knowledge Management and e-Government in Brazil

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Summary

Brazil is still in the early stages of applying knowledge-management techniques in government. At the national level, a technical committee of the Executive Committee on e-Government (the inter-agency e-government policy committee chaired by the President’s Chief of Staff) has prepared a draft decree setting forth a framework for implementing and such techniques, and seeks its promulgation this year. Previously the federal Institute for Applied Economic Research (IPEA) coordinated a major study of e-government practice in federal government ministries and some federal state enterprises using the OECD methodology. Published in 2005, this study called for such a policy framework, having found that in the ministries knowledge management practices were not generally either systematic or widespread.

In the leading state of São Paulo, a survey was conducted in 2006 to determine the degree of knowledge-management maturity of state secretariats (the equivalent of ministries) and other agencies of state government. This survey showed that on six dimensions of knowledge management the average score was in the range of 2-3 of a maximum of 5. Some best practices were identified in the different dimensions and secretariats/agencies, and measures proposed for a more systematic approach to government-wide knowledge management. The new São Paulo government which took office in January this year is reviewing these recommendations.

Some leading federal and state enterprises appear to have more established knowledge management policies and practices. In the case of the federal government, this was documented in the IPEA study.

To realize the potential of modern knowledge-management techniques and e-government in general, what is needed is a higher level of political priority for e-government and the intensive use of information and communication technologies (ICTs) as part of a broader strategy of socio-economic development. Given the organization of governments along sectoral lines, strong leadership from the President of Brazil and state governors is critical to realizing synergies and achieving returns to scale. ICTs, however, are enablers – using them effectively requires strong leadership and cultural change. The e-Brasil project is designed to raise awareness of the benefits of such an e-development strategy among political leaders and to build a broad base of political support for such an approach.

¹ The author wishes to thank Paulo Sérgio Vilches Fresneda, Coordinator of the Technical Committee on Knowledge and Strategic Information Management of the Executive Committee for e-Government and Roberto Meizi Agune, Technical Director of the São Paulo State Foundation for Public Administration (Fundap) for making available key documentation used in this paper and to them, Nagy Hanna, Stephen Denning and José Cláudio Terra for helpful comments on initial drafts. Neither they nor their organizations necessarily agree with the opinions expressed in this paper, for which the author is solely responsible.
Introduction

In a study much-cited in Brazil (OECD, 2003, p. 8), the Organization for Economic Development defined knowledge Management (KM) as “a broad collection of organisational practices related to generating, capturing, disseminating know-how and promoting knowledge sharing within an organisation, and with the outside world, including:

- organisational arrangements (decentralisation of authority, opening up bureaucratic divisions, use of information and communication technologies etc.);
- personnel development (mentoring and training practices, mobility etc.) and management of skills;
- transfer of competencies (databases of staff competencies, outlines of good work practices, etc.); and
- managerial changes and incentives for staff to share knowledge (staff performance assessment and promotion linked to knowledge sharing, evolution of the role of managers, etc.).”

The same study noted the reasons that governments, generally lagging behind the private sector in implementing KM policies, have a number of reasons for catching up:

- Knowledge has become a critical determinant of competitiveness for the public sector. In a knowledge-intensive economy, goods and services are increasingly intensive in intangible capital, making knowledge an important element of competitiveness between public bodies. Public bodies increasingly compete with each other for the use of knowledge-intensive inputs (e.g. researchers) and for the provision of knowledge-intensive outputs (e.g. universities).
- In addition, private firms produce goods and services that are increasingly intensive in intangible capital, directly competing with the goods and services traditionally produced by the public sector.
- Ageing civil servants and faster staff turnover also create new challenges for the preservation of institutional memory and the training of new staff.
- Increasingly knowledgeable citizens require governments to be on top of newly created knowledge, as it is increasingly rapidly produced by more differentiated actors.
- Finally, public policy goals (e.g. “fighting exclusion”) have become more ambitious and complex than before. (OECD, 2003, p. 10)

International organizations too have sought to implement KM policies – for example the World Bank in 1996 initiated a major effort to turn itself into a “knowledge bank” and its 1998/99 World Development Report was entitled Knowledge for Development (World Bank, 1999). This was not an easy task, as pointed out by the person who led the effort (Denning, 2000). A major internal evaluation published in seven years later found that

Overall, the Bank has made more progress in establishing the architecture to support its knowledge initiative than in creating the governance arrangements and work processes for carrying it out. As a result, the strategic intent of making knowledge sharing a way of doing business has been only partly realized – a
process that in other leading knowledge-management organizations has tended to take three to five years. The Bank needs to move deliberately to embed knowledge sharing in its core operational processes by providing more direct support to task teams and more knowledge capacity enhancement for clients, and it needs to manage its knowledge services for results. (Gwin, 2003, p. xv).²

This statement probably remains true today, and is likely valid for many private and governmental institutions as well as the World Bank. As Stephen Denning put it in a personal communication, “Overall, the KM area has been stagnating for quite a while, I think. What is needed is to implement the basic principles, which have been clear for some time.”³

Brazil’s federal government and some state governments have been moving toward adoption of comprehensive KM policies, and there are a number of isolated instances of successful implementations of at the agency or sub-agency level, but in general Brazil has lagged behind the OECD countries. An exception has been in major federal state enterprises such as Petrobrás, and the Banco do Brasil which a study conducted in 2005 found to be at a level of KM practice similar to that of the average of 140 OECD government agencies (Batista, et al; 2005) surveyed in an OECD study (OECD, 2003).

This paper reviews the state of KM policy adoption in Brazil’s federal government and the State of São Paulo and concludes with a brief description of the e-Brasil project, which promotes public policies to make intensive use of information and communication technologies (ICTs) to accelerate Brazil’s socioeconomic development.

Knowledge Management and e-Government in Brazil’s Federal Government

In Brazil e-government developed rapidly in the 1990s, and this development deepened at the federal, state and municipal level in the early years of the twenty-first century (CHAHIN et al. 2004; FERRER and SANTOS, 2004). While knowledge management (KM) techniques have in recent years been used in various ministries and agencies of the federal government, and have become well established in leading federal state enterprises, to date no systematic policy framework and directives from the central institution coordinating the federal e-government, the Executive Committee on e-Government (CEGE), chaired by the President’s Chief of Staff (Ministro da Casa Civil) have been issued.

That situation could change this year, as draft policies and directives have been prepared by the Technical Committee on Knowledge and Strategic Information Management (CT-GCIE), one of eight technical committees established by presidential decree in October 2003.⁴ These technical committees report to the CEGE and are supervised by its Executive Secretary, the Secretary for Logistics and Information Technology of the Ministry of Planning, Budget and Management (SLTI/MPOG).

According to the abovementioned decree, the mission of the CT-GCIE is to

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² The author conducted interviews in Brazil which were used in this international study.
³ E-mail dated 29 April 2007. For Denning’s statement of KM principles, history, and much more, see http://www.stevedenning.com/knowledge_management.htm.
⁴ This decree, dated 29 October 2003, can be downloaded in pdf at http://www.governoeletronico.gov.br/governoeletronico/.
• Promote KM in the Federal Public Administration
• Promote the use of principles, concepts, and methodologies of KM to the CEGE
• Identify and monitor best practices in KM within the Federal Public Administration, to disseminate the culture of KM in electronic government
• Elaborate and implement a KM policy in the electronic government
• Identify, disseminate and distribute the applications and tools of KM to the CEGE

In July 2005, almost two years later, a report issued by the IPEA (BATISTA et al., 2005) provided a quite detailed analysis of the current state of KM in 28 federal ministries/agencies and six federal state enterprises. This report describes strategies for KM implementation; compares the Brazilian government situation with that of OECD countries that were surveyed in 2002 (OECD, 2003); proposes recommendations and guidelines for e-government KM policies; and presents recommendations for the development and implementation of a KM policy for the public sector.” (BATISTA et al., p. 6).5

The IPEA report used as its working definition of KM one provided in a CEGE document of 20046, namely “... a set of systematized, articulated and intentional processes capable of increasing the ability of public managers to create, collect, organize, transfer and share strategic information and knowledge that can be used for taking decisions, for the management of public polices and for inclusion of the citizen as a producer of collective knowledge.” (BATISTA et al., p. 9).

The report found that the large state-owned companies surveyed appeared to have reached levels of KM formalization, implementation and results similar to those of public organizations in OECD countries. While similar results were observed in a few ministries, in most of them the knowledge management initiatives and results were still emerging. The incipient results observed at this stage were found to be “the outcome of isolated initiatives and scattered efforts, sometimes within the same ministry; the absence of communication and shared information about KM practices within and among the organizations; and finally, little awareness about KM among the upper management, middle managers and public servants in general.” (BATISTA et al., p. 6).

The principal policy conclusion reached by the report was that the widespread adoption of KM in central government would “require the establishment of a broad KM policy, with strategic directives, specific resource allocation and training at the various organizational levels.” (BATISTA et al., p. 6).

That, indeed was a view already reached by the CT-GCIE in mid December 2003 and recorded in a document of the CEGE which underwent a series of revisions in subsequent months.7

5 For the survey instrument used in the OECD study, also used in the IPEA study to get comparative results, see OECD (2002) and for the introduction and summary results see OECD (2003).
7 This observation is based on a review of unpublished documents of the GT-GCIE.
Further elaboration of these conclusions, drawing on the IPEA study and further work of the CT-GCIE has resulted in a draft decree which as of this writing (late May 2007) is still under consideration by the CEGE and the Casa Civil.8

The draft decree would establish a Public Policy on KM (using the definition quoted above) with the following general objectives for the Federal Public Administration (APF), a term which includes ministries, agencies, parastatals and federal public enterprises:

1. Improving the efficiency, effectiveness and quality of public policies and services for citizens and Brazilian society;
2. Promoting transparency in public management by providing citizens with access to government information and a growing ability to participate in and influence political-administrative decisions regarding:
   - the incentive to create culture, among government leaders, regarding the importance and utility of knowledge in public management;
   - developing a culture of collaboration among governmental areas and creating and sharing knowledge between the government and society;
   - the incentive to develop cognitive competencies, pragmatic and attitudinal, of public servants, employees or officials oriented to the sharing and creation of knowledge; and
   - disseminating the results and benefits of implementing KM in the APF.

The draft decree establishes ten directives to achieve these general objectives:

1. encourage and support public organizations of the APF in planning and executing KM initiatives;
2. promote raising awareness of managers for the strategic use of knowledge in organizations of the APF;
3. endow the professionals of the APF with competencies (knowledge, skills, attitudes, and values) for planning and executing KM activities;
4. measure the results and benefits of the use of KM in the APF;
5. promote the broad dissemination of actions, results, and benefits of KM in the APF;
6. support the carrying out of technical events in the area of KM;
7. support activities to promote developing a culture of knowledge sharing within the organizations of the APF, among them, with the other levels of government (state and municipal) and with society at large;
8. guarantee the access of civil servants and citizens to the information and knowledge available in the APF;
9. assure the structure, legislation and skills necessary to sponsor, mobilize and direct the implementation of a KM Plan for the organizations of the APF; and
10. encourage the incorporation of knowledge, in an innovative way, into the processes and products (policies and services) of the APF.

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8 The following is based on a draft of the decree dated 24/04/2007.
Finally, the draft decree provides for creating a high-level Management Committee for the KM Public Policy headed by the President’s chief of staff (*Ministro da Casa Civil*) with its Executive Secretary being the Secretary of Logistics and Information Technology of the Planning Ministry (these are the same arrangements as for the CEGE) to monitor implementation of the federal KM policies; charges this Management Committee with establishing and implementing a Strategic KM Plan for the APF; tasks the organizations of the APF with developing KM plans within the Multi-Year Plan (PPA) and also providing resources in their budgets to implement these plans; and tasks the National School of Public Administration (ENAP) with formulating a training program to carry out the KM plans of organizations of the APF and monitor these own organizations’ training plans.

Should the decree in anything close to its present form be promulgated by President Luiz Inácio Lula da Silva, the stage would be set for a serious government-wide effort to link KM with e-Government, improving the efficiency, effectiveness and transparency of the federal government.

### Knowledge Management and e-Government in the São Paulo State Government

The state of São Paulo – with a quarter of Brazil’s population, a third of its GDP and more than 40 percent of its industry – is Brazil’s leading state. São Paulo has followed a similar course to the federal government in researching and preparing KM policies. It appears poised to launch a government-wide KM policy should the preparatory work undertaken in the Geraldo Alckmin administration be accepted by the government of José Serra, who assumed the governorship in January 2007. In São Paulo, KM is being coupled with innovation, and the policies in preparation cover both related topics. Some of the same consultants were involved in the preparatory research conducted by the Foundation for Public Administration (Fundap) in São Paulo and the IPEA study of the federal government.\(^9\)

The work on KM and innovation carried out in São Paulo to date has been organized by the Committee for Quality in Public Management (CGQP) of the Governor’s staff (Casa Civil).\(^10\) The mission of the CQGP is the creation of “a single government” the values of which are: teamwork; collective construction of knowledge; respect for the public manager; shared decisions, responsibilities and resources; interoperability, integration, and partnerships (FUNDAP/FIA, 2006 p. 10).

Knowledge management and innovation (GCI) were found to require that the government:

**For innovation**

a. Provide incentives for innovative actions, especially those that can result in debureaucratization and facilities for citizen access to state services and horizontal work between the various Secretariats [Secretariats in Brazilian state and municipal governments are analogous to ministries at the national level]

**For raising awareness and sharing knowledge**

a. Increase the capillarity and involvement of managers and high-level professional in the initiatives of Innovation Management, identifying and encouraging practices of horizontal sharing within and between the Secretariats;

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\(^10\) See [http://www.cqgp.sp.gov.br/](http://www.cqgp.sp.gov.br/).
b. Expand the sharing of innovative practices of management (whether or not associated with the use of information technology).

For metrics

a. Improve the dissemination of metrics which show the good results achieved by innovative programs in public management, giving special attention to those that include means for evaluating the satisfaction of citizens. (FUNDAP/FIA, 2006, p. 11)

In 2006, Fundap, which reports to the Casa Civil, undertook a set of activities to evaluate the current state of GCI in the State of São Paulo. This included a major report and a series of case studies with accompanying videos on best practices in GCI in the secretariats and agencies of the state government. The objectives of the project were to:

- Raise awareness of managers and civil servants concerning the benefits of GCI
- Encourage debate on practices in the Public Administration related to this matter
- Carry out a broad diagnosis and identify good practices related to GCI in the secretariats and organs of the Government of the State of São Paulo
- Develop case studies on best practices identified in the study
- Develop directives for sustained adoption of GCI in the Government of the State of São Paulo
- Prepare Training Programs to improve Public Management of the State.
  (FUNDAP/FIA, 2006, p. 11)

The study, carried out in 21 state secretariats and agencies, was based on a model of maturity in GCI along six dimensions: learning, metrics, governance, culture, information management, and networks for collaboration developed by José Cláudio Terra. (FUNDAP/TERRA FÓRUM/FIA/, 2006).

What were the overall conclusions of this survey? Here is a summary.

1. Little structured interaction between the agencies, limiting the sharing of knowledge
2. Embryonic efforts at disseminating learnings, practices and improvements
3. Lack of directives and clear responsibilities regarding GCI
4. A prevailing culture which does not privilege knowledge sharing, initiatives to make improvements or collaboration through networks
5. Identification of some information management processes to promote access and sharing of knowledge and practices
6. Lack of metrics allowing evaluation of the creation, sharing, and application of knowledge to verify efficacy and innovation. (FUNDAP/TERRA FÓRUM/FIA, 2006)

In each of the six above-mentioned dimensions of GCI maturity, the study gave a rating of one to five for the 21 secretariats and agencies. The following table provides these rankings, averages and standard deviations.
### Evaluation of Knowledge and Innovation Management in the State of São Paulo

<table>
<thead>
<tr>
<th>SECRETARIAT</th>
<th>Governance</th>
<th>Culture</th>
<th>Information Management</th>
<th>Networks</th>
<th>Learning</th>
<th>Metrics</th>
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<tr>
<td>Prison Administration</td>
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<td>2.5</td>
<td>2.3</td>
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<td>Agriculture and Supply</td>
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<td>2.0</td>
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<td>2.0</td>
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<td>2.0</td>
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<td>2.3</td>
<td>3.7</td>
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<td>1.7</td>
<td>1.0</td>
<td>1.7</td>
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<td>2.0</td>
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<td>1.0</td>
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<tr>
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<td>3.8</td>
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<td>1.5</td>
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<td><strong>2.3</strong></td>
<td><strong>2.8</strong></td>
<td><strong>2.4</strong></td>
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<td><strong>1.5</strong></td>
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<td><strong>Maximum Value</strong></td>
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<td><strong>3.8</strong></td>
<td><strong>4.0</strong></td>
<td><strong>4.0</strong></td>
<td><strong>3.3</strong></td>
<td><strong>3.3</strong></td>
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<tr>
<td><strong>Minimum Value</strong></td>
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<td><strong>1.0</strong></td>
<td><strong>1.5</strong></td>
<td><strong>1.0</strong></td>
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<tr>
<td><strong>Standard Deviation</strong></td>
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<td><strong>0.68</strong></td>
<td><strong>0.71</strong></td>
<td><strong>0.80</strong></td>
<td><strong>0.89</strong></td>
<td><strong>0.58</strong></td>
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</tbody>
</table>

The averages for these 21 secretariats and agencies ranged from a high of 2.8 for information management to a low of 1.5 for metrics.

The key recommendations of the study which cut across the six dimensions are the following.

1. Put GCI on the agenda for public managers.
2. Treat GCI in a systematic and not fragmented manner in the Government of the State of São Paulo.
3. Develop processes for creating, sharing and using knowledge to improve public management and service delivery to citizens.
4. Identify, support, value, disseminate and use existing good initiatives in any of the six dimensions of the Maturity Model in the Government of the State of São Paulo. (FUNDAP/FIA, 2006, p. 36)

Specific directives and recommendations were also set forth for each of the six dimensions (FUNDAP/FIA, 2006, pp. 36-42)

A series of six case studies with accompanying videos was prepared on the best practices identified in each of the dimensions and in April 2007 a series of talks and presentations was organized to disseminate the results of the study and its key recommendations.

Thus São Paulo, like the federal government, could move from isolated examples of good KM practices to the establishment of a comprehensive, government-wide policy to promote KM and innovation in public management.

Leadership, Cultural Change and Consensus Formation

Should KM policy frameworks be established at the federal level and in important states like São Paulo, the groundwork would be in place for major advances in KM and e-government throughout Brazil. But as Brazilian experience with the CEGE and that of other organizations which have tried to implement comprehensive KM policies suggests, having the right policy framework is only the first step on a difficult road involving major cultural change within governmental agencies and requiring the alignment of incentives (salaries, promotions, etc.) and sanctions (demotion, dismissal, etc.) with government and agency policies.

Both KM and e-government can contribute to the reform of public administration to make governments more efficient, transparent, responsive to citizen needs, and effective in achieving Brazil’s development objectives. Overcoming resistances to such needed changes requires leaders in government with both a good knowledge of how ICTs can be harnessed to help achieve such changes and strong skills public administration. These leaders need support from the top of the federal and state governments – that is the President and the state governors. They and legislative leaders need to help build a broader political consensus that these are goals worth pursuing, and will benefit citizens. Popular understanding and support can in turn strengthen the reform process.

The experience of other organizations and countries that have been successful in harnessing ICTs for achieving their developmental objectives (KM policies and practices
depend greatly on the use of ICT) teaches us that it takes strong leadership from the top of
the political system to realize the economies of scale and synergies which are inherent in
these technologies. Organizational culture in public bureaucracies and to a lesser but still
significant extent in large-scale private corporations and other organizations tends to
reinforce sectoral “silos” or “stovepipes” that defend their own turfs and resist major
change. Overcoming these resistances requires vision, leadership and deliberate efforts to
build a broader consensus in society (HANNA, 2007; KNIGHT and FERNANDES, 2006;
KNIGHT, FERNANDES and CUNHA, 2007).

The e-Brasil Project

Building support among political leaders, their advisors, the ICT sector, and the public at
large for intensive use of ICT to accelerate Brazil’s socioeconomic development is the
principal objective of the e-Brasil project. ICT-supported KM and e-government important
parts of this project, which involves a network of over 60 specialists, mostly Brazilian but
including some in other countries. To date they have collaborated in a program of
publications, presentations at major conferences in Brazil, and development of the Portal
e-Brasil (www.e-brasil.org.br). The project team is now moving to develop a strategic
communication campaign, academic programs to support the development of “e-leaders”
knowledgeable in both public administration and ICTs, and fundable projects at the
municipal, state and federal level which can attract financial support from Brazilian and
international sources.

As of late May, 2007 the e-Brasil Program\(^\text{11}\) that the team has developed has been adopted
as its own by two major Brazilian organizations, the Brazilian Chamber of e-Commerce
(www.camara-e.net) and the Brazilian Telecommunications Association
(www.telecom.org.br). The team hopes to attract the support of additional organizations of
Brazilian organized civil society.

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Federal Public Administration.

\(^{11}\) See http://www.e-brasil.org.br/portal/defmod_brasil.aspx?p=4&n=71 and KNIGHT AND FERNANDES


Knight, Peter Titcomb; Fernandes, Ciro Campos Christo and Cunha, Maria Alexandra (organizers) (2007). *e-Desenvolvimento no Brasil e no Mundo: Subsidios e programa e-Brasil.* São Caetano do Sul, SP: Yendis, in press.

