

Research Report

A Framework for Developing Regional E-Government Capacity-Building Networks

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Abstract

This paper aims to develop and present a framework that enables the creation and deployment of regional capacity-building networks in e-government. To accomplish this goal, a focus group is used for the creation of real Inter-American Network Capacity-Building in e-government. The findings from this research show that specific hierarchical and professional profiles within public administration deserve differentiated e-government training endeavors; that is, legislators and politicians need to be submitted to awareness initiatives rather than training courses about the potential benefits of e-government.

Conversely, senior managers, technicians, and ordinary staff need specific training programs.

Introduction

Increasingly, the deployment of e-government initiatives in the public administration arena has become mandatory. However, the adoption of this new paradigm needs to be followed up with training processes involving all the professionals within public organizations.

In a general way, fragmentation can be perceived between these two endeavors (Biasiotti and Nannucci 2004); that is, the search for e-government projects has increased more rapidly than the training of public administration personnel. Thus, since e-government initiatives have been undertaken without taking into account the skilled civil servants required, public institutions have been obliged to outsource to external consultancies (Kaiser 2004).

Nevertheless, some doubts prevail about whether or not outsourcing in public administration is desirable for cultural, political, and managerial reasons (see, for instance, Donahue 1989; Fine and Whitney 1999:31–63). Bourbeau (2004:2) conducts an in-depth analysis of the pros and cons of outsourcing in public administration and concludes that:

1. Outsourcing continues to grow.
2. The amount of evidence regarding outsourcing effectiveness is minimal, confusing, and highly subjective.
3. Outsourcing saves money, albeit to the detriment of quality, or at least without improving it.
4. Contracting out can be a solution, but it is not the only solution open to governments for funding and service quality shortfalls.
5. Successful outsourcing has been implemented in certain ways.
6. Outsourcing does not spell the end of public administration.

In this context, one solution that has emerged lies in the creation of regional capacity-building networks in e-government, as is the case with the Scandinavian Network in e-government (see, for instance, Elovaara et al. 2004). An Inter-American Capacity-Building Network in e-government is gradually taking shape, sponsored by the Inter-American Agency for Cooperation and Development of the Organization of American States (IACD/OAS) and the Inter-American Development Bank (IDB), to train public agents in the general facets of e-government.

The major challenges that remain to be addressed are: who requires training among the diversity of profiles within public administration, and determination of what content must be delivered to which group and with what workload.

This paper aims to develop and present a framework that enables the creation and deployment of regional capacity-building networks in e-government. To achieve this, the Inter-American Network is used as proof-of-concept of the framework we developed in order to clarify how to create homogeneous training groups of professionals, as well as how to define the necessary training content appropriate for each group.

The article is divided into four sections. The first section sets forth a brief bibliographical review mainly addressing e-government training issues. The second section presents the research design. The third section applies the design to the project of creating an Inter-American Capacity-Building Network in e-government. Finally, proposed steps to consolidate a regional e-government capacity-building network, using the Inter-American Capacity-Building Network in e-government as proof-of concept, are presented.

Overview

The Incremental Effects of Information and Communication Technology on Organizations

The contribution of information and communication technology (ICT) to business was permeated with skepticism in the early 1990s due to failure to achieve the promised results (Venkatraman 1994). In view of this, the pressing need to create and develop new criteria to evaluate the impact of ICT on business—duly assessing automation logic, cost reduction, and internal operation efficiency-based logic, which had prevailed until that time and

might conceivably no longer constitute relevant parameters—is stressed.

To overcome this hurdle, a referential model is developed in which five levels of ICT-enabled transformations in organizations are described: localized exploration, internal integration, business process redesign, business network redesign, and business scope redefinition.

According to Venkatraman (1994), the first two levels are evolutionary, whereas the subsequent three are revolutionary. His main thesis addresses the fact that the use of ICT associated with evolutionary levels has only a very slight impact on business change, despite the complexity of the technological infrastructure used. Consequently, the real benefits of ICT to business only appear at the revolutionary levels: on the redesign of business processes and business networks, and on the redefinition of the business scope.

The scope of the transformation levels in Venkatraman's model—business process redesign, and business network redesign and business scope redefinition—has been amplified since 1995 with the deployment and expansion of the Internet, as well as the new ICT parameters, leading to the establishment of the so-called information economy.

The main characteristic of this economy is not related to any specific technology, rather to the development, on a broader scale, of the digital connectivity dimension involving people, business, and communities, and leading to paradigm shifts in the way organizations are managed (Powell 1990; Powell and Smith-Doerr 1994; Podolny and Page 1998; Evans and Wurster 2000).

The Impact of Information and Communication Technology on the Public Sector

The observations just presented clearly indicate the pressing need for new business models—irrespective of the size and nature of organizations—that enable greater convergence between the physical world of producing goods/services and the virtual world based on information and connectivity (Gulati and Garino 2000; Porter 2001). This phenomenon is not just a characteristic of businesses, because it has a tremendous impact on the government as a whole, and as actions can be developed to use ICT to improve the quality of public services through what is already widely known as e-government.

E-government is still an exploratory knowledge

field and, consequently, is difficult to define precisely. Moreover, it encompasses such a broad spectrum that it is difficult to find one expression that accurately encapsulates what e-government really represents.

According to Zweers and Planqué (2001:92), "E-government concerns providing or attain[ing] . . . information, services or products through electronic means, by and from governmental agencies, at any given moment and place, offering an extra value for all participant parties."

On the other hand, Lenk and Traunmüller (2001:64) choose to see e-government as a collection of four perspectives.

1. Citizen Perspective aims to offer public services to citizens.
2. Process Perspective seeks to rethink and redesign the modus operandi of current productive processes within public administration at its various levels, such as bidding processes to purchase products and services known as e-procurement.
3. Cooperation Perspective aims to integrate the many public agencies among themselves, as well as with business and nonbusiness organizations (NGOs), to streamline the decision process without prejudicing quality, while also avoiding fragmentation, redundancies, etc., currently established in the relationships among these various actors.
4. Knowledge Management Perspective aims to allow the government—at its many levels—to create, manage, and make available the knowledge developed and accumulated by its organizations in adequate databases.

Other authors define e-government in a broader sense (see, for instance, Perri 6, 2001; Kraemer and Dedrick 1997). For them, e-government encompasses a broad gamut of activities, ranging from digital data and electronic public service to online pool, e-democracy, and e-governance. Recently, e-government is seen as the use of information technology to support government operations, engage citizens, and provide government services (Dawes 2002), or in other words, e-government is the achievement of public ends by digital means (Osorio 2002).

Clearly the success of e-government can only be achieved if state reform is conducted concurrently

(Fountain 2001), as the two complement each other. On the other hand, e-government can hardly be expected to produce effective results if it is not fully aligned with the demands of society and obstacles that impede the government from being close to the business world. Hence, it is expected that e-government and e-business will advance jointly to mold a more participative, empowered, and equitable society.

In this respect, governmental organizations are striving to adopt the same modernization tools used in the private sector, mainly new business models where communication through the Internet (Kubicek and Hagen 2001; Lenk and Traunmüller, 2001) and new skills associated with technological change (Autor, Levy, and Murnane 2003) play a vital role.

The Need for E-Government Competencies in Public Administration

Naturally, the potential benefits accrued from the implementation and use of e-government hinges on the basic presupposition that qualified and skilled public administration personnel are on hand to deal with this new modus operandi (Lips 2001:89). According to Araya Dujisin (2004:28), it is not so much the challenge of having external specialists hired by government, but the need to envisage permanent training policies addressing the different knowledge fields embedded in e-government, and ensuring the integration among them.

On the other hand, it is necessary to understand that e-government is far more than mere technology (Lau 2004:243). According to Biasiotti and Nannucci (2004), a mix of several disciplines must be created encompassing not only information and communication technology and administrative science, but also social, human, and legal Sciences, among others.

Several endeavors are underway to train civil servants in e-government (see, for instance, Augustinaitis and Petrauskas 2004; Elovaara et al. 2004; Biasiotti and Nannucci 2004). However, the training models are very much centered on the content and duration of the courses (Augustinaitis and Petrauskas 2004; Kaiser 2004; Lau 2004), which avoid classifying civil servants into specific training groups, according to the current hierarchy, so as to deliver different skills to different actors within the public administration arena. To a certain extent, Biasotti and Nannucci (2004), Kaiser (2004), and Lau (2004), to name but a few, touch on this issue en passant,

though without presenting the rationale that led them to their findings and conclusions.

Augustinaitis and Petrauskas (2004:454) focus their efforts on proposing training content and suggest the following content modules for a master's degree program in e-governance:

- Public Administration;
- Knowledge Management and Knowledge Society;
- Information Technology;
- E-governance (including, e-governance; e-democracy; data security and protection; and regulatory frameworks and e-services).

Conversely, Lau (2004:238) understands that four facets must be developed in an e-government training initiative: Information Technology, Information Management, Information Society, and Management. Consequently, it becomes clear that there is a pressing need to link all the aspects involved in e-government training efforts into a single integrated framework so as to allow capacity-building endeavors to achieve the outcomes sought by policy makers.

Research Design

The increasing importance of ICT on the work of public administration highlighted the need for the creation of regional networks for e-government capacity-building institutions to allow them to pool their efforts. The concept of a network—not an organization per se but a group of committed institutions—was devised to enhance the capacity of civil servants and explore new financing mechanisms that would promote the development of modern academic programs to train public servants in e-government. For this purpose, IACD/OAS and IDB scheduled a meeting to contribute to the creation of a network. For this event, which took place on April 20–21, 2004, IACD/OAS and IDB officials brought together 16 e-government experts from different countries, universities, regional organizations, and the United Nations. The presentation of various experiences in e-government led to a diagnosis of the current situation in Latin America and the Caribbean, as well as an evaluation of public sector needs in terms of human resources to implement of e-government strategies.

The methodology applied in this research, with a

view to developing a framework to create the desired network, drew upon focus groups created by the sponsors during this meeting. Thus, the participants were divided into groups in order to address the essential issues relating to the creation of a regional network.

According to Berg (1989), a focus group may be defined as an interview style designed for small groups. Using this discussion-based approach, researchers strive to learn about conscious, semi-conscious, and unconscious psychological and socio-cultural characteristics and processes among various groups. Focus group interviews take the form of guided discussions addressing a particular topic of interest or relevance to the group and the researcher.

Moreover, according to Schutt (1999), focus groups are similar to interviewing people one-on-one, though there are important differences. When conducting an individual interview, the researcher is trying to learn about biographical details, political opinions, product preferences, etc., and how the individual interprets aspects of the social world. However, this essentially represents the personal reflections of a single individual (unless a suitable sample size is attained and aggregated to produce group measures). In a focus group, the scope of the analysis is the *interaction* among the group members, namely how the group *collectively creates* meanings and *negotiates* definitions of the topic. Thus, focus groups have the advantage of being more natural than one-on-one interviews, which are more structured and more artificial by comparison. The guided discussion in a focus group captures more closely the spontaneous give-and-take of social interaction that leads to opinion formation, which is often lost in a structured interview.

In conjunction with a focus group, an interpretive analysis of the statements accrued from the focus groups was undertaken by experts, as suggested by Klein and Myers (1999), to generate the outcomes presented in this paper.

The 16 participants were divided into three different focus groups. Each group was asked to discuss one specific issue under the guidance of a facilitator, usually called the moderator, from one of the sponsoring organizations and then present the results to the whole group for discussion. The issues discussed by each group were:

- Regional diagnosis;
- Analysis of the needs for formation in e-government; and
- Analysis of existing capacity-building programs in e-government.

After the discussions—mediated by officials from IACD/OAS and IDB—a framework was developed called W² (Who-What), which was presented to the group in order to support the capacity-building network. The framework specifically addressed the following questions:

Who must be trained in e-government?

What must the content/workload of the e-government training for each specific group be?

After taking note of the statements and numerical output from the focus groups, an exercise to answer the aforementioned questions was conducted.

Data Collection and Analysis

Some comments from the three focus groups are presented.

“Regional Diagnosis” Focus Group

This focus group sought to present and discuss state-of-the-art e-government initiatives in the Americas. The following statements were selected for further analysis.

In my opinion, the main challenge to e-government implementation is perception of ICT by civil servants, who must see it as a tool rather than a threat in order to convert it into a bridge between local and governmental realities. Clearly formulated objectives, processes, and methods are essential premises for the formation of state reformers. (Venezuelan representative)

The demands of the public sector vary according to the actors involved and their hierarchical position. Legislators, politicians, public managers, civil servants, and ICT specialists have different perceptions, priorities, and degrees of reluctance to ICT implementation. The private sector plays a fundamental role in e-government development because it can give examples of gains organizations can make using ICT. Firms are also the first actors on the side of the demand for e-government facilities, mostly for treatment of formalities, access to business information, business process redesign, and online capacity-building. (Uruguayan representative)

From these comments, it becomes abundantly clear that major concerns with ICT, change management and productive processes—as deployed by the business sector and considered benchmarks for public administration—are areas to be addressed in a capacity-building network. The need to create taxonomy to classify the actors in the public sector so as to prepare adequate training endeavors is also apparent. Moreover, the proposed taxonomy encompasses legislators, politicians, public managers, civil servants, and ICT experts in public organizations.

‘Analysis of the Needs for Formation’ Focus Group

This focus group was formed to discuss and present the gaps perceived by the participants in developing e-government skills within public administration in the Americas. The following statements were chosen for further analysis:

Cooperation between the Latin American and Caribbean countries has a huge potential because they have similar problems that are not shared by most industrialized countries, although national situations differ. One of the usual problems is the lack of genuine interest from politicians. The complexity of e-government strategy design gives universities a key role in this matter. E-government implementation has to take into account both the technical issues and the idiosyncratic organizational context and design (change management). (Argentinian representative)

Mexico succeeded in putting a great part of its government activities on the Internet over the past few years, but capacity-building remains to be done regarding the perception of ICT’s strategic value. High-level government officials, who usually possess strong management and communication skills, generally see e-government as a technical problem that can be solved by specialists—forgetting that those specialists lack their management and communication competences. Capacity-building, therefore, has to focus on reinforcing traditional administrations to tackle new e-government development. E-government specialists must not only be familiar with ICT, but also need skills for negotiation processes, institutional change, and juridical knowledge in order to tackle information protection issues. (Mexican representative)

In Canada, e-government envisaged a global change of attitude by public administrators, who

reconfigured governmental activities in facilitating their use by the client. This called for the integration of governmental institutions in a horizontal management approach, using workshops aiming at bringing people of different services, profiles and organizational cultures (technologists, program managers, etc.) to mutual understanding and to foresee the possibility of integrating the different governmental services. (Canadian representative)

Capacity-building has to be developed according to the country's own reality and cultural factors, which contribute to its needs and abilities to integrate ICT in governmental activities. Abilities for managing knowledge and communicating ICT issues to other actors are essential for the government CIO. Therefore, the academic formation of the candidate is important but must also be completed with relevant experience in project management. (Chilean representative)

From these observations, the need to establish a specific training model for developing countries, while taking their diversities into account, becomes evident. On the other hand, these statements stress the need to broaden the training scope from mere technical issues in order to encompass legal and context-based issues, citizen (quoted as "customer" by the participant) relationship management, organizational design, change management, negotiation, knowledge management, and project management. In line with this rationale, ICT actors can play a key role in whether their knowledge frontiers can be enlarged. By the same token, disappointment associated with the way politicians deal with e-government can be clearly detected, as well as the lack of understanding associated with public managers regarding the strategic potential of ICT (despite the fact that Chile has a CIO for its public administration). It is therefore of paramount importance to make these actors aware of e-government potentialities.

"Analysis of Existing Capacity-Building Programs in E-Government" Focus Group

This focus group was formed to discuss and present e-government capacity-building initiatives already deployed in the Americas, as well as how they are currently working. The following statements were chosen for further analysis:

The MIT Media Labs Net Growth Education Program seeks to provide rising stars from developing

countries with the training and experience they need to grow their country's ICT strategy and environment. It has a result-oriented approach with the creation by its fellows of practical projects that aim at creating and consolidating links between local actors like communities, industry, government, and financial, and academic stakeholders. Instruments developed could help ICT integration. Many of those projects are innovative and cost-effective and could contribute to add an entrepreneurial dimension to public administrations. The Net Growth Program is developed in several Asian countries and could bring a relevant experience for Latin America and the Caribbean. (USA representative from MIT Media Lab)

Budget limitation led the province of Quebec to create e-government strategies in partnership with the private sector. Public servant capacity-building involves universities, public sector representatives and a private firm. The harmonious mix of cultures and development of a mutually beneficial relationship between those stakeholders are imperative for the program's success, because they must match the government's priorities to the firm's experience. The length and content of formations are adapted to their level and availability of public servants, shorter formulas being dispensed to high government officials. (Canadian representative from *École Nationale d'Administration Publique* [ENAP]).

In Brazil, universities have a key role to play in e-government development as they are in a good position to lead research on the topic, which must come before any capacity-building strategy. An efficient ICT strategy has to be based on a solid infrastructure. The content of the network is also important, as well as training of its users to take advantage of it. In order to be sustainable, any e-government initiative has to be consolidated with good economic and legal conditions. The geographic situation of Brazil makes ICT use an interesting medium to reach isolated populations. Accessibility remains, however, a major obstacle to e-government implementation: only 8% of the Brazilian population uses the Internet. (Brazilian representative)

In Uruguay, a Committee for Information Society was created in 2000 with high-level members in order to determine an agenda for ICT implementation, but its realization has been hampered by various points of resistance and a lack of resources. (Uruguayan representative)

Clear training potential in the developed countries (Canada and the United States), constrained by financial budgets, can be observed, which stresses the pressing need for building partnerships, alliances, and networks for training projects. Furthermore, a multicultural capacity-building network seems to be highly desirable, due to the possibility of interaction among different realities. Indeed, this is also the position supported by Elovaara et al. (2004:459) when talking about the creation of a Scandinavian Network of Competence in e-Government: "E-government is so expansive and interdisciplinary that we need to network in order to get a better overview of what we are actually attempting to develop."

From these comments, it becomes apparent that awareness initiatives might be more profitable to the highest ranked actors in the public arena than ordinary training efforts. It is also important to highlight the pressing need for courses addressing context analysis and legal issues, as each country has its own peculiarities (see, for instance, Banerjee and Chau 2004). Brazil has almost the same number of Internet users as Canada. However, in Brazil less than 10% of the population accesses the Internet, whereas in Canada more than 50% of the population is included in the information society (Joia 2004a).

Using the W² model associated with the interpretive analysis of the conclusions from the focus groups (Klein and Myers, 1999), the following findings were inferred.

Who Must Be Trained?

The focus groups concluded that public administration personnel must be divided into groups according to a specific taxonomy so as to schedule the most adequate training for the most suitable actors. The results were consolidated and gave rise to the following taxonomy:

- *Legislator*: This group encompasses representatives of the legislative and judiciary system in the public administration environment. Thus, the aim is to deal with those individuals who create/change the laws and regulatory frameworks, as well as those in charge of interpreting and applying them.
- *Politician*: This group encompasses the highest representatives of the executive sector, such as ministers, state secretariats, and their direct as-

sistants. Most of these professionals are non-tenured civil servants subject to administrative position change and dependent upon changes in the government party.

- *Top Management Civil Servant*: Civil servants with tenure playing the highest roles in the executive sector of public administration and are dependent on the political choice of the government in office.
- *Staff-Level Civil Servant*: Civil servants with tenure that may occupy higher positions in the executive sector in future governments.
- *ICT-Related Civil Servant*: Civil servants with tenure involved in ICT-based activities.

What Must the Content of the Training for Each Specific Group Be?

After analyzing the statements from the focus groups, courses were divided into general and context-based programs. The general courses address content that is similar for participants from all countries taking part in the network. The context-based courses—although following a general framework—must be customized in line with the different realities of each country because the content will not be equal for all countries.

Pursuant to discussions within the group, statements by participants, and interpretive analysis of focus group conclusions (see Klein and Myers 1999), the following areas were considered important aspects to be addressed during training as global courses (i.e., the same content for all countries involved in the Capacity-Building Network):

- *Process Management*: According to Davenport (1993:5), a process is "the specific ordering of work activities across time and space, with a beginning and end, and clearly identified inputs and outputs." Consequently, as e-government deals with processes, the aim of this course is to show the professionals the important role that processes play in the e-government realm, as well as how to map and manage them.
- *Customer Relationship Management*: As in the business arena, which has changed its focus from product-centric to customer-centric (Dutta, Evgeniou, and Anyfioti 2002), it is important to explain the importance of citizens as customers of public administration to the professionals.

DEVELOPING REGIONAL E-GOVERNMENT CAPACITY-BUILDING NETWORKS

- *Information and Communication Technology:* In this dimension, the aim is to present basic concepts about Internet technology (including intranet and extranet), back-office technologies (including enterprise systems), information security, and Web services.
- *Change Management:* The introduction of e-government processes generates change (Joia 2004b). Consequently, it is important to understand user resistance to new information systems and technologies (Markus 1983), and the imperative need for a new *modus operandi*. By the same token, it is important to know how to manage the above changes (see, for instance, Plant 1987; Edosomwan 1989; Orlikowski and Robey 1991; Orlikowski 2000).
- *Knowledge Management:* One of the major potential benefits of e-government is enabling public administration to manage its knowledge (Lenk and Traunmüller 2001). This aspect aims at developing skills about how knowledge is generated, stored, and accessed, as well as the role ICT plays in this context.
- *Organizational Design:* Public organizations traditionally present functional and bureaucratic designs, which are rarely flexible enough to adapt to changes in the environment (Ciborra 1993). On the other hand, process-based structures are much more suitable for the efficient and effective use of ICT (Hammer 1990). This module presents the principal structural typologies, as well as the organizational schools that generated them (Volberda 1999), enabling the participants to better understand the interaction between ICT and organizational structure (see, for instance, Markus 1983).
- *Project Management:* E-government initiatives are, by nature, projects that need to be well managed. The management of time, cost, scope, risk, communication, human resources, quality, acquisition, and integration of e-government enterprises are analyzed.

By the same token, the following knowledge areas were selected as requiring customized content according to each country's peculiarities, and are thus considered specific rather than general courses:

- *Context Analysis:* Initiatives of e-government depend on political, economic, social, and cul-

tural factors specific to each country (see, for instance, Banerjee and Chau 2004; Traunmüller Chutimaskul, and Karning 2004). It is therefore important to know a country's own reality—at local, regional, and national levels—to establish the best e-government solutions. This module seeks to train the professionals of each member country of the regional capacity-building network in these issues.

- *Legal Issues:* Public activity is severely limited by regulatory, legal, and constitutional constraints (see, for instance, Galindo 2004). The development of e-government policy demands that some of these frames of reference be changed. Issues such as privacy, data protection and sensitivity, digital signatures, electronic documentation, and copyright are analyzed in this course.

After defining who should be trained in what kind of content, the 16 representatives then established an incidence matrix that very clearly set forth the priority level of each training course within an e-government capacity-building network encompassing the entire public administration. In order to achieve this, Table 1—based on the W^2 (Who-What) framework—was generated and the consolidated outcomes are presented therein.

Each of the 16 participants awarded a grade for every professional profile in public administration, according to the content to be delivered to each one. After this step, the average for each professional/content was calculated. Finally, the general average for each professional profile was calculated (Table 1).

Interestingly, the importance of providing adequate training to the manager in public administration for the success of e-government policy implementation becomes immediately apparent. The importance of ICT personnel and staff training, close on the heels of manager training, can also be seen. The legislators and politicians—although important—need to be submitted to awareness endeavors via workshops, rather than long, formal training programs. These results confirm the qualitative perceptions of the focus groups that two groups must be consolidated for an e-government capacity-building program:

Group 1: Legislators and Politicians

Group 2: Managers, Staff, and ICT Personnel

Table 1. *W² Framework (Who–What)*

What? Diversity of Contents	Who?—Actors*				
	Legislator	Politician	Manager	Staff	Technicians
Process Management	1	3	10	8	8
CRM	5	4	10	10	10
ICT	2	1	8	8	10
Change Management	6	8	10	7	8
Knowledge Management	2	6	10	9	9
Organizational Design	1	1	9	8	5
Project Management	1	1	10	10	10
<i>Context Analysis**</i>	7	9	9	4	6
<i>Legal Issues**</i>	10	9	8	4	4
Averages	3.9	4.7	9.3	7.6	7.8

*Value scale: (–) 0 → 10 (+)

A score of 10 indicates that the topic is of maximum importance to that specific actor; therefore, the curriculum for that actor should include all content on that topic. A value of 0 indicates that the topic is not relevant for that actor; the curriculum to train that actor should therefore not include any content related to the topic.

**Local-based contents.

Table 2. *Content Workload by Training Group*

Training Group	Legislator/Politician	Manager/Staff/Technician
Process Management	3 × 4 = 12 hrs	10 × 4 = 40 hrs
CRM	5 × 4 = 20 hrs	10 × 4 = 40 hrs
ICT	2 × 4 = 8 hrs	10 × 4 = 40 hrs
Change Management	8 × 4 = 32 hrs	10 × 4 = 40 hrs
Knowledge Management	6 × 4 = 24 hrs	10 × 4 = 40 hrs
Organizational Structure	1 × 4 = 4 hrs	9 × 4 = 36 hrs
Project Management	1 × 4 = 4 hrs	10 × 4 = 40 hrs
<i>Context Analysis*</i>	9 × 4 = 36 hrs	9 × 4 = 36 hrs
<i>Legal Issue*</i>	10 × 4 = 40 hrs	8 × 4 = 32 hrs
Total	180 hrs	344 hrs

*Local-based contents.

Definition of Course Workload per Group

By consensus, the working group agreed that a complete course addressing a specific subject should have a workload of 40 hours for actors whose grades for this subject were the highest (10). The workload for the other actors should be calculated using a linear proportion. Hence, a score of one requires a workload of four hours.

As the groups encompass more than one type of actor, the highest score among the actors for a specific course was used in the interest of security.

Using this rationale and the scores awarded by the participants, Table 2 was then generated.

Table 2 shows that, despite being in the second group, the staff should be over-trained for the sake of security; that is, trained as managers. The rationale for this lies in the constant changes to which public administration is subject. For instance, a current member of the staff can be promoted to senior manager under a new administration, or even during the same administration, while a manager may also revert to being a regular member of the staff.

Conclusion

The major challenge that remained to be addressed in e-government capacity-building endeavors was determining who required training—among the diversity of profiles within public administration—and establishing what content must be delivered to which group and with what workload.

Consequently, the scope of this paper was to develop and present a framework that enabled the creation and deployment of regional capacity-building networks in e-government.

The following conclusions address the creation and deployment of regional e-government capacity-building networks.

It is important to consolidate the public administration actors into specific training groups and expose them to specific contents and workloads. To accomplish this, meetings with representatives of the regions involved in the creation and deployment of e-government capacity-building networks are necessary in order to create focus groups. From the conclusions of these focus groups, the following questions can be established. Who must be trained? What must the content/workload of the training to be delivered be?

In the case of an Inter-American E-government Capacity-Building Network, it was decided that legislators and politicians belong to the same group, while managers, staff, and technicians belong to another. Furthermore, it was seen that awareness programs rather than training efforts are more adequate for legislators and politicians. Managers, staff, and technicians need to be trained in a more intensive way.

Interestingly, public managers need more intense training, followed by the ICT personnel. This conclusion tallies closely with Fountain's (2001:1999) statement: "Public managers in a networked environment are the central enactors of technology in the state. They can no longer afford the luxury of relegating technology matters to technical staff."

Another important conclusion is that e-government implementation cannot be reduced to a mere technical issue. Several organizational changes are required, in which skills in management, communication, and legal issues play a key role. Thus, it is in this context that training efforts for senior managers were identified as the priority targets for e-government capacity-building, followed by the training of

both ICT specialists and civil servant staff. Legislators and politicians also need to be trained, and the capacity-building content must be adapted to the needs of each target group (Table 2).

Regarding the Inter-American Network, the participants understood that an international institution is needed in order to certify the capacity-building model consisting of short postgraduate courses. The program will heed predefined quality criteria, and its accreditation standards will allow for adaptation to country or regional differences.

As the creation of regional e-government capacity-building networks requires international sponsors and patrons to spearhead the undertaking, a virtual forum for the network will be featured on the IACD/OAS Web site and serve as a resource center providing data on e-government experiences and methods of implementation, best practices, and lessons learned. It will also serve as a platform for communication mechanisms, promoting exchanges of knowledge and materials between professors in order to share experience in the development of programs or courses.

A 10-member working group was appointed to define the priorities and strategies of the network. This group comprised e-government officials from Chile and Mexico and representatives of CLAD (Latin-American Center of Administration for Development, Venezuela), the University of the West Indies (Barbados campus), Fundação Getulio Vargas (Brazil), Universidad Técnica Particular de Loja (Ecuador), INAP (Instituto Nacional de Administración Pública, Argentina), ESAP (Colombia), LASPAU (Academic and Professional Programs for the Americas, Harvard University) and ENAP (École Nationale d'Administration Publique, Canada). IACD/OAS and IDB expressed interest in supporting the network and the eventual propositions of its working group.

A major limitation of this research is the assumption that a group of 16 e-government experts invited by the IDB and IACD/OAS in a two-day workshop can do a reasonably good job in identifying what is needed to strengthen e-government throughout the Americas. Obviously, this is not necessarily the case and depends to a great extent on how qualified the participants are (at this juncture, participants' names cannot be revealed). Furthermore, Table 2 was oversimplified as the working group agreed, by consensus, that a complete course addressing a specific subject should have a workload

of 40 hours for actors whose grades for this subject were the highest (10).

The next steps should be the development of general training content for each of the two groups of actors identified; the development of local training content by each representative of a country involved in the regional network; the choice of how the training is meant to be delivered, namely in a face-to-face approach, using the Web or a combination of both approaches, etc; and the implementation of a proof-of-concept endeavor to test and consolidate the findings from this research, involving managers, ICT personnel, and staff within a public organization.

Finally, it is hoped that this e-government capacity-building network can be linked to others already deployed, mainly in the EU realm, such that experiences can be exchanged and the scope of the program can be broadened and consolidated in a sustained fashion. ■

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DEVELOPING REGIONAL E-GOVERNMENT CAPACITY-BUILDING NETWORKS

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