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GSA

E-GOVERNMENT BEST PRACTICES

AN IMPLEMENTATION MANUAL

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<u>Preface</u>

The aim of this study, commissioned by the GSA's Office of Governmentwide Policy, was to develop an e-government 'implementation handbook'. This report is designed to address the needs of government officials seeking to implement e-government projects, or those already involved with such venture. It outlines key strategic issues that need to be considered and addressed in the implementation of technology based e-government initiatives.

The study was conducted by a team of MBA students from the Robert H. Smith School of Business at the University of Maryland, College Park, under the guidance of Prof. David Darcy. In compilation of this report we have consolidated information obtained through interviewing individuals from government and industry associated with best practice projects; we have also used current studies and literature. We welcome questions regarding our research, findings or conclusions.

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"The best plan is only a plan, that is good intentions, unless it degenerates into work. The distinction that makes a plan capable of producing results is the commitment of key people to work on a specific task."

Peter Drucker

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Executive Summary

The goal of this study was to compile an "implementation manual" –– a "road map" to be used by government officials involved with e-government projects (as managers, participants, or supporters). A review of literature and publications, as well as interviews with individuals associated with 'best-practice projects' as identified by the Office of Governmentwide Policy's Office of Electronic Government and the literature, provided us the basis for analysis.

Findings

1. New legislative approaches to e-government stress interagency cooperation and the use of private sector project standards (e.g. planning, budgeting, short time frames). At the same time, online services evolve from being information-centric to service-oriented – it is clear that current and future end-users demands necessitate a move away from static web presence listing policies, services, and procedures to a *dynamic* presence – centered around services provided from a product perspective, regardless of the number of agencies involved.

2. A clear distinction is between top-down and bottom-up projects: The former emerge as agencies respond to legislation or directives by high-level agency officials; the latter emerge as agency "line employees" – those directly responsible for providing a service – devise new approaches to business processes.

3. Eight areas –or "spheres of influence"- must be addressed by project managers: Political environment, leadership, budgets, technology, stakeholders, "transparency"/visibility, planning, and innovation. This concept was developed into a practical framework termed "the Innovation Zone" to stress the key role innovation plays in making projects succeed; guidelines to making innovation an organizational capability are suggested.

Conclusion

As end-users increasingly demand the availability of *complete* online services, e-government projects are being steered towards seamless integration both within and between agencies. The legislative environment further supports this demand. This is a unique moment in time when uncertainties represent more opportunity than risk. Project leaders can and should leverage the confluence of demands in the implementation of new projects; key to success will be the alignment of projects and programs with the new legislative environment and the emerging needs. More important, you, the reader, can recast your agency as an innovative trendsetter by adopting the recommendations herein.

Introduction

The emergence of the Internet and the proliferation of connectivity in the 1990s revolutionized many aspects of modern life, as distribution of products and services became independent of physical limitations like location or time of day and feasibility constraints like the need to keep inventories or rely on intermediaries. Private sector organizations were the first to identify and exploit these newly afforded capabilities. In short order, information became cheap and ubiquitous and service availability and accessibility increased exponentially.

The standards by which government agencies will be judged by, thus, have been set by the private sector. At first, government Internet presence and utilization revolved around making information available online. Increasingly, however, the government has heeded end-user[1] requests to align the ways in which services are being provided with the capabilities of this new communication medium. From permit issuance to regulation enforcement to procurement, the Internet has provided an alternative solution to past standard operating procedures and the traditional division of responsibilities between different agencies.

Agencies at all levels of government, despite substantial disparities, have shown signs of moving from a "stovepipe" model of delivering services to a more "common face" approach. In the traditional "stovepipe" model, each agency provides specific service regardless of required interactions with other agencies involved in the complete solution. In the "common face" approach, services become the core around which web-based offerings are arranged, as agencies cooperate to provide their part of the service through a single point of entry. Evidence for this trend of service integration is the re-emergence and increased use of portals by agencies seeking to provide a seamless user interface.

It is in this new environment that e-government projects are being conceived and executed; it is this environment that dictates the new rules of project management. This report provides an implementation model based on review of best practice projects. The model outlines the various components that need to be fully addressed (to a varying degree) in the implementation of e-government project, provides examples of how other agencies addressed these components, and suggests possible ways of approaching implementation. It is intended for practical use by individuals involved in e-government projects at all levels. It can also be of benefit to those who see a need for change, allowing them to weigh the pros and cons for becoming change agents.

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[1] In the context of this study "end-users" are the consumers of government services – end-users can be private citizens or other government agencies, employees, not-for-profit organizations, educational institutions, commercial concerns, etc.

Framework of Analysis

The challenge of compiling a best practice implementation manual lies in distinguishing the various roles played by the different individuals involved in e-government projects. Further complicating affairs, is the high degree to which roles and responsibilities are interchangeable among team members, and the intertwined interactions with elements outside the project proper.

A list of generic interview questions was developed and used in interviewing government officials and private sector personnel.[2] These questions approached specific projects from the perspective of the *life cycle methodology*. The major building blocks of this reiterative model are:

 ➢   Identification / Selection – needs are identified; a proposed solution is selected.
 ➢   Initiation / Planning – project is initiated; planning commences.
 ➢   Analysis – study of systems and procedures generates alternative approaches.
 ➢   Logical Design – solutions are proposed and described; fit to overall project is evaluated.
 ➢   Physical Design – project structure finalized through modeling, prototyping, and scaling.
 ➢   Implementation – solution is deployed, tested, and pronounced operational.
 ➢   Maintenance – system performance maintained within specified optimum ranges.

Relating this paradigm to e-government, however, proved to be less than satisfactory, as initial interviewing yielded several common dominant themes *not covered by this model*. These included:

 (a) Obstacles and different ways for overcoming them,
 (b) Communicating and promoting projects,
 (c) The effects of the political, internal, and external environments, and
 (d) The management of resources.

Additional definitive themes that emerged from interviewing were:

 (a) The primary role of legislation,
 (b) The paramount importance of leadership, and
 (c) The underlying need for employing innovative practices in approaching the various aspects of project management.

Interviewees delineated a clear distinction between top-down projects that are initiated as a result of legislation or instructions from the high levels of an agency, and bottom-up projects that are initiated by divisions or groups who become aware of an opportunity to improve upon current processes.

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[2] See Appendix III for the list of interview questions.

A separate issue that emerged was the reasons for failure of some projects. These included:

    (a) Politics as usual,

    (b) The lack of resources, or

    (c) Distinct management shortcoming – an isolated, catastrophic event that by itself, and regardless of contingency planning, leads directly to failure (e.g. the departure of a dominant and irreplaceable leader; the failure of technology to live up to its promise).

A more complicated type of failure identified was systemic failure – where several factors combine to create an insurmountable obstacle, or sets of obstacles. This type of failure is more prevalent among bottom-up projects that suffer from chronic lack of political support, resources, funds, and personnel. It is important to note that sometimes the lack of sufficient budgetary commitment contributes to the failure of top-down inter-agency projects as well.

Beyond conducting interviews, a review of publications and research papers was undertaken to gain insights into additional best practice projects and the environment surrounding e-government. The legislative arena shows clear impetus for e-government projects that stress inter-agency service provision through a single point of entry. Existing and emerging bills prioritize such projects. The e-government environment also stresses the need to use private sector standards of project management and execution, with several small-scale demonstrations, pilots or proofs of concept.

To conceptually pull together the above ideas—the deficiencies of the life cycle model as applied to e-government, the disparity between top-down and bottom-up projects, failure's cause and effect, and legislation—a list of influential factors that must be touched by project managers was compiled. This list was combined with the reiterative characteristic of the life cycle model and with project-external influences to create an implementation manual that represents a way of approaching e-government projects (see the Key Findings section of this report for both frameworks). The model was termed "the Innovation Zone" to stress that the application of innovative techniques to every aspect of project management is critical to (1) a successful navigation of obstacles and (2) the creation of synergistic opportunities among the different entities involved in a project. Also noteworthy is the merging of the needs of innovative and entrepreneurial bottom-up projects with the new legislative requirements, creating an opportunity to adopt the idea of innovation as a capability.

Legislative Context

Traditionally, the paramount impetus for government agencies to seek and incorporate new technology has been legislation. Some of the significant pieces of legislation that has driven agencies to implement new technologies are:

➢ The Government Performance and Results Act (GPRA) of 1993 provided the initial impetus for government agencies to explore the role of the Internetworking in everyday operations. GPRA holds all federal agencies more accountable for their budgets; implementation efforts include strategic planning, benchmarking, and performance reports aimed at making agencies more customer-focused.

➢ The Clinger-Cohen Act of 1996 required GSA to provide agencies with information on products and services available under multiple award schemes. Agencies are developing management, evaluation, and internal investment control processes to oversee the management of IT projects. Many of the internal monitoring systems developed are web-based.

➢ The Government Paper Elimination Act (GPEA) of 1998 requires agencies to develop capabilities to permit electronic maintenance, submission, or disclosure of information, including use of electronic signatures. Agencies have until 2003 to develop and implement these processes.

➢ The FAIR Act (Federal Activities Inventory Reform) of 1998 requires federal agencies to provide inventory of all commercial activities undertaken inhouse. Following OMB review, agencies are required to examine practices and determine ways in which commercial activities not inherently governmental can be outsourced.

➢ The E-SIGN Bill (Electronic Signatures in Global and National Commerce Act) of 2000 authorizes the use of electronic signatures in online contracts, making digitally signed electronic transactions legally binding, equivalent to handwritten signatures. States are preempted from deviating from E-SIGN, allowing for standardization in its acceptance.

While these acts and others are expected to remain the main modernization drivers, agencies are increasingly aware of opportunities to leverage the Internet's capabilities beyond what is mandated by law. From a government-to-citizen perspective, for example, early-adopter agencies display a distinct move from early information-laden web presence to "second generation" sites that seek to provide citizens looking for a particular service with a functional, single point of entry *regardless of the number of agencies involved in providing this service.*

Looking forward in this context, we find the following two proposals symbolic of the new legislative/executive approach to e-government. Both stress the need to focus on inter-agency projects that streamline processes from the perspective of the end-user (citizen or otherwise) and both implore agencies to use business-world practices:

➢ The <u>E-Government Fund</u> is a proposal by the new administration, aiming to allocate $20 million in FY2002 and $100 million over the next three years to promote e-government initiatives. Managed by the OMB Deputy Director for Management, the fund will emphasize inter-agency projects, and will aim at the unification of procedures and processes *around* citizen needs. In addition, the fund will mandate the use of private sector performance measures, and project budgeting standards.

➢ The <u>E-Government Bill</u> is a comprehensive proposal by Sen. Joe Lieberman (D-Conn.) that is gaining bipartisan support. It calls for the creation of a new office within the OMB—the "Office of Information Technology"—to be headed by a CIO reporting to the Director of OMB. The new office will control the annual allocation of $200 million to inter-agency projects, with an overall goal of aligning citizen needs with services provided by agencies.

Regardless of the final shape, fiscal characteristics, or passage of these and similar proposals, these two initiatives, at the very least, are useful in that they indicate the future attitude to e-government among the top levels of the executive and legislative branches. Government agencies able to rearrange their IT operations to emulate some of the basic principles common to these propositions will be able to reap substantial benefits in the form of political power and support of IT initiatives.

Innovation and the application of e-government best practices *must* complement this recommended realignment of efforts. This report's frameworks for understanding and applying innovation to e-government projects, which were drawn from projects identified as "best practice", are designed to turn the attention of individuals involved with projects to the different, interrelated factors that could make a project successful.

Baseline Practices

While this report focuses on best practices derived from e-government projects, it is important to note that in the final analysis, these are derivatives and extensions of "classic" best practices. These factors establish a baseline and are necessary but not sufficient conditions for highly successful projects. The factors can be outlined as:

➢ **Sufficient political support**, which is expressed through the dedication of budgets, resources, and other essentials.

➢ **Leadership** committed for the duration of the project (or clear succession contingency plans), which must be (1) in possession of the required management skills, (2) able to formulate a clear compelling vision for the project, (3) able to align project goals with organizational goals, and (4) knowledgeable of the procedures, processes, or mechanism the project aims to improve upon or replace.

➢ **Thorough and detailed planning** encompassing technical and business issues.

➢ **Needs validation and customer base identification**, which is critical for the formulation of valid, attainable goals.

➢ **The establishment of credibility** through the employment of sound control and evaluation procedures (for example the use of independent third party evaluators).

The above list contains project management principles proven time and time again in a variety of different scenarios. From the perspective of e-government however, it loses some of its effectiveness due to the fluid characteristics of e-government implementation some of which are:

➢ The much **higher number of stakeholders** and the increased need for lobbying and marketing-type activities.

➢ Potential **complexities introduced by new technologies**.

➢ **Competing technical standards**.

➢ Possible **infringement on services provided by private sector companies**.

➢ The **lack of common operating procedures**.

Thus, while e-government projects can certainly benefit from awareness and adherence to the traditional management practices outlined above, there is an apparent need for identification and dissemination of current practices derived from a study of contemporary projects.

Emerging Trends in e-Government

Above and beyond the traditional success practices listed earlier, cutting-edge e-government projects repeatedly display common characteristics:

1. Public-private partnerships
2. Alliances with stakeholders
3. Interagency cooperation
4. Defined and scalable milestones
5. End-user focus

1. Public Private Partnerships

Forward-looking e-government projects exhibit reliance on public-private partnerships. Cooperation with the private sector grows in importance as technologies grow complex and government seeks to *mimic* ways in which services are delivered in the private sector. The "lack of clear theoretical guidance regarding the separation between government and business in a digital economy"[3] represents a significant challenge for government. It is impossible to determine where along the private-public continuum this separation will come to rest. It is certain, however, that this subject will continue to remain at the top of the priority list for policy makers and industry leaders, and therefore that agencies are better off enhancing their skills in creating and developing relationships with private sector entities.

There are practical, beneficial side effects to cultivating relationships with private sector organizations as well. Government project mangers can "recruit" experienced industry experts loaned by their companies as part of their "social responsibility" agenda. The expertise, leadership skills, and technical know-how imported thus can allow e-government projects to make significant strides. The equipment and resources made available by participating companies can ease some of the technology and budget constraints. While there are legal and ethical implications to such relationships, careful analysis of these potential roadblocks often lead to the devising of ways to overcome these while remaining in compliance. The imperative is to identify those companies whose *interests* (not necessarily the winning of contracts – the goodwill these companies can derive from contribution to government efforts is often compensation enough) *overlap with those of your agency or department*, and cultivate relationships.

2. Alliances With Stakeholders

This seemingly apparent extension of the public-private partnership concept is substantially significant to merit a separate category. It is as important for an agency to identify other entities that can share the risks and rewards of its e-government ventures,

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[3] According to Peter Orszag, former special economic policy assistant to President Clinton, as quoted in Federal Computer Week, 11/13/2000.

as it is to identify companies.   Developing strategic alliances all along the service spectrum is crucial for the success of a project.

The term "stakeholders" refers to all entities that could possibly have any interest in joining a project – private-sector companies are stakeholders, and so are other government agencies, employees, private citizens, civic association, research institutes, etc. The forging of stakeholder alliances is comprised of two parts: the identification and the recruitment. When trying to identify stakeholders, the organizational goal is to <u>not</u> focus on who gets what pieces of the pie, but on making the pie larger. This can be achieved by <u>looking beyond</u> the "usual suspects" – beyond the traditional pool of possible candidates for cooperation. When recruiting stakeholders, the goal is first to identify if there is any overlap between the project and the interests of the stakeholder group. Then, it is necessary to ascertain if there is any possibility that the particular stakeholder might object to the proposed project. Depending on the answer to this question, the next move is to either propose cooperation to stakeholders open for the idea, or convince potentially hostile stakeholders of the inherent worth of the proposal. Straightforward and open conduct of operations is critical for establishing of credibility in this stage, and is especially vital when considering the long-term implications on the reputation and standing of your organization within its community of stakeholders.

3. Interagency Cooperation

Interagency projects, without exception, tend to be complicated, protracted, and of mixed results. Yet the growing importance of interagency cooperation cannot be stressed enough. While this dichotomy makes the identification of specific best practices difficult, it is clear that the sooner an agency adopts the required mindset for interagency cooperation, the likelier it is that that agency will be able to take advantage of the resources made available specifically for interagency implementations.

When approaching the identification of possible cooperation, the main question to ask is: Are there any new requirements—legislative or need-based—that are placed upon other agencies that create new needs that can be answered by the existing portfolio of e-government projects managed by your agency? To actively answer this question, an emphasis must be placed on the development and cultivation of formal and informal networks across organizational boundaries. Concurrently, the introduction and implementation of a clear communications plan (i.e. making sure others are aware of ongoing projects, and putting a generic spin on projects so that they can be related to by other agencies) can assist in spreading the message.

4. End-User Focus

Put bluntly, a prerequisite for any project is that it answers a need that is acutely felt by intended end users. Best practice projects go beyond the idea of providing a service or a solution that is indeed in demand - - they address the *delivering* aspect itself. From EDI versus XML to digital divide implications, e-government projects must devise new approaches to accessing intended end-users.

The role played by technology is both significant and positive. As means of distribution become cheaper and standardized, new answers to old problems are presented and tested on a daily basis. For example, information kiosks that were cumbersome, non-interchangeable proprietary machines, are being replaced by inexpensive PC-based, web-connected workstations that are positioned in neighborhoods of low average connectivity. Similarly, new interface technologies allow people with serious disabilities (e.g. visual impairments) to access Internet-based services.

The challenge for e-government project managers is to design solutions, as well as their delivery, with a *complete* set of end-users in mind. It can be conquered through careful planning, and especially through paying attention to the changes in the end-user base that result from project changes that are made "on-the-fly".

5. Defined and Scalable Milestones

The dovetailing of e-business and e-government practices is evident not only in the blurring of the lines between services offered, but also in the crossover of practices and processes. Founders of technology startups that made a successful transition from an entrepreneurial organization to a publicly traded company often cite the important role of early institution of quarterly goals across all operating areas, from marketing to product development. There is mounting evidence among best practice e-government projects that the adherence to strictly defined short time horizons, and the emphasis on prompt deliverable turnaround is spreading through e-government. To stay ahead of the irrelevancy curve and abreast of developing technology and changing end-user needs, project leaders will have to focus on reiterative, short-term implementation cycles that yield verifiable product.

These five emerging e-government trends are distinct, and yet they clearly overlap on certain issues. This is a positive characteristic from an implementation perspective, as adoption of one or few makes the adoption of the rest not requiring a drastic leap of faith. By paying attention to each of these trends, e-government project leaders and participants can increase the likelihood of implementation success, as well as enhance the level of potential impact of the deployed system.

Key Findings

Our analysis of the (1) literature[4] (2) interviews conducted and (3) best practice e-government initiatives provided substantial insights into the e-government project life cycle. These insights were reduced to a fundamental set of common elements, or "spheres", that influence the success or failure of a project. To assure project success, project leaders must addressed these "spheres of influence" at the appropriate stages of the project life cycle[5]. They can be mapped as follows:
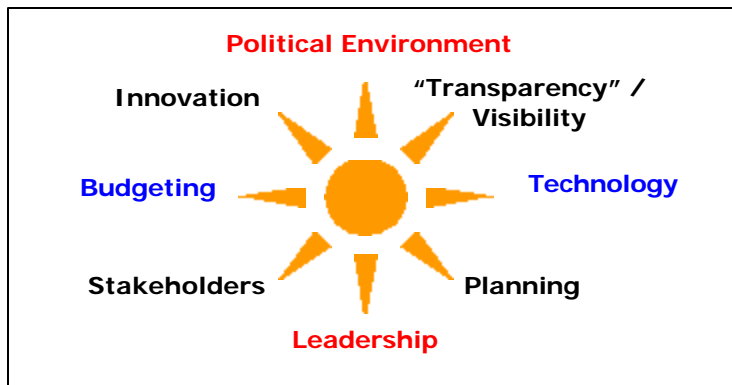
1. Political Environment: The political environment represents the overall climate within which a project is conceived, initiated, and executed. We have identified two general types of projects:

Top-Down Projects are either (a) initiated by agency executive/s, or (b) undertaken as part of fulfilling a legislative mandate.

Bottom-Up Projects are inspired by a need felt by a "line person" - - an employee responsible for providing a certain service or product, that is able to devise a more efficient process.

Top-Down Projects

Potential efficiencies enabled by applying e-business processes to the improvement of government services are prompting campaign promises of a more efficient government. Furthermore, state and local agencies have realized that websites and access to services improve the perception of the government–citizen interaction. Governors and local officials have placed the creation of government Internet interface in their list of priorities. The Governor of Illinois, for example, has included electronic government initiatives among

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[4] Especially guided by detailed analysis presented in GAO document: "Electronic Government Federal Initiatives are Evolving Rapidly but they Face Significant Challenges", GAO/T-AIMD/GGD-00-179.
[5] Details for implementation of spheres is addressed in the Implementation Manual.

his campaign pledges[6]. Government officials may leverage such promises in the support of e-government initiatives.

The other project initiation source is agency management at the executive level – a decision by high-ranking officials that control the allocation of resources (funds, personnel, office space, equipment, etc.) is as powerful a driver as the legislative mandate.

<u>Bottom-Up Projects</u>

E-government initiatives are also developed within agencies as "front-line" employees or departments (regardless of their hierarchical status) recognize Internet enabled synergies. These change agents use their familiarity with processes and end-user requirements to create and develop innovative, localized projects that, *ideally*, gain attention and support from within the agency. For these projects to succeed, the value they generate must be easily quantified; small-scale design and easy to perceive benefits, thus, must be integral.

<u>Importance:</u> Political support holds the key for propelling and sustaining all projects, those initiated by line personnel as well as those mandated by Congress or agency executives. Project leaders must continuously seek and cultivate political support to ensure resource availability throughout the project life cycle. While this task may seem initially less daunting for top-down project leaders, several factors may diminish their ease of maintaining political support, compared with bottom-up project lead: (1) size and scope of top-down projects; (2) complexity, especially in technologically complex inter-agency projects; and (3) internal and external conflicts of interests. It is imperative for top-down project leaders to be aware of these factors, and to devise appropriate contingency plans.

Bottom-up project leaders, on the other hand, do not benefit from the by-default political sponsorship enjoyed by top-down project managers. Rather, these change agents must identify and recruit idea champions – high-level executives willing and able to commit to and sponsor the project. The inherent resistance to change, and the overall bias towards the status quo make the finding of sponsors difficult and precarious. Nevertheless, it is clear that political support is of the chief importance to the success of projects.

2. Leadership: Leadership refers to the project leader who steers a project through the implementation process. Leadership of a project is a sustained effort throughout the

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[6] See interview with Eric Brenner (Illinois' Federal Clearinghouse), Appendix II.

project life cycle. The "leadership horizon" symbolizes the required continuity, and link between the (1) political forces, (2) resource base, and (3) stakeholders – a linkage that must be established and maintained by the project leader.

Thus, there are several burdens that must be met by the project leader:

1. The articulation of a clear vision that is compelling enough to rally subordinates, superiors, and the agency itself, as well as other stakeholders.
2. The ability to construct a comprehensive project plan.
3. The ability to "market" and "lobby" the project to executives, other agencies, intended end-users, and other stakeholders.
4. The ability to recognize and overcome obstacles.
5. An in-depth knowledge of business processes, which must take precedence over understanding of or familiarity with technology[7].
6. A basic understanding of the technology employed.

It is important to note the divergence from the original approach of entrusting technology personnel with the ownership over technical projects. While project leaders may come from the technology side of operations, for them to succeed they must have a clear understanding of the processes the project seeks to improve upon. For example, control over the look and feel of web sites was at first delegated to the technologists; as web sites' role evolve from mere information conduits to service gateways, agencies discover that a more effective utilization of web sites necessitates the bringing in of the people most familiar with the particular service.

Importance: Intuitively, leadership is ultimately responsible for implementing executive orders or perceived needs. The leadership can drive innovative solutions and convince agencies to share in the innovation. Dynamic leadership can identify creative ways of funding projects as well as making projects innovative to attract budgets[8]. Leadership is essential to developing the interests of stakeholders and marketing the project successfully. By engaging a broad array of stakeholders at various stages of the project, the project leader can increase the likelihood of successfully overcoming the departure of key stakeholders[9]. The perception of a strong and innovative leader is also important for establishing credibility. The true test of leadership is the ability to nurture and build a cadre of individuals capable of assuming the leadership in case of leader departure[10].

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[7] See interviews with Eric Brenner, P.K. Agarwal, Steve Mahaney
[8] See interview with Elizabeth Phillips (Federal Commons)
[9] See interview with David Temeshok (AAFS Task Force)
[10] See interview with Elizabeth Phillips (FAMES Project)

3. Planning: A comprehensive project plan, developed at the outset of a project and constantly evaluated and modified throughout the project life cycle, is critical for success. It is important to develop creative and flexible plans that can accommodate unexpected occurrences, and reflect the actual work and customer base of the project.

The planning process for an e-government initiative includes several aspects of the project implementation. The planning should take into consideration technical aspects of the development phase. This includes elements like the use of public-private partnerships, security procedures, transfer of technology, documentation, training, feedback procedures, and scalability. Planning should also address marketing of the project, resource planning, and evaluation mechanisms. An important consideration is allowing for the incorporation of unique and innovative features throughout all project phases.

Importance: Planning is important in the development of any initiative, and especially e-government initiatives that often cross the boundaries of known organizational operating procedures into the realm of the new and untested. Successful planning creates a common basis for understanding key processes, competitive advantages, and obstacles in a project. The articulation of project goals through the planning stage is critical to the implementation and long-term success of a project.

4. Stakeholders: Stakeholders are defined as every group of people or organizations that has potential interest/s in the implementation of a project – other government agencies, employee unions, private industry, not-for-profit organizations, associations, and so on. Stakeholders may or may not be aware of the applicability of a project to their distinct needs. One of the main responsibilities of project leaders is to identify as many stakeholders as possible, and bring them to pull in the same direction.

Stakeholders should be an integral part of any project. They include the people who implement and maintain projects as well as those who end up utilizing project outcomes. Stakeholders, of course, can undermine a project by not implementing it appropriately ("destructive obedience") or rejecting the proposed system or solution.

Stakeholders can be classified into four broad categories:
   1. **Employees** must be brought into the process. Project leaders must recognizing that 'institutional pain' is part of every organizational change, and design ways to overcome

it: e-government initiatives are often feared as harbingers of staff reductions. To obtain the support of employees, it is necessary to address their concerns and assure them that their interests are met by the project. (i.e. projects must be designed to converge with employees' interests and concerns.)

2. **Other Government Agencies** may have interests in the particular initiative that need to be included and considered. It is necessary to identify these identities and obtain the buy-in of key players inside other agencies. This will increase cooperation between agencies, and pre-empt turf wars; it may also increase the potential customer base.

3. **Private Sector** interfaces with the government in several ways. Private contractors may be implementing e-government projects; private providers may be providing services from the government to individuals. It is thus important that e-government projects take into account the interests of these groups. The following private-public friction points are examples for the sometimes conflicting roles government and private enterprise play: (a) Delivery of mail/packages and the facilitation of e-payments (USPS); (b) Gathering and dissemination of financial data (SEC); (c) Consolidation and analysis of demographic statistics (Census Bureau); (d) Providing tax filing capabilities (IRS). The private sector may view as threatening projects that seem to overlap with already provided services. It is important to recognize the concerns of these commercial entities and align projects with these concerns in order to (at the very least) quiet the opposition, or even (at best) generate partnership opportunities.

4. **Final End-Users** are the most critical group of stakeholders – answering end-user needs must be the goal of every project. The only way for e-government initiatives to generate high rates of adoption is to ensure that these needs are addressed in a substantially meaningful manner.

There are several ways stakeholders can be involved in e-government projects. A commonly used method is through pilot or demonstration projects, which are extremely useful for getting stakeholders involved, as well as obtaining their buy-in. For example, the HHS-led Federal Commons project, a portal aimed at standardizing online access to grants, is currently in a pilot phase. This allows stakeholders to test the project and identify interests. Developing an interest in the project helps develop a committed customer base and thus muster resources and budgets for full implementation[11].

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[11] See interview with Elizabeth Phillips (Fed Commons)

Another successful way for getting stakeholders involved, learning their interests in a project, and obtaining their buy-in, is through focus-group meetings. For example, the Access America for Students Task Force used focus groups effectively to get inputs from stakeholders in education financing. Multiple government agencies, private lenders, universities, and students participated in focus group meetings coordinated by a non-profit agency. This provided input to implementation of a successful demonstration project[12].

Importance: The only way to justify an e-government project, or any other initiative for that matter, is to identify a substantially broad customer base that can justify the effort. Ascertaining stakeholder interests can mould a project as user-friendly both in terms of delivering services and obtaining services. Internally, vested interests of several stakeholders can help mobilize budgets faster and provide greater resources to a project. Externally, stakeholders create the customer demand for services, providing a project with the forward momentum necessary.

5. Transparency/ Visibility: Project transparency and visibility are closely linked to the stakeholders. Transparency refers to the public availability of documents that track and monitor the progress of a project. Transparency and the public distribution of the strategic plan, needs analysis, evaluations, etc. help establish the credibility of the project and implementation process. External evaluation of a pilot or development phase of a project ensures the legitimacy of the project and its relevance to end-users[13].

Not all projects must be inherently transparent in their conceptualization and development stages. Often, cutting-edge projects have too many variables, thus are too difficult for a large bureaucracy to "digest". Rather, dynamic leadership is required to the garnering of the budgets and resources needed for implementation. Once prototypes or demonstration projects are developed, transparency mechanisms must be engaged to assure the promotion of the project to its stakeholders. Marketing mechanisms assists in the promotion of the project by creating and developing customer bases across departments and agencies[14].

Importance: Branding and promoting a project is part of implementing an e-government project; the marketing process should occur both externally and internally.

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[12] See interview with David Temeshok (AAFS Task Force)
[13] See interview with David Temeshok (AAFS Task Force)
[14] See interview with Michael Moore (VA)

6. Budgets: Budgeting involves obtaining the resources necessary for the implementation of a project. It is, of course, at the core of the development and implementation of any project. A previous study[15] summarized the different budgeting methods e-government initiatives can be based upon.

Projects with high-level support often have basic budgets allocated to them. Single agency projects often are able to obtain resources easier than inter-agency projects. However, even within these environments, budgets can be an obstacle in implementation[16]. The lack of sufficient budgets has been cited as the greatest obstacles projects face: only 19% of projects initiated are able to overcome this obstacle[17]. In this context, it is critical for project leaders to consider creative ways of resource generation. Often, innovative projects capture the interest of agencies willing to invest in it; successful pilot projects that create a customer base help attracting funds[18].

7. Technology: Technology is closely related to budgeting. Technology used and processes implemented are integral to every e-government process. The availability of funds dictate the technology used in the development of an e-government project. For more on the relationship between technology and budgets see the Implementation Manual section of this report.

8. Innovation: Innovation is often referred to as a "Holy Grail" – an elusive, intangible ingredient of business possessed by a lucky few. Innovation, rather, stems from a set of clear directives that can be applied by *any* organization, towards the solving of *any* problem. Gary Hamel outlines the four key rules for innovation[19]:

1. Imagine – generate new ideas
2. Design – construct models that transfer ideas to reality
3. Experiment – test small scale models
4. Asses – determine the probability of success
5. Scale – if project is judged to be "transferable" to full-scale

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[15] See Office of Electronic Government web site (http://egov.gov/documents/ec_fundingfinal.doc)
[16] See references to Fed Commons, AAFS
[17] "The Challenge of Innovating in Government", a research paper by Sandford Borins, University of Toronto, February 2001
[18] See references to VA, Employee Express
[19] Hamel, Gary. "Leading the Revolution", 2000.

Innovative techniques should be applied to every sphere described in our framework of analysis. Navigating the political environment, creative budgeting and the use of technology, engaging stakeholders, planning and marketing the e-government project can be done in unique ways, allowing the establishment of 'brand identity'. It is important to keep the benefits of a creative spirit in mind while designing and implementing an e-government project.

IMPLEMENTATION MANUAL

The following scheme is a pictorial representation of the major dimensions influencing e-government project:

- Idea Conception
- Obstacles
- Budgets and Technologies
- External Environment
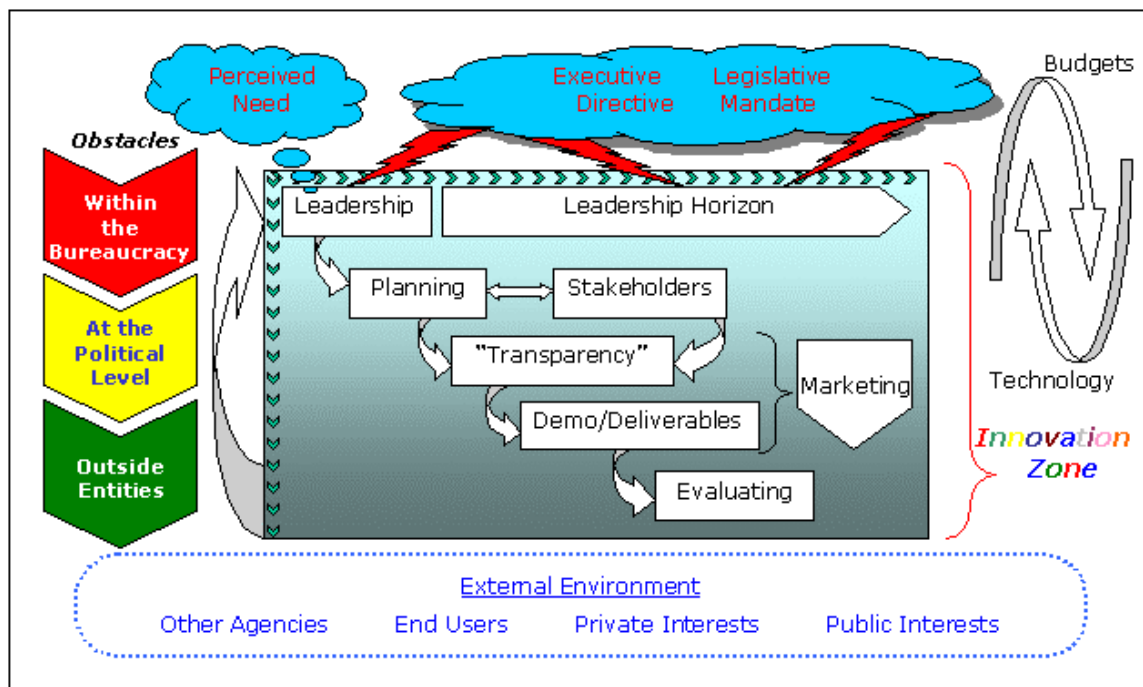
The creation of productive relationships between these "spheres" and the various stages in the project life cycle holds the key for successful project management. We use the term "innovation zone" for the gamut of leadership activities, like planning, marketing to stakeholders, gathering resources, and others, that must be successfully undertaken throughout each reiteration as projects evolve from an idea through proof of concept and demo stages to full scale implementation.

Idea Conception: It is important to be aware of the differences between **Top-Down** executive directive or legislative mandate driven projects, and **Bottom-Up** perceived need driven projects. Some of the issues that can be addressed include:
- Identify changes in the political environment that would be conducive for the project. (e.g. Federal Commons developed by Health and Human Services).
- Develop a project that can take advantage of current political environment *and* further your our e-government strategy.

- Ensure that a successful project initiated, *even at a small-scale within a division,* will capture political interest. E.g. Employee Express developed by Health and Human Services is now being used by several Federal agencies.

Leadership and the Leadership Horizon: The leadership task must be applied *throughout* the project life span. One big push isn't enough to sustain the team/project in the long run. A project leader is the key link between all aspects of the project – the technical, budgetary, implementation and the marketing. A good leader should:
- Have a clear and articulate vision of the project trajectory.
- Have a full understanding of the 'business' side of the project.
- Be able to translate the business requirements to technical requirements.
- Understand who all the stakeholders (existing and potential) in a given project.
- Help overcome 'institutional pain'.
- Reach out to several groups of stakeholders and build coalitions and alliances.
- Market the idea sufficiently to garner resources and budgets.
- Be an 'idea champion' who encourages experimentation and innovation.

Planning[20]
The foundation of planning for projects rests on five ideas:
1. Systems approach – planning for solutions that encompass all systems processes – the input, output, internal processes and controls.
2. The use of information technology.
3. Process improvement.
4. Private-public partnerships – as a source for talent and resources.
5. Empowerment – of stakeholders from end users to project personnel.

Aspects of Overall Planning
- Identify end user and purpose of project
- Map detailed steps and areas of operation necessary for implmentation
- Create function-based plan rather than agency-based plan
- Distribute plan widely and incorporate suggestions as appropriate
- Keep in mind process improvement and complete solution as end-product
- Process needs to be end-user focused
- Examine use of public-private partnerships

The project plan should also layout a technical plan and a communications plan that incorporate various aspects of the project. The technical plan should include:
- Evaluation plan of technologies and solutions to be used

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[20] Based on "The Challenge of Innovating in Government", a research paper by Sanford Borins, University of Toronto, February 2001.

- Security, privacy and access control
- Alignment with existing systems
- Ability to scale, add functionalities, innovate
- Ability to reduce paperwork
- Transferability, maintenance, training – documentation, help desk, FAQ etc.
- Ability to identify well-defined processes that provide assessable results withing short periods of time [21]

The Communications Plan should include:
- Various proposed channels of communication to various stakeholders
- Training plan for employees
- Pilot systems with feedback mechanisms [22]
- Focus groups for input into development and/or implementation process
- Marketing plan and public awareness campaigns to increase 'brand awareness' i.e. project awareness.

Stakeholders – Stakeholders in a project range from top-level officials to employees to end-users. For the successful implementation of a project, stakeholders need to be engaged in several ways at various stages. In involving them, the project management needs to keep in mind:
- Who are all the stakeholders who may have vested interests in the project.
- What are the areas of influence of the various parties (resources, users, private institutions, political obstacles…).
- How can you develop and what are the channels of communication you need to get their buy-in. (e.g. Focus groups developed by Access America for Students)
- How do you address the needs and fears of employees and get their buy-in.
- How do you address the needs and suspicions of the end-users.
- How can you and do you need to demonstrate early that the project is aligned to the needs of the customers as well as the providers.
- How can you encourage network effects among stakeholders.
- Would 'development teams' with greater decision-making authority increase the interests of employees.

Transparency, Marketing & Evaluation– Government projects need to be transparent to gain credibility among its stakeholders. A more transparent project can help gain the acceptance of the user groups as well as employees. In order to maintain a level of public access to a project, it is recommended that:

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[21] The Defense Information Systems Agency wanted to test wireless technology. Within 30 days, it established a prototype that account managers could tinker with, in preparation of a more comprehensive proof of concept. ["Defense Information Systems Agency pilots wireless portal", see Http://fcw.com/articles/2001/0430]
[22] "Missouri take e-transaction leap", www.fcw.com, March 2001.

- Projects have clearly developed and well distributed documentation like strategic plans, evaluations and marketing materials. (E.g. Access America for Students had clear documentation that showed reference to use of existing research and studies done on education financing. It utilized Department of Education's "wish list" in developing its own plan.)
- Regular communication channels are maintained both upstream and downstream
- Prior studies and analyses are used in the development of projects.
- Pilot projects or proofs of concept are executed in short time frames to demonstrate early success.
- Results from pilots are visibly incorporated in the next demonstration or implementation.
- Outside evaluators (third-party) are utilized to evaluate demonstrations or implementation.

Budgets and Technology Cycles

Budgets and the selection of technology for a project are closely interlinked. Projects with sufficient budget allocation have the freedom in selecting technology that is most suitable for the project as well as being cutting edge. On the other hand, projects with insufficient or no budget allocation are unable to experiment or choose the most appropriate technology. Instead, they choose technologies that are cost-efficient and able to provide an immediate solution.

Nevertheless, the threat of implementing "experimental" technology (i.e. systems or solutions that have not been deployed or tested in live environment conditions) can affect even the most carefully planned implementations. Project leaders should carefully evaluate technology demonstrations solutions and consider opting for proven technology in most cases.

The scarcity of funds necessitates use of technologies that are:
- In the public domain and readily available
- Tested and proven (e.g. Employee Express at HHS which used kiosks and touch tone telephones)
- Within skill set of available personnel
- Require little to no support staff and user training
- Easily distributed via existing channels (e.g. touch tone telephone; web browsers)
- Compliant with existing systems; featuring easy integration.

A case in point is Colorado's Public Safety Department is rolling out web based budget reporting system that reduces the amount of time it takes to collect and analyze

information form two weeks to 30 minutes – using Microsoft SQL server and an off-the-shelf commercial application – all for less than $100,000.

Obstacles[23]

An e-government project can face several obstacles within the bureaucracy, at the political level or with outside entities. Some of the obstacles can be defined as:

Within the Bureaucracy (the Largest number of obstacles):
- Who takes ownership, responsibility and the lead in a project
- Turf wars that lead to hostility
- How do you keep enthusiasm for the project
- How do you deal with issues of continuity of leadership, project champions
- How do you overcome implementation difficulties regarding standard systems, legacy systems, budgets etc.
- Union/middle management opposition

At the Political Level:
- Inadequate funding or allocation of resources
- Legislative or regulatory constraints
- Political opposition
- Can services be justified in light of FAIR Act etc.

Outside Entities:
- Does the public trust the government in implementing an effective solution borrowed from the private sector?
- How do you reach the appropriate or complete audience in the face of the 'digital divide'?
- How do you handle opposition from parties that may compete with the government in provision of certain services?

Identifying and Overcoming Obstacle[24]

A way to manage obstacles is for the idea champion/change agent to weigh the following questions, thus identifying potential obstacles and designing ways to overcome them:

Within Bureaucracies:
- Understand interests
- Build coalitions; motivate players

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[23] Based on "The Challenge of Innovating in Government", a research paper by Sandford Borins, University of Toronto, February 2001.
[24] Based on "The Challenge of Innovating in Government", a research paper by Sandford Borins, University of Toronto, February 2001

- Demonstrate projects
- Communicate regularly
- Train adequately

At the Political Level:
- Lobby legislature
- Explore creative sources of funding

Outside Entities:
- Increase awareness and involvement
- Enter partnerships
- Address concerns and fears

Two general ways for dealing with these questions (with specific sets of tactics for each specific issue) are:

Persuasion:
- Share benefits with potential opponents; find common ground in creation of win-win situations.
- Demonstrate project.

Accommodation:
- Train affected parties.
- Consult with affected parties.
- Co-optation – bringing opponents to participate.
- Compensate losers (win-win, not zero-sum).
- Attention to cultural issues.

Avoiding "strong arm tactics"
Success depends on the ability to take objections seriously and responding accordingly:
- Finding additional resources.
- Effort and persistence.
- Resolve logistics.
- Alliance building.
- Clear vision.
- Recognize participants.

Some particular tactics that can help overcome obstacles are outlined below:
a) Legal mandates:
- Will the new innovation require changes to current laws?
- How difficult will it be to push legislation if so?

b) Organizational capabilities:
- If an interagency project, what are the ongoing relationships?
- Is there a history of rivalry? Will there be fights over control?

c) Opposition by core agencies:
- How do you motivate key participants?
- How do you manage volunteers?

d) Resources availability and the cost of innovation:
- How much is it going to cost?
- Where can funds come from (appropriations vs. private sector donation or participation)?
- Are user fees a possibility?

e) Implications of using new technology:
- Are there legacy system issues?
- Will the implementation new technology result in job losses?
- What is the level of user training required?

f) Attitudes of different stakeholder groups:
- Cooperation depends on bringing stakeholders together, on mitigating interest conflicts.

g) The difficulty level of reaching the target audience:
- Are there special needs?

h) Public skepticism and/or opposition:
- Could there be security and privacy implications?
- Will a public/private partnership make the public view govt. as colluding with profit-driven private sector?

External Environment

A project is finally developed to service a group of end-users, whether they are citizens, employees, private institutions or other government agencies. In managing and involving this external environment, project leaders need to develop strategies to mediate with these organizations. Some tactics are:
- Entities within the department – manage the political implications of the project.
- Other agencies within your government level – share and try to achieve buy-in.
- State, local, and regional government bodies that may be affected – approach, inform, recruit.
- Public sector service providers feeling encroached by new project – adjust to/ accommodate concerns.
- Industry groups – seek support, offer goodwill, stress pro-bono aspects.

- Grassroots organizations, civic committees, non-profits, associations – mobilize; seek commitment of time, money, resources[25].

Each of these entities could be a potential ally or adversary – the leadership challenge is to identify:

1. Willing potential partners – "offer" partnership.
2. Potential partners not yet aware of the mutual confluence of needs – "sell" partnership (through identifying and bringing to their attention dovetailing interests).
3. Adversaries that cannot be converted – minimize friction points; remain below radar coverage as long as possible; adjust operations to negate objections.

"Innovation Zone"

E-Gov initiatives, big and small, have been implemented as a result of leadership being able to "think outside the box", take risks, and implement. Some examples include:

- Washington State' *Digital Government Applications Academy*, an "extra-territorial" agency where government officials from various agencies convene to devise innovative solutions for problems shared by their respective organizations[26]. Projects that emerged included electronic forms for permit issuance processes and the development of an "application development template" that can be used outside the Academy. Participants engage in experimental activities, brainstorming, and other planning and design activities, and meet with outside experts, all undertaken in order to facilitate moving at "near-Internet speed".
- In Montgomery County, Maryland, web-connected kiosks and workstations are to be positioned in schools and housing agency offices. These 'next generation' kiosks are simpler to operate and maintain than non-standard first generation systems.
- In Phoenix, workstations with assistive technologies for visually and auditory impaired are at libraries, senior citizens center and community centers.

One important lesson that can be drawn from these examples revolves around the identification of simple technologies that can be used effectively for a customer base. Another focuses on the ability to identify how and where solutions can get high penetration rates among the intended users, and the ability to implement it in those areas.

Innovation and innovative practices can be established in an organization as a capability. A study of 300 award-winning e-government projects from an innovation perspective revealed five major characteristics of successful innovation[27]:

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[25] At the Veterans Administration, project leaders connect with veterans' associations to identify areas for possible cooperation.
[26] See http://www.govtech.net/magazines/story.phtml?id=2530000000001594.
[27] Based on "The Challenge of Innovating in Government", a research paper by Sandford Borins, University of Toronto, February 2001.

(1) The use of systems approach – especially in large-scale service integration projects. This requires clear political mandates – either force all to participate, or "build it and they will come")

(2) The use of new information technology:

- NYPD - providing databases organized by precincts to better discern trends.
- HUD – development of a Geographic Information System enabling to see the interaction of local community programs.
- FEMA – developed Consequences Assessment Tool Set that enables forecasting disasters' impact.

Due to the high costs of failures, an emerging trend is the development of low-cost prototypes.

(3) Improvement upon processes – using the 80-20 Pareto Rule.

(4) Involvement of private/voluntary sectors

(5) Empowerment of communities, citizens, or staff – by showing greater tolerance of risk, for example.

The study found that the most frequent initiators of innovative practices are middle managers and frontline staff. This goes against conventional wisdom that middle management is an impediment to innovation. The study provides 7 concrete advices to managers seeking to enhance level of innovation inside their organization:

(1) Support innovative culture from the top. (E.g. Department of Labor under Reich):

a. Establish departmental awards.
b. Bring together career staff and politicians.
c. Let staff share the limelight (e.g. Presidential signing ceremonies)

(2) Reward (bonus, promotion):

a. Merit pay.
b. Awards given by department or even outside organizations, like the Ford-Kennedy School of Government's Govt. Innovation Award.
c. Royalties for cost-saving ideas (In Canada, innovative practices that result in cost-savings for the government result in 'profit-sharing' - 65% of the savings go to the department and 35% to the innovator).

(3) Alternate and creative ways of resource allocation:

a. Start an Innovation Fund. Philadelphia, Oregon and Florida have successes with this initiative.
b. Establish "Skunk Works" sections where people are given the freedom to tinker with new ideas (The Technology Department of IRS encourages new ideas this way)

(4)   Diversity enhances ability to see things differently – the greater the number of different backgrounds, the likelier it is that new ideas and approaches could be generated.

(5)   Look outside government boundaries:

   a. Professional publications.

   b. Conferences and workshops.

   c. Outside experts.

   d. Site visits.

   e. Benchmarking.

   f. Participating in professional networks.

   g. Have participants in outside events conduct internal learning seminars.

(6)   Draw ideas from all hierarchical levels.

For example, the Massachusetts Department of Environmental Protection decided to cross-train its inspectors to look at overall environmental impact of projects. They moved from function-specific training, inspectors looking for air pollution, water pollution, soil pollution, to an integrated approach of looking at pollution. This helped them see the links between different kinds of pollution more effectively and made the inspection more effective.

(7)   Innovative organizations effectively:

   a. Experiment and evaluate these experimentations:

   b. Lower the cost of failure to preclude

   c. Know how to discontinue failures in an honorable way

In "Leading the Revolution", Gary Hamel[28] provides a reiterative framework for viewing innovation as a process:
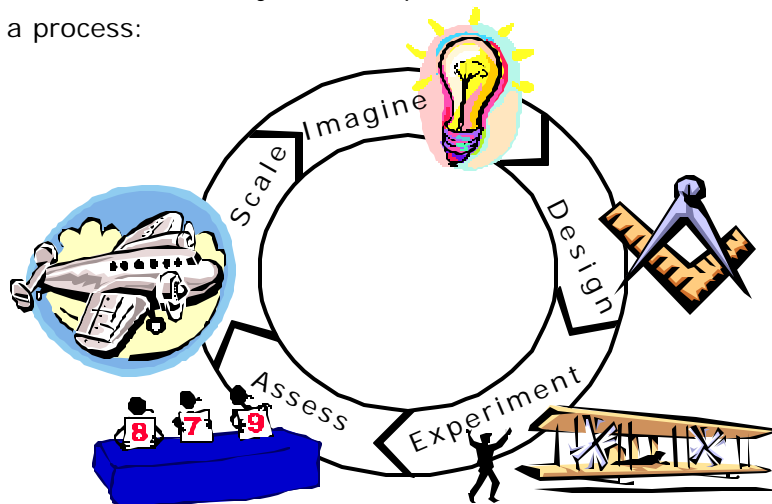
Imagine:

- *Embrace unreasonable expectations* – it will force you to think in new ways.

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[28] Hamel, Gary. "Leading the Revolution", 2000, p. 294.

- *Elastic definition of roles.* Look at what you know and own, not at the things that you do. Ask yourself and your colleagues the following questions:
    a. Who we are?
    b. Where is the opportunity to make an impact?
    c. What are the things we think we cannot do?
- *You are a cause champion – ask:* what is the difference I want to make? Infuse a sense of purpose in the organization.

Design:
- *Listen to all voices.* Newcomers add a different perspective to entrenched thinking.
- *Create an "Idea Exchange" - an "Idea Bank"* that could be mined for true innovative suggestions.
- *Enable funding of pilots and demos.*
- *"Cellular Division"* – keep units small and focused around innovation rather than existing ways of doing business.

Experiment:
- *Allow your best people to investigate with new idea.*   Just looking at the trends will indicate where are the areas that deserve your attention.
- *Low-risk experimentation.* Make failure safe. Many small-scale experiments are not to be viewed as "insignificant" but as sources for potentially significant impact.
- *Reward the risk takers*

Assess – and if "go" – **Scale,** and Repeat.

Summary & Conclusion

The *Innovation Zone* and *Spheres of Influence* frameworks are designed to turn the attention of government officials involved in e-government projects to various issues requiring their consideration. As such, they represent *one possible way* of seeing e-government projects at any stage of the project life cycle – a way that promotes the use of non-traditional perspectives and operating procedures.

Perhaps the most important takeaway from this study is the role of innovation in the formulation and execution of e-government projects. The guidelines provided herein may serve as blueprint for the introduction of innovation as a capability. Early adopter organizations are already at work eliminating traditional agency boundaries. The message they send is clear:

➢ Promote an environment welcoming non-traditional idea generation.

➢ Encourage and assist experimentation.

➢ Enable change through the establishment of appropriate reward system.

➢ Create a culture that thrives on trial and error and accepts small-scale failure as a legitimate learning tool, thus acknowledging the inherent high rate of failure in advanced technology initiatives

The people most capable of innovation are those that are at the front line of customer service. They are at the periphery of the organization and have not succumbed to business as usual. Innovation thus, draws on the organization's ability to encourage diversity and provide a space for safe interaction, regardless of rank or seniority. One possible way of promoting this process is the creation of anonymous idea exchanges.

Embracing innovation as the major approach to the design and implementation of e-government projects is not an alternative – it is an imperative of the first degree. Just as the application of Internet technology to all facets of operations revolutionized ways in which industry conducts business, so does it stand to wreck havoc on organizations clinging to the old ways of doing business as usual. The double upside is that while adopting this organizational frame of mind is admittedly difficult, once implemented this approach to operations will allow government to do more––and better––with less, simultaneously satisfying end users needs and legislative sanctions.

Appendix I: Interviews Conducted

1. P.K. Agarwal, NIC Commerce. Telephone interview conducted by Samir Pathak on March 19, 2001.

2. David Andersen, Ariba. Interview conducted by Murali Chidurala on February 26, 2001.

3. Eric Brenner, Illinois Federal Clearinghouse. Interview conducted by Anjali Sridhar on April 23, 2001

4. Jean Bryan, Office of Information Technology Services, State of North Carolina. E-mail and Phone correspondence with Peter Kaminskas.

5. Jennifer Duncan, Veterans Administration. Interview conducted by Segev Tsfati on March 2nd, 2001.

6. John Hart, Liquidation.com. Interview conducted by Peter Kaminskas and Samir Pathak on April 3rd, 2001.

7. Katherine Hansen, Council for Excellence in Government. E-mail correspondence with Anjali Sridhar.

8. Bryan Hochstein, QuickHire. Interview conducted by Murali Chidurala on March 12, 2001

9. Richard Kellett, General Services Administration. E-mail correspondence with Segev Tsfati.

10. Steve Mahaney, Health and Human Services. Interview conducted by Anjali Sridhar and Segev Tsfati on April 11, 2001.

11. Michael Moore, Veterans Administration. Interview conducted by Segev Tsfati on March 2nd, 2001.

12. Elizabeth Phillips, Health and Human Services. Interview conducted by Anjali Sridhar and Segev Tsfati on April 11, 2001.

13. David Temeshok, General Services Administration, Access America for Students Task Force. Interview conducted by Anjali Sridhar on March 18, 2001.

14. Tony Trenkle, Social Security Administration. Interview conducted by Segev Tsfati on March 12th, 2001.

Appendix II: Interview Summaries

Case Study #1:

Source: Illinois Federal Clearinghouse
Contact: Eric Brenner
Date: April 23, 2001. *Interview conducted by Anjali Sridhar.*

Category: The Illinois Federal Clearinghouse provides information on Federal grants that can be accessed by the state and local governments.

Description: The State of Illinois realized that it has been unable to attract the maximum Federal dollars available in grants and procurements. While Federal disbursements to states for the payment of Medicare, Medicaid Social Security etc. cannot be controlled by the states, they can influence the Federal dollars coming in by way of grants and procurement. As part of his campaign promise two years ago, the Governor of Illinois committed to improve information dissemination about Federal grants available. This would allow state and local agencies more information and easier access to specific grants.

The Federal Clearinghouse had a very basic purpose – increase the inflow of Federal dollars. To this end, the implementation of the Clearinghouse involved developing a website that consolidated information from several agencies regarding available Federal grants. As it was a project that agencies did not see as a threat to their core operation, they were willing to participate in both providing information and in providing technical support and other resources. As the project was a low-budget effort with the use of standard technology, there was no need to involve private partners in the effort. The project did not face budgetary constraints. The Federal Clearinghouse was very quick in implementing a tangible product available for its users within a short period of time.

The management and the confluence of political interests in the Federal Clearinghouse project were essential in its achieving its end. The Governor publicly endorsed the need for a process of information dissemination regarding Federal grants. The agencies and other players in the state saw the opportunity to attract greater Federal funding and were willing to cooperate. Importantly, the money and not technology drove the project. Accordingly, the manager was someone who came from the core operations of the agency rather than the technology side of the business.   The uniqueness of the project lies in the fact that even though it is so simple to implement, no state has provided such consolidated information before.

Key Takeaways:
- Know the Customer – Need to have a customer base that wants the project to happen.
- KISS – Be sure that you can deliver on promises. Break down processes into parts you have control over and can be counted as distinct, measurable output.
- Leadership – The right people need to run the show. The management should not rest solely in the technology division.
- Political Factors – Need to be able to translate project need into political need. Even if you upset a few people, important to break down complicated single-agency systems.
- Allow project to be scalable to different levels.
- Utilize other technologies and infrastructure if more applicable i.e. Federal Commons will achieve goals of Illinois Federal Clearinghouse making the latter obsolete.

Case Study #2:

Source: Access America for Students (AAFS)
Contact: David Temeshok, GSA
Date: March 16th, 2001. *Interview conducted by Anjali Sridhar.*

Category: Access America for Students (AAFS) is a student gateway for all information and services provided by the Federal government relevant to education. It is the combined effort of several Federal agencies along with universities, lending institutions etc.

Description: Access America for Students (AAFS) is an initiative set up to provide easier access to information and services essential to post-secondary students. The ***students.gov*** portal displays the 'common face of government', acting as the "yellow pages" for student related services offered by the Federal government. This initiative has been an inter-agency development pulling together all agencies involved in the provision of student financial services. These include the Department of Education, Labor, Treasury, Internal Revenue Services, Social Security, Veterans Affairs etc. AAFS is a public/private partnership and included universities, lenders, non-profit organizations and private businesses in its development.

AAFS was implemented through a task force set up to include participation from several constituents involved in student financial aid. A non-profit organization experienced in bringing together focus groups was responsible for creating a Partnership Forum. This Forum allowed several constituents to participate in different ways. While some agencies were involved in the Task Force and the design and development of AAFS, the input from other agencies, universities and private entities was solicited through the Partnership Forum. Further, the Partnership Forum was open to all to attend.

The AAFS Task Force did not have budgetary or resource constraints. The structure of a task force allows for easy passage of budgets for experimental work. It also had high level political blessing that ensured the cooperation of several government agencies.

Key Takeaways:
▪ Do not reinvent the wheel – Utilize existing studies and information. This allows project to move faster and buys credibility with agencies whose studies you use.
▪ Be transparent in your deliverables – Documents like Strategic Plan and Evaluation Reports should be visible to show customers and stakeholders where you want to go with the project. This increases accountability with implementation as well.
▪ Stakeholders – Make sure that they are involved from the outset.
▪ Public-Private Alliances – Utilize the private sector in areas they have proven competitive advantages in. Do not attempt to replicate processes that can be outsourced.
▪ Pilot Project – Provide a demonstration project that is fully capable as a stand-alone project as well as easily scaled up for full implementation.
▪ 'Institutional Pain' can cripple the project if not effectively addressed during the planning and implementation of the demonstration.

<u>**Case Study #3:**</u>

Source: Health and Human Services
Contact: Elizabeth Phillips
Date: April 11th, 2001. *Interview conducted by Anjali Sridhar and Segev Tsfati.*

Category: Federal Commons is a portal for Federal e-Grants.

Description: The Federal Commons is a grant management portal that provides grant-seekers with access to different Federal grants through a single point of entry. It simplifies the grant-giving process through electronic processing. It allows for standardization of the grant application process across several agencies, providing grant-seekers with a single user-name/password point of entry and single set of functionalities.

Technology has been the big driver for the Federal Commons project. Most electronic grant applications were processed through electronic data interchanges (EDIs). Large institutions invested in mainframes and terminals that supported grant applications through this process. However, several small grant seekers did not have access to the electronic grant process. The prevalence of the Internet has facilitated the development of the Federal Commons to serve as an interface between EDI technologies and Web technologies. The portal provides a standard point of entry for easy access to Federal grants.

The Federal Commons has received much political visibility and goodwill. The previous administration supported the project and the current administration has includedits full implementation in plans to Congress. While the political climate for the Federal Commons is favorable, it is still at its demonstration phase. The greatest challenge the project has faced is the lack of ownership of the project. This has resulted in the Federal Commons not receiving the necessary budgetary allocation to be fully implemented.

The lack of budgetary resources has led to problems of technology and management. Without full-time staff or adequate revenue to support the technology needed to implement Federal Commons, the project has been unable to obtain the necessary results. Several pilots have demonstrated its usefulness to state and local governments as well as non-profits and other organizations, and Federal Commons is now obtaining the buy-in of all the Federal agencies involved in the grant-giving process.   By not adequately addressing this group of stakeholders, the Federal Commons would have been restricted in its penetration in the e-grants world.

Key Takeaways:
- Stakeholders – Know and address every group of stakeholders. They hold the key to your resources as well as customer base.
- Political Visibility – Visibility at an early stage may set expectations high, but begins a process of political support for the project.
- Technology – Explore solutions that cover people who have made large investments as well as future users.
- Leadership – Large projects like this need strong project coordination.

Case Study #4:

Source: Health and Human Services
Contact: Elizabeth Phillips
Date: April 11th, 2001. *Interview conducted by Anjali Sridhar and Segev Tsfati.*

Category: Employee information kiosks and touch tone telephones to automate Human Resources function

Description: Along with the rest of HHS, the Human Resources Department was facing a shrinking workforce.   With no one replacing people retiring, it increased the workload on HR functions throughout HHS. In order to alleviate this pressure on the workload, the HR Department was looking for innovative solutions.

Touch tone telephones and kiosks are located everyone in the HHS building. They provide employees the ability to view and manage their personnel related information automatically. The project grew organically and employees were involved in developing the final product. Employees were engaged in the process in several ways:

- The name "Employee Express" provided a positive connotation of how it would enhance services to them.
- Focus groups were used to develop proper systems and generate and vet ideas.
- Internal programming and development encouraged the IT people to think innovatively.

The leadership of the project helped promote and keep the momentum of it. The manager used personal interest and potential success to motivate employees, gain recognition politically and align various aspects of the projects to ensure its success. The low budget nature of the project and its ability to use existing technology allowed it to be viewed as a natural extension of existing system rather than an overhaul. The use of foolproof technology, easily accessible to all employees, allowed for a quick and successful turnaround.

The successful adoption of Employee Express through HHS and several other agencies provide several key insights into an implementable, low-budget best practice.

Key Takeaways:
- The project was not viewed as a threat by people within the organization, reducing resistance.
- It used networks (focus groups) built during earlier projects, increasing the sense of ownership.
- It used ideas of 'brand management' and 'image management' to increase its penetration into the whole agency and other agencies.

Case Study #5:

Source: Social Security Administration
Contact: Tony Trenkle
Date: March 12th, 2001. *Interview conducted by Segev Tsfati.*

Category: Channel convergence (online process migration)

Description: The Social Security Administration (SSA) is one of the most forward-looking agencies. As a rule, its projects are top-down; accordingly, planning is structured and strategic in nature. The drawback is that the strict environment makes innovation challenging.

Project selection is utilitarian; not all projects, however, are taken from this greatest benefit to the greatest number perspective. Development is done in-house; the three most significant issues are (1) legacy systems, (2) authentication and security, and (3) development of goals and specifications. The assistance or advice of public sector entities is usually easily available.

Project life cycle issues are as follows:
  – Internal versus Interagency projects: for an intra-agency project, the buy-in of top management is critical. Coordination between the different elements of the agency is also important. The designation of one group as lead is thus key to avoiding turf wars. Interagency projects' success depends on the clear establishment of roles and responsibilities.
  – Funding.
  – Final product assessment is best accomplished through an independent third-party evaluator.

One project that illustrates the pilot approach to the development of solutions is the channel convergence proof of concept (POC). The pilot's objective was the evaluation of private sector technology applicable to the integration of call centers and the web.

It is important to design answers around the customer's needs, and to confirm that customers are interested in these technologies/capabilities in the first place. Customers identified web chat, web collaboration, and call back as most useful among the technologies evaluated. Solutions of these types, furthermore, required little training for both end-users and customer service representatives (CSR).

Technical evaluation should look at the following aspects: scalability – the solution's ability to "grow" with the organization's needs; integration and interoperability; security; and section 508 compliance. KPMG was brought in as an outside evaluator of the technology, operational, customer's and CSR's perspectives.

Key Lessons:
Commercial off the shelf (COTS) products are applicable to SSA needs; mature technology can be adapted and applied. Legacy and security issues, in both the policy and technology level, will have to be addressed prior to any actual implementation.

<u>**Case Study #6:**</u>

Source: US Department of Veterans Affairs
Contact: Michael Moore, Jennifer Duncan
Date: March 2nd, 2001. *Interview conducted by Segev Tsfati.*

Category: Digital Divide issues among veteran population

Description: The Department of Veterans Affairs uses technology to increase access to services for the veteran population. It takes advantage of the legislative environment to create opportunities and provide technology training to its constituents.

Nurturing the project from conception to execution, in the unique environment, is dependent upon the creation of a flexible definition of the project as a scalable project; success can be achieved through the creation of a network effect

Key Lessons:
* Success factors:
  – Flexible project definition – the project goals can be modified to fit changing environments i.e., as a new budget is proposed, project team can identify the agencies that are in a sudden need for ideas, and bring them onboard (dependant on "no strings attached" offering)
  – Relationship redundancy and inclusiveness – relationships are forged with more than one entity within each set of constituents. For example, as many as 7 veteran associations are directly involved; the feedback of many others is encouraged
  – Experience and access to a wide community of veterans in virtually all parts of society
  – Knowledge management cannot be seen as the panacea for the identification of pertinent private -public initiatives
  – Diplomacy and transparency are key when trying to bring onboard additional players; signing up other agency requires both a need and solution scarcity

* **Innovative Practices:**
  – Loaned Executives – high-level private sector officers (Verizon, SAIC) volunteer time and efforts with no expectation of rewards. Responsible for doing many of the things that VA personnel cannot pursue due to a variety of reasons:
    * Solicit donation
    * Recruit new organizations and key persons outside the reach of VA managers
    * Applying experience and knowledge gained in private sector initiatives to public sector problems

  – Organic Structures – key for project survival (and, eventually, success) from inception to maturation. Projects can be protected - and defended from attacks originating from inside or outside the agency – through:
    * The creation of three dimensional networks of stakeholders
    * The generation of interest among other agencies and the proactive identification of unanswered needs
    * "Quiet Period" modus operandi – providing the project team with an environment that is clean of interference (political, organizational, etc.)

Private Sector Insights

Case Study #7:

Organization: Ariba
Contact: David Anderson. *Interview conducted by Murali Chidurala.*

Takeaways: Promotion of a project is key to the success of the project

Summary:

- **Leadership & Project Management:** Projects involve more than one party/contributor, thus role and responsibility mapping is key to avoid problems.

- **Project Management:** Scope creep is to be avoided at all costs, as it leads to delays, budget over runs, decline in enthusiasm and potential irrelevance of project.

- **Financing:** Different financing models work in some cases, e.g. an e -procurement system, but third private party usually is involved.

- **Innovation:** Success stories in other agencies- private parties are usually the propagators, especially if it fits their offering.

Case Study #8:

Organization: NIC Commerce
Contact: P.K. Agarwal. *Interview conducted by Samir Pathak.*

Takeaways: Insight to the following areas: Leadership, Governance, Architecture, Time-Boxing, Marketing, Simplicity

Summary:
- **Leadership and Vision:** 8 Imperatives for leaders:
    1. Focus on how IT can reshape work and public sector strategies
    2. Use IT for strategic innovation, not simply tactical automation
    3. Utilize best practices in implementing IT initiatives
    4. Improve budgeting and financing for promising IT initiatives
    5. Protect privacy and security
    6. Form IT-related partnerships to stimulate economic development
    7. Use IT to promote equal opportunity and healthy communities
    8. Prepare for digital democracy
- **Governance:**
    – Identify and bring together the community of stakeholders to establish enterprise-wide policies on various issues.
- **Architecture:**
    – Component based architecture suits best for scalability requirements and developing role based applications.
    – Branding of system and system components is important for success
- **Time-Boxing:**
    – Demonstrating progress starting early and throughout the implementation.
    – Keep granularity of project components and ensure timely delivery of these components
- **Marketing:**
    – Marketing of project is a critical factor in project success.
- **Simplicity:**
    – It is important to keep technology as simple as possible.
    – Any high-end technology solution should fit into criterion of "What does it do for me?"
- Let the customers be the drivers for project initiative.
- Good understand of funding models is critical to ensure timely executions and avoid failures.
- Security and privacy issues should be dealt with in the very beginning.
- Adoption is the primary measurement of success. Redefining the value is also important in doing success measurement. He gave examples of doing certain extra things that are not expected in governance, but IT enables us to do that.

Relevant readings:
http://www.govtech.net/publications/gt/2000/mar/pov/notesfromthefield.phtml
http://www.ec3.org/InfoCenter/1999_Survey_Results/Blueprintv3.pdf
http://www.ksg.harvard.edu/stratcom/hpg/eightimp.pdf

Case Study #9:

Organization: Quickhire
Contact: Bryan Hochstein. *Interview conducted by Murali Chidurala.*

Takeaways: Motivation factors for departments, budget process, First step

Summary:

- Key Issues**:**
    - Unclear requirement
    - Personnel
    - Deadlines not met
    - Scope Creep

- Key obstacle:
    - Once everything is in place, people get cold feet. What happens if we fail?
    - Fear of failure and implied prosecution

- Motivation factors for departments:
    - Success stories
    - Need to do job better – Managers
    - Lost staff members and so have to be more efficient
    - Knowledge of IT not sufficient and hence outsource.

- The budget process is a major issue with managers.
    - Generally a one-year process.
    - Most projects start with the year-end funding surplus.

- Company's solution for multi agency projects
    - Minimize customization
    - Try to simplify guidelines
    - Develop 5-6 flavors maximum

Case Study #10:

Organization: Liquidation.com
Contact: John Hart. *Interview conducted by Peter Kaminskas and Samir Pathak.*

Takeaways: Helping to identify successful eBusiness initiatives while he was with the GSA.

John Hart served previously in the U.S. General Services Administration's Office of Electronic Government. He now is a staff member of Liquidation.com.

Summary:
- Managed a study of the disposition of public assets across the federal government. At the request of the Interagency Governmentwide Asset Sales Team, led a team of analysts who developed a governmentwide strategy for disposal of public assets. This strategy was presented to OMB in an effort to obtain a champion of a pilot project for streamlining the disposition of public assets.
- The team approach underscored the importance of establishing a business case to highlight the opportunities for other agencies.
- At Liquidation.com, the company's role is to provide governmentwide strategic initiatives for streamlining the process for disposing of public assets and improving public access to information about available classes of assets, agency disposition plans, schedules, locations and methods for asset disposal, and the procedures governing public participation.
- Piloting of pubic/private partnership arrangements with federal, state and local government agencies could be a productive approach in addressing the issues associated with partnerships and strategic approaches for disposal of public assets.
- Liquidation.com as a global Internet-based marketplace for surplus sales serving several over 130,000 surplus business-to-business traders. In addition to its Internet-based business service provider platform, Liquidation offers co-branding arrangements and a storefront facility on the seller's website.

Appendix III: Guidelines for Interview Questions

Note to interviewer: focus on "Best-practice"-type projects, and also on failures - and the lessons learned.

Project Initiation:
- Can you provide me an overview of the project?
- What were the broad goals of the projects?
- What was/were the need/s it was aimed at addressing?
- Was the focus internal (- govt. operations) or external (- citizen services)?
- Was a more efficient process a **key driver** towards making this project happen?
- Where did the initiative for this project initiate? - Bottom-up or top-down?
- Was it a "start-from-scratch" effort, or were you trying to improve an existing system?
- Who were the identified "clients" the project aimed at better serving? How were the needs of these clients identified/quantified? Were these clients represented in the project team?
- Were there pre -determined success measures that could enable managers to track, monitor, and assess the success of the initiative?
- To what extent was cost-benefit analysis an issue? Were budgetary constraints detrimental?
- What are the effects of white papers such as the one issued recently by the Council for Excellence in Government? Are they having an impact on the decision makers? Are "people in the trenches" relying on such publications?

Project Life Cycle:
- Did clients have input over the course of the project? Was their feedback requested?
- Organizational resistance - - what were your concerns? Was it an issue? How did you skirt it if so?

Technology, Processes, Integration:
- What was the key technological solution identified as the underlying feature in the project? How difficult was integration of it into the project plan?
- Were issues like high volume of transaction vs. complexity of transactions weighed?
- How many people were involved at your stage?
- What were the significant issues the team wrestled with - - Was it privacy? Security? Integration of networks and databases? Legacy issues? Service providers?
- What was the technology infrastructure prior to the project? Afterwards?
- Was the project a stand-alone/ad-hoc designed to solve a specific problem, or was it part of a greater initiative?
- To what degree did knowledge management play a role? How accessible were other agencies? How easy was it to figure out if a similar undertaking took place somewhere else?
- Was the project mimicking existing paper-based processes (i.e. a quick fix), or was the reengineering of processes part of it?

General Project Questions:
- Management commitment - - what was your perception of the degree of commitment by the agency's top management? To what degree did the message coming from top management assisted/derailed project progress?
- Which factors outside your influence do you see as restricting projects - for example the issue of electronic signature that may prevent a complete transformation of online form filling and submission; other restrictive regulations, etc.
- What are the key recommendations you would make for an agency embarking on a similar project? What are the essential steps in projects such as this?
- What is the most challenging aspect of this project?
- If you could redo the project, what would you change?
- What are the most pertinent lessons you took away from this project?

Appendix IV: Additional Resources

[1] Step-by-Step Guide to Successful eGovernment
URL: http://www.govtech.net/govcenter/solcenter/peoplesoft-feb01/

[2] States proceeding with portals *by Nicholas Morehead*
URL: http://www.fcw.com/civic/articles/2001/0416/web-portal-04-18-01.asp

[3] Bush e-gov fund to double *by William Matthews*
URL: http://www.fcw.com/civic/articles/2001/apr/civ-cover-04-01.asp

[5] eGovernment 101 *by Merrill Douglas*
URL: http://www.govtech.net/magazines/story.phtml?id=2530000000001594

[6] Electronic Government - Building A Successful E-Govt Strategy *by Drew Robb*
URL: http://www.govtech.net/magazines/story.phtml?id=2530000000001599

[7] Gartner's Four Phases of E-Government Model *by C. Baum, A. Di Maio*
URL**:** http://gartner3.gartnerweb.com/public/static/hotc/00094235.html

[8] Year 2000 Report on Citizen and Business Demand, *July 26, 2000*
URL: http://www.nicusa.com/NIC_flash/download/Benchmarking_eGovernment.pdf

[9] Citizens Expectations for Electronic Government Services *by Federation of Government Information Processing Councils*
URL: http://policyworks.gov/org/main/mg/intergov/citizens1.pdf

[10] Built To Last *by Darby Patterson*
URL: http://egov.govtech.net/reports-winter/builttolast.phtml

[11] Why Reengineering Fails *by Alisoun Moore*
URL: http://egov.govtech.net/reports-winter/editorial.phtml

[12] Talent on Loan *by Dibya Sarkar*
URL: http://fcw.com/civic/articles/2001/apr/civ-case-04-01.asp

[13] Idaho earns best in show *by Dibya Sarkar*
URL: http://fcw.com/civic/articles/2001/mar/civ-comm7-03-01.asp

[14] E-Government: Using Technology to Transform North Carolina's Governmental Services and Operations in the Digital Age *Report for the General Assembly*
URL:http://www.its.state.nc.us/News/EGovernment/_Docs/EGovernmentReport2001.pdf

[15] New Mexico tests vision online *by Brian Robinson*
URL: http://www.civic.com/civic/articles/2001/0409/web-dmv-04-13-01.asp

[16] Colorado system simplifies budgeting *by Dibya Sarkar*
URL: http://www.fcw.com/civic/articles/2001/0409/web-colo-04-09-01.asp

[17] New Hampshire preps for e-gov *by Dibya Sarkar*
URL: http://www.fcw.com/civic/articles/2001/0402/web-hamp-04-05-01.asp

[18] Missouri takes e-transaction leap *by Dibya Sarkar*
URL: http://www.fcw.com/civic/articles/2001/0319/web-employ-03-22-01.asp

[19] Phoenix at Your Fingertips: Project Summary
URL: http://www.ci.phoenix.az.us/payfinfo.html

[20] Forms in Honolulu
URL: http://www.co.honolulu.hi.us/

[21] Getting it Done in South Dakota
URL: http://www.state.sd.us/state/sitelist.cfm

[22] Local Government Marketplace - Pennsylvania
URL: http://www.psats.org/vendorsearch.html

[23] E-Montgomory Emerges *by Bill Murray*
URL: http://egov.govtech.net/reports-winter/emontgomery.phtml

[24] Come One Come All (RFPing portal in Tampa) *by Bryan M. Gold*
URL: http://egov.govtech.net/reports-winter/comeOne.phtml

[25] GreenWorks.TV , produced by the Pennsylvania Department of Environmental Protection and
the nonprofit Environmental Fund for Pennsylvania.
URL: www.greenworks.tv

[26] SBA speeds HUBZone application *by Greg Langlois*
URL: http://www.fcw.com/fcw/articles/2001/0319/web-sba-03-20-01.asp

[27] HUD next-door kiosk success story
URL: http://www.hud.gov/library/bookshelf15/kiosk/bkkiosk.cfm

[28] Kiosks (GSA) link people to government *by Colleen O'Hara*
URL: http://fcw.com/fcw/articles/2000/0731/web-kiosks-07-31-00.asp

[29] Kiosk program fades as group forms *by Christopher J. Dorobek*
URL: http://www.fcw.com/fcw/articles/2001/0416/news-kiosk-04-16-01.asp

[30] Centre for eGovernment.com
URL: http://www.centre-for-egovernment.com/

[31] E-Government in California, Providing Services to Citizens Through the Internet *by
Legislative Analyst's Office*
URL: http://www.lao.ca.gov/2001/012401_egovernment.html

[32] TexasOnline: A Feasibility Report on Electronic Government *by Electronic Government
Task Force*
URL: http://www.dir.state.tx.us/egov/report/finalrpt.htm

**[33] City Of Los Angeles E-Government Services Project, Final E-Government Strategy
Report** *by PriceWaterhouseCoopers*
URL: http://www.ci.la.ca.us/311/EGOVT.pdf

[34] Developing a Successful E-Government Strategy *by Liza M. Lowery*
URL: http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan000343.pdf

[35] Developments in electronic governance
URL: http://www.britishcouncil.org/governance/newsletter.pdf

[36] Best practices identified:
URL: http://www.govtech.net/magazines/story.phtml?id=2530000000001594

[37] Alternative Funding Strategies for Electronic Commerce Projects
URL: http://www.egov.gov/documents/ec_fundingfinal.doc

[38] The E-Gov Presentation "Building the Business Case for an e-Procurement Solution"
URL: http://www.egov.gov/presentations/businesscase/index.htm

[39] Federal Electronic Commerce: Performance Metrics for FAFSA on the Web
URL: http://www.egov.gov/documents/metrics_fafsa.doc