

Information technology innovations are high risk undertakings in any environment. Sources of risk include underestimation of the complexity of an innovation and the lack of awareness for the interdependencies of information technology innovations and organizational processes and practices. To increase the likelihood for success of the funded projects, the **Electronic Commons Program** managers sought out resources to assist the project teams in gaining new skills for breaking down these complexities and identifying interdependencies. In particular, they recommended the use of Making Smart IT Choices, a publication of the Center for Technology in Government. Making Smart IT Choices was developed to provide an analytical and evaluation process for information technology-based innovations in government (see Figure 1). It presents a set of tools and techniques for creating new understandings of a problem to be solved and its context, to assist in the identification and testing of possible solutions to the problem, and to provide frameworks for evaluating the results of those tests against service and performance goals. This chapter introduces the tools from Smart IT and presents some guidance for future project teams in selecting technology tools for project team efforts and to support knowledge sharing goals.

Using the teleconferences, CTG provided the **Electronic Commons** teams with an orientation to Making Smart IT Choices. Although each project was different, the project teams encountered similar challenges in identifying the complexity of the environment, accounting for the distributed nature of the work teams and the target users, and the influences of larger organizational and political forces. The specific tools explored during the conference calls and applied by the teams are listed below. The presentation of critical success factors in Chapter 5 provides additional information about how the tools and techniques of Smart IT were applied within the projects.

- **Current/Best Practice Research** ([http://www.ctg.albany.edu/publications/guides/conducting\\_best?chapter=1](http://www.ctg.albany.edu/publications/guides/conducting_best?chapter=1)) An explanation of current and best practice research, how it is done, and why it's important to do.
- **Service Objectives** (<http://www.ctg.albany.edu/publications/guides/smartit2?chapter=11&section=3>) A service objective is a structured way to express the goals of your project. The process of creating a commonly understood and agreed upon service objective often reveals differences in thinking, different assumptions, and conflicting perspectives that must all be discussed and resolved before the service objective statement is complete.
- **Strategic Framework** (<http://www.ctg.albany.edu/publications/guides/smartit2?chapter=11&section=4>) A strategic framework is a structured way to understand a project proposal by helping you clearly define each key service objective and its customers. The framework then helps you identify the resources, partners, and innovations that might contribute to success. To be most effective, the strategic framework should work with one project-specific objective at a time. Strategic frameworks can be devised by one person and then presented to and reviewed by others, or they can be created through a facilitated group decision conference.
- **Stakeholder Analysis** (<http://www.ctg.albany.edu/publications/guides/smartit2?chapter=11&section=5>) (<http://www.ctg.albany.edu/publications/guides/smartit2?chapter=11&section=6>) Stakeholders are individuals and groups who are affected by or have influence over your initiative. Every project needs a careful assessment of stakeholders in order to understand who cares about it, how they can affect it, and how they will be affected by it.
- **Modest/Moderate/Elaborate Framework**  
(<http://www.ctg.albany.edu/publications/guides/gateways?chapter=5>)  
(<http://www.ctg.albany.edu/publications/guides/gateways?chapter=10>) Allows you to consider various levels of aspiration, meaning that you may be able to design your application to meet the needs of your users from various approaches: *modest*, *moderate*, or *elaborate*.

## Applying Smart IT in selecting collaboration and knowledge sharing tools

Project participants were tasked with making decisions about technologies to support their work as teams and to share knowledge with a target audiences. The first task was necessary because of the multi-organizational make-up and geographically dispersed nature of each team. These characteristics required the teams to identify, select, and implement technologies to support virtual teamwork. The teams used these technologies to address their second task: clarifying the goals of their projects, selecting the best technology to support those goals, and ensuring effective implementation. Insights gained in these efforts were captured and combined with the experiences of CTG to generate guidance for future teams completing similar tasks. Guidance on these two technology selection processes is provided below in the form of a series of questions and related discussions.

## Choosing the right tools for teamwork – virtual or otherwise

It is important for a group to have good functioning dynamics prior to an effort to make the communication electronic. We focused on just a core group of organizations and individuals who for the most part had a long term cooperative relationship. This helped smooth the transition to electronic meetings.

### Economic Development

Choosing the right technology for collaboration and communication among a newly formed team is an important step in ensuring success of a project. This step becomes even more critical when the team includes individuals who are geographically dispersed and unknown to each other. The following questions and related discussions are provided as a checklist.

- **Is our project team ready for technology-based collaboration?** Different technologies may make sense at different stages of projects. For example, in the beginning stages of a project when a team is getting to know one another, face-to-face meetings have been found to be the most productive strategy. Email, for example, while generally recognized as a valuable tool for communicating among a group of geographically dispersed team members, is not generally recommended as the sole communication vehicle for new teams. Tele- and videoconferences provide effective alternatives when face-to-face meetings are not possible in these early stages. As a team moves forward through the stages of a project and creates the culture necessary for virtual team work, more technology-based tools may make sense and provide the team with great flexibility in collaboration.
- **Does our team have a good understanding of the kind of work they will do together?** Will the team be focused primarily on discussions and joint decision making? Will document sharing be necessary? Will collaborative writing be necessary? Will teams need to review software options? The selection of the technology tools should match the task at hand. For example, if the work of the team will focus on strategic planning, primarily comprised of discussions, then simple teleconferences might be the most appropriate tool to use. However, if team members will be producing joint documents, then more sophisticated collaboration tools may be necessary. Many of these tools are now available free over the Web, while others are commercial products. The size of the team should be considered here as well. If the team is large, how will they work together? Will subgroups be working on specific tasks? Understanding the nature of the work to be done by the team and the work style of the team is critical to selecting the most useful and usable tool. Selecting a high-end collaboration tool may just cost more money (or frustration) and may not deliver additional value to the team.
- **Do team members already have access to collaboration technologies?** Members of your team may already have experience with or have access to collaboration technologies. Use their knowledge and experience to explore what potential tools are available or already in use. Partners from the academic community in particular may have resources already in place to support distance learning and virtual teams. Explore all options.
- **Do team members have access to the selected technology and are they comfortable using it?** Access to collaborative tools is essential for distributed project teams; equally essential is technical and user support. For example, if the tool selected requires access to high speed Internet, make sure your partners have this capability and that they can get support within their organizations to make the necessary connections and to learn how to use it. If access and support resources are limited, it may be necessary to adjust your strategy to ensure all partners can effectively participate, even if it means using a more basic option.

## Choosing the right tools to share knowledge

Pick a technology that enhances the course or the material - don't let the technology drive the business or the topic.

### Historic Wood

Choosing the right tools to share knowledge requires clear understanding of the purpose of that sharing and the context within which it will occur. Each of the grantees found they needed to focus on clarifying the purpose of the knowledge sharing and to invest in creating a full understanding of the potential users and their capability. Some of the grantees did this by surveying their target users; others used expert advisory committees to provide information on potential users. In some cases the target users were members of the same organizations as project team members; in other cases, target users were students. Regardless, teams found it necessary to invest in understanding the problem and its context before making good technology choices. From the simplest telecommunication conference calling to the more sophisticated voice over Internet protocol (Voice over IP), each technological solution needed to be considered in terms of the role it would play in meeting the project objective.

The questions below reflect these insights and are designed to help teams select knowledge sharing technologies.

- **Do we have a well-defined objective and sufficient understanding of the related environment to guide and evaluate technology decision making?** Creating a well-defined objective among a new team can be time consuming. One of the consequences of this is that teams often rush through it and make dangerous assumptions about each person's understanding of the purpose of the project. The team may make other dangerous assumptions related to who already knows what and how easy or difficult something may be to do. Moving forward without testing assumptions and ensuring the objective is collectively understood can be a shortcut to failure. Further, a clear statement of the objective is central to an alternatives analysis.
- **Do we know enough about our users to make good choices?** Knowing your users is key to choosing the correct technology for your project. Knowing when plans will need to be adjusted to ensure that all interested parties can participate, no matter their technological capability, is critical. Sometimes multiple strategies are not possible due to time or financial constraints. If this is the case, then priorities need to be established and used to guide decision making. One team found their users were well-served through basic technologies rather than the prohibitively expensive online training tools. They found that delivering a CD-Rom with a presentation ahead of time and then holding a lecture over a teleconference worked just as well as holding a Webinar.
- **Is the technology available to you and your potential users?** Is the technology of choice readily available to users? Although some technologies such as email or teleconferencing are widely available, other technologies are less so. For instance, tools such as Web conferencing or Webinars require access to high speed Internet to be effective. Project teams had to take into consideration the resources available to their audience and adjust their plans, and in some cases their objectives, accordingly. Some of the project teams found cost to be a factor as well and had to limit their choices to those technologies freely available through their partner organizations.

We had a special needs audience in some of our classrooms. We found that you can't use a hearing aid in an Interactive Television (ITV) classroom because of feedback. The students will actually be in pain. We found that there are adaptive technologies that can be used, but you need to know about it beforehand in order to avoid any problems.

### Forest Resource and Ecology

- **Can we provide support?** New users of knowledge sharing systems require at least two kinds of support. The first has to do with system set-up; the second has to do with the integration of the new system into their work. Each project team had to create a plan for providing technical support to users and a second plan for ensuring the systems were used effectively. In addition, they found they needed contingency plans in place for when programs were conducted and technologies didn't cooperate. In the case of the *Cooperative Weed Management Area* training project, technical support was available during Webinars to assist those having technical difficulties. Prior to the Webinars, support for content development and delivery using the new tools was also available to trainers. This kind of support is necessary as well and not always anticipated.

When planning a project involving technology, make sure to try it out before committing to it - that's the only way to assure it is the right technology for your project.

### Cooperative Weed