The E-Government Business Model

In the private sector a business model is the core strategy of a firm. It answers the question, "Why are we in business, and what is the overall design of our business?" The business model does not detail strategy. It is not the same as the firm's strategic plan. (Strategic planning is discussed in Chapter 11.) Rather, the business model sets forth the transactional architecture of the firm. It describes the basic process flow of the enterprise. The business model describes the business opportunity the firm is seeking to exploit, how the firm will interact with other organizations in the marketplace, and how it will enter into and process transactions. The transactional part of the business model shows how the firm provides value to consumers, how that value is delivered, and what the revenue stream will be that supports the enterprise. It includes a description of the business, its marketing, competition, operating procedures, personnel, business insurance, and financial data. Financial data in turn include loan applications, a capital equipment list, a balance sheet, breakeven analysis, income projections, and cash flow projections (SBA, 2001).

The public sector often tries to emulate the success of private-sector practices. Seeking to implement the concept of the business model is no exception. The great success of the American economy in the 1990s added compelling arguments to those who felt that what business models and e-commerce did for the private sector in the 1990s, business models and e-government could do for the public sector in the current decade. In requiring that federal agencies submit business plans for information technology (IT) projects, the Office of Management and Budget (OMB) was seeking to go beyond simple cost–benefit analysis. Instead it wanted to ensure that IT planning was guided by an overall vision and architecture that would promote the key business values of environmental scanning for opportunities, process reengineering to exploit opportunities, and creation of consumer-oriented delivery systems.
The business values and business models that the OMB sought to promote harmonized with certain intellectual trends within the public administration community, notably the "new public administration" (NPA) and the reinvention of government movement. As developed by H. George Frederickson (1980) and others, NPA advocated a citizen-oriented approach (consumer orientation) using decentralization and private-sector partnering and outsourcing to promote creative and innovative approaches to service delivery. NPA also advocated flatter organizational hierarchies, which IT facilitated. During the 1990s, NPA dovetailed with the reinvention movement associated with the National Performance Review of the Clinton–Gore administration, which advocated many of the same reforms, and subsequently with the Bush administration's President's Management Agenda (Fletcher, 2003). However, whereas the vision of the NPA upheld a positive vision of bureaucracy in the service of the public good, the tone of the reinvention movement was negative toward bureaucracy. This difference in vision and tone meant, in practice, that NPA's concept of partnering and contracting out became secondary under reinvention to an emphasis on massive downsizing and outsourcing to an extent that may threaten the capacity of agencies to effectively oversee and control their own business plans.

**E-COMMERCE MODELS VS. E-GOVERNMENT MODELS**

Because the vision of e-government takes inspiration from the private-sector practice of constructing business plans and from the e-commerce model of some of these plans, it is worth looking at what such plans and models are.

For instance, what is the business plan of the McDonald's fast food restaurant empire? In a nutshell, it is to meet the consumer demand for quick meals at convenient locations, featuring popular foods at low prices. The consumer may expect a stable, repeatable experience regardless of location, delivered in a branded, colorful circus-themed atmosphere through efficient, state-of-the-art performance methods. The vision is to maximize revenue under the slogan, "Convenience, Value, Execution."

Amazon.com provides an example of an e-commerce model. The model is to meet consumer demand for books, music, videos, and other products by offering consumers an extremely wide range of choices (greater than brick-and-mortar establishments). These choices are available online conveniently 24 hours a day, seven days a week. Online payments require consumers only to have to enter credit and shipping information one time to establish an account. Purchasing is made convenient
through this one-time entry and through use of a shopping cart meta-
phor already familiar to consumers.

In 2000, the General Services Administration (GSA) and Government
Computer News hosted a government/industry Partners for Progress Exe-
cutive Roundtable to explore strategies to leverage technology innova-
tion. The GSA coordinator was Joan Steyaert, Deputy Associate Director,
started from the observation that “Since 1990, the United States has
reaped extraordinary economic growth from technology” based on such
calendar-enabled methodologies as just-in-time (JIT) manufacturing
combined with direct-to-consumer sales, as with the Dell Computer
model (pp. 2–3). The e-commerce business model “minimizes risk by
pursuing only those technologies clearly demanded by its customers”
(p. 3). E-commerce success stories have used a market-driven, results-
oriented team approach uniting “employees with suppliers and partners
globally” (p. 4). Most of all, the e-commerce model was willing to take
and manage risks. For e-government to develop along e-commerce lines,
Steyaert summarized, it would be necessary to support risk-taking invest-
ments using a portfolio approach to IT acquisitions and create standard-
ized, enterprise-wide software applications (both discussed in Chapter
11), in addition to replacing paper processes with digital ones.

The vision by Steyaert and others of the e-government business model is
of a public administration that is customer oriented, working in partner-
ship with the private sector to deliver paperless JIT services using stan-
dardized hardware and software developed as part of a portfolio approach
to IT investment, allowing greater risk-taking and greater payoffs. The
hope is that e-government will do for the public sector what technology
and e-commerce did for the private sector in the 1990s.

The Steyaert report, while typical of the thinking behind attempts to
develop e-government business cases, raised as many questions as it
answered. Were the economic good times of the 1990s due to technology
and e-commerce? While it is true that the 1990s economy coincided
with large investments in technology, economists are far from agreeing
that these economic good times were the result of IT. Massive borrow-
ing, Reagan or Clinton economic policies, the reorganization of the econ-
omy primarily to serve shareholders, the tripling of the balance of
payments deficit, international trade considerations, and many other
factors also played a role in this period of prosperity. Though technol-
ogy is also among the growth factors, there is no simple IT investment
equals prosperity equation. Government cannot blithely assume that IT
investment “will do for government in the 2000s what it did for the pri-
vate sector in the 1990s.”
Equally, one may ask if JIT production will really provide a widely used model for public agencies? JIT inputs and outputs have less applicability in governmental organizations. Public agency budgets are often concentrated in personnel (public universities, for instance, may have over 90% of their budget in personnel lines), which makes agencies not very amenable to JIT procedures. The single largest agency, the Department of Defense, is illustrative of a range of agencies that must have prepositioned resources not delivered on demand. Another huge governmental component, the federal-state-local roads agencies, does not fit well with the notion of a “customer” appearing to “buy” a service that the agency then goes out and orders “just in time” and “delivers” to the customer. JIT methods can be a cost-saving aspect of e-government in certain circumstances but hardly with the impact JIT has had in the private sector.

How are public agencies to measure consumer demand in such areas as law enforcement, environmental protection, or homeland security? What is customer satisfaction in the public sector (taxpayers for the Internal Revenue Service (IRS)? patients for the Food and Drug Administration? soldiers for the Army)? Would it really help matters if chief information officers in government were rated in terms of consumer satisfaction, at least where “customers” can be identified, such as by vacationers in state and national parks? Or should park administrators be guided less by the demands for more all terrain vehicle paths and more permissiveness about boomboxes, and guided more by environmental experts and their own professional training? When demand is low, should public agencies use market information to drop “slow movers” such as rural post offices? Up to now, the answer has been no. E-government can facilitate consumer feedback (though thus far agencies have been slow about soliciting public evaluation) but whereas customer-orientation in the private sector seeks to increase consumer demand, there is no corresponding simple purpose in the public sector.

Another centerpiece of the e-government business model, standardization of hardware and software, is a complex area in which the pendulum has swung back and forth several times. Economies of scale can be gained by standardization of hardware and software. On the other hand, interoperability requires less standardization of data formats and platforms than was the case 10 years ago. Also, past efforts at government-sanctioned standardization have frequently left agencies straightjacketed with outdated requirements and have prevented them from participating in the march of technology. The private-sector push for enterprise-wide software applications in the 1990s was often a record of failure. Currently the plans for a Department of Homeland Security (DHS), uniting dozens of agencies, has led OMB to freeze agency IT investments in anticipation of DHS-wide IT systems and standards. For instance, the Immigration and Naturalization Service (INS) has frozen its new financial system,
which it is still running in tandem with its legacy system. Now INS faces the prospect of having to run both of these systems while trying to build toward some new unified DHS system. DHS systems for finance and other objectives not directly related to fighting terrorism may be lower in priority, meaning agencies like INS may be in IT limbo for years (Ryan, 2002). In the long run standardization may save money, but this aspect of the e-government business plan is not a sure thing and can even backfire.

Public-private partnerships are not a panacea either. Firms find it useful to model their products and services in real-world governmental settings so that they can subsequently better market to the public sector. Such seeding is part of a corporate business plan. However, while it should be taken advantage of when possible, such partnerships are problematic when proposed as part of a government business plan because of the conceptual mismatch involved. Partnering for firms is seeding, but it is proposed for e-government as a general strategy for jurisdictions across the board, glossing over the fact that when, say, the 100th law enforcement jurisdiction seeks to partner with a software firm to provide a model of data sharing, that agency is not apt to receive as warm a welcome as the early models so much discussed by e-government proponents. When the 100th jurisdiction comes along (and the United States has over 40,000 jurisdictions in law enforcement alone), “public-private partnership” means not corporate-subsidized projects but rather simply a cozy relationship with a vendor. The 100th jurisdiction would do much better to read the literature not on partnership but rather on effective procurement and contracting, particularly since the evaluations of outsourcing show a very mixed picture.

Portfolio management also involves some cautionary considerations. Portfolio management requires centralization of IT funding, making it more challenging to get agencies to feel they “own” the information processes that are addressed. It involves closer oversight of and performance standards for those lower in the IT chain of command, making it more difficult to maintain morale in an environment where the public sector is already at a personnel disadvantage. And while the portfolio manager can afford to take some risks (have losing projects), it is not clear the same can be said of the individual project managers and agencies saddled with high-risk projects. By definition, portfolio management has the potential to reap large rewards through large projects. Of course, the history of large IT projects in government is not a good one, though investment in e-government infrastructure promises to be one of the success stories. This, however, is not the same as saying that the portfolio management aspect of an e-government business plan will allow reduced budgets for agencies using that infrastructure. Initially at least, it will involve substantial increased costs, not actual dollar savings. Rather, the “savings” come from improved quality and quantity of trans-
actions. This is quite in contrast to private-sector business plans, which are designed to raise actual dollar revenue.

E-government raises countless other questions. Would accountability suffer if agencies “went digital” and abolished paper trails? Would there be political support for monetary incentives and “share in savings” contracts for agencies and vendors who implemented more productive systems using technology? Because of the large number of policy issues, implementing e-commerce in the public sector was one of those areas of general agreement that quickly became embroiled in problems associated with devilish details. While there are aspects of business planning that can be imported into the public sector, Bozeman and Bretschneider (1996) remain correct that private sector and public management information systems operate under different dynamics. Ignoring these differences will undermine rather than enhance the long-range success of e-government.

In general, there are seven e-commerce models. Unfortunately, none of them are directly applicable to the public sector.

**Auctions.** This is the E-Bay model. The e-commerce firm makes money by charging a percentage of sales made by private parties who want to sell through the firm’s online venue. Public agencies cannot set up online auctions to solicit private vendors in competition with E-Bay and other companies engaging in auctions and reverse auctions. This model conceivably could have some applicability as a way for public agencies to dispose of government surplus property more efficiently and profitably, but auctions do not provide a general model for e-government.

**Virtual stores.** Walmart.com, Sears.com, and thousands of other examples fit this model. The e-commerce firm makes money by selling its own line of products for profit, using an electronic analogy of displays, shopping carts, and checkout counters. While public agencies can and usually do establish websites, sometimes with provision for transactions, there are no profits from sales. In a few cases one may be able to actually raise revenue (perhaps online convenience will lead to more fishing licenses being sold, for instance), but usually this will be associated with increased costs of use (need for more Fish and Wildlife officers, more park maintenance costs). Most agencies can only hope there may be some transaction cost savings from doing agency business online. Others will find they have to offer online and brick-and-mortar venues, actually increasing their operating costs.

**Online malls.** Yahoo! Store is an example of this model. The e-commerce firm provides free customer services (e.g., search, mail, discussion group) to build up traffic, then charges third-party vendors for virtual space to sell their products. Services and sales may be integrated to add further
E-Commerce Models vs. E-Government Models

value (when you search for musk perfume, perfume vendors who have paid a fee come up at the top of the search hit list). The public sector is prohibited from establishing this model in direct competition with the private sector. One could imagine a Department of Motor Vehicles (DMV) site, for instance, where certain transactions would bring up pitches from car insurance companies that have paid the DMV a fee. In reality, this is not done because in spite of all the talk of “partnering” in e-government, there is little public or political tolerance for the commercialization (as opposed to outsourcing) of public websites.

Sponsored advertising. A closely related model, used by AOL Online, Geocities, and many others, is simply selling advertising space on any high traffic web page. Some public sector precedents exist for this, such as advertising on city buses or, more controversially, commercial in-school advertising via Channel One, but governmental jurisdictions have not indulged in this potential revenue model. Again, as with “separation of church and state,” there is a political culture supporting “separation of advertising and state.”

Online brokerage. A fifth e-commerce model focuses on providing a forum where online sellers and online buyers may find one another, not as in a store or mall, but as in a place where negotiation can take place. An example is the online dynamic pricing system operated at http://www.ewinwin.com. The concept here is that the e-commerce firm sets up deal rooms where, under restricted access, buyers and sellers may negotiate (for example, buyers may get a lower price while the seller may negotiate a single shipment date). In the public sector, the concept of one set of “customers” (citizens) getting a different “deal” (government services) compared to another set is anathema to government as a universal and unbiased provider of services.

Information sales. There are any number of information-based corporations that sell access to their information online, ranging from the New York Times to the Gallup Poll organization to stock market analysis firms. This e-commerce model is one of the most compatible with the public sector, where many agencies amass a great deal of valuable information—weather data, geographic data, motor vehicle data, data on convicted felons, economic trend data, even digitized cultural images and sounds in the Smithsonian. In general, however, public sector agencies are either limited to a basic cost-recovery fee structure or prohibited from charging fees at all. Public domain law in the United States means that private data companies can appropriate expensive-to-amass public data (e.g., the TIGER line files that digitized all roads in the United States, at an expense of millions of dollars), provide added value (e.g., add roads in new housing developments), and resell the data to the public as if it were wholly their own product, while the originating agency (here, the U.S.
Census Bureau) can only recoup physical distribution costs, not development costs, let alone make a profit. Similarly, freedom of information laws and the tradition of right of access to government data mean that only in specialized circumstances can public agencies sell the information they collect. In most cases it remains public domain and freely available to all, and deviations from this would bring public outcry.

**Direct sales.** Finally, Dell Computers illustrates the direct sales e-commerce model. This is similar to the virtual stores model, but the concept is to eliminate middlemen altogether. Whereas the Sears virtual store is not intended to eliminate physical Sears stores, the Dell Computer model is to have no stores, but to sell computers directly to the end user. This cuts layers of costs and allows JIT production and inventory systems. While in the public sector there are some hopes that online direct transactions with citizens will eliminate the need for having quite as many brick-and-mortar agency locations, these hopes remain largely unfulfilled for a variety of reasons, including the obligation to provide services not deliverable via the web, the political drive to provide physical service presence in communities, and the fact that the digital divide means whole classes of citizens lack effective computer access in the first place.

In summary, it is tempting to talk about how e-commerce revolutionized business in the 1990s, bringing about a new economy, and to think that similarly, e-government might revolutionize the public sector in this decade, bringing about a new public administration. A closer inspection of the e-commerce models of the 1990s can have a sobering impact on such projections.¹

In the private sector, business plans have a purpose: to convince investors that the firm has a vision of how to be profitable. Secondarily, they help the entrepreneur to think through what he or she is proposing to do. Because convincing investors is a central purpose, private-sector business plans often start with an upbeat review of profit history combined with evidence that the market is expanding or can be tapped in new ways. To gain trust, the plan emphasizes the experience and credibility of the management team. The plan includes a market analysis of leading competitors and outlines ways the firm can be differentiated from them, describing some competitive advantage that the firm enjoys (e.g., patents, special relations with suppliers, unique distribution channels). Empirical research is used to back up projections of consumer demand. There is always an advertising and market component to the business plan. There is a financial plan with sales forecasts, cash flow projections, and a forecast of relevant business ratios as growth occurs. Finally, a complete business plan outlines an exit strategy under which the investor can get out profitably after a few years, such as after a stock offering or merger that pushes up ownership values.
The nature of business planning in the public sector is quite different and any attempt to emulate it directly may fail. This is illustrated by the e-stamps program of the United States Postal Service (USPS). A Government Accountability Office (GAO) analysis of 2001 e-commerce efforts at the USPS found that whereas the USPS business plan projected $104 million in revenue, actual revenue was $1 million (Miller, 2002c). It found the Postal Service lost $10.4 million running its online payment services. E-Stamps Corporation, the first contractor, chose to sell its assets in 2001 after a disappointing sales record. A major problem was that most postal clients never became aware the USPS provided electronic bill payment, Internet fax services, certified e-mail, and online greeting cards, or never came to feel the e-stamp solution was a user-friendly, convenient way to buy postal services. The commission recommended the Postal Service get out of e-commerce, leaving it to commercial vendors (Miller, 2003s). With Microsoft incorporating e-postmark access into Office 2003 and XP, the USPS then hoped the hitherto little used e-stamp program would take off (Jackson, 2003e). However, though it is possible to print labels with postage on one’s computer by using the Click-n-Ship feature of www.usps.com, it is instructive to note that the most recent USPS annual report at this writing (2004) chose not to highlight e-stamps as part of the transformational strategy outlining future development. While the e-stamp program may yet get back on track, the experience suggests that public-sector managers cannot expect the results of private-sector e-commerce models to be panaceas or even necessarily successful at all.

A different more successful e-government model, but one that raises policy questions, was the 2002 IRS offer that provided electronic tax filing services free to over half of American taxpayers. This deal represented a partnering with the nation’s nine largest tax preparation firms, who agreed to offer the service to Americans making $25,000 per year or less in return for the federal government agreeing not to provide online tax preparation services. The Computer and Communications Industry Association (CCIA) touted the deal as a “huge victory” for business, consistent with the CCIA’s push to stop government agencies from “sliding into e-commerce” (Matthews, 2002). That is, ironically, IRS partnering with the tax preparation industry was not so much a public-sector model of e-commerce as it was the opposite: using the threat of developing an e-commerce model to secure free private sector services in return for a pledge not to go the e-commerce route as the USPS had attempted to do.

To provide a different, more generalizable positive example, some of the greatest successes of the e-government model have occurred in agencies that have been able to reduce enormous printing and/or postage costs by making information available online. Between 1994 and 1996, the GAO
put up its reports for free online, resulting in increased use of GAO reports accompanied by a one-third reduction in hard copy prints. Printing the Commerce Business Daily online through CBDNet reduced costs for business for notices from $18 to only $5 and saved an estimated $1.5 million per year in printing and distribution costs. The IRS, which began putting its forms and instructions online in the mid-1990s, estimated paper product savings of about $3 million per year. Digital recordkeeping and electronic access is one aspect of a business plan that GAO studies do show can reap substantial savings in the public sector (Schwartz, 2000). For paper- and postage-intensive agencies, e-government business plans often can present a sound self-funding strategy.

**E-GOVERNMENT BUSINESS PLANNING TODAY**

Congress has not been persuaded by e-government business plans. Between FY 2002, when the Bush administration called for $100 million for e-government over three years, and FY 2005 (that is, over four fiscal years), Congress has appropriated only $16 million dollars. In FY 2005, the Bush administration requested $5 million in directly appropriated funds, as well as authority to use $40 million in GSA federal agency fees. Congress chose to appropriate $3 million in direct funds and zero in GSA fees (Perera, 2004), less than the $4 million/year average for the three previous fiscal years. In addition, the House approved appropriations that would have banned the departments of the Interior and Energy and the Forest Service from spending more than $13 million of agency funds on four e-government projects, but this ban was overturned in the final version.

Mark Forman, former OMB head of e-government efforts, has taken the optimistic view that a separate $100 million fund was unnecessary and that e-government should be financed from savings brought about by abolition of the separate computer systems used in each of the various departments of an agency in favor of enterprise federal-wide integrated applications (Perera, 2004). Karen Evans, OMB's head of e-government and IT, has taken a similar upbeat view, holding that lack of e-government funding will help force departments to embrace enterprise applications.

At the departmental level, however, the absence of direct e-government funding and the prevalence of a pass-the-hat approach requiring agencies to find money in their own budgets has meant that agency officials have come to believe that e-government is not high on the Bush administration priority list. Worse, the pass-the-hat approach has given lead agencies for any given e-government effort a disincentive because they bear the burden of development costs—the incentive is not to be a lead agency in
e-government but to follow along afterwards and pick up successful initiatives after they are developed and proven by other agencies.

The OMB’s push for IT business plans that buy into federal-wide or at least multiagency application consolidation as well as meeting other OMB-mandated standards has meant few departmental efforts have met the mark. In 2004, Grants.gov was one of only 2 of the 25 Quicksilver lead federal e-government projects judged by the OMB to have met its goals (Mosquera, 2004). With the OMB judging most e-government efforts not to be successful, with OMB leaders saying that excess e-government funding could remove department incentives for multiagency or federal-wide applications consolidation (thought to be a major cost saver, unlike most e-government efforts), and with the OMB seeking a separate innovation fund to pay for its lines-of-business consolidation projects (Miller, 2004), little wonder that Congress did not rush to fund e-government, particularly when massive IT spending for security became the number one priority after the terrorist attack of September 11, 2001, thus displacing other priorities.

A GAO report in 2002 studied the business cases used to support the Quicksilver initiatives that formed the centerpiece of Bush administration/OMB e-government strategy (GAO, 2002a). The GAO found that the business cases had done little in the way of being based on citizen surveys or other “customer orientation.” “Fewer than half addressed collaboration and customer focus, despite the importance of these topics to OMB’s e-government strategy and the President’s stated goal: to champion citizen-centered electronic government that will result in a major improvement in the federal government’s value to the citizen” (p. 1). In the Quicksilver business cases, the GAO found only 10 of 23 project cases linked to strategic objectives, only 9 of 23 were linked to customer needs, and only 8 of 23 were linked to a collaboration strategy with other governmental and nongovernmental agencies. Also, only 9 of the 23 projects developed a funding strategy. That is, the clear implication of the 2002 GAO report was that the Bush administration’s e-government business cases did not follow usual best practices for business plans and most, in fact, lacked any market study of consumer need and demand.

The cause of e-government was not helped either when Rep. Adam Putnam (R-FL) left the Committee on Government Reform in 2004 to move to the more powerful House Rules Committee. David McClure, vice president for e-government at the Council for Excellence in Government, expressed concern that Putnam’s replacement would not be as intensely focused on IT issues. Putnam had held over 30 hearings on IT subjects such as cybersecurity, enterprise architectures, and the Quicksilver e-government initiatives. Often Putnam was the only lawmaker attending the hearings (Miller, 2004). The January 2005 news
release reappointing Tom Davis as chair of the Committee on Government Reform stated “Davis plans to continue to focus the committee’s vast oversight agenda on waste, fraud, abuse, and mismanagement in the federal government” (Committee on Government Reform, 2005). No mention was made of e-government, nor was this topic featured on the committee’s website as of spring 2005.

Tom Davis (R, VA), chair of the House Committee on Government Reform (which oversees the procurement and use of IT), stated, “There is no political constituency pushing appropriators to allocate money (for e-government). They see no political benefit for putting money into e-gov and taking it from projects that they see as hometown accolades or campaign contributions” (Government Computer News, 2004).

At this writing, the FY 2006 budget is being drawn up with the OMB reviewing agency business cases for IT initiatives (Miller, 2004m). At the federal level, forecasts are for IT spending to increase at an annual rate of 5.3%. However, this is not because of the e-government vision but rather from a variety of other forces: increased costs of outsourcing IT, homeland security spending, the increased role of IT in the Department of Defense, and the OMB’s drive for consolidated business platforms and enterprise applications (Kash, 2005). At the state and local level, IT spending for FY 2006 was increasing because of a growing demand for outsourced technical services driven by initiatives not for e-government but for advanced interoperable communications systems for coordinating law enforcement, border security, and homeland security (Welsh, 2005a).

**SUMMARY**

E-government business plans are intended to provide a framework for strategic planning, promoting the alignment of the agency’s IT plans with its overall mission and encouraging clarification of roles and responsibilities for achieving desired results. Such results typically are to improve the availability, cost, and quality of public services, and to implement common IT standards in the hope of additional cost savings. As a form of results-oriented management, such public-sector business plans are intended to promote accountability at the individual and organizational levels.

While numerous business plan templates exist, reliance on cookie-cutter templates may make for bland documents that fail to mobilize the agency internally or win support externally. Any number of pitfalls exist for the agency preparing such a plan. Common pitfalls include:
• Failure to tie the plan to the agency mission—The agency's business plan provides extensive justification for an IT project in technical or even economic terms, but fails to address how the project will help the agency achieve goals reflected in the agency's mission statement.

• Failure to differentiate the business plan from the agency budget—The budget document should reflect the plan, but the plan is not the budget. Rather, the business plan is based on an analysis of the needs of its clientele (customer orientation) and of forces in the environment (environmental scanning) such as market conditions and actions of related agencies (competitors).

• Failure to take risks—The purpose of portfolio management is to encourage agency risk taking. At the federal level, thinking too small is as bad as overreaching. The goal of the business plan is to manage risk in pursuit of substantial gains in agency effectiveness and efficiency.

• Poor risk management—Agencies should have explicit risk management procedures in place, and these should be reflected in business plans. Poor risk management may be evidenced by overly rigid plans that make no provision for deviation from plan assumptions, lack of attention to security risks, and by failure to analyze risk at all.

• Failure to research best practices—The business plan should show that the agency is aware of practices and standards in the field, the advice of experts, and best practices of lead agencies and jurisdictions.

• Inadequate human resource planning—A good business plan assigns key responsibilities to specific individuals and demonstrates that each is well qualified to inspire confidence that the IT project will be completed successfully.

• Inadequate reward structure—The plan should be designed so that all stakeholders are motivated to do their part on a continuing basis. In the private sector, incentive bonuses for managers and project teams as well as incentive clauses in vendor contracts are common. While the public sector is constrained in this regard, the plan should reward successful agencies and integrate a variety of incentives (bigger agency budgets, better equipment, training and development opportunities, professional recognition, increased discretion, etc.).

• Inadequate performance monitoring and evaluation—A good business plan sets forth performance measures as part of a feedback and evaluation plan that ensures the project has the ability for self-correction as unexpected or disappointing developments occur. These performance measures address the three success criteria of being on time, on budget, and with the desired functionality.

In summary, a good business plan is a strategic document that motivates employees and obtains external support for planning, measuring, and improving the effectiveness and efficiency of the agency.
Even when all pitfalls are avoided, however, public-sector business plans and models today face two major problems: (1) leading e-commerce business models have only limited applicability in the public sector, and (2) for a variety of reasons discussed above, the climate of political support for e-government has never materialized in the way envisioned and anticipated when such models were set forth in the mid-1990s. In fact, in many ways support has deteriorated. These dual difficulties mean that issues of partnering with the private sector (discussed next, in Chapter 10) and sound strategic planning (discussed in Chapter 11) are all the more critical to any effort to advance public-sector information systems.

**DISCUSSION QUESTIONS**

1. What is the main purpose of a business plan in the private sector? How is this similar to and different from a public-sector business plan?

2. The OMB's requirement that federal agencies submit business plans for IT projects was an effort to ensure that decisions were guided by an overall vision and architecture that would support key business values. What advantages and/or pitfalls do you see to this strategy?

3. Under what circumstances might just-in-time methods apply to the public sector?

4. What factors other than IT investment might account for the economic prosperity of the 1990s according to economists?

5. What are the pros and cons of government-sanctioned standardization of software across agencies?

6. When are public-private partnerships most appropriate? Least?

7. Identify three reasons why e-business models might not work well at a broad level within the public sector.

8. Which e-business models have the most promise within the public sector?

9. How has the funding experience of e-government projects changed recently? What implications does this have for the future of e-government?

10. What is the risk of relying on cookie-cutter business plan templates? Even when good business models are employed, what challenges face the public sector?

**GLOSSARY**

**Breakeven analysis:** The calculation of fixed costs divided by revenue per unit minus variable costs per unit, with the result used to estimate the sales volume at which an organization starts making a profit.

**Business model:** A description of how an enterprise will operate, including service (or product) development, marketing, and revenues and expenses. A business model provides an overview of why the enterprise will be cost effective.
Business process: The set of activities that are designed to produce a specific output for a particular customer or market.

Cost-benefit analysis: A systematic comparison of the costs and benefits of a new system, often with a view to making an information technology investment decision or as part of program evaluation.

Enterprise resource planning: The creation of integrated information systems designed to tie together previously independent systems for human resources, budgeting, inventory, and other functions, including linkage to customers and vendors.

Fixed costs: Costs that are incurred even if no services or products are produced during the specified time period.

Portfolio management: Coordinated decision making for the enterprise-wide set of existing and proposed IT investments, as opposed to project-by-project decision making. Portfolio management typically involves a mix of higher-risk, higher-payoff projects and lower-risk, lower-payoff projects.

Quicksilver initiatives: A label given to two dozen e-government projects given high priority by the George W. Bush administration as part of the President's Management Initiative announced in 2001.

Strategic plan: A document that describes long-term goals of the organization and outlines how resources will be allocated toward fulfillment of those goals.

Variable costs: Costs that increase as the number of service events or products increases, usually but not exclusively due to the consumption of materials and/or labor time.

ENDNOTES

1The literature on public-sector business planning is relatively sparse, though there are a few resources available to guide the practitioner (Bean & Hussey, 1997; CIPFA, 2001).

2Grants.gov supports unified online application for $360 billion in annual federal grants dispensed by 900 programs, representing about 60% of all federal grantor agencies. In the first 12 months, grants.gov has grown to over 5 million views per month, received 1200 electronic grant applications, enrolled 3000 grant-seeking organizations to apply online, posted 1400 grant opportunity notices, and e-mailed 600,000 grant opportunity notices to interested parties weekly.

CASE STUDY
Digital Buildings: Transforming the Permitting Business Process

by Jennifer Kurtz, Purdue University

"Change is debilitating when done to us, but exhilarating when done by us."
—Rosabeth Moss Kanter, in World Class

Faced with the most severe of change management prospects—loss of mission—Indiana's Department of Fire and Building Services (DFBS) embarked on a remediation effort that has resulted in national recognition and institutional adoption of a "better living through e-processes" philosophy. Other returns on the 18-month investment of time are enhanced document version control, reduced costs for the agency and its constituents, increased staff productivity and morale, and improved revenue stream (permitting fee collection) for the state.

Indiana's DFBS reviews plans for all Class One public building projects in Indiana. When the review is complete, the state issues a Construction Design Release that allows local building departments to issue the appropriate building permits.

Government permitting processes tend to follow a black box model, with fixed rules and roles. Adherence to the formulaic procedural formula ultimately delivers the desired result: permit approval. However, the Indiana building permitting process had slowed to the point that project documents were "filed" in grocery carts awaiting "check-out" for up to three months. Given Indiana's weather, excessive delays resulted in canceled projects. The Associated Builders and Contractors of Indiana trade group deplored the slow response time, and the Indiana General Assembly threatened with its own ultimatum: fix the broken process or lose the permitting franchise to local agencies. In addition to eliminating high-level oversight of construction standards across the state, this would have also eliminated an important source of revenue to the State Treasury ($2.5 million in 2000).

By leaning into its permitting stakeholder community, DFBS proved the viability of an alternative grassroots model for transforming government through technology. In this model, the commission management team allowed citizen scrutiny of the entire process and encouraged challenges to legacy standard operating procedures. Superfluous intermediate steps were eliminated. Advantage was taken of legislative changes that sanctioned the use of electronic signatures and corporate seals. The permit review process now takes 10 to 15 days.

The Paper Chase

When first identified as a problem, the DFBS processed about 6,000 projects annually. Each unique project required multiple review feedback loops to accommodate architects and developers. Original design changes and Commission-directed revisions. Indiana does not count applications expedited by others on its weekly count. This means that one release can be associated with as many as four different permits. The paperwork, including original and changed plans, can create files up to 150 pages long. The derivative and paper-driven process resulted in a chain of issues that affected document management and citizen service.

Document Mismanagement

A 125% increase in application filings during the 1999 construction boom and the coincidental resignation of four review staff members (from a roster of 14) aggravated
Inefficient file storage and retrieval problems. Files were assigned to grocery carts—literally. The all-paper system and poor project/document tracking system in place made it necessary for staff to find the actual paper files to determine filing status and respond to customer calls. Overworked staff misplaced and lost plans and fees that had been hand-carried or mailed. Manual input of formulaic information submitted on state forms introduced errors that complicated the resolution of customer inquiries. And, of course, increased processing delays led to even more customer complaints and inquiries, as staff attention was diverted to reactive tasks and away from processing through the application backlog. Employee morale suffered.

Citizen Disservice

The paper-based permitting process required construction and/or architectural firms to submit plans via postal or other package delivery service, or in-person by appearing at the DFBS in downtown Indianapolis. The mailing process itself added days and cost (especially given the number and size of construction plan documents) to the permitting process. To eliminate the time delay, submitters often sent staff to DFBS. Although not onerous to those within easy driving distance, firms could spend hundreds of dollars in lost staff productivity or in actual costs, if traveling from outlying areas of the state—or from out of state.

Perhaps less apparent than the business disservice to those who experienced delays in permit review was the financial disservice to Indiana citizens in general. The DFBS used expensive, pre-manufactured multi-carbon-copy State forms that could not be forwarded, completed, or stored electronically. In addition to printing costs, use of these forms incurred postal fees for the agency and its customers. DFBS staff mailed copies of the forms and plans to the submitters so that they could then take them to the appropriate local government entity for further processing—or back to the drawing board for revision prior to resubmission.

Each DFBS reviewer now processes more permits while enjoying more productive communication with applicants. As a consequence, higher permitting traffic is managed with a 30% reduction in the number of trouble calls and 65% reduction in application turn-around time.

Delays in depositing permit fees slowed revenue to the state and reduced interest accrual. The state receives its filing fees after an application is received, entered in the system, and an acknowledgment sent. In pre-digital days, fees were requested approximately 27 days after submission. These fees are now requested within 9 days.

Transforming the Permitting Business Process

DFBS management assembled a team to examine the process, rather than reassign the individuals involved or apply a quick technical fix. As Bill Franklin, who led the team as a state-trained facilitator, observed, “Processes get messy by trying to put band-aids on broken or inefficient processes.” Besides, no funds were available to either augment staff or hire outside consultants.

Albert Einstein observed that, “No problem can be solved from the same consciousness that created it.” Understanding that intuitively, Franklin brought together process stakeholders from both inside and outside state government. The effort was all-volunteer and would have founded without the dedication of individuals from construction and architectural companies. Franklin also attributes some project success to the smaller and smarter structured methodology. Minutes of meetings were recorded and assignments and activities were tracked faithfully.

continues
Over a period of 18 months, the team identified extraneous steps in the review process and also realized that the sheer burden of paperwork needed to be addressed. During the first several months, the team met up to twice a month and established benchmarks to track progress. The groundwork included working within or changing plan review policies and rules. Although an e-Government solution was not predicted at first, an e-filing system seemed a logical solution: to reduce the cost of mailing, storing, and retrieving paper documents; to facilitate plan submissions from around the state and the country; and to streamline the review process. One potential bottleneck was the payment method: legislation was introduced to allow DFBS to accept credit cards. Another potential bottleneck was concern from design professionals about protecting their intellectual property. Instructions for affixing an electronic seal and signature to designs and plans were defined and recorded in Indiana Code.

In the pre-digital building era, a DFBS input specialist received plans at the main counter, created a project number, calculated the cost, assigned the plan to a reviewer, and put the plan and project specifications in the reviewer's bin. This assignment process took from 15 to 20 working days. With electronic plan submissions, the reviewer receives the plans within four days or less. The plans include digitized seals to authenticate the submitter's license.

Not having the budget for a custom software system, the team identified off-the-shelf and shareware software that would support key system components. Products used included Adobe Acrobat Reader, AutoView Professional, Winzip compression, and Microsoft Outlook and Word.

Drawing files are accepted in a variety of file formats (DWG, PDF, TIFF) regardless of project size. Applications and other documents are sent as PDF, JPEG, TIFF or Microsoft Word files. These files, sent as attachments to an e-mail message, are also zipped. By compressing the files, their transmission is made faster and more secure. Once at the agency, the drawing files are printed—only the application and cover pages are. Environmental friendliness, less use of paper and ink, is a side benefit.

The low-cost, open solution for the DFBS was not the only advantage to adopting this open-source platform approach. It also increased flexibility for those submitting projects for review. The DFBS identified vendors who could digitize paper drawings for the entire current set of building codes that did not require scaled drawings. These submitting plans saved time and money when the DFBS eliminated the need to print out plans—and revisions to plans. In the future, it may be possible for applicants to send files directly from retail establishments that cater to homeowners.

Of course, most dramatically, the e-filing system has cured the project review backlog. The 12-member Commission staff received about 12,000 filings a year in 2003 and had to process 40 to 50 per day to stay current. Two-thirds of these filings were new projects. Those require multiple filings, and thus, multiple reviews. In reporting the weekly applications number, however, Indiana does not count those superseded by others. One CDR can thus be associated with as many as six different permits.

User acceptance has been high, and more widespread use has helped the DFBS keep pace with increased workloads. The Commission received between 75 to 100 electronic permits per week in late 2004 or approximately 40% of permit applications. This is an increase of 75 to 107% over the number of electronic filings in early 2003, when approximately 60 filings a week (25%) were received electronically. When first launched, e-filings accounted for only about three submissions a week. Electronic submissions can be processed in three to ten days. Electronic seals are affixed to the filings in accordance with electronic records legislation passed by the Indiana General Assembly during the 2001 session.
**Digital Ease**

The new process allows building permit applicants to submit their documentation electronically, on a 24x7 basis, from anywhere in the world. One architect based in Washington State estimated that electronic filing saved him $5,000 in travel costs and time. An in-state architect reduced his overhead costs because he no longer has to “float” the filing fees for his clients. (Formerly, this architect paid the application fee upon submitting the plan for review. Now the architect submits his client’s credit card number online.) Priority shipping and copying costs for oversized building costs have been eliminated—a savings for both the agency and its clients. The DFBS has lowered its shipping costs by $100,000 and reduced its use of nonrenewable products: paper and ink (cartridges).

In one tangible economic development benefit, the small (2003 population: 10,607) Indiana community of Plymouth landed a project with Wal-Mart. The latter chose Plymouth over other sites in the United States because of the time- and cost-efficient electronic permitting available in Indiana. Another noteworthy client that has benefitted from the e-government process is the Indianapolis Airport Authority, which used electronic filing for its new, almost $1 billion terminal.

The DFBS process transformation has served as a pilot project for other Indiana government jurisdictions. The City of Indianapolis now accepts an affidavit that plans submitted for its review are the same as those submitted to the state. The city now receives approximately one-third of the plans reviewed by the DFBS for the entire state. In the future, it should be possible to integrate the e-government permitting process at all levels, so that permits and approved plans can be forwarded electronically to the next appropriate level of government. A notice of transfer would then be sent electronically to the submitter as an update about the project’s review status. The local government agency responsible for approving permits would benefit from:

- Web-based status update option for submitters (limiting the need to field routine inquiries)
- Reduced need to rekey formulaic information manually
- Assurance about integrity of approved plan (only the back page of paper plans is stamped, making it possible for submitters to substitute non-reviewed/unapproved pages)
- Generic application form for all jurisdictions (thus reducing submitter time to complete and clarifying communications between jurisdictions)

Other positive unintended consequences have been realized. Since electronic versions of the building plans are being transmitted to counties for their records, plans can then be linked to local 911 systems, including GPS. This means, for example, that a fire truck can have a copy of a building’s layout loaded into a computer console so that crews know immediately where all stairwells, air ducts, and hazardous waste storage can be found.

The DFBS has continued to pursue process improvement for another area of responsibility: safety inspections. The DFBS is responsible for inspecting elevators and amusement park rides, in addition to ambulances, pressure vessels (e.g., hot water tanks), and construction site mobile trailers.

Eighteen inspectors examine approximately 15,000 elevators, 1,200 amusement park rides, and 60,000 pressure vessels around the state annually. The process was paper-intensive, redundant, and inefficient. Multiple carbon copies of reports had to be filed by building or ride owners, county officials, and the DFBS. Hand-written reports by inspectors were re-keyed by clerical staff for electronic records management. Report
documentation did not travel with rides. Energized by the successful electronic-permitting process, DFBS management explored the use of Radio Frequency Identification (RFID) technology for tracking emergency equipment so that the same information storage concept could be used for amusement rides.

Working with private industry firms from New York (SYSCEN) and Indiana (Norther Apex), the DFBS team developed an approach that is unique in the United States. Inspectors equipped with a portable hand-held computer complete forms electronically and rewrite the data to the RFID tag affixed to amusement park rides since May 2002. They also use an infrared connection to print the inspection form to a belt-worn mobile printer for the ride owner. Through a dial-up modem connection, data on the hand-held computer is uploaded to the Commission's mainframe computer and new pertinent data are downloaded to the hand-held. Data integrity is maintained and re-keying tasks are eliminated. As a side benefit, inspectors can access e-mail messages from the field over the handheld devices.

Other states have expressed interest in the system. The public safety benefits are also clear; inspection reports are now affixed to rides and readily available, regardless of geographical location or ownership change. Again, a grassroots e-government initiative to transform business processes through judicious use of technology has taken root.