Transformation by Design: An Innovative Approach to Implementation of e-Government

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Abstract: A new approach is emerging for implementing e-Government. That approach draws on lessons learned by both "dot.coms" and brick-and-mortar (government and commercial) institutions in addressing challenges of the Digital Economy to enable "transformation by design". "Transformation by design" marries a step-by-step approach to changing existing business infrastructure with innovation to accelerate progression toward transformation in the Digital Economy. In doing so, it addresses the competing requirements facing government institutions for simultaneous incremental and radical change posed by e-Government implementation.

Keywords: transformation, incrementalism, digital economy

1. Introduction

Charles Lindblom (1959), noted Yale political economist, described an approach to decision-making in the public sector called "incrementalism". He characterized it as a process of "muddling through" to implement change in a step-by-step process. It continues to characterize the implementation of change in governance institutions today, especially among the industrial democracies. The process of incremental change fulfills the "checks and balances" requirement of democratic government institutions.

A different approach to implementing change is evident in the commercial sector.

To be sure, incrementalism is a key part of most approaches to change in existing businesses. However, the energy of nimble start-up businesses and competitors responding to new opportunities in the market creates a competitive imperative for innovation that drives leading businesses to move beyond incremental change. They study the innovations of new entrants and competitors to understand emerging opportunities and incorporate resulting insights into the more incremental change efforts required by their existing business infrastructure. The result is transformational change.

Change in the public sector lacks this commercial market imperative. Unlike their commercial sector counter-parts, government leaders, by "checks and balances" design, cannot easily start up innovative enterprises or programs to capture emerging opportunities for improving the value provided by government to its customers.

This difference is evident in assessing efforts by the two sectors to implement changes required to succeed in the Digital Economy. The e-Business challenge has been to change the enterprise to take advantage of digital technologies in order to improve profitability, market share, and customer value. The challenge of e-Government has involved a similar application of digital technologies to improve service delivery, productivity, and customer value. The pace of change, however, has been significantly different. E-Business implementation has outpaced e-Government implementation-- the competitive threats associated with start-up dot.com enterprises and new competitors have forced transformational change on leading business enterprises. Government enterprises, without this market imperative, have followed a more traditional approach to e-Government implementation--in the face of significant demand by the public for faster response, increased access, and improved service. The result has been transformational change in one sector and incremental change in the other.

How can the outcry for transformational change in government coexist with the incrementalism demanded by the "checks and balances" inherent in government? The competition drivers that fuel value creation and define the innovation challenge for e-Business, and the very different cooperation drivers that fuel value creation and define the innovation challenge of e-Government, lead to

Reference this paper as: Swedberg D and Douglas J, "Transformation by Design: An Innovative Approach to Implementation of e-Government" *Electronic Journal of e-Government* Volume 1 Issue 1, 2003, (pp8-12), available online at www.ejeg.com

surprising new opportunities to go forward with common approaches. The distinctions between competitive and cooperative institutions are blurring and many of the innovations taking hold in the commercial sector are also taking hold in the public sector. This paper presents an incremental design approach that leverages lessons learned from commercial and leading government efforts to respond to the impacts of the Digital Economy. We call that approach "Transformation by Design": a way to foster rapid innovation within the incremental requirements of established institutions in order to meet e-Government (and e-Business) implementation challenges.

2. The new opportunity

A large amount of research has been conducted over the past several years by academics, think tanks, and businesses themselves to understand new requirements for success in the Digital Economy. This research has focused on understanding "dot.coms": why they succeed(ed), why they fail(ed), and why they seem(ed) to succeed and/or fail so quickly. The purpose of the research is to better understand the new type of innovation at the core of these new enterprises. Much of that research has pointed to the importance of business model innovation and implementation of a networked enterprise design as a key to success in the Digital Economy.

One of the best descriptions of this Digital Economy enterprise has been offered by Tapscott et al (2000) in their book, Digital Capital. They call that new enterprise the Business Web and describe it as a "…partner network of producers, service providers, suppliers, infrastructure companies, and customers linked via digital channels…".

Important to our purposes in describing the basis for using commercial sector lessons learned to support e-Government implementation are two key characteristics of the Business Web:

Characteristic 1: A focus on customer value as the guiding principle for implementing Digital Economy innovation (Customer value delivery)

Characteristic 2: Improvement of customer value delivery by increased cooperation among competitive businesses in the Digital Economy through networked, extended enterprises (Sharing in a market environment).

The resulting principal at the heart of Digital Economy enterprise design has been called "co-opetition"--a deliberate array of partnerships, extending the traditional enterprise, in order to enhance delivery of customer value.

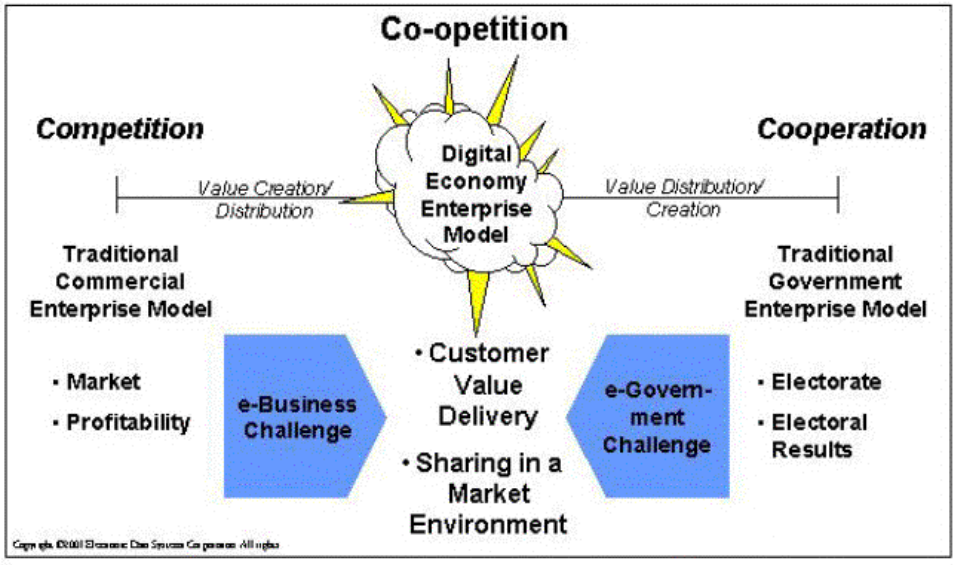

Figure 1: New enterprise model

Figure 1 graphically describes this new enterprise model and portrays the convergence toward that model by both commercial and government institutions. Customer value becomes a common yardstick for improvement efforts—supplementing profitability for commercial institutions and electoral

results for governance institutions, as a strategic guide for directing Digital Economy change efforts. "Co-opetition" becomes a common design principal for both types of institutions.

The result is a significant new opportunity for government institutions to learn from commercial innovation, in addition to benchmarking within the government sector, in the implementation of e-Government [1].

3. Digital economy "Design"

One key area where commercial sector lessons have been learned and could be applied to accelerate e-Government implementation is in understanding performance improvement "levers" and their relationships in defining successful Digital Economy innovation initiatives. One important set of levers address the business infrastructure of the enterprise—that is, the tools, processes, offerings, and structure employed to deliver value. Figure 2 shows a set of relationships among goals, strategies, and these performance improvement levers that is evident from a review of successful Digital Economy innovation initiatives.

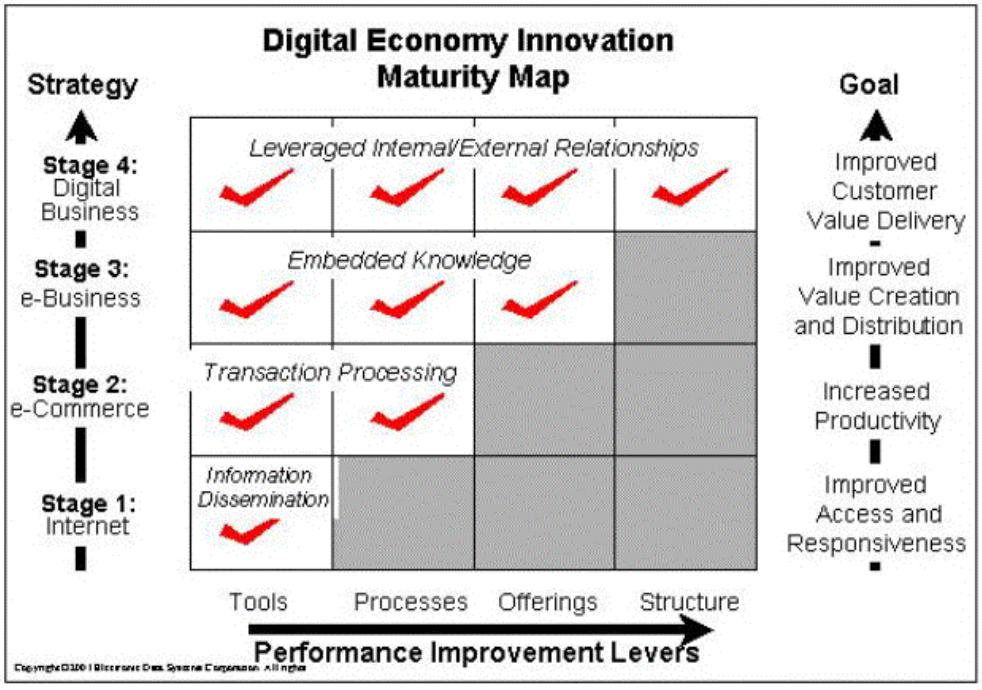

Figure 2: Digital economy innovation maturity map

As shown, there is a progression through four increasingly sophisticated and complex Digital Economy innovation strategies:

- Internet strategy—focusing on the internet as a tool for improved information dissemination in support of a goal of improved accessibility and responsiveness
- e-Commerce strategy—expanding the improvement agenda to include process innovation through a focus on business transaction processing in support of a goal of increased productivity
- e-Business strategy—driving the improvement agenda to include offering (i.e., product) innovation by embedding or leveraging knowledge to support a goal of increased value creation and distribution
- Digital business strategy—focusing on business model innovation through initiatives that build the enterprise structure required to deliver Digital Economy value to customers and owners.

[1] Market and social forces, fuelled by technological advancement, have brought commercial and governmental institutions to a common place. Differences still exist—in requirements for obtaining new competencies required in the Digital Economy, and in other characteristics that will continue to define unique governmental and commercial goals. However, customer value delivery as the common institutional improvement measure of the value creation and distribution principle ("co-opetition") for commercial and government institutions alike, provides a great opportunity for government to accelerate implementation of e-Government.

These four strategies define a general framework for maturing a portfolio of inter-dependent initiatives in a way that increments of change can be logically sequenced, prioritized, and integrated to produce benefits.

Figure 3 uses this framework to organize Digital Economy innovation initiatives to illustrate increments of change efforts related to these strategies. The identified initiatives do not represent an exhaustive list of Digital Economy initiatives and do not always correspond to the way these initiatives are characterized in actual implementation. They do, however, represent the primary set of initiatives and their typical goals, improvement orientation, and change focus. We believe they also provide a useful starting point in establishing an incremental approach to transforming existing enterprises for success in the Digital Economy.

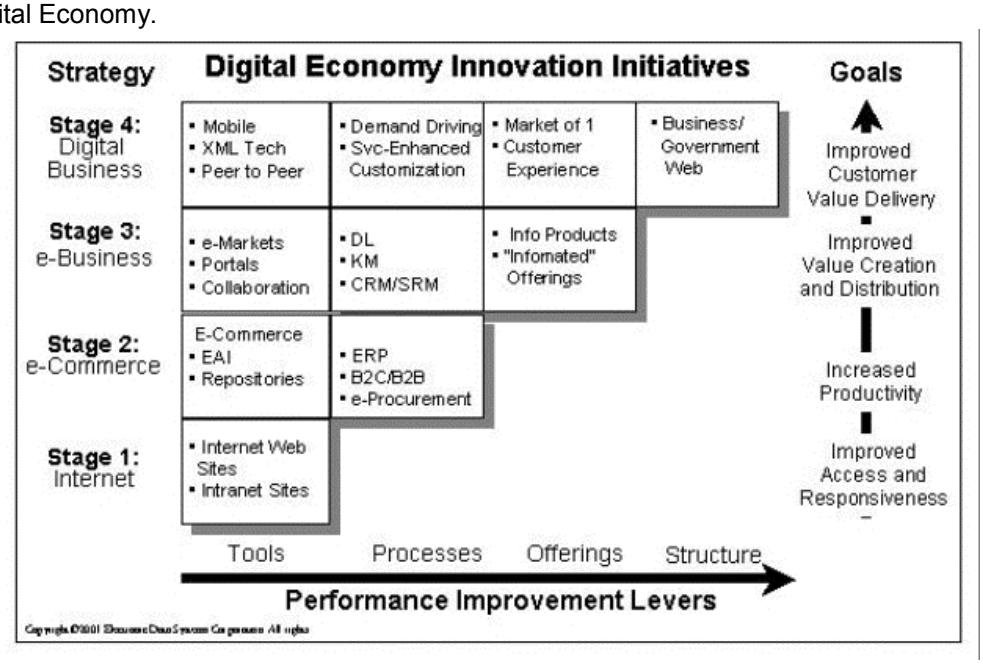

Figure 3: Digital economy innovation initiatives

Let's examine the characteristics of the increments defined. Stages 1 and 2 represent stages of implementation most large institutions have seriously begun to address. Stage 1 focuses on the value of the Internet as a tool for improving access. That is accomplished by opportunities for improving information dissemination—both internally, through the creation of enterprise-specific Intranets, and externally, through informational web sites. In the government, posting of tourism information, downloadable tax forms, and internal agency directories are examples of advances associated with this strategy.

Stage 2, e-Commerce strategy, explicitly links Internet tools to business processes. The focus of this stage is on transaction processing—transactions associated with finance and administration (Enterprise Resource Planning) orders from customers (B2C or B2B) and orders to vendors (e-Procurement). Pioneers of the Internet, brick and mortar companies and government institutions alike, have made significant investments here over the past few years. In most cases, the result has been improved productivity and, where combined with structured process improvement efforts, reduced cost. In the government, the ability to transact vehicle registrations, submit tax forms, and respond to requests for proposals are examples of advances associated with this strategy.

The experimentation of the last five years, however, shows at least two steps beyond the e-Commerce stage that are possible and that truly begin to leverage Internet technologies for transformational change. Stage 3: e-Business, involves embedding knowledge in processes automated by e-Commerce in order to improve the offerings, products, and services provided to customers. Improvement comes through efforts to wrap services around "atom-based" products and/or to provide new information products to customers. Either type of innovation leverages the digital information obtained through automated transaction and decision support processes with new knowledge management and e-Learning platforms. They all help create knowledge that can be used by institutions to increase the value of the offerings provided to customers.

In the U.S., a web-based initiative Scorecard, created by Environmental Defense, represents a good example of stage three strategy at work. It combines data from over 300 different scientific and government databases to profile local environmental problems and health effects of toxic chemicals. Access to information about pollution sources in a particular locality, and tools to assess environmental risks, and take action, are available through the Scorecard initiative[2].

Within the commercial sector, a case can be made that the focus of efforts by pioneers is today focused on stage 4, Digital business strategy. Explicit consideration of enterprise structure, and more specifically, relationship and partnership requirements for implementing a "Business Web," becomes the focus for these pioneers. Jack Welch's (CEO of General Electric) vision of boundary-less organizations is the strategy —improved delivery of value to customers is the goal. Business model innovation by Enron, Schwab, and Cisco are all examples of this type of strategy.

For government institutions, progress in making this step awaits the direction of the "shareholders"— the citizens, who in democratic societies have approved the current structure of government. It is here that e-Government becomes e-Governance and begins to ask fundamental questions about what the role of government institutions should be in the Digital Economy. The creation of public-private partnerships, greater cooperative outsourcing, inter-jurisdictional cooperation, and shifting services to non-governmental entities, are all indicators of progress.

Ontario, Canada's Integrated Justice Project is a Government-Web that enlists private sector partners to enhance the management of the justice system, while the government maintains its inherent role in law enforcement. The project is a joint initiative of three ministries and a consortium of four private companies, and includes a common architecture, improved and integrated case management, and technology-enhanced courtroom procedures.

Early experimentation in the U.S. by Marion County and the City of Indianapolis in their implementation of "IndyGov" showed some interesting results. That initiative involved the virtual combination of two government jurisdictions into one that focused its attention on improving value delivery to citizens first, and then on the specific service mandates of the two jurisdictions. That initiative has not progressed significantly in the recent past, however, demonstrating the hurdles that will be awaiting e-Government implementers as they approach this stage of implementation. Commercial sector innovation around the similar set of design principles (i.e., co-opetition) may provide value to e-Government implementers as they begin to address this level of implementation.

Understanding the described interdependencies, Digital Economy innovation initiatives, and increments of maturity associated with accompanying strategies, can result in improved incrementalism, but a few cautions are in order. The stages are a logical maturity progression, but not necessarily time sequenced. Driving to complete one strategy before beginning implementation of higher-level strategies is not necessary and probably not wise. Significant "low-hanging fruit" unique to any institution exists at all levels and reaping that fruit as soon as possible is always an important consideration. A portfolio approach identifying initiatives at each stage can accelerate enterprise learning and transformation— key challenges facing e-Government implementers.

4. Digital economy: "Transformation"

Catalyzing change requires energy. Learning from business model innovation, as described in the previous section, helps with changing the business infrastructure of the enterprise. Changing the social "infrastructure" of the enterprise—customer expectations, organizational culture, and owner expectations—is also a daunting challenge for e-Government implementers. Finding and marshalling the transformative "energy" required to make significant progress will be the most important determinant of success for any government institution undertaking this challenge.

With the crash of the dot.com market, significant energy has been lost from the "social infrastructure" that was propelling implementation of change in response to new requirements of the Digital Economy. That market had a significant impact on increasing customer expectations for service

[2] Research by Digital 4Sight, in its 2001 multi-client research study on Governance in the Digital Economy has provided evidence that this similarity in Digital Economy enterprise models is indeed happening from their analysis of many initiatives currently in place. They have used the term governance web to refer to business webs focused on primarily government functions.

responsiveness, access, and convenience—that is the value they expected institutions to deliver. The ability of government and commercial institutions to use those rapidly escalating expectations for customer service as a change driver may need additional energy from new sources to propel transformation.

One of those sources, especially suited to making progress in stage 3, e-Business, is front-line government employees. In stage 3, the goal is value creation and distribution for customers, and embedding knowledge in processes is the mechanism for doing so. Those who possess customer knowledge and understand customer's needs represent a great engine for transformation. Front-line employees need to be enlisted in the implementation effort in much the same way they were enlisted in improving quality during the Total Quality Management movement. The focus this time, however, is not on what those employees do, but rather on what they know, specifically, about customer needs. Charging front-line employees with responsibility for innovating products and services is a natural way to create energy for the business infrastructure implementation of e-Government.

In the commercial sector, a number of firms are experimenting with this approach for creating the energy required to continue to progress in their implementation of e-Business. In general, the initiatives fall under the heading of innovation, knowledge management, or leadership programs. All include attempts to harvest innovative ideas that already exist within the firm, provide information/skills to front-line employees to help them generate ideas, and build idea incubators that provide support for developing ideas into implementable business proposals. This holds the promise of infusing new energy for transformation.

This, however, will not be sufficient to drive change into stage 4. Employees are stakeholders in the business structure currently in place. As such, there may be significant "blind-spots" that preclude considered attention to new requirements for delivering value created by stage 3 initiatives. In the commercial sector, the emergence of "shareholder value" as a focus for evaluating performance provides some promise for a critical examination of opportunities to improve value delivery. The potential to adopt the new business model described by experts appears to be within reach in this sector.

Achieving transformation in the government sector requires the mobilization of those with the power to define the role of government. In industrial democracies, citizens and their elected representatives have that power. Involving those parties in the debate over the appropriate role of government in the Digital Economy is an imperative for progress in this stage. At the policy level, that will involve greater transparency and input by citizens into the choices made for implementing legislative mandates. At the legislative level, more direct mechanisms for input into decision-making may be required. While the mechanisms are not yet clear, the need for the eventual merger of e-Government with "e-Governance" is clear as we contemplate the realization of e-Government transformation by design goals.

References

Lindblom Charles E, (1959) "The Science of 'Muddling Through", *Public Administration*, Vol. 19, pp79-99.
Tapscott Don, Ticol David and Lowy Alex (2000) *Digital Capital, 2000 Forward,*