

Current Practices in E-Government-induced Business Process Change (BPC)

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Abstract

E-Gov projects have an increasing influence on how government business processes evolve and change. While early e-Gov projects focused on government-to-public information and interaction, the second and third wave of e-Gov projects also emphasize internal effectiveness and efficiency along with intra- and interdepartmental as well as intra- and inter-branch integration. With these increases in scope and scale of e-Gov projects, existing business processes including core processes become candidates for improvement and change. While the private-sector-oriented literature on business process change abounds with descriptive and prescriptive accounts, no equivalent has been found in the public-sector-related literature. Although many insights drawn from the private sector may apply, the public sector seems to develop distinct practices. This paper contributes to the understanding of current practices in e-Gov-induced business process change comparing those practices to prescriptions derived from private-sector experience. Among other factors, the more inclusive approach observed in e-Gov business process change may explain the higher success rate of public-sector projects compared with those reported from the private sector.

Introduction

Once electronic Government (e-Gov) projects transcend the early catalogue and transaction phases and enter the transformational stage, as prerequisites, high degrees of integration of both information bases and business processes have been anticipated within and across government agencies and branches (Layne & Lee, 2001). However, when interfacing and integrating the various systems, which represent the technology backbones of information and processes in government, major changes to the underlying business logic and its representation through business processes appear mandatory (Scholl, 2003), if “manumation,” that is, only mirroring paper-based processes electronically without overcoming their fragmentation (Mohan & Holstein, 1998), is to be avoided. For well over a decade the streamlining of business processes has been practiced and studied in the private sector. Both radical (Champy, 1995; Grover, Teng, Segars, & Fiedler, 1998; Hammer & Champy, 1993) and moderate, more incremental approaches (Halachmi & Bovaird, 1997; Harkness, Kettinger, & Segars, 1996; Kling & Tillquist, 1998; Martinsons & Revenaugh, 1997) have been observed yielding mixed results with failure rates of up to seventy percent (Hammer, 1996) for the more radical and disruptive approaches (cf., for example, (Martinsons & Revenaugh, 1997)). While radical process change in private-sector fashion in a system of deliberately distributed control as found in Western democracy appears neither desirable nor feasible (Mohan & Holstein, 1990), methods and insights developed in private-sector business process change (BPC) it has been argued may inform and apply when changing processes in the public sector (Scholl, 2003). This paper reports on the practices used by project managers and officials when dealing with the BPC and integration task in the context of e-Gov projects. For both space constraints and, since it has been laid out in detail elsewhere (ibid.), the paper foregoes the repetition of an elaborate review of the private-sector-related literature on the subject, but rather presents the results of the empirical study proposed in that predecessor paper.

The paper is organized as follows: First, along with a brief re-introduction of those practices known from the private sector, seven propositions based on the private-sector BPC literature are re-stated. Then, the qualitative research design, which guided the study's data collection and analysis, is described. Third, the empirical results and observations for each proposition are presented. Finally, the paper discusses those results and their relationship to each other and presents conclusions regarding the observed BPC practices in the context of e-Gov projects along with suggestions for quantitative testing based on a larger sample size.

Private-Sector Insights and Practices in BPC

Stakeholders. Some scholars in the early reengineering movement suggested that those groups of employees, which would most likely impede radical change in business process reengineering projects, should be isolated from those projects until after the fact with their potential to negatively influence the outcome tightly contained (Stoddard & Jarvenpaa, 1995). The reportedly high failure rate of such BPC projects, however, soon suggested otherwise (Hammer, 1996; Ranganathan & Dhaliwal, 2001). More inclusive approaches, hence, were soon advocated, which paid more attention to the needs and wants of important (also internal) stakeholders who would potentially be impacted by or (themselves) impact the project's outcome (Freeman, 1984) leading to (Scholl, 2001)

(Proposition #1) *The success of Electronic Government depends on the participation and cooperation of primary stakeholders.*

Culture/Change Readiness. Upon looking more closely at internal stakeholders it becomes obvious that while certain groups of stakeholders who may be willing to support a change project in one setting of organizational culture, in a different setting everything else being equal the equivalent group of stakeholders may actively oppose the proposed change (O'Neill & Sohal, 1999). In other words, the organizational culture is an important variable when it comes to any change (Schein, 1969, 1992, 1999) including BPC. This it appears is very similar in a public-sector setting.

(Proposition #2) *In order to avoid failure, major electronic-government projects require the upfront assessment of the organizational culture context.*

Process and Resource Inventory. BPC obviously produces rippling effects throughout an organization, which seem to increase with the extent of change (Hammer & Champy, 1993). Business processes before changed, hence, have to be carefully analyzed, documented, and assessed for streamlining potential (ibid.). In a government context this again should be very similar.

(Proposition #3) *In order to be successful, before a major electronic- government project is launched, a thorough understanding and a detailed inventory of business processes, ICT hard- and software, skills, internal and external conditions.*

Workflow Analysis. While the analysis of high-level business processes may uncover important areas of fragmentation indicating the potential for streamlining, the full change and streamlining potential emerges once the analysis drills to the levels of detailed workflow analyses (Alavi, Wheeler, & Valacich, 1995; Kettinger, Teng, & Guha, 1997; Pardo & Scholl, 2002). In Government, a detailed workflow analysis also helps uncover the exact lines of control and ownership of a given process and workflow.

(Proposition #4) *In order to be successful, any major electronic-government project requires a detailed workflow analysis beyond the high-level business-process analysis.*

Internal Competency and Learning. Developing internal organizational experience and knowledge, although readily complemented with external knowledge and skills, is essential in at least strategic areas of business, since beyond the codifiable elements the tacit dimensions of knowledge seem to represent an important portion of an organization's capabilities (Kogut & Zander, 1992, 1995; Nelson & Winter, 1982; Spender, 1996). Own experience is particularly necessary, if change is sought on large scales (Caudle, 1994) in government.

(Proposition #5) *For electronic-government projects to succeed, organizational knowledge and experience regarding electronic government must be developed internally.*

Consensus Among Officials and Citizens. Decades ago it was already observed that users would reject ICT-based systems not only as a consequence of weak functionality or malfunction, but also for the lack of good communication between system designers and ultimate users (Markus, 1983). Also in the public sector, consensus among salient stakeholders regarding functionality and uses of ICT systems appears to be a major determinant of system acceptance and success (Halachmi & Bovaird, 1997).

(Proposition #6) *For the success of electronic government, a broad consensus among officials and citizens is necessary.*

Senior Leadership Support. Without senior executive sponsorship, no BPC project would have the chance to be even launched, leave alone to be completed successfully according to a broad consensus in the private-sector literature on BPC (Kambil & van Heck, 1998; Mallalieu, Harvey, & Hardy, 1999; Poon & Wagner, 2001; Sarker & Lee, 1999; Walston & Bogue, 1999). With the crossing of departmental and other organizational boundaries in e-Gov projects, the involvement of and sponsorship by senior executives appears indispensable also in the government context.

(Proposition #7) *The active involvement and continued commitment of senior government leadership is indispensable to the success of any major electronic-government project.*

In summary, BPC practices observed in the private sector, particularly in the context of electronic-business projects, may also apply to e-Gov-related BPC in the public sector. If so, the lessons learned in the private sector would be valuable and informative to scholarly research and BPC practice in the public sector.

Research Design and Study Questions

Study Question. Since BPC in the context of e-Gov has not been widely studied, an exploratory research design was chosen. The study questions were formulated as:

- (1) To what extent do BPC practices related to e-Gov projects differ from BPC practices in the private sector?
- (2) If the practices differ between the two sectors, how do they differ?

The seven propositions presented above were derived from the private-sector-based literature and characterize current practices in private-sector BPC. The study would, hence, utilize those propositions to probe for similarities and divergences in completed e-Gov projects, which involve, at a minimum, transaction processing.

Sampling Method. The purposive sampling (Ritchie, Lewis, & Gillian, 2003) employed in this study initially focused on senior public managers in New York State (NYS)¹ who had supervised at least one major e-Government project. Study participants were recruited by email and/or phone and selected from the State's official list of 75 top-ranked electronic government projects prepared by the NYS Office for Technology². Priority was given to those managers who had supervised very large projects. For reasons of availability and proximity, the study was expanded to include another state (Washington State) and other levels of government (King County and the City of Seattle). For the study participants from Washington State, King County (WA), and the City of Seattle identical sampling principles (senior management with supervisory experience in at least one large e-Government project) were applied. The inclusion of a Washington State-based sub-sample provided access to one of the most advanced e-Gov sites in the US (Gant & Gant, 2002; Ho, 2002; Kaylor, Deshazo, & Eck, 2001).

Data Collection. Data were collected via a semi-structured interview format, which allowed for additional probing on the basis of a fixed structure of uniform statements (cf., (Arthur & Nazroo, 2003; Denzin &

Lincoln, 2000)). The seven propositions served as those uniform statements. In a series of twenty-three semi-structured interviews, thirty senior-level government managers from thirteen New York State agencies, and on the West Coast from four Washington State agencies, two King County (WA) agencies, and two City of Seattle agencies were asked to comment on the seven statements. Interviews were conducted with single individuals, with groups of two, and, in one case, with a group of three individuals. The interviews were conducted in person or over the telephone. The statements were read to the interviewees, one at a time. Interviewees were then asked to comment on those statements from their own experience and involvement in e-Gov projects. Probing questions were asked. The interviews, which lasted between 30 minutes and two hours, were audio taped and transcribed for analysis.

Data Analysis. In four passes, the data collected were analyzed. First, two researchers independently read the transcripts, one statement at a time assigning levels of agreements or disagreement on a Likert scale to each statement of every transcript. The Likert scales were then compared and discrepancies of magnitude (defined as a variance >1 on the scale) were discussed and resolved. In the second pass, the two researchers read the transcripts again, now one unit of data at time. In an open coding process (Strauss & Corbin, 1998), each unit of data was assigned to a preliminary category or sub-category whose dimensions and properties were developed from the data. New categories and sub-categories were introduced, in case existing categories did not apply (Gorman, Clayton, Rice-Lively, & Gorman, 1997). Convergence and assignment of categories, which the two researchers had identified independently, was performed at each step of the data analysis. In a subsequent pass, an axial coding process was applied, during which the converged categories (emphasized in SMALL CAPITALS below) and subcategories were analyzed regarding their inherent structures and processes leading to paradigms, whose internal relationships were identified wherever possible (Strauss & Corbin, 1998). In the final pass, a selective coding process was performed, in which the resulting concepts and theories were related to each other.

Results

Stakeholders. Among the MOST FREQUENTLY CITED REASONS for stakeholder involvement were (1) the experience of past project failure or underutilization, (2) smoother project execution, (3) better need assessment, (4) more focused project orientation, and (5) acceptance of project outcomes including information systems. Moreover, due to the distributed control over critical resources, stakeholders it was argued had to be involved anyway, in order to launch the project and keep it afloat. However, the proper and timely IDENTIFICATION of salient stakeholders occasionally poses a problem according to the responses. In some cases, for example, particularly in those with high degrees of application and information integration, the number of stakeholders appeared as too high, or stakeholder groups were seen as too heterogeneous, such that the involvement posed a serious management problem; in other cases, stakeholder salience had been incorrectly assessed, leading to troublesome situations when the project unfolded. The lack of identifying stakeholders with the power to stall the project was reported as a major mistake in planning and execution. Interviewees described various aspects of stakeholder INVOLVEMENT, for example, via ongoing communication and participation. Demonstrating a project's potential benefits to stakeholders reportedly increases stakeholder support and mitigates change resistance it was pointed out. The earlier stakeholders are involved it was said the more deeply the project's impact on process change and its business impact is understood and negotiated among all parties. Piloting and prototyping systems were seen as practical and powerful methods for involving stakeholders, although technically suboptimal, yet, consensus-based systems might be the outcome. Nevertheless, some issues remain with stakeholder involvement according to the interviewed practitioners: (1) stakeholder involvement alone does not guarantee project success, (2) occasionally decisions are made based on critically incomplete information, even while stakeholders are involved, (3) stakeholders may be over-invested in old systems or not sympathetic to the notion of e-Gov, (4) budget and time pressures may preclude the timely and proper involvement of stakeholders exposing those projects to higher risks of failure, and (5) proof of concepts may sometimes only be attainable through "stealth" projects with limited or no stakeholder

involvement. The theme of stakeholder involvement reappeared in respondents' comments to most other statements, time and again.

Culture/Change Readiness. The RATIONALE given by respondents for performing an upfront cultural assessment broke down into three subcategories (1) textbook wisdom, (2) education, and (3) overcoming resistance. According to the textbooks, with which a number of practitioners seemed to be quite familiar, an upfront culture assessment, so the interviewees said, allows for a better understanding of the project's impact on the culture, which was seen as a major determinant of project success. In that regard, e-Gov project seemed to be no different from any other change project. The larger the anticipated change it was also said the more crucial is an upfront assessment. A cultural change, for example, from a bureaucracy-centric to a service-oriented culture, was seen as a major challenge taking a lot of time. E-Gov projects with such impacts may be better broken up into smaller chunks in order to avoid clashes it was felt. For some time, both the traditional and the new way of doing business would co-exist, anyway, it was argued. The culture assessment when people are involved may help educate and change behaviors regarding the project it was reported, and even create the sense of need and of ownership in an e-Gov project geared at change. Foremost, though, the anticipated lines of resistance to change such as "entrenched bureaucracies" it was believed become visible in a culture assessment and, hence, inform the project proponents regarding the overall readiness for and likely dynamics of change. According to most practitioners the assessment is critically, since resistance to the project can become so fundamental that it would be hard to overcome. In this regard, proper identification of STAKEHOLDERS and their needs was seen as part of also the culture/readiness assessment. Some practitioners found the stakeholder identification and, particularly, senior executive support to be much more important than upfront culture assessments, which were characterized rather critically as time-consuming and expensive by those respondents. CONCURRENT ASSESSMENT rather than an upfront assessment was seen as sufficient and even more effective by a number of practitioners who pointed also out that an e-Gov project's clearly specified addressing of business needs, its scope definition, its budget, scheduling, and resource planning would be more important. Those practitioners see the culture assessment as an integral part of the project conducted on an ongoing rather than an upfront basis. Among reported OUTCOMES AND INSIGHTS, when upfront assessments had been performed, were that (1) unexpected and valuable results were found, which changed the course of the project, (2) the removal of individuals and groups was inevitable, such that they were unable to contest the project, (3) it was necessary to start the assessment at the top, (4) the upfront assessment does not guard against failure, particularly, if two far different cultures have to be merged. When upfront assessments had not been performed, then (5) projects had a tendency to fail more frequently than when in cases some assessment had been performed according to some practitioners. While the overall need for cultural or change readiness assessments is not disputed much among practitioners, a variety of approaches seems to exist in practice ranging from full-scale, upfront (for large change projects) over ongoing (for both large and small projects) to little or no assessment (for medium and small projects).

Process and Resource Inventory. No other statement provoked more comments. The research team identified a total of six categories. Again, practitioners contrasted what they referred to as the TEXTBOOK APPROACH with a CRITIQUE OF THE TEXTBOOK APPROACH. Some practitioners characterized the inventorying of processes and extant resources as indispensable for proper project initiation and planning not just in e-Gov projects. With establishing the current state also a desired state could be charted out it was said. The building of both shared vision and mission proclaimed in quite many textbooks along with specifying the business need some practitioners said antecede or accompany this inventorying process. Also, the more and better analysis and planning done upfront those practitioners maintained the less time was wasted in later project stages. Where an accurate and current documentation of extant processes and resources exists, so some practitioners stated, both analysis and planning for a given project are more easily done. The inventory analysis was also seen as instrumental when pinpointing lacks of functionality. The detailed analysis, however, is routinely performed only, once senior executives have signed off the

project and primary stakeholders are involved according to the respondents. In critiquing the textbook approach, other respondents said that the analysis is an ongoing, iterative process rather than an upfront one-time exercise (which quite a few even considered a waste of time and resources). Also, with the process and resource inventory kept current project planning and execution unfold hand-in-hand it was said. Some practitioners went as far as reporting that the analysis mostly serves the goal to mediate between a “recognized or fabricated problem” and a “projected and desired state.” Others pointed at the tradeoffs between strategic project momentum and near-complete analysis, the latter of which had the capacity to lead to “analysis paralysis,” to scare away decision-makers, and to stall a project. Still others maintained that quite many projects are launched without any front-loaded, detailed analysis, and also that project success would not necessarily hinge on those analyses as long as an “awareness of the problem” exists. OTHER CONSTRAINTS were also reported, which prevent from a complete inventorying of extant processes and resources, among which the lack of funds, resources, time, or even interest were the most frequently mentioned. Further, respondents pointed out that the extent of analysis necessary and executed was related to the size and the perceived risk of a project. Several respondents emphasized the critical link between process and resource inventorying and the identification and involvement of salient STAKEHOLDERS (see also above). When skipping the detailed analysis and inventorying important stakeholders may remain unidentified they said. Inventorying and analyzing those practitioners held was part of community building around an e-Gov project. Interviewees also gave account on OUTCOMES AND INSIGHTS when inventorying was done or skipped: (1) Striking the right balance between the extent of inventorying and analysis, on the one hand, and project drive and dynamics, on the other hand, may determine part of project success or failure according to quite a few interviewees. (2) While critical gaps may be uncovered through analysis, some projects were continued anyway, while others were canceled. No account of the failure rate of the former was given. (3) Processes may be the foremost target area for inventory and analysis, since they seem to have a high potential for improvement. (4) Only through analysis the complexity of the integration task had become clear. (5) The analytical process was seen as ongoing and iterative. (6) Proper analysis was not seen as safeguard against project failure. (7) The results from analysis were found useful when crafting requests for proposal (RFIs). (8) Rapid prototyping had complemented the analysis. In summary, according to the data, inventorying and analysis appears to be conducted in e-Gov projects with various levels of detail and intensity ranging from no to iterative and ongoing detail analysis.

Workflow Analysis. Practitioners in support of performing the workflow analysis stated the RATIONALE along these lines: (1) “It is a necessary evil” and, “the devil is in the detail,” especially, when integrating and interfacing workflows that cross organizational boundaries; (2) levers and areas of greatest gains may more easily be identified; (3) through understanding the details, the nature of change may be better understood and conflict avoided in e-Gov. When describing SCOPE AND DETAIL of workflow analysis in e-Gov, quite a few practitioners maintained that workflow scale and scope co-determine the level of analysis. When individuals knowledgeable about a specific workflow are involved in the analysis, the potential for streamlining may raise significantly some said. Project success hinges to a great part on the detailed workflow analysis a few interviewees pointed out. Again, according to a number of respondents, the workflow analysis may vary in extent from happenstance to too detailed. Others reported on skipping the whole or some parts of workflow analysis advocating an OPPORTUNISTIC APPROACH as seen above. According to some respondents the early e-Gov projects just webified existing workflows, while others created completely new methods without expending any detailed analysis. Also, it was said, that with outsourcing e-Gov systems, old workflows were obliterated with no need for ex-post scrutiny. Again, it was also reported that workflow analyses were skipped for reasons of overwhelming workload. Several times it was stated that workflows would not change through the advent of e-Gov suggesting no detailed analysis was necessary. As in the section above, so also for workflows, quite a few practitioners suggested that an iterative approach was applied also to workflow analysis. Among the reported OUTCOMES AND INSIGHTS from performing or not performing a detailed workflow analysis were the (1) better understanding through matching workflows with business needs and requirements, (2) increased

accountability and transparency through matching tasks to workers and workers to tasks, (3) better understanding when troubleshooting, (4) users' increased project acceptance, and (5) a lower rate of nasty surprises while the project unfolded. In one case, the detailed workflow analysis was found disappointing since no new insight had been derived. Overall, in e-Gov projects, which this study is aware of, workflow analysis also seems to be performed with varying degrees of detail, again ranging from no analysis to detailed and ongoing/iterative analysis apparently depending on the project's or agency's developmental stage in e-Gov.

Internal Competency and Learning. Respondents pondered the value of INTERNAL KNOWLEDGE UTILIZATION versus that of EXTERNAL SOURCES OF KNOWLEDGE. Quite a few respondents bluntly stated that e-Gov is a government core function and, hence, must be seen as internal. While not opposed to using external sources in some capacity, internal expertise would be needed to solidly manage e-Gov projects over long periods of time. Also, it was felt that availability of internal expertise keeps both consultants and vendors from inflating bids. Quite a few practitioners identified internal experts as having better understanding of government culture, structure, and process leading to higher gains and a higher commitment to desirable outcomes than external experts. While onsite learning from external subject field experts (e.g., advanced Web techniques) or component outsourcing were found appropriate, leaving "our core and destiny to strangers" was seen as unacceptable. Critical knowledge, hence, was to be maintained and built inside it was said. Proponents of using external expertise in e-Gov highlighted the productive role external experts and change agents had played as coaches when developing internal expertise. Others pointed out that outsourcing e-Gov systems had been considered only for as long as e-Gov had not touched the core processes. On the downside of using external expertise, even advocates of external expertise cited those external experts' long and expensive learning curves regarding government processes. When pointing at OUTCOMES AND INSIGHTS respondents reported that (1) a mix of internal and external expertise was used, (2) the business expertise was seen as the most important element in e-Gov and, hence, had never been outsourced while technology components may or may not have been outsourced depending on their relative importance, (3) sufficient internal expertise also regarding the technology needed to be maintained, and (4) knowledge transfer from external technical experts to internal experts had been sought and observed.

Consensus Among Officials and Citizens. Practitioners' answers were seen to fall into two broad categories of describing an IDEAL WORLD as opposed to the "real world" of ORGANIZATIONAL PRACTICE. Within the former category, interviewees said more consensus would most likely breed more success and, it was known that force-fitting services would be detrimental, however, no formal process for creating such consensus regarding e-Gov had been set in place. Moreover, even the few proponents admitted broad consensus between officials and citizens not to be essential, but rather more like "motherhood and apple pie." Quite a few respondents pointed out that broad consensus between officials and citizens regarding e-Gov was neither achievable, nor was it necessary in their views. Like "cooking by committee," seeking broad consensus could even be detrimental to the progress of e-Gov some said. What was rather sought according to a majority of practitioners was consensus among important stakeholders including government officials and senior executives regarding e-Gov project objectives, opportunities for improvement, priorities, needs, and the functionality of the e-Gov systems. A number of interviewees pointed out that government agencies have quite some discretion when choosing among e-Gov project avenues to follow. They also distinguished government-perceived need for a service from consensus building with citizens regarding that particular need. Some other respondents also maintained that they were held responsible by their seniors whether they were appointed or elected officials not by the citizens. Citizens would have their say through the elected legislators and other representatives. Most consensus-seeking activities would be conducted after the fact, once favorable results could be shown it was said. Also, since the traditional way of doing business would not go away for a long time, new approaches such as e-Gov were not subjected to broad consensus building, anyway, some respondents held. In summary,

according to the broad majority of practitioners, e-Gov projects do not hinge upon the broad consensus between officials and citizens.

Senior Leadership Support. The respondents qualified the NECESSITY AND EXTENT of senior executive support in e-Gov projects as follows: (1) In a context, in which resources are typically scarce and competition for them is stiff, funding and resource allocation was seen as an important aspect of senior executive support; (2) the senior executive leans her authority to the project, which helps establish legitimacy and accountability along the line of command, especially, in non-routine business situations, such as change projects; (3) the senior executive is indispensable for overcoming resistance to change and bureaucratic inertia along with maintaining stakeholder commitment and focus, (4) the larger the project (in terms of span of control and time horizon) and the more government entities involved, the more senior executive support and involvement (for example, via steering committees) is necessary for synchronization and mediation; (5) only if senior executives weigh in, souring projects may be turned around; and (6) while reassured via periodic update reports, a senior executive's support of the e-Gov project needs to be continuous, whereas the frequency of her involvement may vary. The practitioners also pointed at certain LIMITS of senior executive support. Some respondents said executives seem to lose interest in a subject after a while. Overall, the criticality of continued senior executive support for the success of any e-Gov project was strongly confirmed.

Discussion and Concluding Remarks

Through its exploratory approach this study has sought rich qualitative data for elucidating and better understanding current practices in e-Gov-induced business process change projects. Frameworks and concepts formulated in the context of private-sector BPC guided the study in this effort. With the results regarding current practices in e-Gov BPC in hand, those frameworks and concepts may in turn now be cautiously assessed for their suitability and applicability to a public-sector context, which will be briefly undertaken in the first portion of this discussion. In the second portion, uniqueness and characteristics of e-Gov BPC are discussed.

The Suitability of the Private-Sector BPC Literature. Based on the results, a preliminary assessment of that suitability and applicability seems in order, even though the sampling was purposively geared towards a different end and the sample size (n=23) was relatively small such that no claim to generalizability can and will be made here. If there is some indication that the frameworks and concepts from the BPC literature apply, the utilization of that rich literature in the context of e-Gov projects would appear as most recommendable such that expensive lessons learned elsewhere may not be lost. Upon analyzing the quantitative results presented above it is noteworthy that only marginal differences ($\hat{d} < 1.1\%$) were detected between the New York and the Washington sub-samples. In rank order, there was overall support for propositions #1 (100%), #7 (93.5%), #4 (78.2%), #2 (76%), and #3 (60.9%). Weak support was found for proposition #5 (45.6%). Proposition #6 was rejected by 76.1% of the respondents. In other words, in e-Gov-related BPC

- a. Stakeholder involvement seems to matter to highest degrees
- b. Senior executive commitment seems to matter to highest degrees
- c. Workflow analysis seems to matter to a high degree
- d. Culture/change readiness assessments seem to matter to a high degree
- e. Process and resource inventorying matter to some degree
- f. Internal competency and learning matter to some degree
- g. A broad consensus between officials and citizens does not.

Identified practices and approaches in private-sector BPC play a significant role in six of seven instances also in the public sector. If the condition in proposition #7 were relaxed to the property of salient stakeholder consensus, then, as the data show, even this practice would be little different between the two sectors. From this preliminary assessment it appears that the private-sector-based literature is highly

relevant to e-Gov BPC practice and might be utilized in a more systematic fashion in both academia and practice. This also provides a partial answer to the first study question: The extent of differences in BPC practices appears to reside, if so, in details rather than on a grand scale or in principle.

Characteristics and Uniqueness of E-Gov BPC Practices. The elements of distributed control and accountability make it intrinsically more complex than most private-sector BPC projects. Hence, e-Gov BPC projects seemingly necessitate far higher degrees of consensus and support from salient stakeholders than typical in the private sector leading to higher ownership. Distributed control and accountability, however, comes with more distributed sharing of burden also leading to more ownership in process, project, and outcome. Due to its mostly consensual nature and also due to numerous legal, statutory, and regulatory requirements, e-Gov BPC projects take longer to complete than similar projects in the private sector, however, obviously with the benefit of much less staggering failure rates (in fact, reports on e-Gov project blunders seem to be still in short supply, if any). Public-sector projects (including E-Gov projects) thus may have some insightful lessons in stock, which may help inspire private-sector BPC practice as well. Future research will seek more qualitative data regarding current BPC practices in both sectors, but also quantitative accounts on the basis of larger samples also for a more detailed comparison.

References

- Alavi, M., Wheeler, B. C., & Valacich, J. S. (1995). Using IT to reengineer business education: An exploratory investigation of collaborative telelearning. *MIS Quarterly*, 19(3), 293-312.
- Arthur, S., & Nazroo, J. (2003). Designing fieldwork strategies and materials. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice : a guide for social science students and researchers* (pp. 109-137). London ; Thousand Oaks, Calif.: Sage Publications.
- Cadle, S. L. (1994). *Reengineering for results : keys to success from government experience*. Washington, D.C.: Center for Information Management, National Academy of Public Administration.
- Champy, J. (1995). *Reengineering management : the mandate for new leadership* (1st ed.). New York: HarperBusiness.
- Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, Calif.: Sage Publications.
- Freeman, R. E. (1984). *Strategic management: a stakeholder approach*. Boston: Pitman.
- Gant, J. P., & Gant, D. B. (2002). *Web portal functionality and State government E-service*. Paper presented at the Proceedings on the 35th Hawaiian International Conference on System Sciences, Hawaii.
- Gorman, G. E., Clayton, P., Rice-Lively, M. L., & Gorman, L. (1997). *Qualitative research for the information professional : a practical handbook*. London: Library Association Publishing.
- Grover, V., Teng, J., Segars, A. H., & Fiedler, K. (1998). The influence of information technology diffusion and business process change on perceived productivity: The IS executive's perspective. *Information & Management*, 34, 141-159.
- Halachmi, A., & Bovaird, T. (1997). Process reengineering in the public sector: Learning some private sector lessons. *Technovation*, 17(5), 227-235.
- Hammer, M. (1996). *Beyond reengineering : how the process-centered organization is changing our work and our lives* (1st ed.). New York: HarperBusiness.
- Hammer, M., & Champy, J. (1993). *Reengineering the Corporation: A Manifesto for Business Revolution* (First ed.). New York: HarperCollins Publishers.
- Harkness, W. L., Kettinger, W. J., & Segars, A. H. (1996). Sustaining process improvement and innovation in the information service function: Lessons learned from Bose Corporation. *MIS Quarterly*, 20(3), 349-367.
- Ho, A. T.-k. (2002). Reinventing local governments and the e-government initiative. *Public Administration Review*, 62(4), 434-444.
- Kambil, A., & van Heck, E. (1998). Reengineering the Dutch Flower Auctions: A Framework for Analyzing Exchange Organizations. *Information Systems Research*, 9(1), 1-19.
- Kaylor, C., Deshazo, R., & Eck, D. V. (2001). Gauging e-government: A report on implementing services among American cities. *Government Information Quarterly*, 18(4), 293-307.
- Kettinger, W. J., Teng, J. T. C., & Guha, S. (1997). Business process change: A study of methodologies, techniques and tools. *MIS Quarterly*(March), 55-80.

- Kling, R., & Tillquist, J. (1998, n/a). *Conceiving IT-Enabled Organizational Change*. Retrieved 1/20, 2002, from www.slis.indiana.edu/kling/orgsci98h.html
- Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, 3(3), 383-397.
- Kogut, B., & Zander, U. (1995). Knowledge and the speed of the transfer and imitation of organizational capabilities: an empirical test. *Organization Science*, 6(1), 76-92.
- Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model. *Government Information Quarterly*, 18(2), 122-136.
- Mallalieu, G., Harvey, C., & Hardy, C. (1999). The wicked relationship between organizations and information technology (industry trend and event). *Journal of End User Computing*, 11(4), 40-50.
- Markus, M. L. (1983). Power, Politics, and MIS Implementation. *Communications of the ACM*, 26(6), 430-444.
- Martinsons, M. G., & Revenaugh, D. L. (1997). Re-engineering is dead; long live re-engineering. *International Journal of Production Economics*, 17(2), 79-82.
- Mohan, L., & Holstein, W. K. (1990). EIS : it can work in the public sector. *MIS Quarterly*, 14(4), 434-448.
- Mohan, L., & Holstein, W. K. (1998). *Decision support systems : an applications perspective*. Albany: Unpublished draft.
- Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- O'Neill, P., & Sohal, A. S. (1999). Business process reengineering: A review of recent literature. *Technovation*, 19(1999), 571-581.
- Pardo, T. A., & Scholl, H. J. J. (2002). *Walking atop the cliffs: Avoiding failure and reducing risk in large-scale e-government projects*. Paper presented at the Proceedings on the 35th Hawaiian International Conference on System Sciences, Hawaii.
- Poon, P., & Wagner, C. (2001). Critical success factors revisited: success and failure cases of information systems for senior executives. *Decision Support Systems*, 30, 393-418.
- Ranganathan, C., & Dhaliwal, J. S. (2001). A survey of business process reengineering practice in Singapore. *Information and Management*, 39(2001), 125-134.
- Ritchie, J., Lewis, J., & Gillian, E. (2003). Designing and selecting samples. In J. Ritchie & J. Lewis (Eds.), *Qualitative research practice : a guide for social science students and researchers* (pp. 77-108). London ; Thousand Oaks, Calif.: Sage Publications.
- Sarker, S., & Lee, A. S. (1999). IT-enabled organizational transform: A case study of BPR failure at TELECO. *Journal of Strategic Information Systems*, 8(1999), 83-103.
- Schein, E. H. (1969). *Process consultation: Its role in organizational development*. Reading, MA: Addison-Wesley.
- Schein, E. H. (1992). *Organizational culture and leadership* (2nd ed.). San Francisco: Jossey-Bass.
- Schein, E. H. (1999). *The corporate culture survival guide : sense and nonsense about culture change* (1st ed.). San Francisco, Calif.: Jossey-Bass.
- Scholl, H. J. J. (2001, October 3-5). *Applying stakeholder theory to e-government: benefits and limits*. Paper presented at the 1st IFIP Conference on E-Commerce, E-Business, and E-Government (I3E 2001), Zurich, Switzerland.
- Scholl, H. J. J. (2003, January, 6-9). *E-Government: A Special Case of ICT-enabled Business Process Change*. Paper presented at the 36th Hawaiian International Conference on System Sciences, Waikoloa, Big Island, HI.
- Spender, J. C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17(winter special issue), 45-62.
- Stoddard, D. B., & Jarvenpaa, S. L. (1995). Business process redesign: Tactics for managing radical change. *Journal of Management Information Systems*, 12(1), 88-107.
- Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research : techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks: Sage Publications.
- Walston, S. L., & Bogue, R. J. (1999). The effects of reengineering: Fad or competitive factor? *Journal of Healthcare Management*, 44(6), 456-476.

¹ New York State runs one of the largest electronic-government initiatives in the US

² See <http://www.irm.state.ny.us/ecommerce/quarterly/may01/top75.htm> - (accessed 12/1/2002)