

December 2002

MANAGING E-GOVERNMENT OUTSOURCING PROJECTS: LESSONS FROM U.S. LOCAL GOVERNMENT

Yu-Che Chen
Indiana University

Follow this and additional works at: <http://aisel.aisnet.org/amcis2002>

Recommended Citation

Chen, Yu-Che, "MANAGING E-GOVERNMENT OUTSOURCING PROJECTS: LESSONS FROM U.S. LOCAL GOVERNMENT" (2002). *AMCIS 2002 Proceedings*. 81.
<http://aisel.aisnet.org/amcis2002/81>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2002 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

MANAGING E-GOVERNMENT OUTSOURCING PROJECTS: LESSONS FROM U.S. LOCAL GOVERNMENT

Yu-Che Chen

School of Public and Environmental Affairs
Indiana University
yuchen@indiana.edu

Abstract

This research project explores strategies for better management of an outsourced e-government project. Outsourcing is a prominent method to address two major barriers to e-government: a shortage of skilled staff and a lack of financial resources. However, most of the existing studies on IT/IS outsourcing which focus on private sector experiences do not adequately address the challenges facing local government. This study develops an analytical framework where management lessons drawn from the relevant literature are placed in their proper context. The relationship between management practices and success in outsourcing, as outlined in the framework, serve as guiding hypotheses for empirical testing. The relevance of management support, service level agreement, and many other techniques identified in the literature needs to be examined against the context of local e-government projects. This study will employ a multi-regression analysis of 213 local governments to test the strength and significance of hypothesized relationships. The findings of this research will offer practical strategies and guidelines for public managers at the local level for using the outsourcing mechanism to overcome their main barriers to e-government.

Keyword: E-government, IT outsourcing, local government

Using Outsourcing to Overcome Barriers to E-Government Projects

Most U.S. local governments have launched or plan to launch e-government projects to improve internal processes and to provide better services to citizens and businesses (Norris et al., 2001). However, localities in the U.S. have faced challenges to their e-government initiatives. Among all barriers identified in the Electronic Government Survey 2000 of Local Government (Norris et al., 2001), a shortage of skilled IT staff and a lack of financial resources rank as number 1 (66.6%) and 2 (54.3%).

Outsourcing is one main way to remove these two top barriers. Outsourcing allows government to utilize a vendor's IT staff and expertise to fill the gap between the in-house skill set and the skills required to run e-government projects (Heeks, 1999, pp. 80-81). Alternative financial mechanisms are also available in outsourcing arrangements. For example, in paying a monthly fee for e-government services, local government alleviates its heavy financial burden in a large initial investment. The *user charges* model, where businesses pay a premium for online e-government services and government uses these revenues to fund e-government services to both businesses and citizens, is another alternative (Gant, Gant, and Johnson, 2002).

Moreover, outsourcing has gained importance as a means for providing web-hosting services. Web-site hosting is the number one aspect of e-government that has been outsourced (Norris et al., 2001). Given the relatively low percentage of local government currently working with an e-government vendor, there is potential for outsourcing arrangements to grow.

Web portal is likely to be the primary area of growth in outsourcing e-government projects. Web portal is the area where an economy of scale can easily be realized. Web servers with some standard online transaction applications can be shared by many local governments. The recent emergence of vendors targeting local e-government web services, such as GovHost.com and Netgov.com, shows the trend. At the state level, web hosting by an outside vendor has become the norm (Gant, Gant, and Johnson, 2002). If local government follows this trend, we will see growth in this area.

However, outsourcing can not be treated as a panacea. IT outsourcing projects may also fail if not properly managed (Lacity and Willcocks, 1995). With regard to e-government projects, the key to success is also proper management (Heeks, 1999). This research project examines the managerial challenges to outsourcing and develops a set of guidelines to help public managers take advantage of outsourcing arrangements in order to deliver high quality e-government services.

An Analytical Framework for Managing Outsourcing E-Government Projects

This research draws on experiences in both the public and private sectors. Information technology and system outsourcing first gained its importance in the private sector in the early 1990s. A collection of studies has examined the drivers for outsourcing as well as its critical success and failure factors (Lacity and Willcocks, 1995; 1998; Lacity and Hirschheim, 1993; 1995; Loh and Venkatraman, 1992; Goo et al., 2000). Experiences in the private sector serve as fertile learning ground for public managers engaging in outsourcing their e-government projects. For example, the whole notion of selective outsourcing emphasizes the importance of keeping core competence and monitoring capability in-house (Lacity and Hirschheim, 1994).

Nonetheless, simply transferring the lessons from the private to the public organizations may be problematic. Scholars have identified some fundamental differences between public and private sectors, pertaining to development and use of information systems (Bozeman and Bretschneider, 1986; Rubin, 1986). For example, public organizations usually have multiple objectives in selecting outsourcing arrangements. In contrast, private companies usually have profitability and long-term growth as their main objectives.

The public sector outsourcing experience raises the importance of several factors that are not adequately considered in the private sector experience. First, objectives other than economic efficiency may be central to an e-government project (Bozeman and Bretschneider, 1986; Graham and Scarborough, 1997; Conklin and McLellan, 1994). For example, equality, employment, and political concern may dominate the agenda. What further complicates the issue is the reality of multiple objectives, where a trade-off sometimes needs to be made. In contrast, efficiency, such as cost-savings, is a primary concern of companies' IT/IS outsourcing projects (Arnett and Jones, 1994; McFarlan and Nolan, 1995). Second, procurement rules may prevent the rigorous selection of proper vendors, which is usually assumed in the private sector bidding process. Third, achieving savings in labor cost is probably not the primary objective due to less flexible personnel rules in the public sector.

Therefore, a proper synthesis of lessons drawn from the public and private sector requires the development of an analytical framework that puts the experiences in their proper context. Some of the underlying assumptions need to be addressed as well. The framework developed aims to provide public managers with guidelines for better managing their outsourcing e-government projects (See Figure 1). A system-theoretic perspective requires us to explore outsourcing outcomes as well as the internal and external factors affecting those outcomes.

Defining Outcomes: Success in Outsourcing an E-Government Project

The beginning point of the inquiry is to define success in outsourcing e-government projects. At the program/policy level, the goal attainment criterion should be coupled with the degree of actual change. Goal attainment alone, although commonly used in the evaluation literature (Rossi and Freeman, 1993; Royse and Thyer, 1996), is not able to capture the extent of benefits that the outsourcing project brought to the organization. At this level, public managers also need to consider competing goals such as accessibility and cost-efficiency that a particular e-government outsourcing project aims to achieve.

At the project/operational level, public managers also need to develop matrices to monitor and measure the performance of vendors in providing e-government services. Cost, efficiency, quality of services, responsiveness, and timeliness are performance measures shared by public and private organizations engaging in outsourcing. Once measures of success are clearly defined, any correlation established between managerial practice and performance can then be well founded.

Factors Internal to the Local Government

The following factors internal to a public organization could be associated with the success of outsourced e-government projects: management support, employees' buy-in, adequate technical knowledge of in-house IT staff, allocation of time and resources, experience in outsourcing, utilization of a learning network, collaboration between government and its vendor, and use of service level arrangements. Management support is critical for the success of an e-government project (King and Kraemer, 1991, p.32). Management support also helps ensure that financial and human resources will be available for managing the project. In addition, management backing can overcome initial resistance to a new outsourcing project.

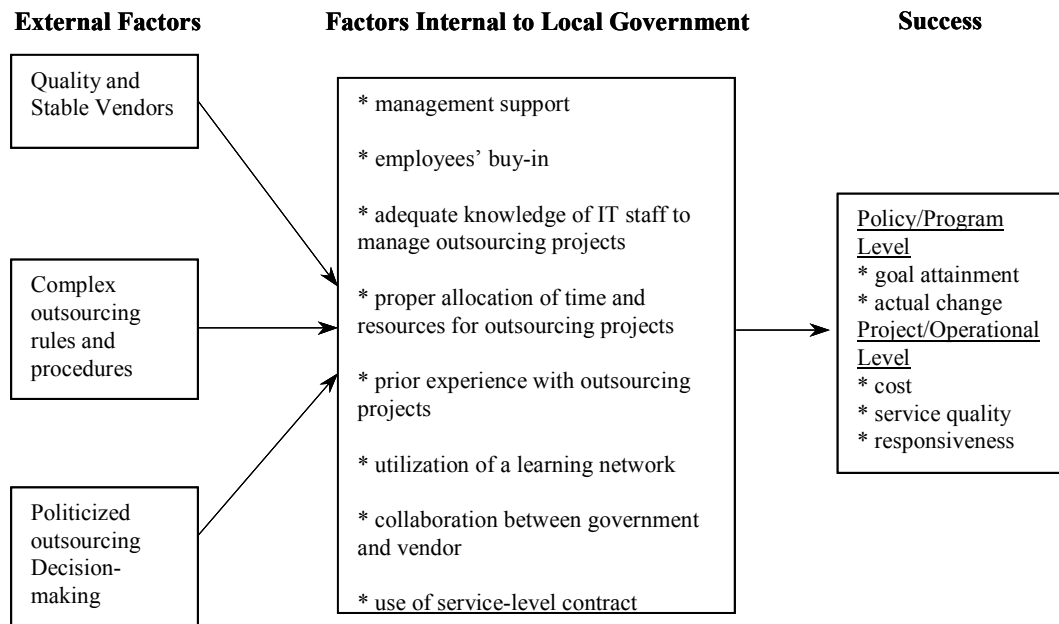


Figure 1. A Framework for Success in Outsourcing Projects in Local Governments

To win the support of public employees and avoid legal issues, outsourcing in public organizations needs to avoid layoff. Although they did not express publicly, several government officials hinted the importance of ensuring continued employment of existing workforce. Employees tend to oppose an outsourcing project that could lead to their eventual layoff. An outsourcing project should involve a process that addresses the concerns of staff involved and raise their motivations.

In-house IT staff, when negotiating and managing an outsourcing contract, need to have the technical knowledge about the selection of vendors, the choice of hardware and software, and adequate performance measures (Applegate et al., 1999). IT staff in government do not need to be programmers who can build e-government applications from scratch. They should know the technological trends in a particular area of e-government business and be able to assess the technical capability of vendors. If the IT capability is not currently available, a government should send its IT staff for training to be better informed about e-government service options.

Management needs to allocate time and resources for managing an outsourcing project. One problem commonly associated with outsourcing is a lack of control. Without allocating the necessary resources for managing an outsourcing relationship, the quality is in vendors' hands. One of the common mistakes of public managers is to underestimate the resource input necessary to make an outsourcing project work.

Prior experience in managing outsourcing project helps manage e-government projects and has been identified as one of the keys to success in managing new outsourcing projects. Governments that have handled an outsourcing arrangement have a better idea of what to look for in managing an outsourcing relationship and can avoid many potential problems by drawing on their experience.

Utilizing a learning network is another important management strategy.¹ Technology is fast-changing. To manage an outsourcing project successfully, public managers need to constantly update their knowledge about technology and the best management practices. A learning network is usually developed around a particular function or service area. For instance, human resource management could be a functional area for forming a network. Public managers need to gather intelligence about vendors, changes in technology, and the best outsourcing practices. This can then help in the selection of a vendor, identification of a key

¹A government official at the Department of Energy indicated the importance of utilizing a learning network during an interview with me about their outsourced e-government project in October, 2001.

piece of technology, and identifying tools in which outsourcing projects can be managed. A site visit and demonstration of capability is also necessary to ensure that the vendor delivers the services it has promised.

A successful outsourcing project also requires strategic thinking that aims to craft a win-win arrangement. A good working relationship is necessary for realizing the potential benefits of an outsourcing arrangement (Heeks, 1999, p. 83).² The vendor should have the skill set that complements what government has. Government should still keep the core capability in-house to monitor and learn from an outsourcing arrangement. One possibility is the creation of a knowledge base that both vendor and government can share to improve e-government service delivery.

Using a service level contract is one main safeguard for potential quality control problems associated with an outsourcing project. A service level contract needs to specify the general performance goals, specific performance measures, and penalty clauses for failing to meet the performance standards. Performance measurement also helps ensure the quality of service (Saunders et al., 1997). An example of a specific performance measure is the percentage of server uptime for providing services. Penalty or escape clauses allow government to have some control over their vendor and to be fairly compensated for loss of work as the result of gaps in service. A short-term renewable contract is also preferable to a long-term fixed contract (Lacity and Willcocks, 1998). This flexibility allows government to negotiate new terms that best reflect recent technological development and the changing needs of customers.

Factors External to the Local Government

Some factors of successful e-government outsourcing are beyond the immediate control of local public managers. However, these factors also have significant impact on whether an outsourcing e-government project is likely to succeed. First, the availability of high quality and stable vendors can limit the choice that public managers have. Availability is usually determined by location. For example, a local government neighboring big cities with a concentration of high-tech industry is more likely to have access to quality and stable vendors.

Second, federal or state rules and procedures have a strong bearing on whether outsourcing is feasible. Complex rules and procedures are cited as one of the main reasons for not choosing an outsourcing project (Graham and Scarborough, 1997). In some instances, bidding or procurement rules may, in practice, also limit the options available. At the U.S. federal government level, companies that are on a General Service Administration schedule are preferred vendors because a lot of regulatory requirements have been met when a company is put on the schedule.

Lastly, the political environment could also prohibit a rational assessment of an e-government outsourcing project. A scandal in an existing outsourcing project may make outsourcing politically unpopular. On the other hand, the political pressure for delivering an e-government service quickly may preclude a thorough analysis of outsourcing options.

Data and Methods

This research project will conduct a multi-regression analysis to assess the significance and magnitude of the impact that various factors identified in the framework have on the success of outsourcing projects. One essential piece of information on outsourcing success is the level of satisfaction with the outsourcing project. Given this prerequisite, the sample of this study consists of 213 city/county governments that have indicated their level of satisfaction to the outsourcing services in the 2000 Electronic Government Survey. The large sample size allows for the employment of statistical techniques. Multi-regression analysis will be used to exercise statistical control to test empirically the significance, direction, and strength of the relationships of various factors to success. Since the 213 municipalities and counties analyzed are a good representation of all 3,749 surveyed in terms of population size and geographic division, a high degree of generalization of findings will be possible.

The primary source of data is the raw data collected through the Electronic Government Survey 2000 of U.S. local governments (International City/County Management Association, 2001). The collection of more than 20 relevant survey items for each of the 213 organizations examined serves as measures for key conceptual constructs of the main success factors. Nonetheless, this

²A government official at the Federal Energy Regulatory Commission, during an interview with me in October 2001, also emphasized the importance of a good working relationship between a government agency and its vendor.

source of data does not include information on all factors affecting the success of an outsourcing project. Therefore, the author will gather supplementary data on these 213 governments through survey and document review to fill data gaps in the primary data source.

The common dependent variable is the level of satisfaction with services provided by the e-government vendor. In the survey, officials were asked to rank their level of satisfaction on a 5 point Likert scale, ranging from 1 'Very Unsatisfied' to 5 'Very satisfied.' This is a summary measure of success of outsourcing projects as perceived by the key government IT officials. Table 1 below is a list of independent variables, hypothesized relationships with outsourcing success, and the data items corresponding to the independent variables. Once data are collected, the author will conduct a multi-regression analysis to test various hypothesized relationships as stated in the framework.

Table 1. Independent Variables, Hypothesized Relationships, and Data Items

Independent Variables	Hypothesized Relationship	Data Items
<i>Factors Internal to Local Government</i>		
Management Support	Positive	* the existence of an overall e-government strategy
Employees' Buy-in	Positive	* whether e-government has resulted in staff reduction
Adequate Knowledge of in-house IT Staff	Positive	* offering of interactive e-government service delivery * having a web administrator
Allocation of Time and Resources	Positive	* ample allocation of time and resources for outsourced project: 5 points Likert scale ranging from 1 'Strongly Disagree' to 5 'Strongly Agree' * the size of per capita IT spending
Prior Experience with Outsourcing Projects	Positive	* the web services currently outsourced by a local government
Utilization of a Learning Network	Positive	* the membership in the associations that have e-government arms. * participation in major e-government conferences and committees
Strong collaboration between Government and Vendor	Positive	* grade the collaboration between government and vendor (A+ = 13 through F = 1)
Use of Service-level Contract	Positive	* whether a service-level contract was negotiated based on RFP
<i>Factors External to Local Government</i>		
Availability of High Quality and Stable Vendors	Positive	* located in the metropolitan area * close proximity to universities
Complex rules and procedures on IT outsourcing projects	Negative	* rules and procedures involved in outsourcing projects are very complex: 5 point Likert scale ranging from 5 'Strongly Agree' to 1 'Strongly Disagree'
Highly Politicized Outsourcing Decision-making process	Negative	* Grade the rationality of decision-making process (A+ = 13 through F = 1)

References

- Applegate, L. M., McFarlan, F. W., and McKenney, J. L. *Corporate Information Systems Management: The Challenges of Managing in an Information Age*. Boston, MA: Irwin McGraw-Hill, 1999.
- Arnett, K. P. and Jones, M. C. "Firms that Choose Outsourcing: A Profile." *Information and Management* (26:4), 1994, pp. 179-88.
- Bozeman, B. and Bretschneider, S. "Public Management Information Systems: Theory and Description." *Public Administration Review*, 46 (Special Issue), November 1986, pp. 475-487.
- Conklin, D. W. and McLellan, K. "Should Governments Outsource their Information Systems." *Optimum: The Journal of Public Sector Management* (25:2), 1994, pp. 9-15.
- Gant, D., Gant, J. and Johnson, C. *State Web Portals: Delivering and Financing E-Service*. Washington, D.C., The PricewaterhouseCoopers Endowment for the Business of Government. E-Government Series. January 2002.

- Goo, J., Kishore, R. and Rao, R. H. "A Content-Analytic Longitudinal Study of the Drivers for Information Technology and Systems Outsourcing." In *Proceedings of the Twenty-First International Conference on Information Systems*. Association for Information Systems, 2000.
- Graham, M. and Scarborough, H. "Information Technology Outsourcing by State Governments in Australia." *Australian Journal of Public Administration* (56:3), 1997, pp. 30-9.
- Heeks, R. *Reinventing Government in the Information Age: International Practice in IT-enabled Public Sector Reform*. London and New York: Routledge, 1999.
- International City/County Management Association. *2000 Electronic Government Survey*. Washington, D.C.: International City/County Management Association, 2001.
- King, J. L. and Kraemer, K. L. "Patterns of Success in Municipal Information Systems: Lesson from U.S. Experiences," *Informatization and the Public Sector*, (1:1), 1991, pp. 21-39.
- Lacity, M. and Hirschheim, R. "Realizing Outsourcing Expectations: Incredible Expectations, Credible Outcomes." *Information Systems Management* (11:4), 1994, pp.7-19.
- Lacity, M. C. and Rudy Hirschheim, R. *Information Systems Outsourcing: Myths, Metaphors and Realities*. Chichester, England: John Wiley & Sons Ltd, 1993.
- Lacity, M. C. and Hirschheim, R. *Beyond the Information Systems Outsourcing Bandwagon: The Insourcing Response*. Chichester, England: John Wiley & Sons, 1995.
- Lacity, M. C. and Willcocks, L. "IT Outsourcing: Maximize Flexibility and Control." *Harvard Business Review* (73:3), 1995, pp. 84-94.
- Lacity, M. C. and Willcocks, L. 1998. "An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience." *MIS Quarterly* (22:3), 1998, pp. 363-409.
- Loh, L. and Venkatraman, N. "Determinants of Information Technology Outsourcing: A Cross-Sectional Analysis." *Journal of Management Information Systems* (9:1), 1992, pp. 7-34.
- McFarlan, F. W. and Nolan, R. L. "How to Manage an IS Outsourcing Alliance." *Sloan Management Review* (36:2), Winter 1995, pp. 9-23.
- Norris, D. F., Fletcher, P. D., and Holden, S. H. *Is Your Local Government Plugged In? Highlights of the 2000 Electronic Government Survey*. University of Maryland, Baltimore County, 2001.
- Rossi, P. H. and Freeman, H. *Evaluation: A Systematic Approach*. Newbury Park, CA: SAGE Publications, Inc, 1993.
- Royse, D and Thyer, B. *Program Evaluation: An Introduction*. (2nd ed.) Whitewater, Wisconsin: University of Wisconsin – Whitewater. 1996.
- Rubin, B. "Information Systems for Public Management: Design and Implementation." *Public Administration Review*, 46 (Special Issue), November 1986, pp. 540-552.
- Saunders, C., Gebelt, M. and Qing, H. "Achieving Success in Information Systems Outsourcing." *California Management Review* (39:2), 1997, pp. 63-79.