OUTSOURCING AUTOMATIC DATA PROCESSING REQUIREMENTS AND SUPPORT

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Outsourcing has become an increasingly popular way to reduce costs and focus operations upon the main objectives of an organization. This article considers outsourcing in general, and automatic data processing (ADP) outsourcing in particular. Private industry and government each have their respective successes and failures; lessons learned from them should guide outsourcing decisions. In general, outsourcing, especially of ADP processes, has been popular, but it should not be expected to produce savings in all instances; rather, most gains with outsourcing have been quality improvement. With foresight and proper structuring of the contract, more successes will come.

Outsourcing is taking a more prevalent role both in government and corporate strategies in the current environment of fiscal constraint. As Secretary of Defense William S. Cohen has recently stressed (Cohen, 1997), in order to afford the future modernization of our force structure, we need to reduce the current cost of our existing support structure to "make it perform better at less cost by harnessing the revolution in business affairs." He goes on to say "we still do too many things in-house that we can do better and cheaper through outsourcing." This sentiment was previously advocated by the Defense Science Board (1996), and is also present in new House and Senate bills, which seek to require privatization of nongovernmental functions, unless they can be shown to be less expensive in-house (Brewin, 1997; "OMB favors," 1997; and Harris, 1997).

What is outsourcing? It has been defined in a number of ways, but the simplest definition would probably be that outsourcing is a contractual agreement between a customer and one or more suppliers to provide services or processes that the customer is currently providing internally. Its intended purpose is to cut costs

and improve quality though the use of "experts in the area" to perform those functions. This potential has been realized by the large corporate outsourcing stories that have unfolded in the past several years. Such companies as American Airlines, British Petroleum, General Dynamics, Kodak, McDonnell Douglas, Xerox, and the major automobile manufacturers have all employed outsourcing and have improved not only their cost competitiveness, but also their product quality (Willcocks and Lacity, 1995). This has been especially prevalent in the information technology (IT) area, where analysts estimate that 70 percent of the country's largest corporations have outsourced that area ("Outsourcing Megadeals," 1995).

Recently, several large government agencies have also planned to implement outsourcing for their computer systems: the General Services Administration (1997), the Federal Aviation Administration ("FAA will contract," 1997) and the National Aeronautical and Space Administration (1997).

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Generally, outsourcing has been fairly well accepted by the business and government communities; however, in a review of the literature on outsourcing, there have been several instances where outsourcing did not live up to the expectations of the agencies involved. This paper will review the outsourcing literature and lay out some considerations that should be taken into account when outsourcing is contemplated.

Further, it will look at structuring the contract so that the pitfalls are mitigated.

OVERVIEW OF OUTSOURCING

Outsourcing has had its successes and failures. Some of the successes in the private sector are described in a study done by The Outsourcing Institute (1997), which found that 30 firms realized a 9 percent average cost saving after outsourcing.

However, major outsourcing failures also exist. In 1995, for example, the Air Force awarded contracts to outsource the Aerospace Guidance and Metrology Center at Newark AFB, Ohio. The General Accounting Office (GAO) study on this effort found that privatization of the center would not generate the expected 20-30 percent savings first projected. In fact, the yearly savings were so minimal that it was expected to take upwards of 100 years for the Air Force to achieve that magnitude of savings (Concannon, 1996; GAO, December 1994).

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Outsourcing ADP requirements and their support has proven to be very successful in private industry. For instance, in a study of 32 outsourcings, 22 were successful, and only four were unsuccessful (Lacity, Willcocks, and Fitzgerald, 1996). This study also came to the following conclusions:

- Senior decision makers need input from their computer experts in order to make outsourcings work.

- Internal departments should be allowed to compete with external vendors for the outsourcings.

- Shorter contracts (less than four years) are more successful than longer contracts.

Some of the principal ADP successes with outsourcing have been by SmithKline Beecham, which saved 24 percent on its network operating and management services costs through outsourcing (Hewlett-Packard, 1996). Their contract provided 24-hour service to keep the network up and running at 90 sites in 30 countries, and addressed corporate software applications such as e-mail, groupware, finance, sales, administration, and manufacturing data. Next, Hewlett-Packard, which manages 100,238 computer "seats" worldwide, achieved a 44 percent annual savings when they reorganized how computer operations were being maintained (Hewlett-Packard, 1997).

Tempering these successes, however, are specific situations in which ADP outsourcing has not been successful. One significant early failure was the Air Force Materiel Command's award of an $87 million firm fixed-price contract to design, develop, test, implement, operate, and maintain the Air Force Equipment Management System (Air Force Audit Agency, 1996) . This example emphasizes the importance of how one should view the contractor: as a resource for your organization, who should not be given free rein in decision making.

The contract for this Air Force system established specific performance and sizing requirements, and stated that the contractor was totally responsible for sizing and providing hardware and software architectures sufficient to satisfy the requirements, and that the contractor would upgrade the hardware and software as needed to satisfy performance requirements. As it turned out, the system that was developed by the contractor did not meet either the hardware or software requirements for the program. However, due to the program office not establishing and performing adequate and complete acceptance testing, and failing to identify these deficiencies before acceptance of the software, the Air Force ended up having to replace the hardware and software at an additional cost of $4.5 million.

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One of the most troubling studies about ADP outsourcing was performed by Deloitte and Touche, in a survey of 1,500 chief information officers (CIOs) in the United States and Canada (1997), which indicates that only 31 percent believed that their outsourcings generated significant cost savings, with 69 percent disappointed in their outsourcing results. The survey highlights two major sources of dissatisfaction:

First, CIOs believed that they would achieve savings due to economies of scale or superior contractor resources, which did

not materialize, because the fixed-price contracts they entered into did not pass hardware, software, or personnel cost savings over time along to their customers. This finding is also supported by Lacity and Hirschheim (1993), and Lacity, Willcocks, and Fitzgerald (1996), who found that commercial contracts dealing with outsourcings have found problems with long-term contracts, so that the current trend today is to look at shorter time spans. Another problem with long-term contracts is that the organization changes over time, and the contract does not take into account the new organizational requirements.

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Second, customers complained that vendors were dishonest about the amount of subcontracting that would be used for the execution of their contracts. This became a problem when the subcontractor was unfamiliar with the contract provisions and customer expectations, or did not deliver the required services in the expected way. This concern was also voiced in an *Info World* article ("Managing your outsourcing," 1996), which reports that many firms that had outsourced their information technology functions were starting to reduce the scope or cancel parts of those efforts, because of lack of control over the vendors.

These results were similar to an earlier Gartner Group survey of 180 clients (1995) which found that only about 37 percent of the IT outsourcings were viewed as successful, either through improved performance (21 percent), or cost savings (16 percent); the remainder of the respondents gave either a mixed or too-early-to-tell response. Recent Gartner Group surveys have continued to show that gains from outsourcing have consistently fallen short of expectations by CIOs ("Outsourcing to the rescue," 1997). These surveys blamed the contracting process for not defining key issues and anticipated expectations. Gartner Vice President Mike Vargo said customers also do not realize that an outsourcing relationship takes more time and effort than they anticipated.

GOVERNMENT AND PRIVATE SECTOR DIFFERENCES

Much of the preceding research on outsourcings considers the private sector. Whether the government could achieve these same cost savings depends on how the differences between them would affect the enterprise. For example:

- Industry has tax incentives, investment write-offs, and other business-related savings that government activities do not have.

- Industry is not subject to the same oversight requirements concerning personnel reductions that government activities have, for, as mentioned earlier, most industry savings come from reducing the number of personnel performing the mission.

- Several companies cited in the above studies were small businesses, achieving savings due to economies of scale.

Government operations already rely on large purchase agreements or site licenses.

- Under long-term contracts, initial cost savings might be negated, if private-sector employees receive considerably higher wage increases than government employees over the life of the contract. This is fairly commonplace, where escalation clauses in the contract can raise contractor wages by as much as 10 percent a year in some cases.

These concerns are supported by Sam Kleinman's research at the Center for Naval Analysis (GSA Web Page, 1997), which reviewed 1,000 A–76 studies for government entities. Kleinman found that:

- Savings come from using fewer workers, not lower priced workers.

- Only 3 percent of government employees take jobs offered by the winning private sector firm.

- Government was found to be cheaper than private industry in 50 percent of the outsourcing studies, up from 30 percent several years ago ("OMB favors," 1997).

The GAO also looked at these previous A–76 outsourcings, and found savings (25 to 35 percent), but they were not so much due to moving the function out of the government as to competition. GAO also voiced several concerns about how successful these savings were to the government (GAO, March 1997):

- Savings estimates represented projected rather than realized savings.

- The costs of the competitions were not included.

- Where audited, projected savings have not been achieved.

Further, in looking at outsourcing military depot maintenance, GAO came to the conclusion that privatization of highly skilled technical maintenance may not generate the expected savings due to a number of factors, such as the specific technical nature of military equipment, the lack of competitive private sector companies that can perform these jobs, and that the reported savings on previous government outsourcings were overoptimistic, and did not reflect subsequent cost overruns, modifications, or add-ons (GAO, July 1996; GAO, December 1996; GAO, May 1997).

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CONTRACTING ISSUES

When a government entity decides to try outsourcing, several contracting considerations must be addressed. Foremost among them is that even after the contract has been awarded there will be costs associated with maintaining that contract, especially if multiple subcontractors are selected to perform different functions

associated with the outsourced function. For instance, it could cost between 5 to 7 percent of the value of the contract to manage and oversee the contract. That would cover renegotiating the contract agreements, resolving disputes, and tracking the contract's performance (Scheier, 1996).

But these costs could vary depending upon the nature of the outsourcing: the more flexible the contract concerning the work to be performed, the more contract oversight will be required. Thus, there will be a tradeoff for the agencies involved, to make the contracts as flexible as possible to cover a broad range of needs and changing requirements, without overburdening them with contract oversight. However, this is a fine line, for if the service levels are tightly defined, one could find oneself paying high fees for incremental projects outside the defined scope of the contract. Some companies have reported that they have paid as much as 70 percent more than the original contract value in some areas (Lacity and Hirschhiem, 1993).

Next is the consideration of how the contract should be structured. For instance, the offeror's proposal should delineate what will happen to all of the assets under consideration: which ones the contractor will assume responsibility for, which ones will remain with the agency, and which if any will go to third parties. In addition, one should also consider if there are any intellectual property issues, such as software licenses (whether existing software

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can be transferred to the outsourcer), and ownership of self-developed software. Lastly, there are a number of measures that one can include in the contract to help determine whether the contractor is meeting the goals and costs projected for the outsourcing (Mylott, 1995; Rubin, 1997):

- response time (average or maximum);

- system availability (daily, by shift, by software application);

- downtime (daily, by shift, by software application, mean time between failures);

- turnaround time or schedule performance;

- operations cost measures (central processing unit hours, storage costs, total cost per hour, fixed cost, variable cost);

- communications cost measures (per hour, by distance, per line, per switch);

- services cost measures (per person, per application);

- performance reports;

- penalties for nonperformance;

- satisfactory performance (the organization's expectations of the vendor need to be clearly defined and discussed with the vendor);

- subcontractor approval rights (build these into the contract to specify that mission-critical projects or systems are handled only by the primary vendor); and

- value-based pricing and benchmarking, to periodically adjust to the marketplace, or to ensure that prices stay competitive. (An alternative to this would be to negotiate rates annually.)

A very good example of the process that one should go through is provided by Grupe (1997), who looks at the complete process of outsourcing a help desk function. He takes the reader through the decision process from precontracting to monitoring the contract after award. Likewise, Grover and Teng (1993) provide a systematic process to explore the decision on whether an information systems (IS) function should be outsourced. Generally, their recommendation is that if the process is a new or developing function, then it should probably remain in-house, unless it is not critical to the operation of the organization. In this same vein, Benko (1992) presents a process for determining what IS functions should be outsourced by looking at the question of whether a function should be outsourced or just restructured to improve its performance.

RECOMMENDATIONS

What does an organization need to do to achieve a successful outsourcing? The conclusions and recommendations that one can draw from the above studies follow.

First, the contract should include monitoring and performance measures as discussed above. This is also stressed by Aubert, Rivard, and Patry (1996), who recommend that in order to achieve benefits from outsourcing it is important to have enforceable and indisputable measures defined in the contract, so that one can easily make enforcement and cancellation decisions. In order for these measures to be relevant and useful in monitoring the contractor's performance, two steps must first be taken before the contract is let: One must develop a baseline of the current function that can be used as both information for the contractor and as a gauge to measure improvement against, describing its:

- practice and process;

- workload and costs; and

- time to perform the tasks.

Also, one must discuss with the contractor the best ways to monitor performance, and how frequently this should be done. Likewise, it would be beneficial to base the contractor's payments on the performance measures, to provide an incentive for the contractor not just to live up to the expectations, but hopefully to exceed them. Rubin (1997) also discusses this and presents a model that might be used to determine incentive pay for the contractor.

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Second, the outsourcing should involve organizational changes to the way the previous function(s) operated. That is, in most cases, efficiencies from outsourcing come from changing the process, so that it is

more streamlined, and addresses the workload in a more organized manner.

The third recommendation is that the requirements for the outsourced function need to be focused and agreed upon by the players who require an interface with that function. This is a follow-on to knowing what you want to accomplish by outsourcing:

- How will outsourcing work with the existing organizational functions (will the new process address everyone's needs)?

- What will it do to reduce costs and or improve performance?

- How will it be implemented (is there a plan for when and how it will be implemented with the least disruption to the remaining offices)?

Aubert, Rivard, and Patry (1996) and Venkatraman (1997) touch on some of these considerations in their articles on taking a broad approach to decision-making concerning IT outsourcing.

Fourth, cost comparisons should be based upon the total life-cycle cost for the contract, since initial savings figures are generally not very reliable, and tend to escalate over the course of the contract.

Fifth, when a function is outsourced, look to see if it may be best to break it up into multiple contracts. This is counter to the current practice of omnibus contracting, but allows for better focus on the contracted function, and generally provides additional savings (much as in acting as one's own general contractor in building a house). This is a relatively new approach and has been tried by some

major companies like British Petroleum and J. P. Morgan (Venkatraman, 1997)

Sixth and finally, the contract should either have a value-based pricing or benchmarking clause, or the length of the contract should be less than four years. This is important, especially in the ADP area, for the technology changes so rapidly that one needs to reassess, on a periodic basis, the mission and hardware requirements.

SUMMARY

In general, it would seem that outsourcing has the potential to generate savings, especially in the ADP area, but in order to achieve those savings, one must give considerable forethought to structuring the contract, monitoring the contractor's performance, and administering and providing oversight of the contract.

Next, contracting out any in-house activity assumes that the activity is inherently a "utility" function that can be performed by someone unfamiliar with the rest of the organization. Likewise, it assumes that a cookie-cutter approach can be used across offices that require an interface with that activity. For instance, while a number of alternative configuration setups can be used as the basis for fulfilling an activity's needs (i.e., different office equipment, software, and support), to the extent that those configurations do not meet the true needs of all the offices, the offices that are unique may not perform to their optimal ability.

Finally, several of the savings reported with private sector outsourcings represent cost avoidance savings versus real hard-dollar savings. For instance, some of the

private sector outsourcing studies, like those discussed by the Gartner Group above, count as savings the salaries of those individuals who can shift time back to performing their intended jobs, when technical support help desks are provided. The real amount of savings that this shifting of work accomplishes is uncertain, however, for it depends upon the salary of the workers performing those ancillary jobs, the salary of the help desk employees, and the degree that those work actions are actually transferred.

In conclusion, it would seem that while savings can be achieved by using an outsourcing approach to various business functions, the biggest gain with outsourcing seems to be with improved quality. Other gains would seem to be dependent upon the type of business function and its commonality; that is, the more common the activity, the more likely that savings would be achieved. Further, it would seem that outsourcings in private industry are more likely to achieve cost savings than those in the government, since industry has different tax and investment incentives than the government. Finally, in order to mitigate some of the problems that have occurred with previous outsourcings, each contract should include monitoring and adjustment mechanisms to gauge performance and rectify problems.

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