

Project goals and the context of State-Level welfare reform

The information reported here was done for a project designed to integrate information resources used by Iowa agencies in the administration of welfare programs and welfare reform efforts. The project was a response to the changed requirements for the administration of welfare programs resulting from the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) passed by Congress in 1996. The Act gave states welfare block grants and increased discretion in the allocation of these welfare resources. Iowa, as did most other states, responded to this major policy shift by creating its own new policies and administrative arrangements. The project analyzed here, the Welfare Reform Related Technology Fund, was one of those responses. The fund supported system developments for the major welfare programs in the State, such as Temporary Assistance for Needy Families (TANF), food stamps, and Medicaid.

Project rationale

In order to use the block grants efficiently and to design their own human service programs, Iowa emphasized accuracy of eligibility determination, benefit distribution, service delivery, and client support. Accurate and timely information is a critical resource for many complex decisions required in administering this mixture of benefits and requirements. Information infrastructure and resources are necessary to make accurate decisions and produce higher quality programs.

In addition to the desire to enhance program efficiency, the PRWORA included financial sanctions for states that fail to comply with regulations or to achieve program goals. Improved information resources and technologies were seen as ways to enhance programs, achieve efficiencies, and reduce the risk of sanctions.

The sanctions can be considerable. If the state did not meet the Federal requirements, future funding for related programs could be threatened. For example, failure to comply with current Health Insurance Portability and Accountability Act (HIPAA) requirements can result in loss of Federal Financial Participation (FFP) of 90 percent, and penalties up to \$25,000 per person, annually, in addition to civil penalties. The possible sanctions linked to TANF could amount to as much as \$14.8M per fiscal year.

Investment in improved welfare administration

Existing technology allowed the State of Iowa to assist front-line workers in determining eligibility and benefits, to meet some Federal reporting requirements, assist in program evaluation, and to make information available for decisions regarding program and related personnel issues. To improve these information resources, the state allocated a little over \$1 million in the 2001 fiscal year to the Welfare Reform Related Technology Fund with the available funding under TANF. These funds were appropriated in the Department of Human Services Appropriation Bill. The IT program was 100 percent funded by the TANF block grant funds.

The funding supported a variety of IT enhancements for welfare administration. They included enhancing application development and system programming, tracking client eligibility, increasing data storage and collection capability, and implementing software updates and changes. One of the expected results of these investments was the capacity to submit accurate and timely reports that comply with the requirements for Federal data reporting to the US Department of Agriculture (food stamps) and Department of Health and Human Services (Medicaid and TANF). The state has to comply with HIPAA requirements as well.

The information issues are large and complex. The needs of each welfare client may involve many agencies, each with its own personnel, mission, and policies. Each agency involved has its own IT systems, producing many barriers to information sharing and integration. None of the staff in any single department was able to access the complete information about an individual client from existing databases. Therefore, the investments of this project were aimed at creating standard protocols for data exchange, a data warehouse, electronic referral systems, resources directories, and related applications.

Sustainable and coordinated hardware and software development was required to reach these project goals and provide customers with better quality services. The technology supported programs that provide benefits and/or services annually to approximately 20,000 families being served by the Family Investment Program, 53,000 households receiving food stamps, and 204,165 individuals receiving Medicaid benefits (monthly averages).

Project methods

The beginning phase of the project was a system evaluation. The goal was to provide decision makers with a comprehensive understanding of the beginning status quo of the program. This would help avoid wasting resources on system components that were already functioning at a high-level.

The system evaluation was followed by a search for existing software that could be customized to meet project needs and goals. The project planners then explored the possibility of consolidating all the information systems onto a single platform to achieve integration and common access. However, the implementation of consolidation was judged to be too costly and time-consuming, and so was rejected as impractical. In order to retain the value of existing legacy systems and infrastructure investments, the planners chose to use middleware as a more effective approach. They required the middleware software to be based on open standards and to extend existing IT investments. The plan also included replacing and upgrading out-of-date hardware and ensuring that the hardware is capable of supporting the new applications and customized software. Continuous staff training was included as a key requirement.

ROI framework

All IT projects in Iowa agencies are required to prepare ROI material in a standard framework as part of any proposal for new IT investment. The state provides a Web site,⁽¹⁴⁾ supporting materials, and applications for agencies to use when preparing their proposals and ROI analyses. The results reported here are taken from those sources.

The Iowa ROI framework requires attention to certain standard components for all proposals. These include the following.

Analysis requirements. Proposals should include:

- use of the Rapid Economic Justification model⁽¹⁵⁾ —to understand the business, alternative solutions, cost-benefit equations, possible risks, and financial metrics;
- cost and benefit measurements— estimation of project costs and benefits in some comparable unit and determination of whether the benefits exceed the cost; and
- achievement of cost avoidance and dollar matching from state sources.

Software. Proposals should deal with all software components including:

- application software;
- operating system software;
- interfaces to other internal and external systems; and
- standard protocols for data exchange, data warehouses, linking software to third party service providers, electronic referral systems.

Hardware/Facility. Proposals should deal with all physical components including:

- additional platforms that accommodate interoperable operating systems;
- adequate storage and physical environments;
- adequate connectivity and bandwidth;
- logical and physical connectivity; and
- major interfaces to other systems, both internal and external.

ROI results for the Welfare Reform Related Technology Fund

The expected benefits of the project were to enhance organizational coordination and reduce duplicate key-in and paper- work. Table 4 (page 38) is the financial summary for the Welfare Reform Related Technology fund for state fiscal years (SFY) 2001 through 2003. Total project cost (Row A in Table 4, page 38) includes items such as personnel, software, hardware, training, facilities, professional services, supplies, and others. Total annual project benefit for the state (Row B) explains how much the state has benefited from the investment of the technology fund by the avoidance of federal penalties. The magnitude of the return on investment was expected to decrease year-by-year. The likelihood and magnitude of penalties would be largest in the first year or two, and would diminish as the accuracy and efficiency of the system improved with experience and refinements. This is a normal example of the operation of diminishing marginal productivity of an investment over time. At any rate, because of

Appendix B. Case 2: ROI for Data Integration in Health and Human Services

the very large impact of trying to avoid Federal penalties, the ROI percentage remains very large. In addition to the financial returns, the project planners expect benefits resulting from more efficient, effective implementation of changes resulting in improved customer service, increased program accuracy, and readily available information for program and field staff to use in making business decisions.

Table 4. Results of the IOWA ROI Analysis for Three Project Years (16)

	SFY 2001	SFY 2002	SFY 2003
A) Total Project Cost	\$ 2,024,768	\$1,468,324	\$1,556,016
B) Total Annual Project Benefit for State	\$5,631,298,200	\$529,600,000	\$30,920,192
C) Total Annual Project Cost for State	\$760,300	\$734,162	\$778,008
D) Project Funds Requested % from State	37.55%	50%	50%
E) Project Funds Requested from State: (A*D)	\$760,300	\$734,162	\$778,008
F) Benefit/Cost Ratio: (B/C)	7406.7	721.4	39.7
G) ROI: (B-C/ E)%	740568%	72037	3874%

** Some numbers differ from the original report due to rounding.

Potential risks in benefit estimates

The benefit figures claimed in this analysis appear to be based on a rather optimistic scenario. The biggest return is cost avoidance due to diminished Federal penalties—a very large decrease between the 2001 and 2002 fiscal years. These penalty levels were very high for SFY 2001 and were expected to drop by over 90 percent in a single year due to the introduction of improved information technology. It is not clear from the available documentation how realistic these penalty reduction estimates were. A footnote to the ROI analysis report for the SFY 2001 project description reads:

"Avoidance benefits include \$440,992 food stamp penalties, \$5,600,000,000 potential Medicaid related losses, and \$29,592,824 TANF penalties. Funding for the TANF penalties will be needed in SFY 2002 (\$14,796,412) and in SFY 2003 (\$14,796,412) plus Federal Match for food stamps and Medicaid in the amount of \$1,264,384. There is additional potential for sanctions due to food stamp error rates. The amount of these sanctions is unknown."

The similar footnote in the FY2002 description contains essentially the same estimates for all the other savings, but the potential Medicaid related losses drop from \$5.6 billion to \$500 million. This suggests that estimates of this sort are subject to considerable uncertainty and may not be the best basis for an investment decision without additional supporting data.

Such optimistic estimates to justify a project proposal are not unusual. In order to win the resource competition, it is tempting for agencies to assume the worst scenario for not implementing the proposed project, compared to the best case prediction for completing the project. That way agencies can show very dramatic and persuasive returns for reviewers. Decision makers have to find a reasonable balancing point between the two extremes. Related information needed to make more reasonable assumptions may not be available in the proposals, if it is not required. Hence, the evaluation process is usually problematic and critical. In this Iowa Health and Human service case, reviewers might need more detailed information about the process of savings calculation in order to make an accurate judgment. That is, the proposers of a new investment may deliberately skew their calculations to make a stronger case than they could otherwise justify. Reviewers may not be able to detect such deliberate exaggerations or unreasonable assumptions unless they have full information about how calculations were made. ROI calculations are products of social, political, and economic interest that are often in conflict with each

Appendix B. Case 2: ROI for Data Integration in Health and Human Services

(17) The complexity behind the numbers and calculation processes should always be part of the overall decision making process.

Resources:

1. State of Iowa Return on Investment Program, IT Project Evaluation for Department of Human Services; SFY2001, 2002, 2003; <http://www2.info.state.ia.us/ROI/index.html>
2. Welfare Reform, Information Systems, and the States, NASCIO; www.nascio.org/publications/welfare1998
3. Government Technology, Case Studies: Health and Human Services; www.govtech.net/govcenter/solcenter
4. Microsoft's Vision for Technology in Health and Human Resources; www.microsoft.com/business/industry/gov

(14) <http://www2.info.state.ia.us/ROI/index.html>

(15) <http://www.microsoft.com/technet/treeview/default.asp?url=/technet/ittasks/plan/sysplan/www.asp>

(16) State of Iowa Return on Investment Program, IT Project Evaluation for Department of Human Services; SFY2001, 2002, 2003; <http://www2.info.state.ia.us/ROI/index.html>

(17) *William Alonso & Paul Starr (editors), The Politics of Numbers. New York: Russell Sage Foundation, 1987*