

Nomination Form

Title of Nomination: TexasOnline Cost-Benefit Analysis of Online Services
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Category for judging: **State IT Management Initiatives**
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Executive Summary

In January 2003, the Department of Information Resources issued a report entitled, *Cost-Benefit Study of Online Services*. The report outlines the cost savings and improved service delivery that the agencies and citizens of Texas realize as a result of placing applications and services on TexasOnline. The report was the product of a benchmarking study that was conducted to quantify the benefits of e-government solutions by measuring the value of online services to both agencies and citizens.

Benchmarking templates were designed for the study that asked agencies to identify the factors that drive the costs of activities and resources consumed in performing them. At the start, it was acknowledged that different agencies perform their work in a variety of ways - from highly automated to mostly manual processes - and also have varied accounting methods. Accordingly, the benchmarking templates were designed to be flexible enough to allow for different agencies performing work in a range of ways to report their data easily.

Agencies and local governments with applications on TexasOnline were asked to complete two templates, one prior to online implementation of the service and the second after implementation of the online service. By providing information about services in this manner, the pre-implementation template serves as the benchmark against which the post-implementation template is judged. The templates were designed to capture various processes involved in a particular service and then break down each step of the process into quantifiable steps that will assist in determining the costs and benefits of providing services through TexasOnline. Critical components were reviewed with emphasis on identifying the costs related to the manual method of performing tasks and the benefits that result from moving the service to the Internet.

The benchmarking study attempts to provide ways to identify quantitative measures that may show improvements in areas such as transaction processing speed, employee productivity, and service costs. In addition, the initiative also measures intangible benefits such as quality of life improvements and improving convenience for citizens. Agencies that were benchmarked for this study have shown significant process improvements as well as cost savings in the form of employee reallocation from placing services on the Internet.

The benefits identified through the benchmarking initiative have served to illustrate to other state agencies as well as to the Texas Legislature that placing services online can streamline processes and save agencies time and resources. As most state agencies are experiencing budget cuts, the benchmarking initiative has demonstrated the quantifiable benefits of placing services online. As a result of these demonstrated cost-savings, the Texas Legislature has mandated online participation of certain types of agencies and their services in an effort to contain costs and streamline agency processes.

Written justification

a) Description of project, including length of time in operation

In researching and writing *TexasOnline: A Feasibility Study of Electronic Government*, a report to the Texas Legislature, the Electronic Government Task Force (Task Force), the then-governing body of TexasOnline, wanted to quantify the benefits of e-government investments. TexasOnline is the state's official e-government web portal for the citizens and businesses of Texas. Preliminary research found that cost benefit analyses of online government services vs. offline government services are still in its infancy. Only a handful of government entities around the country had even attempted to develop frameworks to measure the costs and returns on investment for e-government projects. At the request of the Task Force, the Texas Department of Information Resources (DIR) put out an Invitation to Negotiate in March 2001 to hire a firm to assist in gathering and analyzing benchmarking data to determine the cost-benefit of conducting online services.

The contracting firm developed a standard benchmarking template and guide for use by state agencies and local governments. A pre-implementation template and a post-implementation template were developed to measure the quantitative and qualitative benefits of placing a service online. The template asks the government entity to outline its workflow for completing a transaction, report on the yearly expenses, staff resources and transaction volume associated with the service, and identify the anticipated benefits of going online. The intent is to have the governmental entity complete the pre-implementation template before placing a service online. The data in the pre-implementation template serves as the benchmark against which the post-implementation template is judged. Six months to a year after placing the service online the entity would complete the post-implementation template. DIR conducts an analysis on the changes in process, expenses and transaction volumes after going online. In addition, the post-implementation template asks the government entity to identify what benefits they have achieved after going online. To determine the progress of having the service online, the agency can elect to complete the post-implementation repeatedly.

The templates are designed in such a way to make it simple for governmental entities to complete. The types of governmental entities using the template would be diverse, as would the types of applications it would benchmark. The applications could be very small or could be very large. The applications can range from a small license population to a very large function like the Department of Public Safety Driver License Renewal. The templates are flexible enough to allow agencies with different accounting methods to easily report their data.

From June 2001 to August 2002, five applications among four agencies completed the benchmarking templates:

- Comptroller of Public Accounts, Sales Tax Filing
- Comptroller of Public Accounts, Texas Tomorrow Fund
- Department of Public Safety, Driver License Renewal
- Texas Department of Insurance, Agent License Renewal
- Texas Education Agency, Information Distribution

In January 2003, DIR issued a report, *Cost-Benefit Study of Online Services*, which outlines the cost savings and improved service delivery that the agencies and the citizens of Texas realized as a result of placing applications and services on TexasOnline. This report can be found at <http://www.dir.state.tx.us/egov/>. The TexasOnline Authority (Authority), the new governing body of TexasOnline, will continue the benchmarking initiative with another round of data collection and analysis.

b) Significance to the improvement of the operation of government

The benchmarking initiative was intended to evaluate how placing government services online benefit both state agencies and citizens. The initiative measures transaction costs and intangible benefits, such as quality-of-life improvements and improving convenience for citizens. The benchmarking exercise has been successful in identifying methods and processes that are expensive and ineffective. For example, one agency brought an information distribution service online with the use of digital certificates. The users of the service found digital certificates to be too complex. In addition, the benchmarking exercise made the agency aware the cost of using digital certificates made the online transaction cost higher than its pre-online transaction cost. As a result of the findings made through the benchmarking exercise, the agency made adjustments to how they delivered the information via the Internet; the agency now uses a password-PIN (personal identification number) to authenticate users. This simple approach has resulted in increased usage by the target population. In addition, the cost of delivering the service online has dropped to below its pre-online cost. By measuring the value of investment in this way, Texas state agencies and local governments can make a better case for continuing e-government investments based on both saving money and improving the quality of life for citizens.

c) Benefits realized by service recipients, taxpayers, agency or state

Benefits realized by service recipients and taxpayers from the benchmarking initiative

Service recipients and taxpayers benefit from the benchmarking of online services in that such a study articulates the benefits of placing services online to the leadership of the state. Once buy-in from state leaders, the legislature and agency management is achieved, more online services can be offered to the public. Not only can more online services be offered, but also the quality of services can be immensely improved because e-government in the state is truly supported from the top. Articulating the benefits to achieve leadership support leads to more service recipient communities and taxpayers experiencing the following benefits from online services themselves:

- Improved Customer Convenience
- Faster more convenient service
- Secure Online Access and Payment
- Expanded Renewal Time
- Increased Access to Service

Benefits realized by state agencies from the benchmarking initiative

Unlike many other states, Texas state government is highly decentralized. Unless specifically mandated by the state legislature, placing services online is voluntary. The benchmarking initiative was undertaken in part to identify the quantitative benefits of placing government services online in order to assist in obtaining buy-in to the e-government idea from state leadership. The initiative has been successful in this endeavor. The cost-savings determined thus far has resulted in the Texas legislature mandating online participation of certain types of agencies and their services. In a year of tight state budgets, the Texas legislature also has bills pending, which mandate placing services online through TexasOnline.

In addition, the benefits identified through the benchmarking initiative have served as a demonstration to other state agencies that placing their services online can streamline their processes and save their agency time and resources. Some of those benefits are as follows:

- Reduces agencies' average processing time or "hands-on time"
- Reduces agencies' average turn-around time
- Outsources data entry to the citizen, which reduces agency staff time spent on manual processing
- Allows automated error-checking, which reduces agency staff time spent on exception handling
- Offering a service in an expanded number of locations without disbursing staff

The realization of such benefits coupled with budget cuts has resulted in more state agencies approaching the TexasOnline Authority requesting that their services be placed on TexasOnline.

Another benefit of participation in the benchmarking initiative is that the templates can be used as a tool to examine the workflow processes and resources allocations dedicated to a specific application. Agencies can use the templates to identify inefficiencies in their current processes in order to make appropriate changes. After completing the post-implementation template, agencies can compare the workflow processes and resources allocations to make further improvements.

d) Return on investment, short-term/long-term payback (include summary calculations). Projects must exhibit measurable operational benefit.

The benchmarking initiative itself does not have a return on investment. However, it is the vehicle by which the TexasOnline Authority exhibits measurable operational benefits of placing services online. The initiative exhibits cost savings from two perspectives: 1) cost per transaction and 2) personnel cost savings:

▪ ***Reduction in Cost Per Transaction***

Cost per transaction— is one unit of measurement that was calculated both before and after online implementation in order to measure the quantitative benefits of placing a service online. The agencies participating in this initiative either have already or are anticipated to experience a reduction in cost per transaction by placing their service online. The chart on the next page demonstrates that before a cost savings can be experienced, the cost per transaction will rise immediately after placing a service online. However, this is not unusual considering that this initiative accounted for the “start-up” or capital costs of development, hardware, and software that are expended. When agencies enter their second year of being online, the cost per transaction is expected to drop below that of the pre-online cost per transaction. When comparing the pre-online and the post-online projections that exclude capital costs, the benchmarked agencies are expected to experience between a 4%-71% reduction in their cost per transaction (see chart on next page). The large range of reduction in cost per transaction is due to the nature of the service, the online adoption rate, and the expenses associated with the service. Capital costs are excluded for this analysis so that one may compare the pre-online costs with the post-online costs in a scenario where the costs of moving online are already paid.

▪ ***Personnel Reallocation***

As more of the public uses government services online, agencies can expect to see a decrease in the cost per transaction, as demonstrated in the previous section. The majority of the cost per transaction reduction can be found in personnel costs. Services that have a steady transaction volume year-to-year may find that their dedicated personnel have time to devote to other areas because tasks associated with the service are no longer conducted at the pre-online volume. Such cost avoidance allows agencies to reallocate employees to other core functions. These employees are generally retained and rededicated to understaffed services, programs, or allow the agencies to reduce the need to hire additional staff.

⁻ Determining the cost per transaction was difficult because of the accounting practices of state agencies. This initiative focused on a particular service provided by an agency. However, agencies do not track expenses and staff resources at the level of detail that the templates requested—at the service level. Often agencies had to estimate the expenses and staff work hours relating to the service being benchmarked. Therefore, there is some margin of error in the per item costs presented here.

Changes in Cost per Transaction due to Online Implementation

	CPA: Sales Tax Filing	CPA: Texas Tomorrow Fund	DPS: Driver License Renewal	TDI: Agent License Renewal	TEA: Information Distribution
Pre-implementation Cost per Transaction	\$2.72	\$48.86	\$2.98	\$2.57	\$35.12
Post-implementation Cost per Transaction (with capital costs)	*\$5.36	Not applicable ⁺	\$3.40	\$2.71	\$241.86
Change in Cost Per Transaction Between the Pre & Post Implementation (with capital costs)	97% ↑	Not applicable	14% ↑	5% ↑	589% ↑
Post-implementation Cost per Transaction (without capital costs)	* \$0.78	\$36.47	\$2.87	\$1.94	\$30.05
Change in Cost Per Transaction Between the Pre & Post Implementation (without capital costs)	71% ↓	25% ↓	4% ↓	25% ↓	14% ↓

* The cost per transaction for CPA's post Sales Tax Filing was calculated differently than the other applications benchmarked in this initiative. The cost per transactions for the other agencies were calculated to include both online and offline costs associated with the delivery of the service after online implementation. CPA calculated only the online transaction cost after online implementation for Sales Tax Filing. The \$5.36 and the \$0.78 do not include the offline cost after online implementation as the other applications benchmarked of this initiative do.

⁺ CPA's Texas Tomorrow Fund did not report having any capital costs associated with their online application. However, there were capital costs associated with the new client server system. These costs were accounted for in this initiative.

