Investing in Texas: Cybersecurity and IT Modernization

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With sizable state and federal appropriations for technology upgrades in consideration, the Center for Public Finance at Rice University's Baker Institute for Public Policy, supported by Texas 2036, examined the challenges and opportunities for Texas state government officials, including optimal cybersecurity financing, identifying unique risks, allocating limited resources among competing priorities, and coordinating efforts with internal and external stakeholders.

Cybersecurity

Over the years, Texas lawmakers have significantly increased funds and passed other legislation to improve cybersecurity and modernize information systems. These state funds, along with federal stimulus and infrastructure funds, have prompted efforts to prioritize the dedicated funds in ways that optimally mitigate broad risks to society and promote efficiency through improvements in information systems.

According to the Texas Legislative Budget Board, cybersecurity in the state budget is manifested in several ways – a large share of this is appropriated to the Department of Information Resources. These include:

- Agency Staff
- Capital Budgets
- Centralized Accounting
- Centralized Payroll/Personnel Systems
- Data Center Services
- Ongoing Maintenance
- Major Information Resources Projects

The Texas Cybersecurity Council establishes a partnership between private industry and public sector organizations to provide resources, including information, assessment, and best practices. The state requires cybersecurity training for all employees of state and local governments. In addition to these resources, the state might benefit from expanding its role as a general cybersecurity consultant to local governments. By leveraging its scale, the state government could enhance its assistance to local governments, much like it does with its broader technological procurement procedures.

IT Modernization

A key step in optimizing productivity and ensuring the integrity of state information systems involves modernizing hardware and other technology. By maintaining its technology, the state government can improve the efficiency and stability of its operations and enhance cybersecurity standards. Modernizing obsolete information systems can often lead to heightened returns on investment that maximize employee productivity and provide government services at scale.

In 2017, the Texas Comptroller of Public Accounts reviewed the state's legacy systems and summarized several concerning trends:

- Nearly two-thirds of critical business applications in Texas governments relied on unsupported legacy components.
- The rising costs of maintaining legacy systems reduce the shares of agencies' budgets remaining to update existing systems, compounding the problem.
- The persistence of legacy systems causes skilled worker shortages, as the veteran personnel qualified to operate the outdated technology retire or resign.

Modernized and enhanced technology could generate significant efficiency improvements, particularly as many employees shift to remote work and as labor markets become increasingly tight. While many employees have returned to in-person work, the state cannot ignore the ongoing transition in labor markets. Growing labor scarcities coupled with increasing competition from outside employers offering remote work opportunities will pressure the state government to consider altering its existing labor policies.

Excerpts from the Department of Information Resources 2020 Biennial Performance Report:

(Source: https://dir.texas.gov/sites/default/files/2020%20Biennial%20Performance%20Report.pdf)

Top Barriers to Strong Data Governance

Resistance from data owners **14%**
Lack of qualified staff **23%**
Lack of staff dedicated to data governance **79%**
Competing priorities **74%**
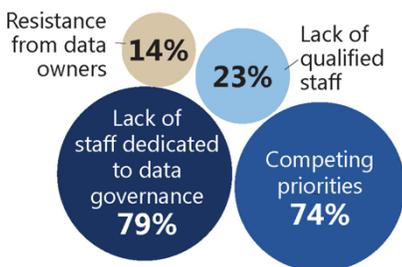
"Data is one of the state's most valued strategic assets with the ability to inform agency business processes and decisions. Digital services provide opportunities for state agencies to improve and transform processes by augmenting traditional in-person operations or making services available online to better serve Texans."

"While state agencies understand the value and importance of strong data governance, lack of dedicated personnel is a significant barrier. State agencies must increase use of mobile applications and digital methods to deliver immediate, seamless government services."

"State agencies are in the early stages of embracing agile approaches and modern IT solutions. They are making strides in advancing cloud adoption, with 97% of state agencies reporting progress since 2018." "Advancing the next generation of technology in Texas government requires managing risk. Agencies identify security concerns and migration costs as top barriers to cloud adoption."