CRITICAL FACTORS THAT INFLUENCED E-PROCUREMENT IMPLEMENTATION SUCCESS IN THE STATE OF ARIZONA: THE PROCUREAZ PROJECT

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ABSTRACT. Faced with a budget deficit in 2009, the State of Arizona embarked on an e-procurement initiative to provide a unified procurement solution for all political entities within the State. The project reached full implementation to all State agencies in July 2011 with over 3,000 catalogs and also received the 2011 NIGP Innovation Award. The authors review critical success factors (CSF) for the implementation's success and discuss these key factors in relation to published research. Based on project experience, key success factors are then mapped against common e-procurement initiative impediments to show relevance for current and future public e-procurement project use.

INTRODUCTION

In 2009, the State of Arizona faced an economic crossroad. With a $1.4 billion dollar budget deficit, influenced by the US economic recession, the State needed a solution that would cut cost and eliminate waste, and it needed something fast. It was important to find a solution that the State could implement quickly to help cut costs where possible. The State of Arizona issued a Request For Proposal (RFP) for a modernized procurement system. The State called for a single off-the-shelf software solution that would increase process efficiencies, provide transparency, and track the results needed to formulate strategic purchasing decisions moving forward. After a thorough review process of the top rated solutions, the State selected Periscope's BuySpeed eProcurement/sourcing solution; a one-stop-shop specialized in government purchasing.

To ease the budget deficit and cover the costs for a new system, the State instituted a one percent administrative fee on contractors for the purchases made by local government using state contracts. Not only did this administrative fee cover the full cost of the procurement modernization and installation, it is expected to generate additional revenues for the State over a five year period.

In June 2009, Arizona launched Phase I implementing the new e-procurement system, calling their implementation of BuySpeed "ProcureAZ". This initial phase included a single web-based portal for vendor registration, sourcing and contract/catalog ordering. The

phase was a success, being completed in less than one hundred (100) days. This initial implementation included the loading of 19 Western States Contracting Alliance (WSCA) contracts plus over 2,000 Arizona-specific contracts with 80,000 line items, and it leveled the playing field for Arizona based small businesses.

In October 2010, Arizona began the roll out of ProcureAZ Phase II. Phase II offered full procurement/sourcing functionality and allowed State agencies to manage inventory, requisitions, purchase orders, receipts, solicitations, vendors, contracts, and business intelligence reports all in one on-demand solution. Between October 2010 and July 2011, all State agencies have successfully implemented Phase II on time and on budget.

The benefits of ProcureAZ Phase I and Phase II are apparent. Since go-live in September 2009, over 25,000 vendors have registered in the system, and 668 online solicitations have been conducted, including nine reverse auctions. Having a large pool of vendors registered in ProcureAZ has lowered state costs through visible competition, and use of a single online portal for managing solicitations has reduced processing costs for state agencies and vendors alike.

Since October 2010, over 26,000 requisitions have been processed with a value over $476 million. More than 30,000 contracts and purchase orders have been processed, with a value near $819 million. All of these transactions have been processed online, including a real-time interface to the State's mainframe financial system, which generates real savings in manpower and improves overall government transparency.

By instituting this e-procurement system, the State created an efficient procurement solution that eliminates waste and creates better opportunities for competition among vendors. ProcureAZ expects to generate 5% - 20% in savings on $6 billion State spend, translating to savings anywhere from $250 million to $1 billion at the state and local level. Arizona is confident ProcureAZ will continue to preserve hard-earned taxpayer dollars and help get the State back on a sturdy economic foundation.

INCREASING PROCUREMENT'S VALUE

Prior to implementing ProcureAZ, the State lacked any ability to view purchasing activity across State agencies. Each agency managed purchases within individual systems or manually, so there was no way to examine what was being purchased, from what vendors, at what prices, etc. This restricted the ability of the procurement function to strategically analyze spend and manage sourcing to 1) reduce costs to the State, 2) utilize vendor performance history in sourcing decisions, and 3) improve the State's operations by obtaining goods and services at the greatest value.

ProcureAZ has elevated the State's visibility into cross-agency procurement, and thereby the value to the operations of the State, in a number of ways:

- Procurement managers now have the ability to easily report on commodity spend across agencies using the NIGP 5-digit Code, the leading spend analysis classification system for government (www.nigp.com). ProcureAZ tracks spend at the 5-digit level for all goods and services, and the Business Intelligence capabilities of the system allow central procurement and agency procurement to analyze spending patterns to target opportunities for improved sourcing. This ability has allowed the State to use procurement more strategically to drive costs down for cash-strapped agencies.
- Like many governments across the nation, Arizona has recently implemented major transparency initiatives aimed at making government operations more visible to the public. ProcureAZ assists with transparency through a number of mechanisms, including:
    - All solicitations and contracts managed through the system are visible to the public without requiring logins to the system. Oversight groups, interested parties, and anyone with an internet browser can view active solicitations and contracts from the ProcureAZ login screen.

- ProcureAZ's Business Intelligence module allows for publishing of standard reports internally and externally, and the ad hoc capabilities of the module allow for the construction of new reports by end-users. This has allowed the State Procurement Office to respond to legislative and executive requests for data more effectively and easily.

ProcureAZ has introduced a number of capabilities that were not available to agencies beforehand, e.g., the ability to source using reverse auctions. By conducting reverse auctions online in real-time, ProcureAZ allows suppliers to track and bid down against competitors. This process ensures the best possible price. Recent (2010-2011) Arizona Departments of Transportation, Game & Fish, and Education reverse auctions using ProcureAZ have yielded positive results. In each case, tangible savings demonstrated the value of the new e-procurement solution.

E-PROCUREMENT DEFINITION

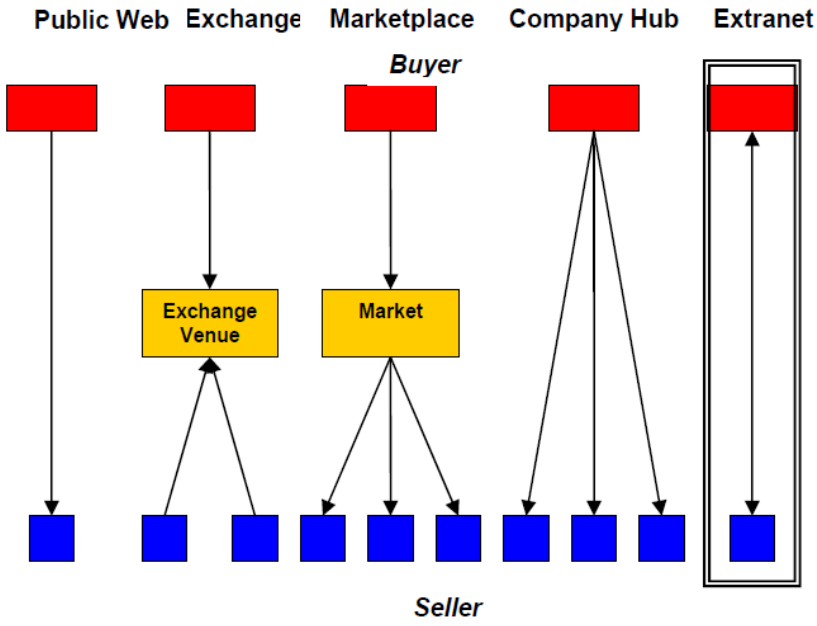
Over the past few years, the definition of e-procurement has taken many twists and turns. For the purposes of this article, e-procurement is defined as, "the use of electronic-based information and communication technologies in order to support operational and strategic procurement activities," (Prier & McCue, 2007). In relation to the Arizona project, e-procurement encompassed the following functions:

- Vendor registration/management
- Sourcing
- Contract/catalog management
- Requisition (including open market, inventory and releases from catalogs)
- Punch-out ordering
- Purchase order

- Receiving
- Inventory
- Invoicing and settlement

E-Procurement models have evolved over time as well. In their 2005 article, "Key Issues in E-Procurement: Procurement Implementation and Operation in the Public Sector," Croom and Brandon-Jones identified 5 basic models for e-procurement: public web, exchange, marketplace, company hub and extranet (Croom & Brandon-Jones, 2005).

Figure 1 - Classifying E-Procurement Transaction Structures



(Croom & Brandon-Jones, 2005)

The Arizona project represents a hybrid of the marketplace, company hub and extranet models, whereby the State of Arizona uses a single system that supports Arizona agencies and political subdivisions via the provision of contracts/catalogs *and* the ability to conduct bi-directional transactions directly with non-contract vendors. More broadly, the implementation in Arizona would be classified as a Buyer e-Procurement System as opposed to a Seller or Intermediary System (Koorn, Smith, & Mueller, 2001).

CRITICAL SUCCESS FACTORS

While not the first to introduce the concept of critical success factors (CSF) in relation to e-procurement initiative success, Vaidya, et. al, documented a conceptual framework to gauge the key components that could determine the success or failure of a project (Vaidya, Sajeev, & Callendar, 2006). In their 2006 paper, the authors identified the following CSF's and the attributes of these factors:

CSF (Variable)	Item attributes
1. End-users Uptake and Training	User involvement, user support/communication, user training
2. Supplier Adoption	Supplier e-readiness, supplier adoption strategy and communication plan, suppliers education and benefits demonstration, compliance to best practices with content and catalogue management
3. Business Case and Project Management	Identification of business drivers, business process assessment and requirement, Return on Investment (ROI), Total Cost of Ownership (TCO), risks identification and management, pilot projects
4. System Integration	Information matching, sending and receiving of real time information to other information systems, electronic commerce with suppliers
5. Security and Authentication	Infrastructure authentication and authorization, confidentiality and integrity, security requirements
6. Re-engineering the Process	Transparency improvement, automated invoice payment and reconciliation, compliance with purchasing procedures and

	standard
7. Performance Measurement	Goals and targets, Key Performance Indicators (KPIs), baseline measurement, progress monitoring
8. Top Management Support	Management sponsor, involvement of the steering committee, investment in organizational change
9. Change Management	Identification and management of key stakeholders, e-Procurement impact assessment, potential barriers to implementation, organizational resistance
10. e-Procurement Implementation Strategy	Sound procurement practices, opportunities for aggregation, a consistent approach to procurement, relationships with industry and small businesses
11. Technology Standards	Technical standards, content standards, process and procedural standards, compliance with the standards frameworks interoperability

Figure 2 - CSF Item Attributes (Vaidya, Sajeev, & Callendar, 2006)

In this article, each CSF will be addressed in relation to steps within the project and lessons learned from the project.

TRADITIONAL INITIATIVE OBSTACLES

The e-procurement landscape is littered with both failed projects and sub-optimal implementations. A survey conducted at Florida Atlantic University in 2007 pointed to a common set of obstacles for e-procurement initiatives. These obstacles include:

1. Too expensive to implement
2. Lack of financial system interoperability
3. Limited resources
4. Technology barriers
5. Governing body resistance

6. Interoperability with other systems
7. Supplier resistance
8. Finance department resistance
9. Concern about local business competitiveness
10. Capacity or skills shortage across the entity

(Prier & McCue, 2007)

In mapping the obstacles to the critical success factors, a clear correlation emerges between the effective execution of a critical success factor and the mitigation/elimination of an obstacle for the project.

Critical Success Factor	Obstacle
1. End user uptake and training	3.Limited resources 10.Capacity or skills shortage across the entity
2. Supplier adoption	4.Technology barriers 7.Supplier resistance 9.Concern about local business competitiveness
3. Business case and project management	1.Too expensive to implement 5.Governing body resistance 8.Finance department resistance
4. System integration	2.Lack of financial system interoperability 4.Technology barriers

5. Security and authentication	2.Lack of financial system interoperability 4.Technology barriers 5.Governing body resistance 6.Interoprability with other systems 8.Finance department resistance
6. Re-engineering the process	3.Limited resources 5.Governing body resistance 8.Finance department resistance 10.Capacity or skills shortage across the entity
7. Performance measurement	5.Governing body resistance 8.Finance department resistance
8. Top management support	5.Governing body resistance 8.Finance department resistance
9. Change management	5.Governing body resistance 7.Supplier resistance 8.Finance department resistance
10. E-Procurement implementation strategy	3.Limited resources 5.Governing body resistance 8.Finance department resistance 10.Capacity or skills shortage across the entity
11. Technology standards	2.Lack of financial system interoperability 4.Technology barriers 5.Governing body resistance 6.Interoprability with other systems 7.Supplier resistance

The CSF's and the implementation obstacles match to create a roadmap of cause and effect either before, during or after implementation. Vaidya et. al, went a step further to organize the CSF's into a model from an implementation perspective:

Organization and Management	Systems and Technology	Practices and Processes
Business case and project management	System integration	e-Procurement implementation strategy
Top management support	Technology standards	Re-engineering of the process
User uptake and training	Security and authentication	Change management
Supplier adoption		Performance measurement

(Vaidya, Sajeev, & Callendar, 2006)

The results from Arizona will be grouped by the three categories above.

RESEARCH QUESTION

The Critical Success Factors provide a set of goal posts to measure the accomplishments of the implementation team. The success of the project indicate that the project team created and executed on a strategy with a technology provider that resulted in a positive outcome for the State, its constituents and the supplier community at large. In this regard, the research question guiding this study is as follows:

How did the efforts of the project team correspond to the Critical Success Factors and how did the attention to CSFs overcome traditional e-procurement initiative obstacles?

Organization and Management

Critical Success Factor: *Business case and project management*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Identified adequate project funding mechanism prior to project approval • Multiple communications to outline need and benefits – consistent message • Well-defined Scope of Work and Procurement Process led to appropriate Vendor best suited to deliver and implement a successful e-procurement solution for State of Arizona • Developed comprehensive project charter including project scope, background, objective and goals, executive sponsor and project team members • Developed detailed testing plans and performed comprehensive User Acceptance Testing • Developed and maintained a detailed implementation project plan including tasks, dates & responsible parties, where Deliverables/Signoffs were associated with payments to vendor • Submitted comprehensive State of AZ Project Investment Justification (PIJ) document receiving Executive leadership	• Too expensive to implement • Governing body resistance • Finance department resistance	A frequent challenge on projects involving process transformation or systems implementation is clear communication of vision and benefits. By establishing a business case up front, the State defined the vision and goals they hoped to achieve as a result of ProcureAZ. This allowed the implementation team to work towards a common set of objectives, develop a scorecard using key performance indicators, and deliver a consistent message of achievement towards stakeholders. As a result, momentum was maintained throughout the project, allowing the team to transition smoothly from one phase to the next. This also had the benefit of providing individual agencies with insight into the overall benefits of the initiative. Other benefits include: • On-time and on-budget • Well-defined project plan, easy to follow and identify potential scheduling issues • Efficient and smooth implementation • Increased quality • Easier identification of potential risks • Enhanced customer satisfaction post-implementation • Functional, reliable, and

Efforts of the Team	Obstacles Averted	Benefits Realized
approval • Carefully selected Executive Steering Committee and project team members • Comprehensive communication plan - right message delivered to the right people at the right time (Steering Committee, Project team, CPO, CFO, CORE team, Legislature, State Procurement Office (SPO), Limited Agencies, Co-ops, Vendors) • Took two prong communication approach in effort to mitigate/eliminate project risks resulting from inadequate customer agency support or resources by communicating to both Executive & CORE team representatives • Involvement of key Finance Dept. and IT Dept. representation on both the evaluation committee and at project kick-off • Communicated benefits to State of implementing new system • Selected quality project management people and proven processes • Ready access to Decision Makers		secure web-based statewide e-procurement application

Critical Success Factor: *Top management support*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Strong, experienced & knowledgeable project sponsor • Communicated project status/issues/concerns to Steering Committee, sought & received top Agency management support when necessary	• Governing body resistance • Finance department resistance	Implementing change across a multi-faceted organization requires strong central direction. Support among key executives allowed the team to resolve issues promptly. Project support and financial backing ensured focus and appropriate resources were made available to project.

Critical Success Factor: *End user uptake and training*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Communicated early and communicate often • Key Agency Representative involved on CORE teams involved in As-Is and To-Be sessions creating sense of ownership • Distributed detailed documents compiling information collected and communicating results of As-Is and To-Be sessions to CORE team participants, which reinforced their value and importance to the overall process • Train-the-trainer approach reinforced knowledge and was an effective way to distribute information • Provided ample hands-on training sessions, which included sessions inviting agency personnel to bring in scenarios specific to their work area • Held multiple meetings with various stakeholders (CIO's/CFO's) to ensure project understanding and	• Limited resources • Capacity or skills shortage across the entity	By implementing a training program that involved agency personnel in training delivery, end-users were able to learn not just how the system worked, but also how their agency wanted them to operate. As a result, agencies saw quick results in process improvement. Cycle times for requisition processing decreased by 21% and PO cycle times decreased by 46% during the first 9 months of system usage. Typically, this degree of improvement can be limited during initial implementation. However, the approach taken with ProcureAZ resulted in greater user adoption and quicker realization of efficiencies. Other benefits include: • Participants on CORE Team generated a sense of ownership • Important input from varied perspectives

Efforts of the Team	Obstacles Averted	Benefits Realized
status • Phased implementation with 88 state agencies grouped into 5 implementation segments • Dedicated SPO Help Desk & BuySpeed support team • Lessons learned session held after Phase 1 go-live and revised approach		minimizing issues post implementation • Early adopters became champions – Game & Fish leading User Group • Phased implementation allowed for continuous improvement by capturing lessons learned and tweaking process

Critical Success Factor: *Supplier adoption*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Communicated to Vendors early and often • Multiple modes of communications used to delivery variety of messages • ProcureAZ Vendor resources including quick reference guides were available at SPO website • SPO Help Desk technical assistance was available to support Vendor registration • Early and strong Vendor out-reach including transition materials and quick reference guides	• Technology barriers • Supplier resistance • Concern about local business competitiveness	Suppliers realized the benefits of a single procurement portal for the State. In the first two years of system usage, the number of registered suppliers exceeded the number registering in the State's prior system, which had been used for over 5 years. This provides greater competition for State business. In addition, suppliers with active statewide contracts willingly accepted a 1% administrative fee on purchases made by local governments. By agreeing to the fee, vendors realized the benefits and value of a broader market base for their products and having a one-stop shop for access, while local governments obtained a new avenue for sourced goods and services. Other benefits include: • Vendor self-registration • Information about suppliers interested in

Efforts of the Team	Obstacles Averted	Benefits Realized
		doing business with Arizona state agencies and local governments • Posting of open solicitations and history of awards • Online access to respond to solicitations with quotes and proposals.

Systems and Technology

Critical Success Factor: *System integration*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Early involvement of key Financial System subject matter experts and key IT support team representatives • Identified required interface functionality early in project to expedite communication and identify & schedule key state business and technical resources as required • Developed and maintained a detailed implementation project plan including tasks, dates & responsible parties, where Deliverables/Signoffs were associated payments to Vendor • Developed detailed requirements and integration design document • Lessons learned session held after Phase 1 go-live and revised approach • Developed detailed testing plans and	• Lack of financial system interoperability • Technology barriers • Governing body resistance • Interoperability with other systems • Supplier resistance	Integration of ProcureAZ to the State's financial system resulted in the automation of the following in the first ten months of operation: • 50,000 financial transactions were processed electronically that would have been manually entered prior to implementation • All vendors who were issued orders were interfaced to the State's financial solution automatically. Prior to implementation, these vendors required paper W-9 forms to be routed centrally, where administrative personnel keyed in data This integration also improved the ability for end-users to validate budget availability earlier in the process, reducing the number of adjustments required to

Efforts of the Team	Obstacles Averted	Benefits Realized
perform comprehensive User Acceptance Testing • Conducted mainframe system stress tests, prior to Phase 2 go-live which included legacy system integration • Legacy mainframe statewide financial system utilizing COBOL, CICS. & Datacom/DB software with no real-time interface prior to integration to ProcureAZ • HostBridge XML enabled CICS terminal-oriented transactions that allowed the development team to take advantage of existing financial application business logic, developing interface resulted in no changes or recompilation required to existing CICS financial application programs • Dedicated BuySpeed support team • Maximized efficient use of existing Arizona Department of Administration (ADOA) processes & technologies; including HostBridge as the interface development tool • E-Procurement Vendor had staff knowledgeable with existing state procurement and financial system technology		finalize purchases and improving the State's financial controls. Other benefits include: • Key State IT technical staff engaged early in project minimizing any technical showstoppers • Streamlined business process • Streamlined process - automated transfer of data between state systems removing duplicate entry of data • Increased quality • Ability to minimize additional coding efforts and maximize use of existing source code while developing interface • No need to purchase additional software products to support implementation of new system • Functional, reliable, and secure web-based statewide e-procurement application

Critical Success Factor: *Technology standards*

Efforts of the Team	Obstacles Averted	Benefits Realized
• E-Procurement RFP	• Lack of financial	By implementing a hosted system and using

Efforts of the Team	Obstacles Averted	Benefits Realized
solicited feedback on Vendor technology specifics for review, prior to contract award • Had Government Information Technology Agency (GITA) project oversight and review • Maximized efficient use of existing ADOA processes & technologies (e.g. Clarity (project documentation), HRIS/YES Employee Training Solutions, Datacom/DB, CICS, COBOL, Hostbridge • Included mainframe system stress tests • Conducted annual disaster recovery exercise (Success in both 1st & 2nd DR exercise) • Conducted automated monthly vulnerability scans against application to ensure compliance with State security standards • Created early and strong Vendor out-reach including transition materials and quick reference guides	system interoperability • Technology barriers • Governing body resistance • Interoperability with other systems • Supplier resistance	standard technologies, rather than custom-developed applications, the State has reduced the overall footprint on technology operations. This provides an efficient systems approach with little spill-over into IT operations at the State. With this approach, the resulting maintenance requirements for the State are limited to core internet/networking functions to allow users to access the ProcureAZ website, and VPN connections to the hosted facility for interface functions. As a result, the State does not bear the cost of ongoing staffing to support a customized, internally-managed application. Other benefits include: • Adherence to State IT standards • Quality support and environment infrastructure • Acceptable System/Application Performance levels • Successful application recovery at DR recovery site for both 2010 & 2011 exercise • Functional, reliable, and secure web-based statewide e-procurement application

Critical Success Factor: *Security and authentication*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Early involvement of key Financial System subject matter experts and key IT support team representatives; including representatives from Network & Systems Security as appropriate • Invited State Auditors to participate in Steering Committee meetings • HostBridge XML enabled CICS terminal-oriented transactions that allowed the development team to take advantage of existing financial application business logic, developing interface • Resulted in no changes or recompilation required to existing CICS financial application programs • CORE team reviewed & tested application security during To-Be and UAT sessions • Created security plan and reviewed prior to go-live • Visited hosting facility prior to go-live • Hosting facility SAS70 audit report reviewed annually • State Auditors invited to participate in Steering Committee meetings • Vulnerability scans executed prior to go-live with on-going scans continuing monthly	• Lack of financial system interoperability • Technology barriers • Governing body resistance • Interoperability with other systems • Finance department resistance	While the system is managed by a hosting provider, the State still maintains responsibility for assuring security of data and access. Third party auditors conduct annual reviews of security, controls and processes at the hosting provider. The State also supplements these reviews with periodic vulnerability scans. As a result, the State can assure security and controls through industry-accepted audit mechanisms. Other benefits include: • Minimal security issues post go-live • Secure web application • Auditor awareness and implementation team preparedness • Secure hosting facility • Functional, reliable, and secure web-based statewide e-procurement application

Practices and Processes

Critical Success Factor: *E-Procurement implementation strategy*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Strong project sponsorship • Strong project management on both Vendor & State side • Detailed project plan developed at project start, which included carefully phased implementation and 5 agency roll-out groups • Roles & responsibilities communicated early • Identified AFIS resource constraints and modified schedule & costs accordingly • Early involvement of key Financial System subject matter experts and key IT support team representatives; including representatives from Network & Systems Security as appropriate to minimize/avoid any unexpected implementation and roll-out issues • Had formal review and sign-off for all important deliverables (e.g. Functional Design document, Detailed Integration Design document, Test plan, Communication plan, Security plan, Support & Escalation plan, Training plan, Go-live plan, etc.	• Limited resources • Governing body resistance • Finance department resistance • Capacity or skills shortage across the entity	Because the State outlined the vision for implementation and the business case early, the overall strategy was focused on a common definition of success. This helped to overcome pockets of resistance within individual business operations and allowed for the greatest degree of process transformation. Some of the benefits realized as a result of this strategic focus included: • Standardization of core business processes in order to maximize efficiencies. For example, central purchasing was removed statewide from the processing of orders against approved contracts. • Sharing of data across business units. While some agencies wanted to restrict visibility into their purchases, the State's strategic focus on transparency overcame these pressures. • Identification of additional process changes to support aggregation of spend. Several months after implementation, the state rolled out a new demand aggregation feature to allow for consolidation of sourcing across agencies. • Use of system capabilities to manage alternative procurements, including reverse auctions, to drive further cost savings.

Efforts of the Team	Obstacles Averted	Benefits Realized
• Developed thorough and detailed test plans for each implementation phase and documented detailed user acceptance criteria • Single Incident Tracking system to track issues, accessible to all support staff • Weekly project status updates with key project members including updates to the detailed project plan • Dedicated BuySpeed support team • Timely communication to appropriate individuals at the right time (Steering Committee, Project team, CPO, CFO, CORE team, Legislature, SPO, Limited Agencies, Co-ops, Vendors) • Included application stress tests prior to go-live of 1st real-time interface to statewide financial system to ensure expected performance levels • Developed co-operative relationships and a participative environment amongst project team members creating a climate of trust • Celebrated project successes and acknowledged team		Other benefits include: • On-time and on-budget • Reached project milestones on time and according to expectations • Comprehensive set of e-procurement Project documentation • Functional, reliable, and secure web-based statewide e-procurement application • Early adoption at CORE agencies • Successful interface development, comprehensive interface functionality testing and smooth and timely implementation of 1st real-time interface to the AZ statewide financial system • Functional, reliable, and secure web-based statewide e-procurement application

Efforts of the Team	Obstacles Averted	Benefits Realized
member contributions		

Critical Success Factor: *Re-engineering the process*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Strong technical team to collect business requirements and document process design and reengineering • Strong change management to assist in managing the move to the new system • Included providing basic email templates, quick reference guides, train-the-trainer approach • Carefully designed/planned phased roll-out • Wide variety of sufficient representation with respect to agency procurement representatives included on CORE team • Continued communication to parties directly affected i.e. State CPOs and CFOs as well as continuing to deliver the right message to the right	• Limited resources • Governing body resistance • Finance department resistance • Capacity or skills shortage across the entity	Statewide implementation of ProcureAZ allowed the State to standardize processes across agencies. In doing so, best practices were implemented to reduce cycle times while ensuring controls. As previously described, the State's core team developed standardized processes that have resulted in significant cycle time reductions. Other benefits include: • Steam-lined processes • Enhanced system controls • Automated approval process • Up-to-date data on statewide contracts, including the ability to search for specific contract items, terms and pricing • Ability to evaluate contract spend data • Enhanced management reporting • On-line integration with AZ statewide financial system

Efforts of the Team	Obstacles Averted	Benefits Realized
people at the right time • Communicated benefits to State as a result of implementing new system and streamlined procurement process • Communicated benefits resulting from integration with statewide financial system • Strong involvement with State IT to ensure a smooth integration with statewide financial system		

Critical Success Factor: *Change management*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Comprehensive communication plan - right message delivered to the right people at the right time (Steering Committee, Project team, CPO, CFO, CORE team, Legislature, SPO, Limited Agencies, Co-ops, Vendors) • Key Agency Representative involvement on CORE teams early on generating strong sense of ownership • Detailed support and escalation document developed, which identified change management procedures for the operational environment • Procurement related changes	• Governing body resistance • Supplier resistance • Finance department resistance	Clear communication throughout allowed the State to rapidly implement without significant support overhead. The State has been able to manage a user base of over 1000 agency users and 19,000 vendors with only 5 support personnel (in-house and outsourced). Through the use of online user documentation, self-paced training, classroom training, and agency-level system leads, process and system transformation has been successful using very few resources. Other benefits included: • Business process redesign and system modification design (as necessary) to minimize software customizations • Minimal system outages • Controlled maintenance

Efforts of the Team	Obstacles Averted	Benefits Realized
communicated in the form of revised policies, procedures and updated/newly created technical bulletins • Revisited agencies as needed post go-live to address any subsequent change management concerns		windows • Functional, reliable, and secure web-based statewide e-procurement application

Critical Success Factor: *Performance measurement*

Efforts of the Team	Obstacles Averted	Benefits Realized
• Conducted pre-implementation surveys with Vendors and collected processing metrics from State agencies prior to system implementation • Gathered performance data from system 6 months post-go-live after each State Agency group roll-out to review results	• Governing body resistance • Finance department resistance	Throughout implementation, the State measured performance impacts. This allowed for successful communication of results to leadership and assisted with continued rollout to new agencies. Through ProcureAZ's business intelligence capabilities, a scorecard can be easily run to analyze impacts on spend under management, contract leakage, cycle times, and vendor performance. Other benefits included: • Improved customer satisfaction • Reduced unit costs for items purchased • Reduced processing costs and time • Reduced maverick spend/improved contract compliance • Increased usage of State contracts and system by

		co-op agencies • Improved access and participation for local, M/WBE, and small business vendors

CONCLUSIONS

Vaidya, et al, proposed that emphasis on the Critical Success Factors would positively correlate to success on the project. In addition, the authors noted that e-procurement projects tended "to be more incremental and component-driven and thus rely less on traditional systems development lifecycle (SDLC) methods." (Vaidya, Sajeev, & Callendar, 2006) This is the case with Arizona, as the project was broken into incremental phases, each of which was supported by business cases to justify progression of the project. Last, the Vaidya paper noted the need for in-depth cases studies, which this paper attempted to address. To further confirm the results of this case study, additional research is needed, including surveys and analytical assessment of the potential correlation of the CSF's, the actions of the project leadership and the perceptions of both governmental and supplier users of the system.

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