

Transformation Life Cycle (TLC) Case Study

Modernizing WMATA Systems

A Transformation Success Alignment of Business and Technology Through a Life Cycle Approach

Faced with a technology infrastructure that included nearly 80 non-integrated, heavily customized mainframe legacy systems, plus increasing numbers of bus and rail ridership, it was imperative that the Washington Metropolitan Area Transit Authority (WMATA) implemented some major changes. To respond to increasing customer demand, WMATA formed the Business Excellence Information Technology Renewal Program (ITRP) to modernize key technology systems, replacing many of the transit agency's enterprise level systems over a period of four years. What began as an ambitious technology replacement evolved into a multi-disciplinary transformation that impacted people, business processes, and technology. The project has saved the agency over \$6 million, and has gained CIO Rod Burfield recognition as a premier IT leader in CIO Magazine's CIO 100 Award and Computerworld's Premier 100 IT Leaders.

WMATA Overview

WMATA operates the second largest rail transit system and the fifth largest bus network in the United States, transporting more than a third of federal government workers and millions of tourists every year. WMATA services a population of 3.5 million in Washington, DC, Maryland and Virginia, and covers a 1,500 square mile area. Its 10,000 employees work across the geography and have an array of functions that range from civil engineering to bus driving.

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— Douglas Carter, a Vice President, at Booz Allen Hamilton.

The Challenge and Vision

Many of WMATA's nearly 80 legacy systems were costly to maintain, difficult to support, and had a low level of automation. Systems supporting finance, budgeting, human resources, procurement, time keeping, scheduling, materials management, and maintenance management were to be replaced and integrated simultaneously. “WMATA had invested a lot in rail systems, stations and vehicles, but had not invested enough in the technology needed to allow for better management,” said Douglas Carter, a vice president at Booz Allen Hamilton.

The new systems were designed to provide increased efficiency and lower redundancy—allowing for fewer entries of the same data into multiple systems. This overhaul had to be accomplished while maintaining 24/7 operations and serving millions of riders annually; which would have implied changing over 50 existing business processes. Productivity, it was assumed, would also improve, enabling WMATA staff to do more with fewer people but implications of such a change on the number of jobs available would then become a delicate issue. How could all this be communicated to the employees in a way that engaged their support for the change?

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— Rod Burfield, CIO, WMATA

Solution

To implement its vision, WMATA used the Transformation Life Cycle (TLC) approach to address all the vital elements of the equation: people, processes, and technology, as well as ownership and stewardship of the change initiative. WMATA initially set out to implement an enterprise resource planning (ERP) system to integrate and streamline the disparate legacy systems, reducing redundancy and dependence on human data entry. “Shortly after engaging Booz Allen in this project, we realized this was more than just a technology implementation and that we could substantially revamp our business processes and increase capabilities to make our results more successful,” says Burfield. The company recognized that the transformation was not just about technology; changes in people and processes were keys to success as well. As a result, WMATA employed a holistic view of transformation to address all dimensions of change through a life cycle approach. The transformation activities were led by senior-level executives from multiple functional areas.

Technology—The Systems Integration of four major COTS packages was daunting—including requirements validation, design, testing, implementation, and deployment of systems that needed to be tightly linked. A significant objective was to minimize customization and thus leverage built-in industry best practices.

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Business Processes—It became clear that the agency’s business processes would need to change significantly in order to take full advantage of the new technology. Burfield realized, “This was more than just a technology implementation. Productivity improvement requires a total business transformation, not just a technology upgrade.” As a result, WMATA mapped more than 50 existing business processes, developed redesigned or new processes, and incorporated best practices. They also identified metrics to help gauge the effectiveness of each process.

People—Transformation activities were carried out by people who knew the processes best – the users themselves. “Business users needed to own [the change] and support it in a huge way” says Burfield. A critical reason for user involvement was to acquire a complete picture of requirements from start to finish. In the legacy world, no one had a full view of the end-to-end process; they were responsible for simply a piece of it. In order to understand the entire system, users from multiple areas gathered to share their knowledge and understanding, and to forge a more efficient, integrated process that would benefit all.

The fear of many employees was that streamlining would mean the potential loss of jobs. To off-set this fear, WMATA created a new department, the Workforce Development Organization, charged with understanding the demographic and skills profile of the existing workforce, the rate of retirements, and issues around diversity, labor relations, and general human resource planning. WMATA was able to take advantage of natural attrition, and forego additional workforce reductions. They aligned the right people with the right skills into the right jobs. They also upgraded position descriptions, recruitment and retention programs and succession planning.

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— Rod Burfield, CIO, WMATA

Implementing the Transformation

Because WMATA needed to sustain ongoing and uninterrupted service, they chose a phased implementation approach spanning 2½ years. “The life cycle approach to change is all about phasing and timing - aligning training and implementation, while adjusting for human learning,” noted Carter.

With feet planted firmly in both the integrated and legacy systems, there was significant pressure for staff to be comfortable in both worlds. It also meant that support from the end users and front-line personnel was critical to the success of the movement from the old way to the new. “We were turning the entire company on its head”, says Burfield. “Everyone will say they’re in favor of change, but really, they’re in favor of someone else changing. How you set up the change process will determine whether it will succeed.” The life cycle approach to change was key to determining the right timing and integration of activities within the dimensions of people, processes, and technology.

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To ensure that changes were effective and supported, WMATA created two bodies – the Technical Group and the Policy Control Board (PCB), which included representatives from the four key business areas. Throughout the transformation, executives shared updates and changes with the entire enterprise to help educate and empower employees. Ongoing recognition of outstanding work and service and monthly newsletters helped to spread these messages. Richard White, CEO of WMATA, was fully engaged and openly supportive of the project through internal communications.

WMATA chose a train-the-trainer approach to developing new skills. The process started with a training needs analysis, which led to designing both classroom curricula and on-line, on demand material to allow users to review, practice and test key business processes and system functionality. On-the-job training was instituted, and super-users were made available as resources.

Results

The transformation for WMATA was largely completed in 2006. To date, WMATA has realized \$6.4 million in cost savings and expects to experience several million dollars of additional savings over the next two years as users become more comfortable with the new systems and take full advantage of their capabilities.

Before the legacy systems were integrated, employees only understood their specific business process and had little insight or understanding of other areas. After integration, employees began to comprehend and appreciate the complex end-to-end process, enabling them to optimize their piece of the business to positively impact the larger process. WMATA officials knew that the transformation was a success when employees began requesting enhancements and coming up with their own improvements.

Lessons Learned

- Successful change requires activities involving people, processes, and technology—not just technology.
- A life cycle approach is key to determining proper timing and integration of activities.
- Transformation activities should be led by senior level executives from multiple functional areas.
- Enduring results come when people truly own the changes.

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