Team Name: CCMS V2.0 Team
Date Team Operating from: July 1, 2009 to Present
Organization Name: Maryland State Highway Administration (SHA)
Sponsoring Group: SHA Customer Service Key Performance Area (KPA) Committee
Award Notification Person: Cheryl Stambaugh
E-Mail Address: cstambaugh@sha.state.md.us
Telephone No.: 410-545-0308   **Fax No.: 410-209-5012**
Mailing Address: 707 N. Calvert Street, C-410
**   Baltimore, MD 21202**

The following information is an overview of the project and, if selected for recognition, will be used for publicity. This part of the application will not be scored; however, the narrative will be used as the foundation for supporting the application. By submitting this application the organization is agreeing to allow the publication of this application in print and electronic format.

Team Purpose:

The Maryland State Highway Administration (SHA) is a decentralized organization with approximately 3,200 employees, 22 departments, 7 engineering districts and 28 maintenance shops. Virtually all locations within SHA receive citizen requests for service, with the highest volumes going to the traffic signal shop, district offices and maintenance shops. Prior to launching the pilot version of SHA's Customer Care Management System (CCMS) in 2007, the majority of work locations did not have established processes for receiving and tracking citizen requests. For those that did, tracking and data collection were decentralized and/or not captured electronically which precluded statewide trend analysis of citizen requests for service or performance measures. CCMS was created to address the need for consistency, accountability and transparency in SHA's interactions with citizens.

The CCMS V2.0 Team, consisting of two business administrators from SHA's Office of Communications, and a programmer and a project manager from SHA's Office of Information Technology, was convened to develop and implement an enhanced version of CCMS, an information and knowledge management system that captures and tracks external customer requests for service. In addition to the initial release of the enhanced version, CCMS V2.0, on a new, Software as a Service (SaaS), cloud computing based platform, the Team continues to collect user feedback and implement micro-releases every six to eight weeks with new enhancements incorporated into each version. While the work outlined in this application was completed during the application time requirements, this is an ongoing program.

Impact of Team's Improvement(s):

The Team's work has resulted in an improved version of CCMS, with greater usage rates and increased user satisfaction. Using cloud computing technology, a SaaS development platform and a pilot 6 – 8 week agile development cycle, the Team was able to rapidly respond to customer feedback. The enhanced system now delivers performance data to SHA managers for trend analysis, strategic planning and performance measurement. It has enhanced SHA's interactions with citizens through accountability and knowledge management, and by adding an online method of contact through which citizens can submit requests for service.

Category 1 - Customer Focus (275 points)

1.1. List the key customers of the team

1.1.a. SHA employees (415 licensed users and 2,785 basic users)

1.1.b. Citizens with requests for service

1.1.c. SHA Managers

1.2. Explain **why** you determined that these were key customers

1.2.a. SHA employees were determined to be key customers because they are the direct users of the system. Each interaction with an external customer is logged into CCMS V2.0 by an SHA employee for case management, tracking and reporting.

1.2.b. Citizens with requests for service were determined to be key customers because the system is designed to manage and improve their interactions with SHA.

1.2.c. SHA Managers were determined to be key customers because CCMS provides them with performance measures, trend analysis, system preservation planning and customer service data.

1.3. Explain **how** the team listened to and collected information from the key customers

1.3.a. One employee from each SHA division was selected as the Customer Care Coordinator (CCC) to serve as the representative for their division. The CCCs serve as the point of contact for CCMS users and managers in their area as well as for the CCMS project Team. In this way, a communication channel was created to collect user feedback, determine user requirements and help communication new system enhancements, best practices and standard operating procedures.

1.3.b. Previous customer contact analysis revealed confusion on "who" and "how" to contact SHA. CCMS Team launched an online form in the "Contact Us" section of SHA's website to simplify the process of contacting SHA. Customers can submit their concerns via the online form, check on the status of their service request and give feedback on our performance. CCMS also sends automatic emails to customers to keep them abreast of SHA's progress.

1.3.c. Throughout the development cycle, system formats and processes were presented to SHA's Senior Management Team, who gave feedback and direction. Additionally, the Team's Business Administrator met with SHA's Deputy Administrator – Chief Engineer of Operations to determine requirements for his reporting dashboard page.

1.4. Explain **how** the team turned information collected from the customers into requirements

1.4.a. Users regularly gave suggestions for system enhancements to either their CCC or the CCMS V2.0 Team to help CCMS match established business processes. One particular request focused on overall user frustration concerning the volume of automated email notifications from the system. To reduce the volume, the CCMS Team developed queues for each work unit so that only the users in the specific work unit would receive the automated email notification of new tickets rather than the entire Responsibility Center. Additional the CCMS Team worked with the CCCs to identify which users in each work unit should receive the email notifications, instead of all users receiving them. User satisfaction improved significantly.

1.4.b. Citizen service requests and responses to automated customer service emails have also influenced the development of CCMS V2.0. Responses to the automated emails go to an inbox monitored by the CCMS Team. A large volume of these email responses from citizens were expressing confusion or concern over an automated email sent to the citizen when a service request ticket was closed. Based on this feedback, an option was added to CCMS that allows employees to cancel the automated email in cases where it is not appropriate.

1.4.c. During presentations on CCMS and its development, SHA Senior Managers gave input on how their division's business processes would or would not work within the system's design. In cases where process and design were not compatible, the CCMS Team developed system enhancements that would allow CCMS to meet the manager's needs. For example, the Task Assignment function of CCMS was shaped by one of SHA's District Engineers, who reviewed the Task Assignment page redesign and gave direction on which fields would be required based on his business processes.

The reports Dashboard drafted with SHA's Deputy Administrator – Chief Engineer of Operations was duplicated for each division at SHA and requests from division managers for Dashboard customization were communicated through their CCCs.

1.5. Explain **how** the team determined both customer satisfaction and dissatisfaction
1.5.a. All SHA employees can enter citizen requests into CCMS, but only license holders have access to the system's full functionality. Each work unit received a limited number of licenses based on availability. Licensed users expressed dissatisfaction because their work load increased tremendously. The CCMS Team changed the license agreement in order to receive additional licenses. The additional licenses have improved user satisfaction as indicated by the CCCs in meetings with the CCMS Team.

1.5.b. SHA has conducted a biennial customer survey since 2006 to gauge citizen satisfaction with our services. One question asks citizens to rate their satisfaction with SHA's response time to their request (relevant to CCMS because one of its functions is to track and manage SHA's response time to service requests). See graph on page 5 for results.

1.5.c. Managers expressed dissatisfaction with the previous CCMS because of the inability of reporting. CCMS V2.0 dashboards and reporting ability far exceeds managers' expectations based on the number of requests for reports. SHA managers' request for reports has increased significantly because reporting aids in the performance measurement of their work units. They have also expressed increased satisfaction to the Business Administrator in meetings with SHA leadership.

Category 2 - Process Management (275Points)
2.1. List the process(es) identified as applicable to the purpose of the team and performance expectations
2.1.a. A key process for the Team was implementing 6 – 8 week development cycles. The Team would discuss the last launch, prioritize and plan enhancements, review and test enhancements, develop communications materials for users, update training materials, launch the enhancements, fix any bugs, and repeat the process. Enhancement cycles were expected to be implemented on-time with minimal bugs and minimal user interruption.

2.1.b. Another key process was training. In-person training is available for divisions or individuals upon request. Comprehensive online training courses were developed and training newsletters are posted within the system after each development cycle to train users on the new enhancements. Expectations are that training materials be clear and complete. Training and relevant assistance materials are conveniently located on a Customer Service intranet site.

2.2. Describe the steps taken to achieve the purpose of the team
2.2.a. Enhancement suggestions and bug fixes are captured in a MS SharePoint workspace by classified according to priority and planned release cycle. The CCMS Team meets to plan and assess enhancements. The programmer determines whether or not it is possible and, if so, the level of effort involved. To ensure quality, enhancements are beta tested by Team members before released. The entire process lasts 6 – 8 weeks.

2.2.b. Because the Team is small, in-person training is only given to divisions upon request. Two comprehensive online training courses were developed, one for licensed users and one for non-licensed users, allowing users to complete training at their desks and convenience. A script was written, proofread and recorded using Audacity; screenshots from the system were combined with the recorded narration in MS PowerPoint; and the presentation was published using iSpring Presenter and delivered via the SHA Intranet. Completion of the courses is documented and tracked in SHA's Learning Management System (LMS).

After each development cycle, the list of new enhancements is reviewed and a newsletter drafted in MS Word to explain each change. After being proofread, the newsletter is published as an Adobe PDF which is posted as a notice within CCMS and emailed to each division's CCC for distribution to their users.

2.3. Explain how the steps taken to achieve the purpose of the team affected efficiency, effectiveness, quality, and/or customer satisfaction attributes
2.3.a. Choosing to build CCMS V2.0 on the cloud-based SaaS platform allows the Team to improve the system more rapidly than ever before, with agile 6 – 8 week development cycles. This development model allows the Team to be much more responsive to customers, implementing 216 system enhancements and fixes since the initial launch in mid-July 2009 (as of July 28, 2010).

2.3.b. Delivering training courses and materials online allowed the two CCMS V2.0 Team members to provide training to 3,200 users with minimal time and resources. This cost effective training solution not only saved countless hours needed to present approximately 214 in-person training sessions for each of SHA's divisions, but facility and travel expenses as well.

All electronic training was accomplished without purchasing new software. MS PowerPoint and Adobe Acrobat were already installed on the training Team members' computers. Although two additional programs were needed to record narration and publish the presentation, the training Team members researched and found two programs, Audacity and iSpring Presenter, that met the Team's needs and were free to download. This saved the agency approximately $700, which is the cost of the analogous Adobe products.

2.4. Explain how the team gathered data, analyzed it, and the tools used to make decisions
2.4.a. Explain how you gathered the data and how you analyzed it.
2.4.a.a. Report dashboards were created for each major division to provide timely data on key performance areas such as initial response time, number of service requests and informational only tickets created, current status of tickets, source of submission and the top 20 topics.

2.4.a.a. & 2.4.a.b. Service Requests tickets that were not filled out properly defaulted to the CCMS V2.0 Team for correction. The volume of Service Request tickets being assigned to the Team was monitored to determine (2.4.a.a.) the quality of the system's interface and (2.4.a.b.) the effectiveness of training. As users were trained and the interface was improved, the volume of Service Request tickets received by the Team decreased.

2.4.b. Identify the tools you used from this list: Pareto Chart, Flowchart, Cause and Effect Analysis, Check Sheet, Control Chart, Histogram, and Scatter Diagram
2.4.b.a. Flowcharts were created to map processes, such as the process for responding to citizen service requests. These flowcharts were used to ensure CCMS would meet customers' needs.

2.4.b.a. & 2.4.b.b. Histograms were used to monitor the volume of tickets with topics and sub-topics listed as "Other," which were assigned to the CCMS V2.0 Team by default and needed to be reclassified.

Category 3 – Results (450 points)

3.1. Provide current levels and trends for customer satisfaction **and** disatisfaction

License requests by Month
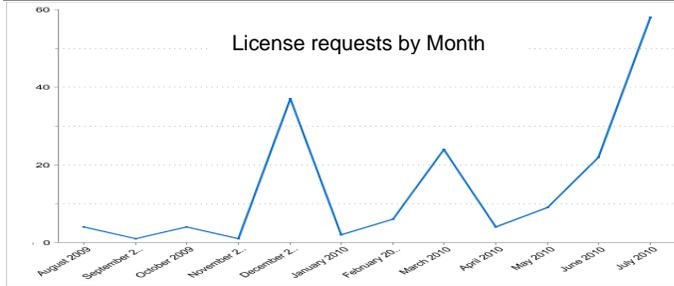
After the initial launch of CCMS V2.0 and license agreement revision, additional licenses were provided to work units upon request. The ability to provide additional licenses in each work unit evenly spreads the workload which has improved user satisfaction. The increase in monthly license requests seen in this histogram indicates increased customer satisfaction.

**Using the same "A" to "F" grading scale, please grade SHA**

■ 2010 ◆ 2006 — 2008
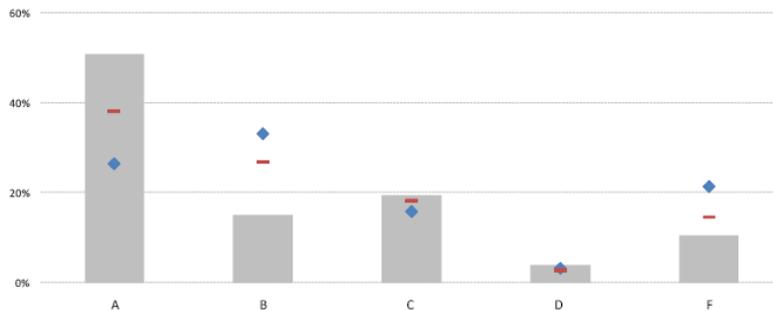
Results from SHA's biennial customer survey indicate that, among citizens who have contacted SHA with a service request, satisfaction with SHA's response time has increased and dissatisfaction has decreased since the implementation of CCMS V2.0.

3.2. Provide current levels and trends in key measures or indicators for the process(es) listed in Category 2 above
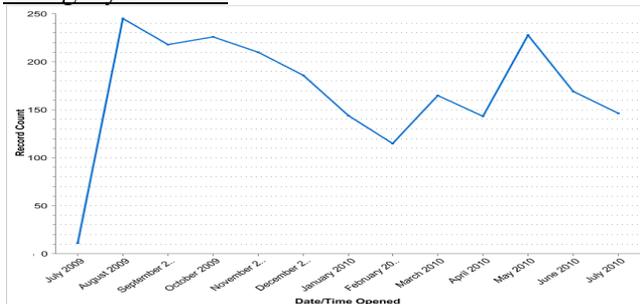
As users were trained and the interface was improved through enhancements and fixes, the volume of Service Request tickets classified as "Other" and therefore defaulting to the CCMS team has generally decreased since CCMS V2.0 was launched in July 2009. The spike seen in tickets defaulting to the team from February to May was caused by an increase in new users during that period and has decreased as those new users are trained.

3.3. Provide current levels and trends in key measures or indicators of effectiveness, efficiency, and/or quality

Timely response to service requests

Enhancement and Fix Requests
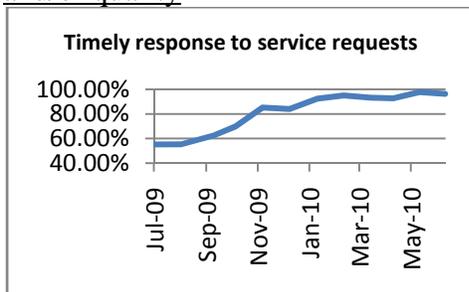
As training increased and CCMS became a better tool for managing interactions with citizens, the percent of responses to citizen service requests
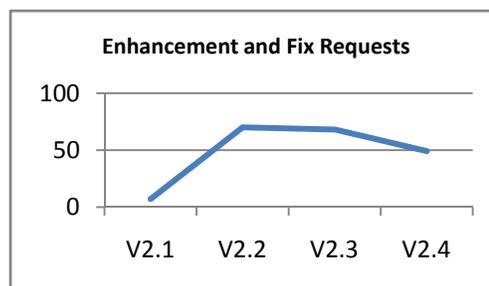
As CCMS is enhanced to better meet customer needs, less requests for additional enhancements and fixes are made in each development cycle.