Citigroup Case Study

Pre-eminent banking, lending, investment and financial services company works for the first time with CSTE, CSQA and CSPM principles and concepts to manage and validate client and web based applications.

Citigroup testing activities operated under a weak testing center of excellence infrastructure with a peculiar challenge in mind restructuring its vision and foment discipline to foster a systematic testing approach, the variability in its internal processes resulted in the implementation of CSPM, CSQA and CSTE skill sets to leverage quality control standards, effectively manage testing effort, increase competence and initiate momentum in testing projects.

The Customer

Found in more than 100 countries, Citibank delivers a wide array of banking, lending and investment services to individual consumers, as well as to small businesses with up to $10 million in annual sales. Also offers a full range of financial services products to serve the needs of small and large corporations, governments, and institutional and individual investors.

Business Challenge

The multifaceted work environment, politics involved in the organization, unclear vision and flimsy testing center of excellence were some of the challenges to take care of in the organization to effectively leverage the quality control targets of in-house applications.

The Challenges

- Lack of supportive culture
- Lack of management direction
- Unclear objectives
- Management by fear
- Ineffective quality environment
- Immature QA function
- Lack of process consistency (Variability)
- Micromanagement of testing projects
- Testing approaches from different outsourcing organizations
- Traditional management philosophy -
  - Competition between organizations
  - Employees are the problem
  - Fire fighting

Solution - Testing Approach

The solution proposed to the client targeted a portion of in-house applications only, due to the complex politics involved in their corporate culture this approach could not be implemented as a cross functional initiative. The approach had to focus on quality control targets; the big challenge was dealing with an immature QA function, nevertheless restructuring client's testing methodology was not part of this business challenge. The overall solution consisted of implementing key foundations of CSPM, CSQA and CSTE skill categories to minimize risks inherent in the multifaceted work environment.

The implementation of CSPM, CSQA and CSTE skill categories initiated with a migration testing project which consisted of leading, managing, verifying and validating compatibility with several

applications on Windows Vista operating system. Subsequently the same approach was implemented in several low risk projects within the organization.

The lack of QA function maturation and the unclear vision of the testing center of excellence, were the starting points to apply effective management and testing approaches. The kick off for this approach was composed of the following assessments:

- Assessing Management Style
    - Identifying project management process groups in the organization such as Initiating, planning, monitoring and controlling processes.

- Assessing existing Testing Center Of Excellence Infrastructure
    - Gathering documentation to understand objectives of testing center of excellence especially industry standards and testing knowledge.
    - Identifying existing documented testing processes and potential gaps.
    - Identifying testing artifacts.

Based on the assessment results, and relying on CSPM concepts, the following action plan took place to restructure the vision:

- **Initiating Knowledge** (*CSPM – Skill Category 1 – Principles of Software Project Management*)
    - Developing a Project Charter -
        - Specifying the purpose of the projects, business need and High-Level description of the projects.
        - Indentifying stakeholders.
    - Developing a Feasibility Study -
        - Identifying each of the solution options available and business vision.

- **Planning Knowledge** (*CSPM – Skill Categories 2,4 – Risk Management, Schedule and Budget Management*)
    - Developing Project Plan -
        - Building a work break down structure, identifying phases, activities, tasks, and milestones.
    - Developing a Resource Plan -
        - Identifying the physical resources required to complete the project.
    - Developing a Quality Plan -
        - Summarizing the quality targets.
    - Developing Communications Plan -
        - Specifying how to communicate the right messages to the right people at the right time.
    - Developing a Risk Plan -
        - Outlining the foreseeable project risks and providing a set of actions to be taken.

- **Executing Knowledge**
    - Building Deliverables -
        - Defining a deliverables register.

- **Monitoring and Controlling Knowledge** (*CSPM – Skill Categories 3,5,7,9,10 – Managing the project staff, Software Project Control, Measurement and Status Reporting, Software Testing, Configuration Management*)
    - Developing strategies to manage project team.
    - Developing a plan to monitor and control risks, issues and changes.

- Developing Testing Effort

To close gaps in the testing process, and to foment discipline in fostering a systematic testing approach, it was necessary to institutionalize leadership and quality management principles with team members, by defining, building and implementing work processes; following the skill categories addressed in the CSQA Common Body Of Knowledge:

- Quality Leadership (*CSQA – Skill Category 2 – Quality Leadership / Quality Management Infrastructure*)
    - Establishing Trust with testing team members -
        - Using a Microsoft SharePoint website to share testing best practices based on CSTE and CSQA principles and concepts.
    - Empowerment of Employees -
        - Delegating challenging testing tasks to team members based on their strengths.
    - Motivating team members victims of traditional management philosophy (Employees are the problem)

- Define, Build, Implement Testing Processes (*CSQA – Skill Category 6 – Define, Build, Implement, and improve work processes*)
    - Documenting Test Strategy Process
    - Documenting Test Planning
    - Documenting Test Design Process
    - Documenting Test Reporting Process
    - Enhancing Defect Management Process

To meet quality control targets, the following CSTE skill categories were successfully implemented in several in-house projects:

- Managing The Test Project (*CSTE Skill Category 3 – Managing The Test Project*)
    - Test Supervision -
        - Microsoft SharePoint web site used as a communication channel to assign testing activities, report testing results and build stronger testing skill sets on team members.
        - Providing feed back to team members to help them grow.
        - Implementing One-on-One meetings to embrace a transparent work environment and establish a relationship of trust.
        - Awarding team members for contributions to testing project.
    - Test Leadership -
        - Team building
            - Sharing CSPM,CSQA and CSTE literature to increase team member's competence level
            - Offering perks to team members for their talented work such team lunches and friendly gatherings.

- Test Planning (*CSTE – Skill Category 4 – Test Planning*)
    - Creating test plans relying on standards from the Institute of Electrical and Electronics Engineers (IEEE)

- Executing The Test Plan (CSTE *Skill Category 5 – Executing The Test Plan*)
    - Implementing test design process to design test artifacts
    - Implementing functional testing techniques
    - Recording test results implementing the approach outlined in CSTE Common Body Of Knowledge.

- Test Reporting *(CSTE Skill Category 6 – Test Reporting Process*)
    - Implementing the approach outlined in CSTE Common Body Of Knowledge to report test results.

To review the detailed approach for this case study read the complete solution at:
http://www.msqaa.org/Case_Studies.html

Benefits

- Embodied discipline to monitor and control testing projects using CSPM concepts
    - o The client was benefited in using industry management processes to track projects.
- Enhanced testing knowledge through CSQA and CSTE concepts
    - o Encouraged client to adopt a documentation discipline in their corporate culture