Process Improvement and Six Sigma Workshop

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Workshop Learning Outcomes

• Participants will be able to:
• Define the processes in their work units.
• Identify customer requirements for their work units.
• Develop methods to measure customer satisfaction.
• Assess the need for improvement in their work units.
• Identify the role of benchmarking and competitive assessment in improvement efforts.
Learning outcomes – continued

- Develop an improvement plan for their work units.
- Develop leading indicators of performance.
- Apply Six Sigma DMAIC improvement methods.
- Apply simple statistical tools to analyze and track performance.
- Use the MBNQA Evaluation Criteria to develop opportunities for improvement.
- Start an improvement effort for the Georgia’s Customer Service Initiative.
- Use data and simple statistical tools in their improvement process
Customer Service Improvement Initiative – The Governor

- Governor Perdue launched the CSI initiative Aug 1, 2006
- Goal: “Make Georgia the best-managed state in the country.”
- The Governor stated:
  - “I want to change the culture of state government to be principle-centered, results-driven and customer focused.”
  - “Right now, 42 state agencies are launching new CSI Plans to make Georgia’s service to citizens faster, friendlier and easier.”
The Chancellor Supports CSI

• Erroll Davis stated:
  He is asking “the 38,000 faculty and staff employed by Georgia’s 35 public colleges and universities to provide faster, friendlier, and more efficient service to the USG’s customers including more than 253,000 students.”
• The USG web site says:
  The students of the University System of Georgia are our ultimate and most important customers. While the focus of USG CSI plans will be upon students, we must not forget we also serve businesses, government, communities, and individual citizens.
• Dr. Davis asked each USG institution to appoint a Customer Service Champion. KSU appointed Linda Lyons as its CS Champion. She will be responsible for developing a CSI plan which
  • Measures progress
  • Sets clear lines of accountability
  • Creates metrics which measure customer needs and Customer Satisfaction
  • Answers question “How well is the University System filling those needs?”
  • What works? What doesn’t?
Sample CSI Project Areas

- USG Projects
  - Application Process
  - Basic Customer Service
  - Bookstore
  - Dissemination of Data
  - Enrollment Services
  - Financial Aid
  - Residential Life
  - Staff & Faculty HR
  - Student Advisement

- Web Site: www.kennesaw.edu/customerservice
Guidance on CSI

• What should we be doing?
• How do we get started?
• Is there any examples of other educational organizations working on CSI-like initiatives?

Let’s see what’s available……
Goals of Malcolm Baldrige National Quality Award (MBNQA)

• “Delivery of ever-improving value to customers and stakeholders, contributing to organizational sustainability.”

• “Improvement of overall organizational effectiveness and capabilities.”

• **Fundamental Principle:** “Performance and quality are judged by an organization’s customers.”
Malcolm Baldrige National Quality Award

for Performance Excellence

• Award founded in 1987 and named after then Secretary of Commerce.
• Managed by National Institute of Standards and Technology (NIST) an agency of the U.S. Dept of Commerce.
• Purpose is to promote U.S. innovation and competitiveness.
• More than 40 states (GA Oglethorpe Award) and many countries have programs modeled after Baldrige.
• Award categories: manufacturing, service, small business, health care and education.
What is MBNQA Performance Excellence?

- Visionary Leadership
- Customer Driven Excellence
- Organizational and Personal Learning
- Valuing Employees and Partners
- Agility
- Focus of the Future
- Managing for Innovation
- Management by Fact
- Social responsibility
- Focus on Results and Creating Value
- Systems Perspective

ALL THE ABOVE INTEGRATED THROUGHOUT THE ORGANIZATION.
Ideas?????

• Some of the Goals of MBNQA are the same as CSI.
• MBNQA has “Education Criteria”
• MBNQA has award winners that have implemented the criteria and can serve as benchmarks.
• To address all MBNQA criteria the entire university business structure would need to be assessed.

• We will use MBNQA to generate some ideas on how to address CSI………………….
Baldrige (&Oglethorpe) Criteria
Mirror Some Georgia’s CSI Initiative Requirements

- Performance Improvement System –
  - P.2.c What is the overall approach you use to maintain an organizational focus on performance improvement of key processes?

Support Key Communities –
- 1.2.c How does your organization actively support and strengthen your key communities?

Student and Stakeholder Knowledge
- 3.1a(1) How do you determine or target the student segments and markets your educational programs will address?
- 3.1a(2) How do you listen and learn to determine students’ and stakeholders’ requirements?

Student and Stakeholder Relationships
- 3.2a(1) How do you build relationships to attract and retain students and stakeholders to enhance students’ performance and to meet and exceed expectations for learning?
  
  3.2a(2) What are the key access mechanisms for students and stakeholders to seek information, to pursue common purposes, and to make complaints?
  3.2a(3) What is your complaint management process?
• **Student and Stakeholder Satisfaction Determination**
  - 3.2b(1) How do you determine student and stakeholder satisfaction and dissatisfaction?
  - 3.2b(2) How do you follow up with students and key stakeholders on programs, services and offerings to receive prompt and actionable feedback?
  - 3.2b(3) How do you obtain and use information on the satisfaction of students and stakeholders relative to their satisfaction with your competitors… or academic benchmarks.

**Performance Measurement**
  4.1a(1) How do you select, collect, align and integrate data and information… for tracking overall organizational performance.
  4.1a(2) How do you select and ensure effective key comparative data and information from within and outside the academic community?
Learning Centered Processes
- 6.1a(1) How does your organization determine its learning-centered processes?
- 6.1a(2) How do you determine key learning-centered process requirements?
- 6.1a(3) How do you design processes to meet all key requirements?
- 6.1a(4) What are your key performance measures or indicators used for the control and improvement of your learning-centered processes?
- 6.1a(5) How do you improve your learning centered processes to maximize student success?
- 6.2a(1) How does your organization determine its key support processes?
- 6.2a(4) What are your key performance measures or indicators used for the control and improvement of your support processes? Etc.
• Student Learning Results
  – 7.1a(1) What are your current levels and trends in key measures or indicators of student learning and improvement in student learning?
  – 7.2a(1) What are your current levels and trends in key measures or indicators of students’ and stakeholders’ satisfaction and dissatisfaction?
Baldrige Education Winners

- Richland College (2005)
  - http://www.rlc.dcccd.edu/Baldrige_App.pdf
- Jenks Public Schools (2005)
- Chugach School District (2001)
- Pearl River School District (2001)
- University of Wisconsin—Stout (2001)
Common Themes in Baldrige (& GA Oglethorpe)

- Measure Performance Continuously
- Define and Focus on Key Measures
- Use Data to track Strategic Goal Status
- Process Focus of All Work
- Continuous Improvement of Processes
- Common Continuous Improvement Method in Organization (PDSA, Six Sigma)
- Competitive Benchmarking for key measures
Min Criteria for CSI from MBNQA

1. Flowchart Process to be improved.
2. Identify Customers, Stakeholders and Key Communities of the Process.
3. Define Key Process Requirements.
4. Define Complaint Management process.
5. Collect on-going Data on Customer and Stakeholder satisfaction.
6. Establish Comparative Benchmarks.
7. Use Common Performance Improvement System.
Key Elements of a Process

• Flowchart of work flow with Decision Points.
• Alternative work flow paths identified.
• Sources of Variation in processing Clear (e.g. multiple personnel, duplicate processes)
• Process Inputs and Suppliers specified.
• Outputs, Internal & External Customers Identified.
• Critical to Quality (CTQ) Process Requirements Located in Work Flow.
Process Flowchart Example

Figure 2.10: Process flow diagram for material purchase.
Six Sigma Addresses Performance Improvement

• In several notes in the criteria, MBNQA gives an example of using Six Sigma as a process improvement methodology.

• Six Sigma was started at Motorola, a 1988 MBNQA award winner. CEO Robert Gavin spoke widely on the value of Six Sigma to Motorola.
Six Sigma – DMAIC Improvement Process

- **Define** – Select a Project to Improve a performance measure.
- **Measure** – Define the process and CTQ variables. Sample Process and Customers.
- **Analyze** – Evaluate measures, find opportunities
- **Improve** – Experiment with solutions
- **Control** – monitor results, hold gains.
Define

- Identify Measure to be Improved (Y variable).
- Establish Team of Subject Experts
- Develop Process Flowchart that Influences Measure.
- Identify Benchmarks for Better Performance.
- Develop Problem Statement and Goal.
Measure

• Evaluate Measurement System: repeatability and accuracy
• Sample Appropriately to Establish Process Performance Baseline
• Establish Process Capability
Analyze

• Determine X variables that may influence Y using C&E Diagrams or FMEA’s.
• Use statistical summaries of data (X and Y) to look for patterns.
• Use statistical methods to find which X’s impact Y (e.g. regression).
Improve

- Identify “Experiments” where process parameters (X’s) are changed to improve Y.
- Find X’s that correlate with Y and then adjust X’s to improve Y.
- Error Proof Process to make output more consistent.
Control

• Use monitoring methods for critical X’s to ensure control of Y’s
• Error Proof process inputs.
• Establish in-process control system.
Come check out these Six Sigma Resources Available at the Center for University Learning:

- **Six Sigma For Dummies**
- **Sailing Through Six Sigma** (book and cd)
- **The Goal: A Process of Ongoing Improvement** (cd)

Visit the Resource Library in Room 176, KSU Center
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