Defining Key Measurables

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&
Bo Keyes, Business Development Manager Eagle Registrations Inc.
Who in the world is Omnex?

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Food Safety/GFSI, Aerospace and more
Product Development & Launch
Manufacturing Process Development
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Lean and Six Sigma
Enterprise Quality Software

Our global clients will tell you

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Chad Kymal

- Chad founded Omnex in 1985 and grew the company into one of the largest management system training, consulting and software firms with over 200 employees with offices and or consultants in 12 countries worldwide.
- Chad is a consultant and trainer with broad consulting experience in many areas including Management Systems (Quality, Environmental, Social, Health and Safety), Lean and Six Sigma, New Product Development and Risk Management. He has written numerous books on management systems and is also a recipient of the Quality Professional of the Year Award by the ASQ Automotive Division in 2005. In his role as Chief Technical Officer, Chad is instrumental in determining the strategic direction of the consulting and training organizations, as well as the product strategy for the software company - Omnex Systems.
- Under Chad's direction, Omnex has worked with some of the largest Fortune 500 companies including TRW, Ford, Pratt and Whitney and Magna, as well as semiconductor companies such as AMD, National Semiconductor, ST, Intersil, Philips Semiconductors and many more Fortune 500 companies.
Defining Key Measurables
Summary: Defining Key Measurables

• Key Measurables, Key Metrics, or KPIs all refer to the “vital few” measurables that measure the pulse of an organization
  – They are what the organization and top management focus on as “vital to the success of the organization”

• This presentation will discuss the following:
  – Methodology to drive “customer focused” measurables linked to the goals and objectives of the organization
  – Standards for running the business reviews, visual management, linking improvements and teams to the measurables, and linked measurables
  – Using these same Key measurables and business reviews to satisfy the management review responsibilities for QMS, EMS or OHSMS

• Omnex helped the Ford Motor Company develop the current methodology known as QOS and has conducted thousands of implementations worldwide in QOS / QOS Assessment as well as QMS, EMS and OHSMS
Key Measurables vs. Process Measurables
What are Measurables?

• Types of Measurables
  – Result Measurables
  – Process Measurables — Effectiveness and Efficiency

• Quantifiers
  – Track Measurable Performance
  – Provide a Unit of Measure
  – Plot in Trend Charts
Results Measurables Examples

- **Examples**
  - **Cost**
    - $ per Unit
  - **Quality**
    - PPM
    - $ Returns
  - **Delivery**
    - % On Time
    - % Late
Key Measurables

• Key Measurables
  – Performance Indicators
  – Continual Improvement Catalysts

Key Measurables are the focus of the top management business review.

They measure the pulse of the business. They align the entire organization.

They are Customer focused.
Finding Key Measurables – Two Methods

• Brainstorming Key Measurables

• Developing Customer Focused Key Measurables
Defining Customer Focused Key Measurables

- Based Upon Customer Expectations and Performance Benchmarks
- Provide Inward Focus
- Help Establish Policy
Developing Customer Focused Objectives

- Mission Statement
- Customer Expectations
- Competitive Benchmarks

Strategic Goals and Objectives

Result Measurable
- Key Process
  - Process Measurable
    - Improvement Action
    - Teams
    - Improvement Action
Key Measurables?

- Quality
- Delivery
- Cost
- Safety

These are guaranteed to be Key Measurables of the organization.

What about the others?
Alignment of Key Processes and Measurables

An Example

- Never shut down my plant
- 100% on-time to delivery schedule
- 100% of shipments received by customer on scheduled day
- % On-Time (on day required)

Key Processes:
- Maintenance
  - % Downtime
- Scheduling
  - % Schedule Accuracy
- Production
  - Production Rate
- Shipping
  - % Same Day Shipments

Customer Expectations
- % Downtime
- % Schedule Accuracy
- Production Rate
- % Same Day Shipments

Customer Requirements
- % On-Time (on day required)

Objective/Goal
- % Downtime
- % Schedule Accuracy
- Production Rate
- % Same Day Shipments

Result Measurable
Key Measurables Standards

- Four Panel Chart
- How many Key Measurables?
- What is the focus of the meeting?
Visual Management

Data presented visually in a “Four-Panel Chart”
## BOS Assessment

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Evaluation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Communication</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Employees at all levels are aware of the QOS process.</td>
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<tr>
<td></td>
<td></td>
<td>- Senior management has communicated clear expectations of the QOS process.</td>
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<tr>
<td></td>
<td></td>
<td>- On-going performance is communicated regularly.</td>
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<td></td>
<td></td>
<td>- The QOS methodology has been communicated to your supply base if applicable.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Teamwork</strong></td>
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<tr>
<td></td>
<td></td>
<td>- A champion is identified for each measurable and is actively involved with teams.</td>
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<tr>
<td></td>
<td></td>
<td>- Teams are allocated the resources necessary to function effectively.</td>
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<tr>
<td></td>
<td></td>
<td>- Cross-functional problem solving and quality improvement teams have been established to work on opportunities identified by the QOS process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Management Review</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Regularly scheduled reviews are held.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Evidence exists to support the QOS process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- On-going performance is tracked.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Status of action plans and problem solving activities are reviewed.</td>
</tr>
</tbody>
</table>
# BOS Assessment

<table>
<thead>
<tr>
<th>Yes</th>
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<tr>
<td></td>
<td></td>
<td><strong>Measurables</strong></td>
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<tr>
<td></td>
<td></td>
<td>- Internal and external customer expectations are identified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Selected measurables relate to key processes and predict internal and external customer satisfaction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Quantifying Tools</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Performance analysis over time used.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Performance targets identified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Problem prioritization used.</td>
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<tr>
<td></td>
<td></td>
<td>- Structured problem solving used.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Continual Improvement</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The QOS process provides examples of quantifiable improvements which are significant and sustainable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Improvement trends correlate to measurables of internal and external customer satisfaction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Dynamic Process</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Senior management champions the QOS process and ensures its on-going effectiveness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Periodic contact is made with internal and external customers to verify or update expectations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Periodic reviews of key processes and measurables are made to ensure their continued suitability and effectiveness.</td>
</tr>
</tbody>
</table>
Key Measurables Implementation Steps

Step 1: Organize Leadership Team
Step 2: Define Mission, Vision and Values
Step 3: Identify Customer Expectations and Result Measurables
Step 4: Establish Strategic Objectives
Step 5: Identify Key Processes and Measurables
Step 6: Formulate Data Management Plans
Step 7: Selecting Improvement Projects
Key Measurables and Management Reviews
Continual Improvement Focus

• Remain Focused
  – Performance Measures
  – Improvement Actions

• BOS Management Review Meetings
  – Assess Performance Measures
  – Assess Measures of Customer Satisfaction
  – Assess Effectiveness of Improvement Actions
  – Assess Management System

• Improvement Teams
  – Work on Improvements
  – Guided by Leadership Team
The BOS Management Review Process

- Establish Good Meeting Discipline
  - Calendar
  - Agendas
  - Action Plan

- Frequency
  - At Least Once per Month

- Length
  - Do not Problem Solve.

- Responsibilities
  - Chairperson
  - Champions
  - Recorder
Preparing for a BOS Management Review

- Prepare the Meeting Agenda
  - Prior Meeting Action Items
  - Measurable Reviews
  - Management System Reviews (Periodically)
  - Presentation of Lessons Learned
  - Update and Approve Action Plans

- Distribute the Agenda
A Sample Meeting Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am</td>
<td>Prior Meeting Action Plan</td>
<td>Bob Smith</td>
</tr>
<tr>
<td>9:10 am</td>
<td>Product Cost</td>
<td>Frank Hartwick</td>
</tr>
<tr>
<td>9:20 am</td>
<td>Productivity</td>
<td>Dick White</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Manufacturing Scrap</td>
<td>Jan Lewis</td>
</tr>
<tr>
<td>9:45 am</td>
<td>Steel Cost*</td>
<td>Sam Watson</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Overhead Cost</td>
<td>Mary Adams</td>
</tr>
<tr>
<td>10:05 am</td>
<td>External Quality</td>
<td>Larry Williams</td>
</tr>
<tr>
<td>10:10 am</td>
<td>Process Capability</td>
<td>Jan Lewis</td>
</tr>
<tr>
<td>10:20 am</td>
<td>Training</td>
<td>Joe Goebel</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Delivery*</td>
<td>Mary Adams</td>
</tr>
<tr>
<td>10:45 am</td>
<td>Walk-ins</td>
<td>Bob Smith</td>
</tr>
<tr>
<td>10:50 am</td>
<td>Setup next meeting</td>
<td>Bob Smith</td>
</tr>
<tr>
<td>10:55 am</td>
<td>Adjourn</td>
<td></td>
</tr>
</tbody>
</table>

Upon completion: Keep this form with team documentation as required by Procedure Number P-GEN-06.

Approved by: Alice (QA Manager)  Revised: 1 Nov 95
Conducting the Meeting

- Review Prior Meeting Action Items
- Present Measurables
  - Monitor Progress
  - Authorize Improvement Actions
  - Allocate Resources
  - Remove Roadblocks
  - Log Lessons Learned
- Periodically Review Management System
- Review and Approve Action Plans
- Update BOS Documentation
- Capture Lessons Learned
# A Sample Action Plan

<table>
<thead>
<tr>
<th>Date</th>
<th>Due</th>
<th>Item</th>
<th>Responsible Person(s)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Meet with steel suppliers and develop plan to reduce wastes at the suppliers’ facilities.</td>
<td>Sam Watson</td>
<td>Meetings are scheduled.</td>
</tr>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Correlate product Cpk with external results.</td>
<td>Jan Lewis</td>
<td>Done</td>
</tr>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Develop survey instrument to assess shop floor training needs.</td>
<td>Joe Goebel</td>
<td>In progress</td>
</tr>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Arrange off-site QOS training for shop floor.</td>
<td>Bob Smith</td>
<td>Schedule is almost done.</td>
</tr>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Investigate accuracy of scrap reporting figures.</td>
<td>Mary Adams</td>
<td>Study is underway.</td>
</tr>
<tr>
<td>Jul-01</td>
<td>Oct-01</td>
<td>Check to see if alloys are included in price break study.</td>
<td>Sam Watson</td>
<td>Waiting to hear from suppliers.</td>
</tr>
</tbody>
</table>
A Sample Measurable Presentation

![Graph showing the number of failures and the percent of failures by category over time.](image)
A Sample Measurable Presentation

- **Number of BOS Initiated**:
  - May-10: 2
  - Jun-10: 3
  - Jul-10: 4
  - Aug-10: 3
  - Sep-10: 2
  - Oct-10: 1
  - Nov-10: 1
  - Dec-10: 0
  - Jan-11: 0

- **Unreliable Goals**:
  - Employment History: 25%
  - Background: 5%
  - Substance Abuse: 10%
ISO 9001 Management Review Requirements

• The input to management review shall include information on:
  – Results of audits
  – Customer feedback
  – Process performance and product conformity
  – Status of preventive and corrective actions
  – Follow-up actions from previous management reviews
  – Changes that could affect the quality management system
  – Recommendations for improvement

ISO 9001:2008, clause 5.6.2
Why Integrate ISO 9001 Management Review and Business Reviews?

• For whom are we doing the review?

• Should the review be conducted yearly? Why or Why Not?

• Should the ISO 9001 review be improvement-oriented?

• Are the ISO 9001 Management Review Outputs aligned to Business Review Outputs?
ISO 9001 Management Review

- Top management shall review the organization’s quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.
- Records from management reviews shall be maintained.
- The output from the management review shall include any decisions and actions related to:
  - Improvement of the effectiveness of the quality management system and its processes
  - Improvement of product related to customer requirements
  - Resource needs

ISO 9001:2008, clause 5.6.1
ISO 9001:2008, clause 5.6.3
Setting Objectives, Result Measurables, and Process Measurables

- Set Policy for QMS, EMS and OHSAS including mission and vision of the organization
- Set Objectives (Q, C, D, E, H&S)
- Identify Result Measurables
- Implement Processes
- Choose Process Measurables
- Conduct Internal Audits of Processes and Systems
- Conduct Improvement Actions and Corrective and Preventive Action
Integrating QMS, EMS, and OHSAS – Policies and Objectives

Integrate quality, environmental and Health and Safety objectives – use one process for implementing the objectives and the plan for meeting objectives
Summary

• Definition of Result, Process, and Key Measurables
• Difference between Measurables and Quantifiers
• Customer Focused Key Measurables
• Standards focused on Key Measurables
• Alignment of Customer Expectations, Objectives, Result Measurables, Key Processes and Process Measurables
• Alignment of Business and Management Review
• Integrating Business Reviews, Quality, Environmental, and Health and Safety Policies, Objectives, and Reviews
Omnex QOS/BOS Training

Thank You!

Questions?

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