

Getting Value from ISO 9001:2000: Lessons Learned for Software Organizations

Presented by:
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Agenda

- Introduction and Objectives
- The "Lesson Learning" Process
- QMS Implementation Lessons Learned
- Software Process and Project Lessons Learned
- Common Reasons for QMS Implementation Failure
- Your Feedback

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Preferred Option #2

- Learn from *your* failures
- Apply learning from best practice models and your successes
- Capture "lessons learned", take preventive actions, achieve success

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Preferred Option #1

- Learn from the failures of others
- Use best practice models
- Prevent mistakes

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Objectives of Presentation

- To share critical success factors and lessons learned with respect to implementing an ISO 9001:2000 management system
- To identify software process and project best practices and lessons learned

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Speaker Overview

- Software Project Manager
- Quality Manager
- Test Lab Manager
- Quality System Consultant
- Software Lead Auditor
- ASQ Certified
- ASQ Software Division Councilor
- Feigenbaum Medalist

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Using ISO 9001:2000 as a Tool

- The standard is a common sense framework for managing processes
- Focuses on consistency, reliability and continual improvement
- The standard does not prescribe how to operate
- Lessons learned apply equally to implementing:
 - a management system,
 - a development life cycle,
 - a QA function
 - large organizational change initiatives

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The "Lesson Learning" Process

- Success criteria not achieved
- Opportunity for improvement identified
- Lesson can be applied to other processes or projects
- Lesson applied
- The key is to never have to learn the same lesson twice!

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Lesson #1: Ensure Visible Management Commitment

- Build strong business case
- Ensure Champion has power and commitment
- Measure "before" and "after" to demonstrate ROI
- Show success early
- Ensure management commitment is visible

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Lesson #2: Manage the QMS Implementation as a Project

- Create a sense of urgency
- Establish scope, goals and deadlines
- Assign resources and a budget
- Clearly communicate responsibilities
- Track progress closely
- Keep projects short

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Lesson #3: Involve and Delegate

- Avoid "Ivory Tower" approach
- No empire building
- Delegate process ownership to subject matter experts
- It's not an "ISO system", it's your business
- Provide opportunities for all to review drafts
- Set deadlines for feedback
- Involve skeptics; encourage alternative solutions

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Lesson #4: Re-use Where Possible

- Integrate QMS with existing processes
- Don't reinvent – reuse
- Buy off-the-shelf tools versus building them
- Use process standards and best practice models
- Keep things simple

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Lesson #5: Create User-friendly Documentation

- Accessible
- Accurate
- Lean
- Written for user
- Keep it simple and at a higher level

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Lesson #6: Proactively Manage Documents and Records

- Establish a robust record keeping system early
- Use LAN/Intranet document controls
- Identify important records (e.g., requirements, SRED, release approvals, bug reporting)
- Include simple archival process

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Lesson #7: Avoid the Big Bang Approach

- Stagger implementation
- Emphasize training and feedback loop
- Ensure processes implemented early have a high probability of success
- Blitz approach (e.g., 2 days locked in a room) works better than part-time (e.g., half-day per week)

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Lesson #8: Measure

- Track key indicators such as quality and customer satisfaction
- Keep measures simple
- Focus on dashboard, not everything
- Demonstrate ROI
- Report to staff

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Lesson #9: Provide Training

- Train senior and middle management on the standard and organization's QMS
- Reinforce training to staff
- Verify the effectiveness of training
- Use multiple training vehicles
- Encourage certifications and training paths

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Lesson #10: Reinforce the Benefits of the QMS

- Sell, sell and re-sell QMS to staff and management
- Use empirical evidence versus unsupported hype
- Use internal metrics when available

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Lesson #11: Maintain a Process Improvement Focus

- Solicit suggestions for process improvement from staff
 - Internal audits
 - Project post mortems
 - Defect analysis
- Prioritize process improvement on problem areas - people will welcome your efforts if you are fixing their problems
- The process improvement initiatives should be managed like projects

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Lesson #12: Focus on Key Drivers

- QMS should be designed, implemented and managed toward improved bottom-line results
 - Efficiency
 - Effectiveness
 - Customer satisfaction
- Manage process performance like financial performance
- "Avoid the weeds"
- Have a direction to process improvement

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Lesson #13: Recognize Project and Process Successes and Failures

- Reward successes
- Don't shoot the messenger
- Analyze failures to determine root causes of poor outcome
- Don't repeat mistakes
- Don't let a doomed project run on ... or die a quiet death

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Recent Software Project and Process Lessons Learned

- The following examples were captured through QMS processes such as internal audits, project post mortems and employee feedback:
 - Define customer responsibilities in contract (if possible)
 - Don't commit to projects before detailed scoping and planning is complete
 - Establish a formal escalation process for project problems
 - Get client "sign off" of requirements

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Recent Lessons Learned (con't)

- No project passes the Planning Gate without detailed project plans, high level designs, secured resources and addressable requirements
- Accountability must be singular
- Involve testers in design reviews
- Involve a senior technical architect in design reviews
- Schedule and allocate time/resources for code reviews

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Recent Lessons Learned (con't)

- Establish a naming convention for project deliverables, documents and records (including important email)
- Review project status at least bi-weekly

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Common Reasons for QMS Implementation Failure

- Weak management commitment
- Lack of motivation
- Lack of leadership
- No strategy for change
- Scope too broad
- Lack of time to devote to initiative
- A short-term, quick fix approach
- Missing customer and bottom-line focus
- Political and turf issues
- Poor internal communication
- Too many decision makers; no decisions

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Questions? Feedback?

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Presentation Title: Getting value from ISO 9001:2000: Lessons Learned for Software Organizations

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Presentation Abstract:

Any successful product faces these challenges - demand for new features, need for higher velocity, expansion of the original product into the "product family". The "first casualty of success" is often your software architecture. Do we accept that this is "just the way it has to be"? No!

Speaker's Biography:

Chris Fitzgibbon has conducted considerable research on the value of investing in quality management through Carleton University where he acquired a Masters degree and a Bachelor of Commerce (Honours) degree. Chris FitzGibbon has considerable experience helping organizations improve their efficiency, effectiveness and customer satisfaction using Orion Canada's proven approach to quality assessment and improvement. He has designed and taught courses on topics such as: Auditing, Value-added Internal Audits, and Managing an ISO 9000 Quality System. He has also designed, implemented and managed quality systems for several high tech organizations. Chris serves as a software process expert for ISO 9000 audits on behalf of a major accredited registrar. Chris is the co-author of the book ISO 9001 Registration for Small and Medium Sized Software Enterprises (McGill-Queens Press, 1995) and the research article ISO 9001: Lessons Learned by Canadian Software Developers (1996).