Innovation 2.0

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Objectives

1. Learn key findings from the **Global State of Quality** Research.

2. Understand the importance of **behavioral economics** in decision making and identifying opportunities.

3. Identify key success factors for **co-creating innovation** with employees, customers, and partners.
Key findings from the Global State of Quality Research.
Research Overview

- 22 Countries
- 1,991 organizations
- 2 Industry Groups:
  - Manufacturing
  - Services
- 5 Revenue Groups:
  - < $100M
  - $100M to $1B
  - $1B to $5B
  - $5B to $10B
  - > $10B
- Industry Highlights

ASQ
Key Themes

1. Quality Governance and Management
2. Outcomes and Measures
3. Competencies and Training
4. Culture
Quality is...

- Risk mitigation activity: 4%
- Tool to fix issues after being discovered: 10%
- Compliance activity: 22%
- Method to manage organization-wide performance: 24%
- Continuous improvement activity: 37%

31% for services vs. 19% for manufacturing

Service organizations are 1.6 times more likely than manufacturing organizations to view quality as a strategic asset and competitive differentiator.

Percentage of the Smallest Organizations That Reported Quality Is Mainly a Compliance Activity

15% vs. 33% for the Largest Organizations
Quality Metrics

Use and standardization of measures of quality

<table>
<thead>
<tr>
<th>Measure</th>
<th>Percent Use</th>
<th>Percent Standardized</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defects per Million</td>
<td>39.3%</td>
<td>62.0%</td>
<td></td>
</tr>
<tr>
<td>First Pass Yield</td>
<td>41.7%</td>
<td>67.8%</td>
<td></td>
</tr>
<tr>
<td>Percent on-Time Delivery</td>
<td>57.7%</td>
<td>79.3%</td>
<td></td>
</tr>
<tr>
<td>Measures of Safety</td>
<td>65.5%</td>
<td>80.9%</td>
<td></td>
</tr>
<tr>
<td>Internal Failures</td>
<td>51.9%</td>
<td>82.8%</td>
<td></td>
</tr>
<tr>
<td>Percent Compliant</td>
<td>66.7%</td>
<td>90.5%</td>
<td></td>
</tr>
<tr>
<td>Employee Satisfaction</td>
<td>66.4%</td>
<td>92.6%</td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>81.8%</td>
<td>97.1%</td>
<td></td>
</tr>
</tbody>
</table>

Manufacturing: 82% vs. 88%

Services: 38% vs. 43%
### Quality Training

Does your organization provide training (either through direct training or compensate for external training) to staff working on quality-related activities?

<table>
<thead>
<tr>
<th>Training Method</th>
<th>&lt; $100M (n=871)</th>
<th>$100M to $1B (n=423)</th>
<th>$1B to $5B (n=309)</th>
<th>$5B to $10B (n=169)</th>
<th>&gt; $10B (n=219)</th>
<th>All Respondents (n=1,991)</th>
<th>Manufacturing (n=1,094)</th>
<th>Services (n=897)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Management</td>
<td>76%</td>
<td>76%</td>
<td>55%</td>
<td>49%</td>
<td>62%</td>
<td>69%</td>
<td>69%</td>
<td>68%</td>
</tr>
<tr>
<td>ISO</td>
<td>66%</td>
<td>59%</td>
<td>55%</td>
<td>38%</td>
<td>63%</td>
<td>60%</td>
<td>71%</td>
<td>47%</td>
</tr>
<tr>
<td>Auditing</td>
<td>68%</td>
<td>72%</td>
<td>74%</td>
<td>53%</td>
<td>81%</td>
<td>70%</td>
<td>82%</td>
<td>55%</td>
</tr>
<tr>
<td>Lean</td>
<td>23%</td>
<td>39%</td>
<td>49%</td>
<td>54%</td>
<td>69%</td>
<td>38%</td>
<td>48%</td>
<td>26%</td>
</tr>
<tr>
<td>Six Sigma</td>
<td>16%</td>
<td>27%</td>
<td>47%</td>
<td>36%</td>
<td>63%</td>
<td>30%</td>
<td>39%</td>
<td>19%</td>
</tr>
<tr>
<td>No Training Provided</td>
<td>6%</td>
<td>3%</td>
<td>2%</td>
<td>5%</td>
<td>0%</td>
<td>4%</td>
<td>2%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Theme 3 | Competencies and Training
Incentives used to encourage employees to meet critical quality targets.

We communicate with customers regarding our efforts to address their needs and complaints.
Next Steps

Analysis, Trends, and Opportunities

July 2013

Insights and Continuing Conversations

November 2013

Discoveries 2013

May 2013
The importance of behavioral economics in decision making and identifying opportunities.
Emotions Drive Behavior

30% RATIONAL
- On-time Delivery
- Packaging
- Timeliness
- Cost
- Efficiency
- Product Quality
- Facility Layout
- Safety
- Durability
- Convenience
- Retention

70% EMOTIONAL
- Empathy
- Hope
- Trust
- Harmony
- Loneliness
- Inclusiveness
- Cynicism
- Friendship
- Curiosity
- Boredom
- Joy
- Pride
- Impulsiveness
- Skepticism

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Four Types of Customers

- **Fully Engaged**: Strongly attached and loyal. Your most valuable customers.
- **Engaged**: Beginnings of emotional attachment but not strong.
- **Not Engaged**: Emotionally and attitudinally neutral.
- **Actively Disengaged**: Active emotional detachment and antagonism.
Top Factors for Innovation

Quantitative Study Comprised of 1,486 ASQ Senior and Fellow Responses.

1. **Culture** (employee attitudes & participation)

2. **Senior Leadership Support** (advocacy for risk/long-term results)

3. **Capabilities** (workforce talent, training, & experience)

4. **Process** (effective methods & tools)

5. **Strategy** (alignment to profitable growth & business goals)
Four Types of Employees

**Engaged**
- 29%
- Loyal and psychologically committed. More productive, higher retention.

**Not Engaged**
- 52%
- Productive, but not psychologically connected to their company. Miss more workdays, more likely to leave.

**Actively Disengaged**
- 19%
- Physically present, but psychologically absent. Unhappy and insist on sharing this unhappiness with others.
Key success factors for co-creating innovation with employees, customers, and partners.
2011 Future Study Themes

1. Global Responsibility
2. Consumer Awareness (new)
3. Globalization
4. The Increasing Rate of Change (new)
5. The Workforce of the Future (new)
6. An Aging Population
7. 21st Century Quality
8. Innovation (new)
Results Define Innovation
**Key Success Factors**

<table>
<thead>
<tr>
<th>Vision</th>
<th>Consider the broader framing beyond the obvious project goal.</th>
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</thead>
<tbody>
<tr>
<td>Insights</td>
<td>Understand the customers unspoken requirements.</td>
</tr>
<tr>
<td>Test</td>
<td>Allow for evolving design changes &amp; evaluate under complex conditions.</td>
</tr>
<tr>
<td>Alternatives</td>
<td>Identify solutions that are scalable in collaboration with key stakeholders.</td>
</tr>
<tr>
<td>Learning</td>
<td>Incorporate feedback loops and iterative learning cycles in the design process.</td>
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Timmerman, 2010
Structured design processes have evolved because….

“The significant problems we have cannot be solved at the same level of thinking with which we created them.”

Albert Einstein
## Big “I” Innovation

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### Service Innovation Framework

#### Design Process

<table>
<thead>
<tr>
<th>1. Phases</th>
<th>Design Requirements</th>
<th>Design Specifications</th>
<th>Design Concept</th>
<th>Design Validation</th>
<th>Design for Culture</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>2. Processes</th>
<th>Design for Six Sigma</th>
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<tbody>
<tr>
<td></td>
<td>Quality Function Deployment</td>
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<table>
<thead>
<tr>
<th>3. Analytical Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>▫ Characterization ▫ Design of Experiments</td>
</tr>
<tr>
<td>▫ Failure Mode &amp; Effects Analysis ▫ Relationship Diagrams ▫ TRIZ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Ideation Methods</th>
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</thead>
<tbody>
<tr>
<td>▫ Brainstorming/Brainwriting ▫ Divergent/Tangent Thinking</td>
</tr>
<tr>
<td>▫ Employee Ideas ▫ Research &amp; Development ▫ Voice of the Customer</td>
</tr>
</tbody>
</table>

#### Critical Success Factors

<table>
<thead>
<tr>
<th>5. Business Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>▫ Culture ▫ Collaboration ▫ Senior Leadership</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Human Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>▫ Strategy ▫ Investment ▫ Metrics</td>
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</tbody>
</table>

| ▫ Capabilities ▫ Capacity ▫ Motivation |

<table>
<thead>
<tr>
<th>7. Environment</th>
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</thead>
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Timmerman, 2010
Big “I” Application

Timmerman, 2012
THANK YOU!

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