

# Future of quality and quality of future

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**What should we focus our research  
recourses on to support future quality  
development?**

**What will be of importance for  
organizations in the future?**

# What is quality?

**Quality is about meeting needs and expectations among customers...**

**Quality is about creating value to external and internal customers...**

# What is quality management?

**Quality management is a way to develop an organizations ability to create customer value and meet customer needs and expectations with use of as little resources as possible**



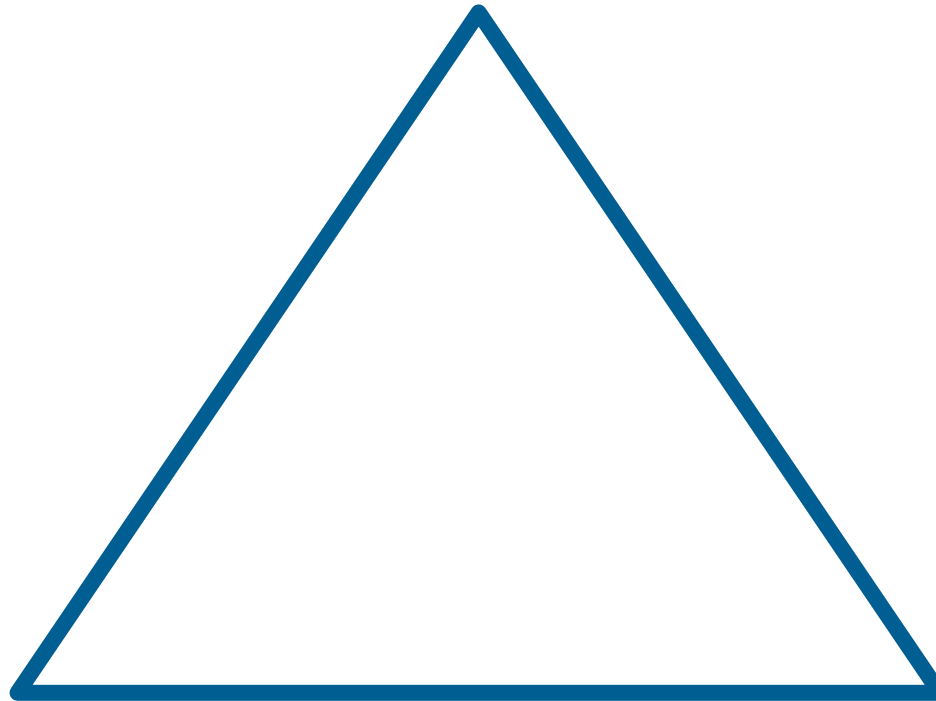
**Satisfied  
customers**



**Effective  
processes**

# What is quality management?

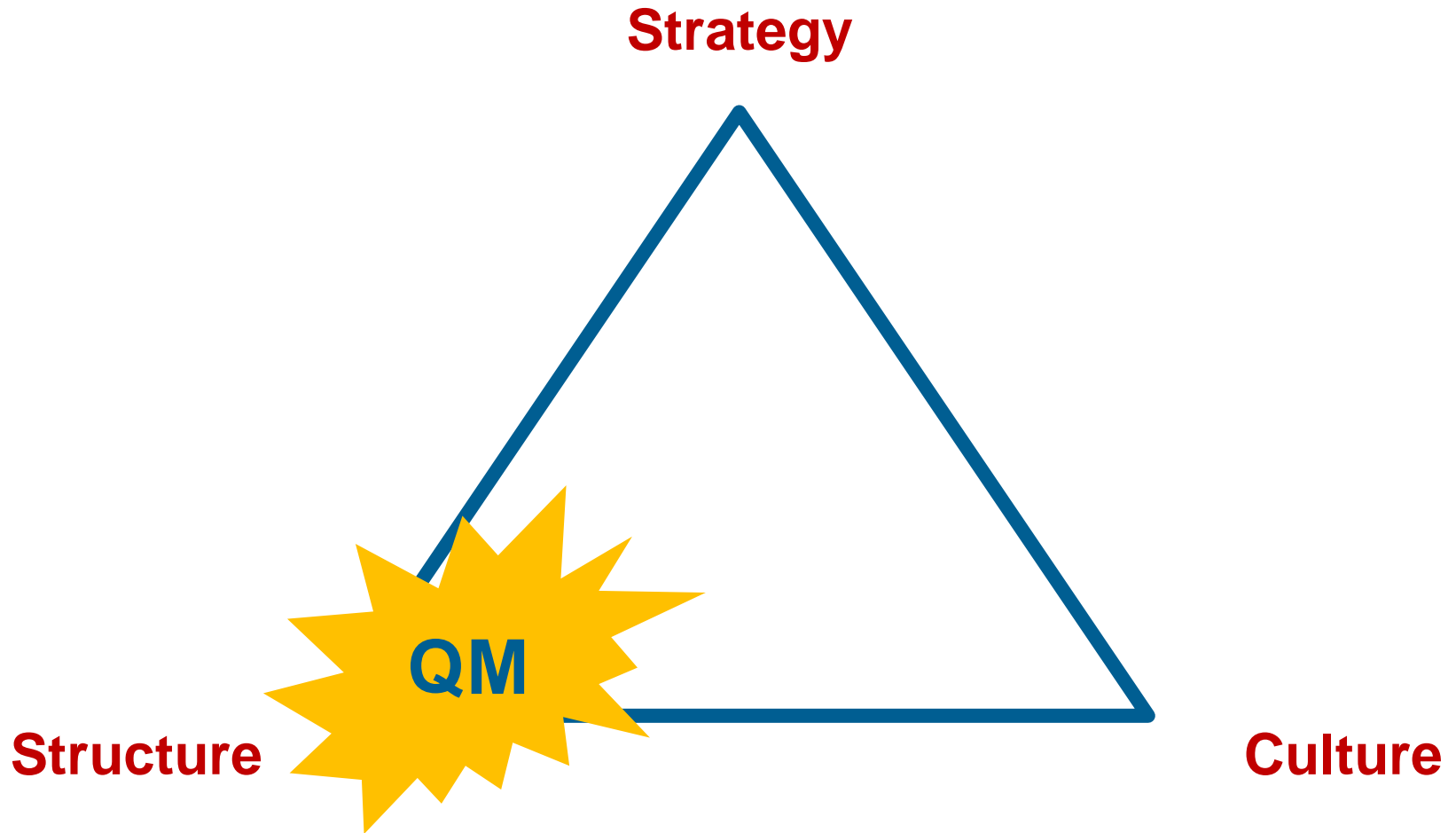
**Strategy**



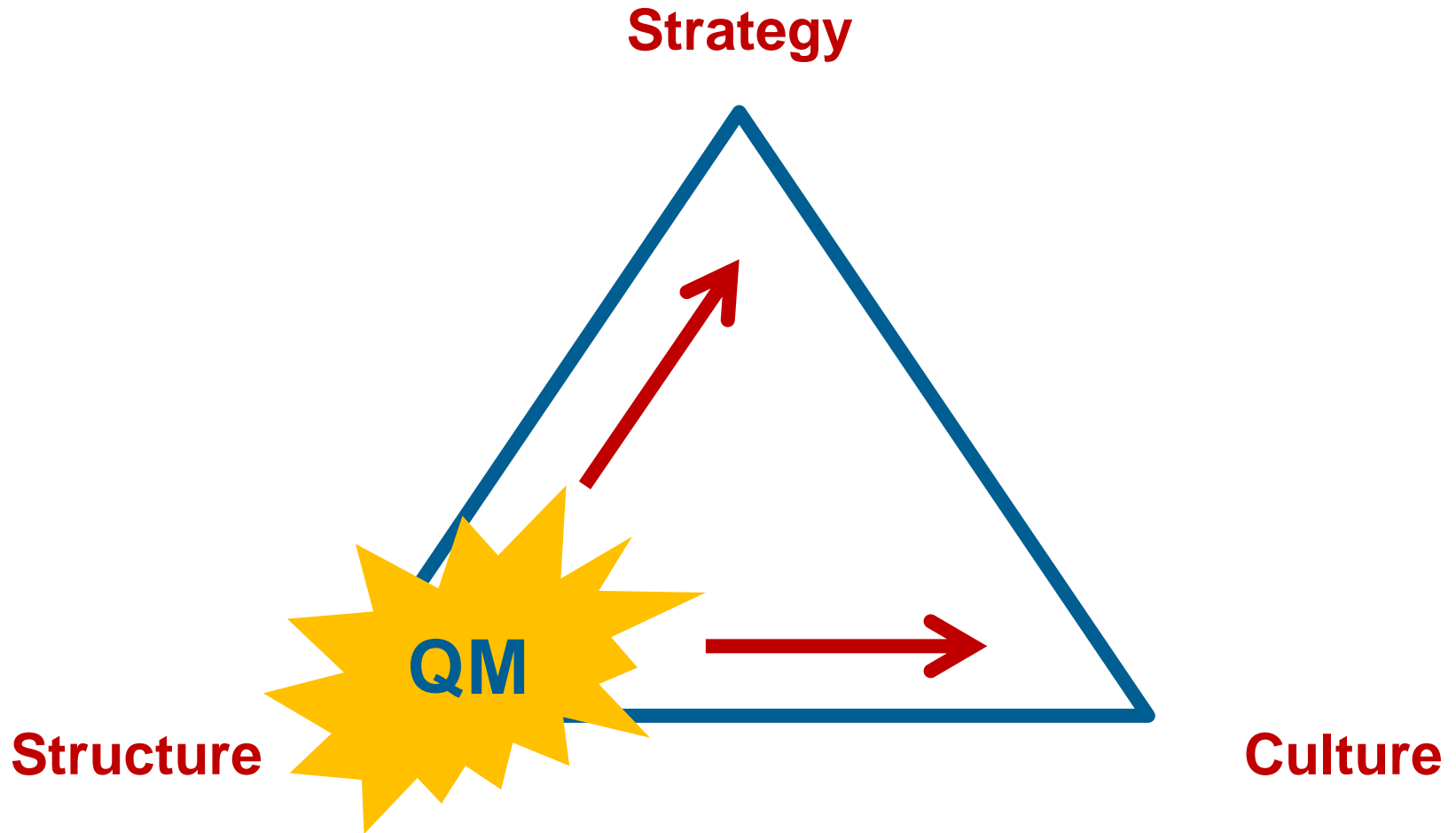
**Structure**

**Culture**

# What is quality management?



# What is quality management?



# Holistic approach

**Strategy**

**QM**

**Structure**

**Culture**



# Part 1: Quality of future

# Major factors effecting quality of the future

- Sustainability and climate change
- Population changes and immigration
- Short time financial focus
- Automation and digitalization
- Global competition situation
- Customer power
- European union situation



**1** NO POVERTY



**2** ZERO HUNGER



**3** GOOD HEALTH AND WELL-BEING



**4** QUALITY EDUCATION



**5** GENDER EQUALITY




**6** CLEAN WATER AND SANITATION



**7** AFFORDABLE AND CLEAN ENERGY



**8** DECENT WORK AND ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**10** REDUCED INEQUALITIES




**11** SUSTAINABLE CITIES AND COMMUNITIES



**THE GLOBAL GOALS**  
For Sustainable Development

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**13** CLIMATE ACTION



**14** LIFE BELOW WATER



**15** LIFE ON LAND



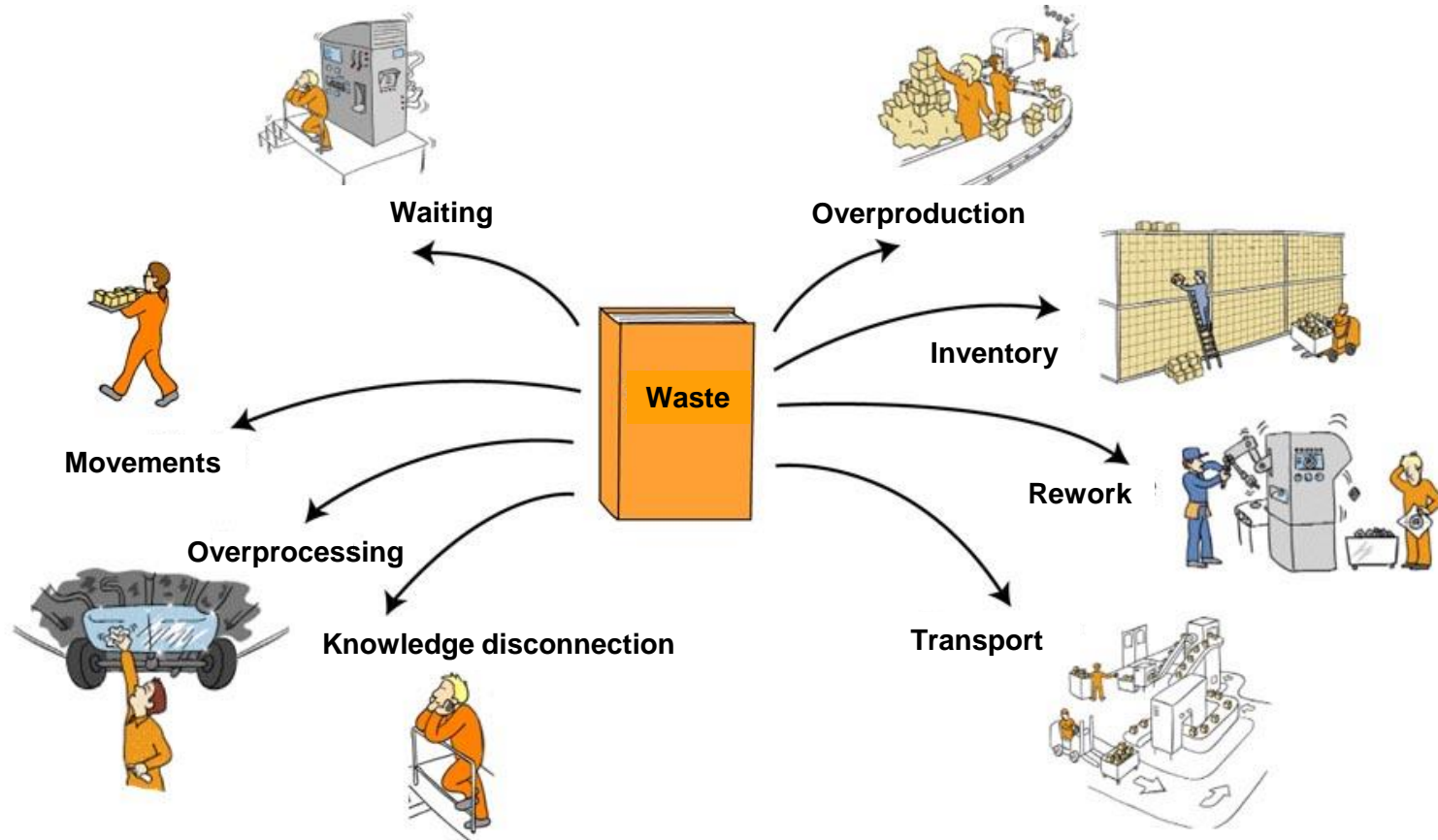
**16** PEACE AND JUSTICE STRONG INSTITUTIONS



**17** PARTNERSHIPS FOR THE GOALS

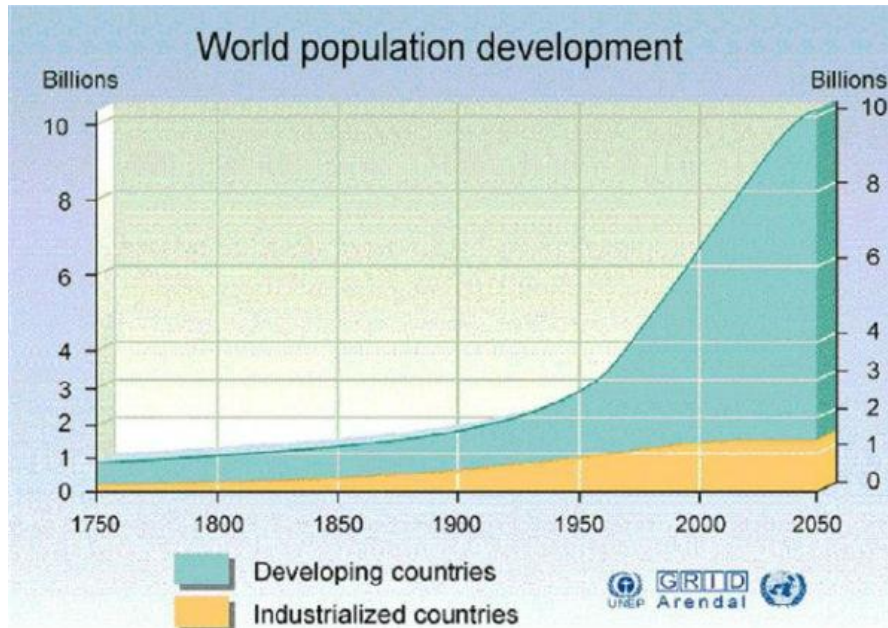


# Non-value adding activities waste a lot of resources



Source: Lean

# Population changes and immigration



**Daily Mail**  
 FROM AUGUST 28, 2012 www.dailymail.co.uk 60p

**FREE INSIDE TOMORROW**  
**GREAT BRITISH BAKE OFF** **SUPERB 16-PAGE RECIPE GLOSSY**

**As numbers break all records ...**

## MIGRANTS: HOW MANY MORE CAN WE TAKE?

**Comment:** Jamie Oliver's war on junk food ads in TV talent shows

By Steve Donoghue, Ian Drury and John Stevens  
 THE true scale of the immigration crisis was laid bare last night as shocking figures revealed net migration had surged ...

COMMENT  
 In David Cameron's 'ambition' to curb immigration levels but not to be walled around ...

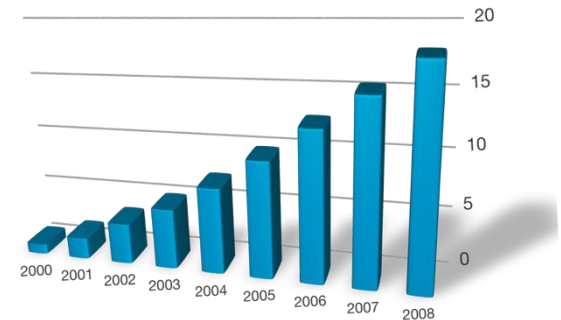
SEE PAGE 16  
 Cameron after his ...

But outside illegal immigrants in the UK, estimated at 1 million, the decreasing numbers have ...

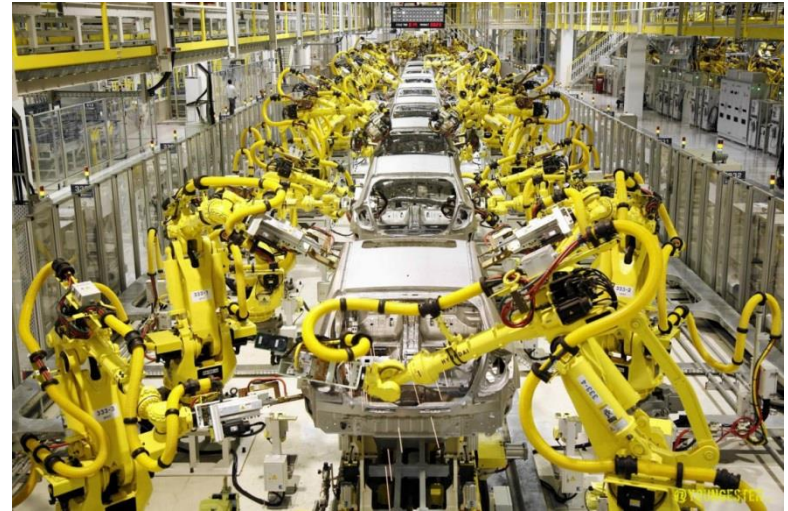


# Short time financial focus

- From long time owners to day traders
- Focus on stock value instead of customer value
- Lack of owner responsibility and competence
- Global financial market



# Automation



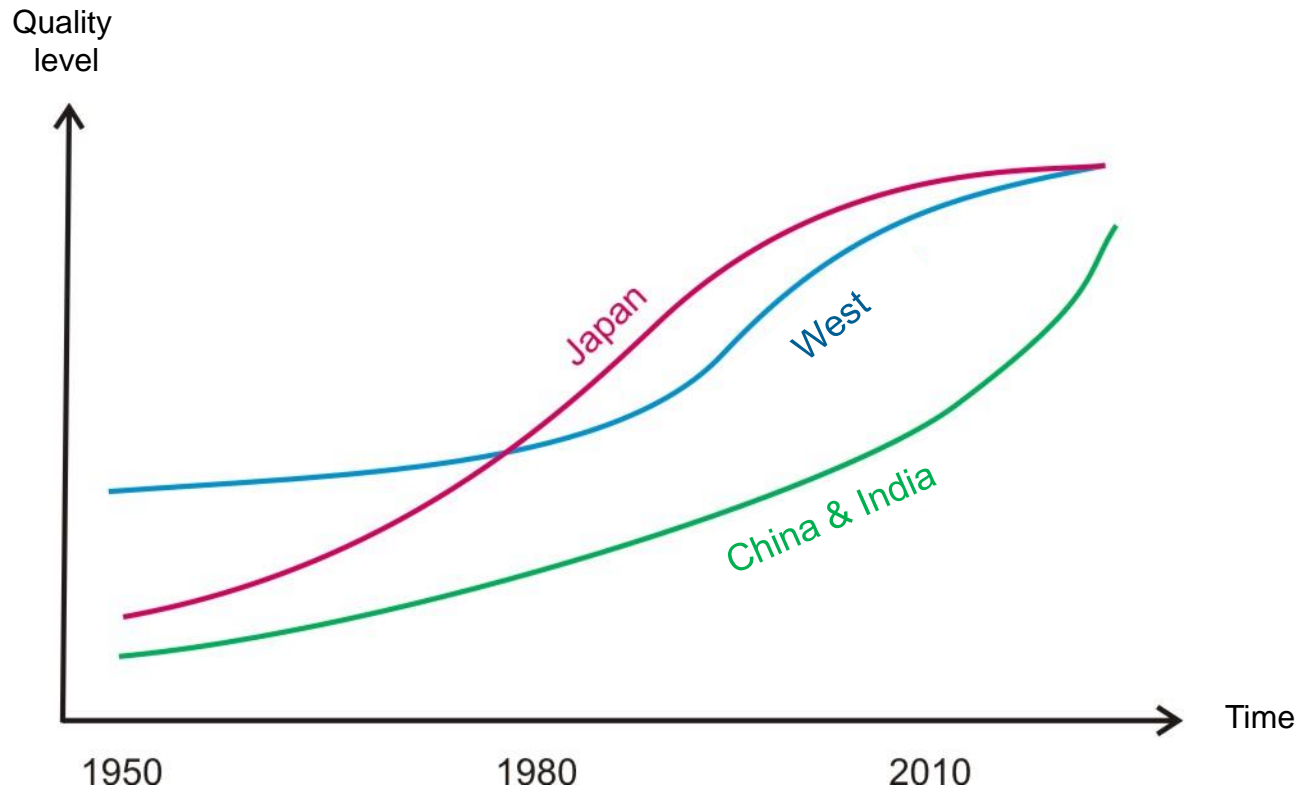
**...but what about our jobs?**

# Automation





# Global competition in quality



# Customer power

- **From the sellers market to the customers market**
- **Customer to customer marketing**
- **Changes in regulations and laws**
- **Product responsibility**
- **Digitalization**



# European union situation



# Part 2: Future of quality

# What do we do today?



## Advisory Panel

**Steven Bailey** *Principal Consultant and Master Black Belt, DuPont (retired)*

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**Andrew Baines** *Managing Director, ASQ Global*

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**Beth Cudney** *Associate Professor, Missouri University of Science and Technology*

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**Randi Dunn** *Director-QA, Illumina*

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**Gideon Roth** *Chairman, International Affairs Committee, Israeli Society for Quality*

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**Roberto M. Saco** *Principal, Aporia Advisors; Adjunct Professor, Miami Dade College*

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**Paulo Sampaio** *Professor of Quality Engineering and Management, University of Minho*

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**Lars Sörqvist** *Vice President, International Academy for Quality (IAQ)*

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**Tiia Tammaru** *Chairman of the Board, Estonian Association for Quality*



## Key Findings

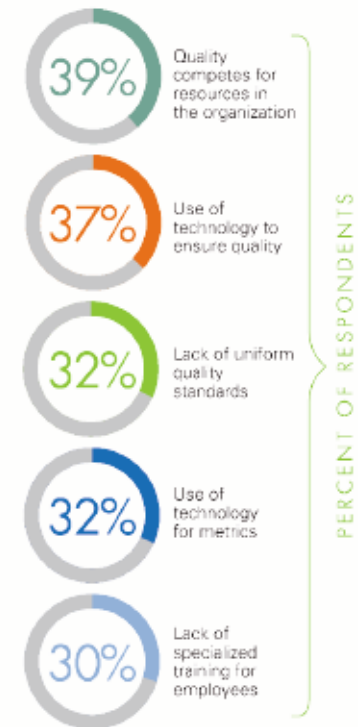
During the analysis of the data, key themes and findings emerged for the Discoveries 2016 study. The structure of the Discoveries 2016 report is organized into five sections. Three of the themes for this year's report are new, and two themes (Customer and Culture) have been expanded upon from the Discoveries 2013 Report.

### The themes are:

- 1 **Quality: Strategic Asset, Competitive Differentiator**
  - Shift toward centralized governance
  - Increased frequency of quality metric reporting
- 2 **Business Performance Impact**
  - Quality has a direct impact on business performance
  - Measurement and visibility of financial impact is limited
- 3 **Accelerating "Customer"**
  - Concept of customer as the only one that can define quality is shifting
  - Customers are still the primary influence on quality programs and business objectives
- 4 **Setbacks: Controlled or Not**
  - Managing setbacks\* continues to be an issue for quality departments
  - Many organizations lack measurement and visibility of setback's financial costs
- 5 **Knowledge, Learning, and Culture**
  - Knowledge retention and training vary widely globally, as does perceived impact
  - Types of training provided to employees is similar across industries

\* For the purposes of this report, a setback is defined as a quality-related problem (e.g. product defects, service delays, recalls, etc.) resulting in a consequence(s) that impedes organizational success.

### Top FIVE Quality Challenges



## 10 Steps to World-Class Quality, 2016–2020

- 1 Consider if and how your quality organization and senior executive management understand and leverage quality and continuous improvement throughout the enterprise, as a competitive differentiator and as a strategic asset.
- 2 Assess your organization's culture of quality to identify strengths and opportunities (see [www.asq.org/culture-of-quality/assessment/](http://www.asq.org/culture-of-quality/assessment/)).
- 3 Gauge and communicate expenses reduced and avoided through quality tools, as well as revenue growth and customer loyalty gained.
- 4 Inventory the quality and continuous improvement measures your organization uses and the reporting frequency and degree of visibility or transparency for those measures. Then, enact steps to improve and accelerate the decision-making process based on critical metrics.
- 5 Review the incentives your organization provides to drive quality performance. Improve and align incentives and rewards to recognize positive results, behaviors, and overall performance from the senior ranks to those closest to your customers and suppliers.
- 6 Create plans and programs and leverage technology to assure knowledge is transferred and built upon so that wisdom and experience is shared, locally and globally.
- 7 Review the types of quality-related training your organization needs and any new competencies needed; assess gaps and opportunities to develop new skills and analytics; and tie these investments to the overall business operations and strategy.
- 8 Perform a thorough review to assess the intersection between the customer and quality. Customer, (such as customer feedback is shared with the customer, metrics on performance against customer needs is shared internally, etc.) and identify gaps and opportunities.
- 9 Assess the quality processes and management systems between your organization and those throughout the supply chain and sourcing; prioritize gaps and opportunities; and develop a joint strategy to improve performance, short- and long-term.
- 10 Consider how world-class you are in reality and where you could better connect quality and continuous improvement plans, programs, and priorities—both today and tomorrow—to your:
  - business focus and strategy,
  - key measures,
  - talent management and training,
  - industry and management understanding, use, and compliance with standards, and
  - technology, automation, and big data.



**Predict the future by  
understanding history...**

# Trendy methods or maturity?

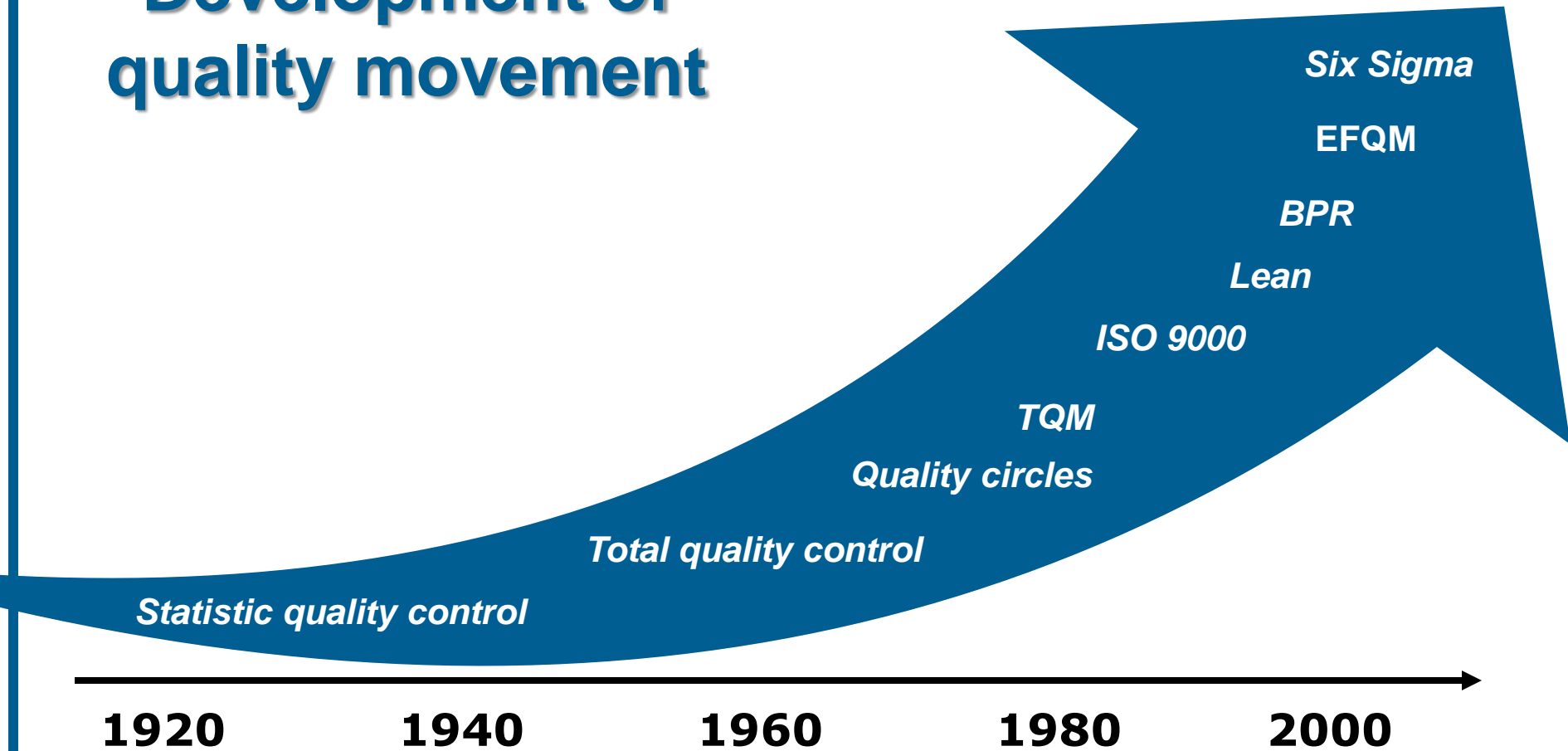
## Historically and today

- Quality circles
- Just in time
- TQM
- ISO 9000
- EFQM/MBNQA
- Process management
- Lean
- Six Sigma
- Innovation
- etc

## Future



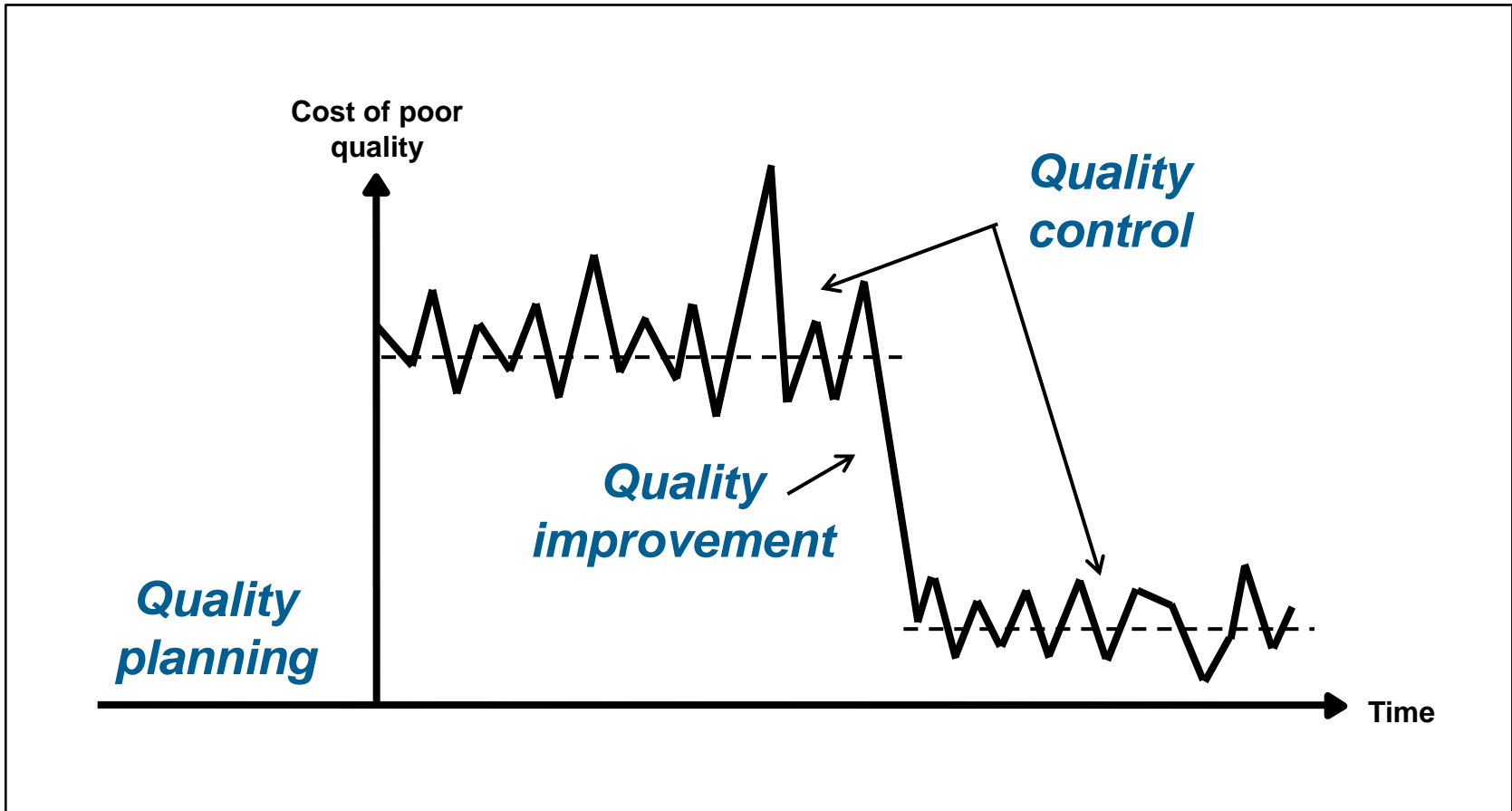
# Development of quality movement



***An evolution not a revolution!***

MBNQA	EFQM	SIQ	ISO 9004
Visionary leadership	Leading with vision, inspiration & integrity	Committed leadership	Leadership
Customer-driven excellence	Adding value for customers	Customer orientation	Customer focus
Organizational and personal learning	Succeeding through the talent of people	Competence development	
Valuing workforce members and partners		Participation by everyone	Involvement of people
	Developing organizational capability		
		Process orientation	Process approach
Managing for innovation	Harnessing creativity & innovation	Continuous improvement	Continual improvement
		Prevention	
Agility	Managing with agility	Faster response (reactions)	
Management by fact		Management by facts	Factual approach to decision making
Systems perspective			
Focus on results and creating value	Sustaining outstanding results		
		Interaction	Mutually beneficial supplier relationship
		Learning from others	
Societal responsibility	Creating a sustainable future	Public responsibility	
Focus on the future		Long-range perspective	

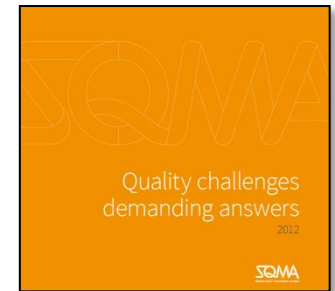
# Jurans Trilogy



# ASQ Future Study

	1996	1999	2002	2005	2008	2011
1	Changing values	Partnering	Quality must deliver bottom-line results	Globalization	Globalization	Global responsibility
2	Globalization	Learning systems	Management systems increasingly will absorb the quality function	Innovation, creativity and change	Social responsibility	Consumer awareness
3	Information revolution	Adaptability and speed of change	Quality will be everyone's job	Outsourcing	New dimensions for quality	Globalization
4	Velocity of change	Environmental sustainability	The economic case for a broader application of quality will need to be proven	Consumer sophistication	Aging population	Increasing rate of change
5	Increased customer focus	Globalization	Global demand for products and services will create a global workforce	Value creation	Demand for healthcare	Workforce of the future
6	Leadership	Knowledge focus	Declining trust and confidence in business leaders and organizations	Changes in quality	Environmental concerns	Aging population
7	Quality in new areas	Customization and differentiation	Rising customer expectations		21st century technology	21st century quality
8	Changes in quality practices	Shifting demographics				Innovation

# The top ten challenges of the SQMA-study



- 1) **Shifting ownership of quality work from the quality assurance profession to management**
- 2) **Adapting the organization to rapid changes in the environment**
- 3) **Turning quality assurance work into a matter of strategic ownership**
- 4) **Developing an improvement culture in the organization**
- 5) **Ability to lead and implement change**
- 6) **Developing robust processes that are at the same time open to change**
- 7) **Understanding the needs and expectations of our stakeholders**
- 8) **Involving customers in improvement work**
- 9) **Optimizing the organization to achieve desired competitiveness**
- 10) **Building long-term relationships with the customer**

# Four major future challenges

## SQMA-study

- Developing adaptability
- Developing customer collaboration
- Developing accountability for quality
- Developing leadership for change



# Major factors effecting quality management in the future

- Fragmentation of the quality profession
- Ownership responsibility and competence
- Leadership for quality and continual improvements
- Establishment of good employeeship
- Interaction with and development of suppliers
- Higher important of quality because of digitalization, sustainability, global competition and customer power
- Need for aligning quality with customer focus
- Quality in new areas



# Roles of quality management?

Quality Manager

Business Excellence

Lean Leader



Master Black Belt

Business  
Development

Organization  
Development

**...and what about service industry and  
public organizations?**

# What is the training level among quality managers?

***Just 31 % of the 550 quality manager that was asked had less than 1 week of training in quality management***



What knowledge is needed?

# Roles of quality management

## (ASQ Certification)

- Biomedical Auditor
- Calibration Technician
- HACCP Auditor
- Lean Certification
- Manager of Quality/Organizational Excellence
- Master Black Belt
- Pharmaceutical GMP Professional
- Quality Auditor
- Quality Engineer
- Quality Improvement Associate
- Quality Inspector
- Quality Process Analyst
- Quality Technician
- Reliability Engineer
- Six Sigma Black Belt
- Six Sigma Green Belt
- Six Sigma Yellow Belt
- Software Quality Engineer

# Roles of quality management

## (JUSE Seminars and training courses)

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### **TQM**

TQM Seminar for Top Management  
TQM Seminar for Managers  
TQM Seminar for Section Chiefs  
Introductory Course for TQM  
Policy Management Seminar  
TQM Seminar for Sales Department  
Visual Management and Human Error prevention course  
International Seminar on TQM (English)

### **QC Method**

QC Basic Course  
QC Introductory Course  
Quality Management Correspondence Course  
Quality Function Deployment Seminar  
Introductory Course for P7(New Product Planning 7 Tools)  
Introductory Course for New 7 Tools  
Problem Solving Skill-up Seminar  
Introductory Course for Problem Solving Method/Practice  
Task Achieving Type QC Story Seminar for Management

### **QC Circles**

QC Circle Seminar for Managers  
QC Circle Seminar for QC Circle Leaders  
Task Achieving Type QC Story Seminar  
QC Circle Elementary Course for Beginners  
QC Problem Solving Workshop  
Coaching Seminar

### **Software**

Software Quality Course for Management  
Software Quality Course for Engineers  
Software Quality Course for Design Review  
Software Quality Course for Project Management  
Debug Engineering and Test Method course  
Software Quality Course for Process Improvement

### **Reliability Engineering**

Reliability Engineering Basic Course  
Reliability Engineering Seminar on FMEA/FTA  
Reliability Engineering Course on Design Review  
Reliability Engineering Course for Reliability Test  
Reliability Engineering Course for Fault Analysis  
Introductory Course for Product Liability and Safety  
Risk Assessment course using R-Map method

### **Design of Experiment/Multivariate Analysis**

Basic Course for Design of Experiment  
Introductory Course for Multivariate Analysis

### **IE/IV/Cost Management/Sensory Evaluation**

IE Basic Course for improvement  
Cost Management Seminar  
Sensory Evaluation Seminar

### **Medicine**

Statistical Analysis Course for Clinical Testing  
Biomedical Statistics Seminar  
Medical Writing Seminar  
Pharmacoepidemiology Seminar

### **ISO Management System**

ISO 9000 Quality Management System Auditor Training Course  
ISO 9000 Quality Management System Course for Internal Auditor Training  
ISO 9000 Seminar for Top Management  
ISO 9000 Seminar for Managers  
Seminar on ISO 9001 QMS Requirement  
Seminar on ISO/TS 16949 Requirement for Automobile Industries  
ISO 14001 Environmental Management System Auditor Training Course  
ISO 14001 EMS Internal Auditor Training Course  
Seminar on ISO 14001 EMS Requirement  
ISO22000 FSMS Course  
Information Security Management System Course  
General Management System Introductory Seminar for QMS/EMS/OHSMS

# Future model for continual improvements



International Academy for Quality

EOQ Conference  
Helsinki, Finland  
2 June 2016

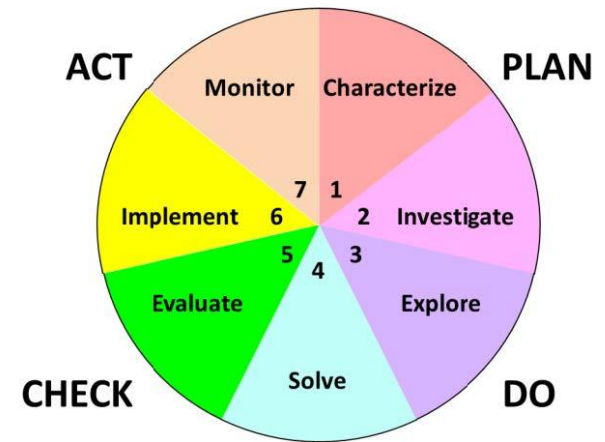
**Designed Improvement:**

**NEXTGEN Quality Thinking**

Gregory H. Watson, Chair  
IAQ Designed Improvement Think Tank

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# Contradictions in quality management



- Creating robust processes and at the same time agility
- Long-range focus in a short time world
- Simplify things and at the same time develop complex methods
- Develop a strong quality profession and at the same time move quality responsibility to management
- Involvement of people and acting in an objective way
- Create cost effective processes and focus on delivering customer value
- Working locally with a cross-functional perspective
- Bottom-up and top-down



[www.sandholm.se](http://www.sandholm.se)