



# Quality in the 21st Century

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*The 21st century will be the century of quality.*

- Joseph Juran



## How many CEO's are in the room?

“... it will be important in the future for top management and quality professionals to **“use the same language”** to fully integrate quality into the organization.”

*(Paulo Sampaio in “40 New Voices of Quality”, Quality Progress, American Society for Quality, November 2011)*

“... is that we need **to translate defects and process improvements into dollars and euros**. When this happens the C-suite will be more open to the pursuit of Quality.”

*(Paulo Sampaio in “Culture of Quality”, Forbes Insight in collaboration with the American Society for Quality, 2014)*

# Quality definition?



**“... give to the customers what they want, and try to exceed their expectations!”**

*(Paulo Sampaio in “Culture of Quality”, Forbes Insight in collaboration with the American Society for Quality, 2014)*

# Why Quality is important?



- Customers are becoming more demanding
- Customers are becoming more well informed
- Modern life depends mostly on technology
- The world is global... and Quality is also Global!
- ...



It is not the strongest of the species  
that survives, nor the most  
intelligent...

But the one that is the  
most adaptable to change!



# What is the driving change?

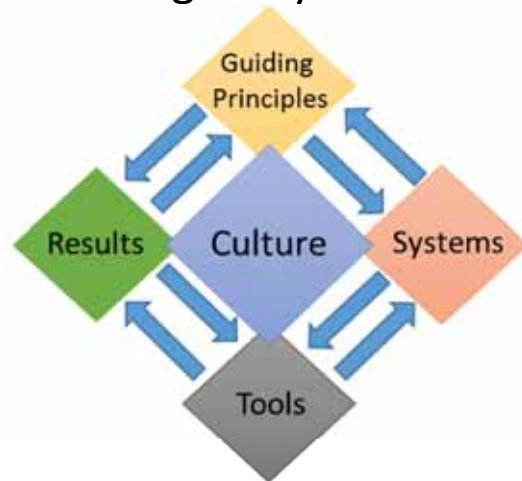


# Operational Excellence influence in creating an enduring capacity to change



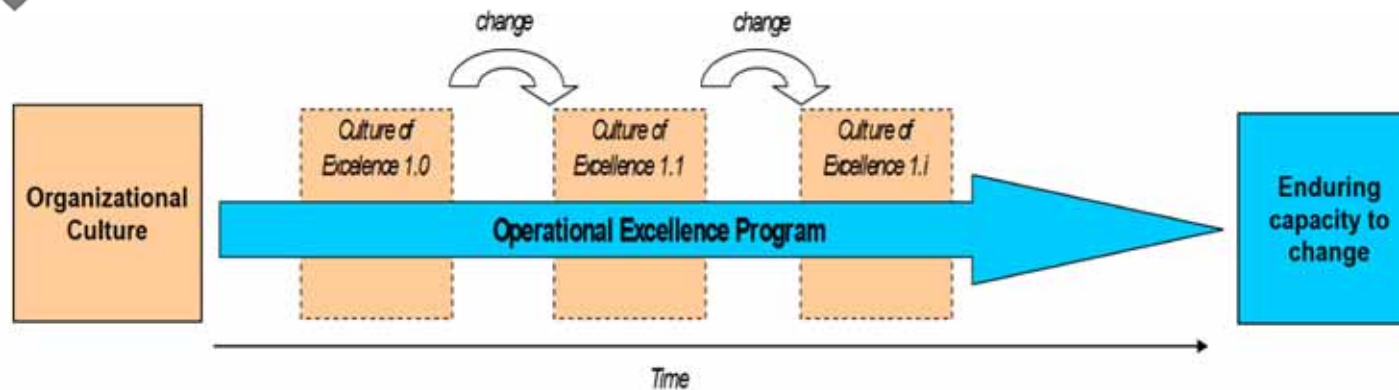
“Tools and systems alone do not operate a business. People do. (...) Ultimately, the aggregate of people’s behaviors makes up organizational culture, and culture greatly influences the organization’s results.”

- Shingo Institute, 2014



Companies should find the right combination of strategies, culture, business practices, and technology that are necessary to make it agile, taking into account the market characteristics.

- Gunasekaran and Yusuf (2002), Int. J. Prod. Res., vol. 40, no. 6, 1357-1385





# Different levels of Quality

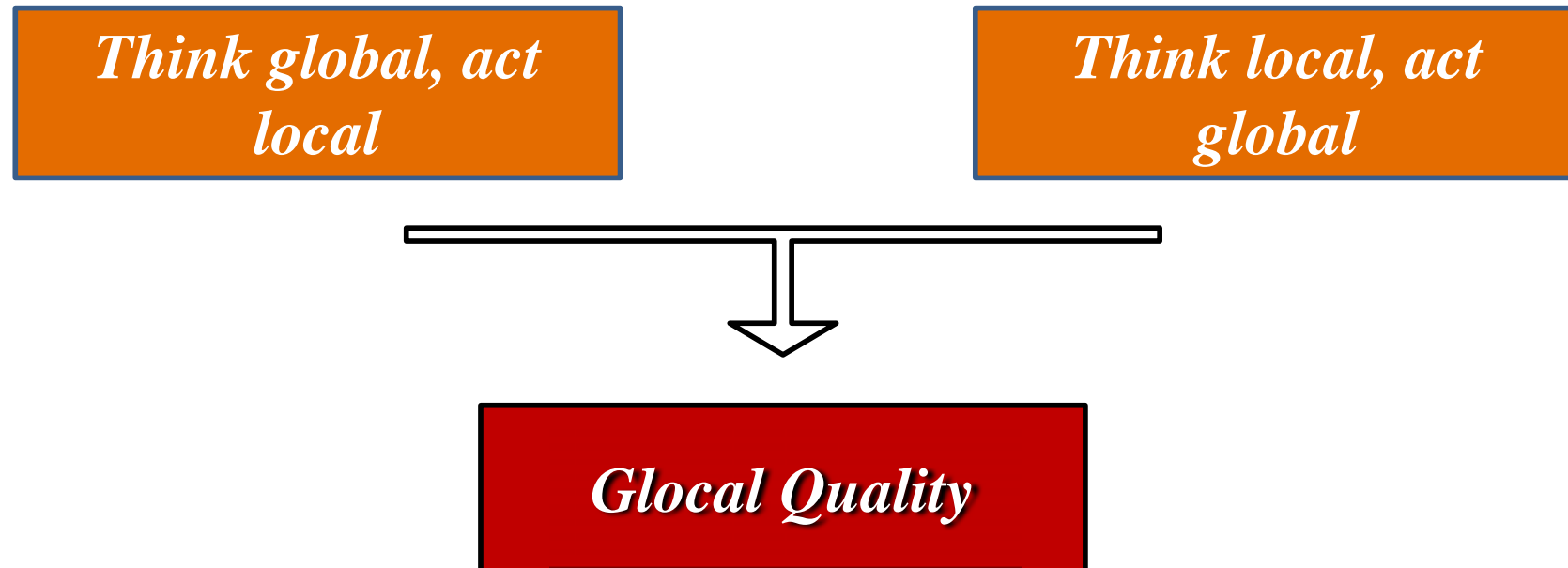


**MicroQuality:** Quality Professionals contribution to the field.

**MesoQuality:** Implementation of Quality Improvement Programs, Standards, Excellence Models in the **Organizations**.

**MacroQuality:** **Policies** defined for Quality at the global level.

# *Glocal* Quality concept



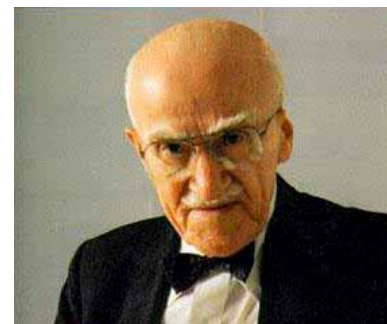
# Honorable Past



Shewhart



Deming



Juran



Feigenbaum



Ishikawa



Crosby

# An impressive Present

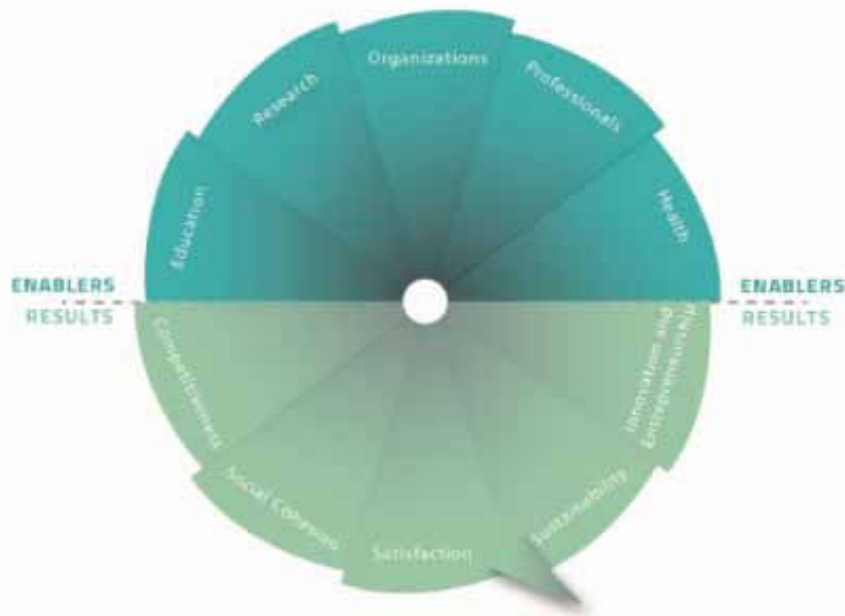


WORLD STATE OF QUALITY:

2016 European Quality Scoreboard

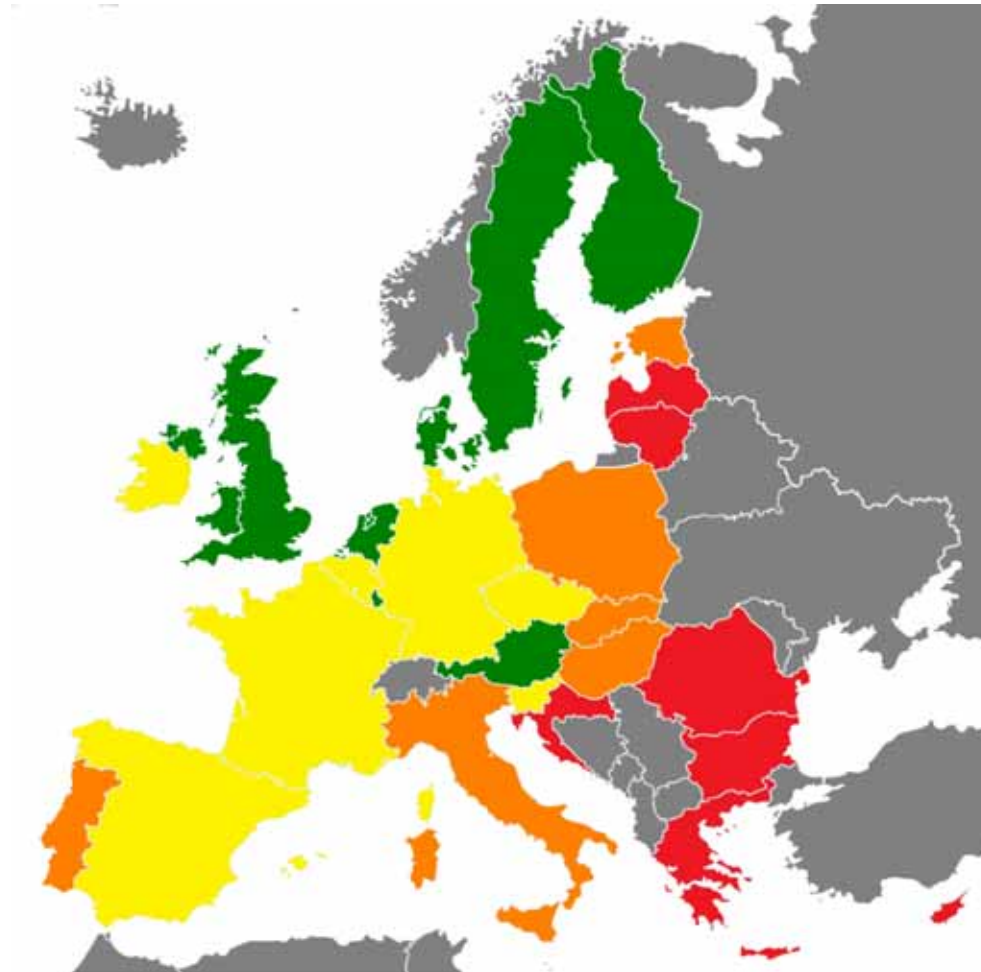
<http://wsq.dps.uminho.pt/>

# An impressive Present








<http://wsq.dps.uminho.pt/>

# An impressive Present



## Groups

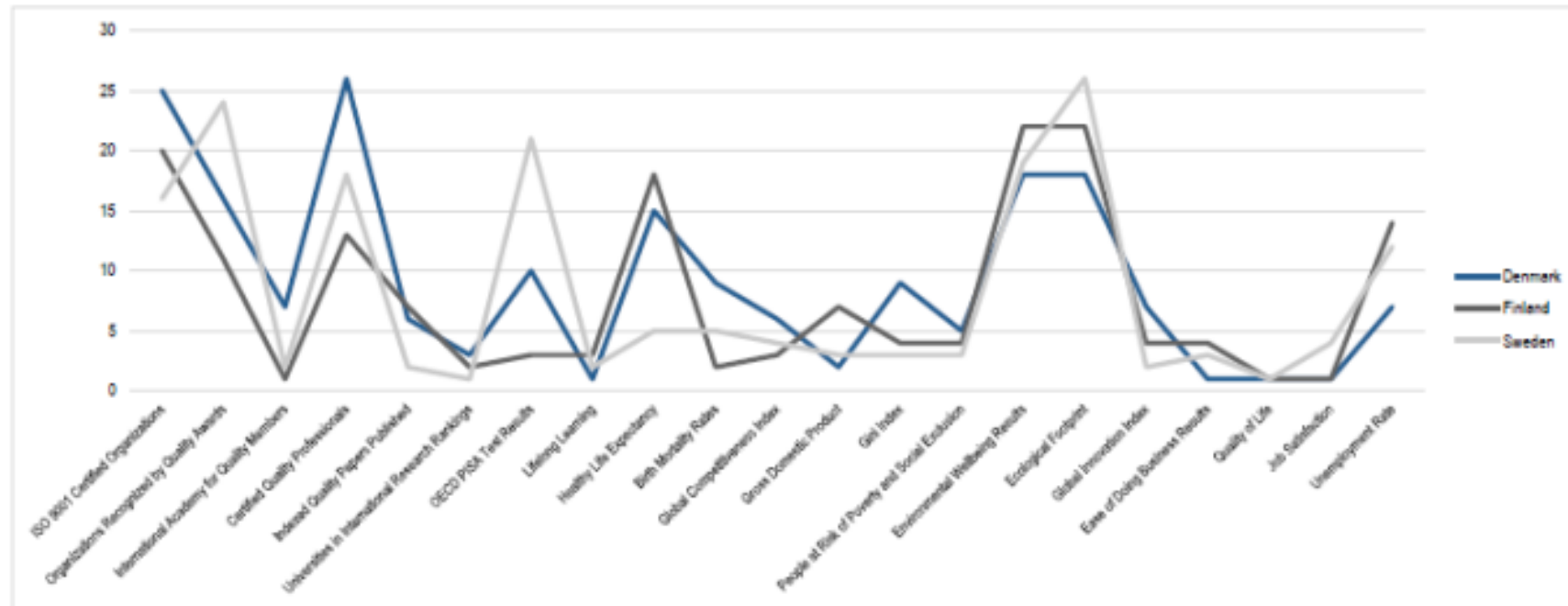
-  *Leading*
-  *Follower*
-  *Moderate*
-  *Lagging*
-  *Not EU*

<http://wsq.dps.uminho.pt/>

# An impressive Present



Profiles of Quality in the Scandinavian Way (one of several clusters) !



- ☺ IAQ Membership
- ☺ Research
- ☺ Lifelong Learning
- ☺ Birth Mortality Rates
- ☺ Competitiveness
- ☺ Social Cohesion
- ☺ Innovation and Entrepreneurship
- ☺ Perceived Satisfaction
- ☹ Organizations
- ☹ Quality Professionals
- ☹ Sustainability

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# An impressive Present



## Analysis

Sweden belongs to the top 10 countries in 16 out of 27 OECD indicators and does get its top relative position top 10 regarding Universities in International Rankings, Quality of Life, OECD Members, Life expectancy, Global Innovation Index, Gross Domestic Product, Gov Index, People at Risk of Poverty and Social Exclusion and Ease of Doing Business Results, and the second one (TOP to 20th) compared to Environmental Wellbeing Results, OECD PISA Test Results and Ecological Footprint.

<http://wsq.dps.uminho.pt/>



# Predict the future is not easy...



According to Mark Twain, “The art of prophecy is very difficult – especially with respect to the future.”

But I will try to do my best!

# My last book...

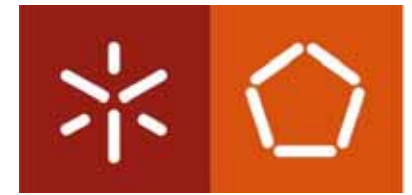


## Quality in the 21st Century

Perspectives from ASQ Feigenbaum Medal Winners

Editors: Sampaio, Paulo, Saraiva, Pedro (Eds.)

# The 25 commandments for Quality's Future



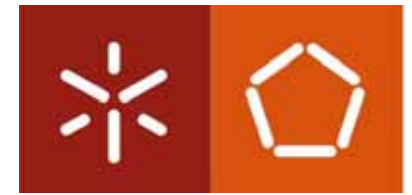
1. **Quality development and its contributions to the world require its education and training to become universal and applied to people of all ages and backgrounds.**
2. Quality developments need to be built from **internationally reached consensus**, but be also ambitious and fast enough to cope with changes in the world.
3. **Quality for value**, with new quality costs and other related approaches, should be a priority and facilitate dialogue with senior executives.
4. **Quality has a lot to gain by adopting a multiscale and holistic view, ranging from the product nanoscale to societal challenges defined at the world level.**
5. Quality in the future should be able to come up with customized problem definitions and **tailor made solutions**.
6. Quality is and will be **global** regarding solutions, concepts, best practices, tools, information, learning and knowledge sharing.
7. **Quality management and quality engineering must intertwist each other** and the integration of both of these legs will make it walk into the future.
8. Quality may have a decisive and bright future ahead, to be achieved through **hard work** and not taking its success for granted.
9. **Quality mindset** should move from a specifications oriented framework into a continuous improvement mode, including innovative steps aimed at delighting people.
10. **Quality must be able to anticipate what is going to happen with customers, stakeholders and societies as a whole, and contribute to those changes.**

# The 25 commandments for Quality's Future



11. Quality must **explore technological developments** as they raise new opportunities, as well as help in making the field more efficient and useful.
12. Quality must keep being built from **experience into Academia**, but also in the reverse direction, from **Academia into the fields of practice**.
13. Quality must move from a "departmental perspective" into **integrated, systemic and well structured views** and will also be "project driven".
14. Quality needs to become, be seen and recognized as a **fully matured field of knowledge**.
15. Quality needs to nurture and come up with better and more frequent quantum leap moves and be able to come up often with **disruptive evolutions**.
16. Quality needs to reinforce **its interfaces with other related fields**, namely innovation, product development, statistics and big data, social responsibility, creativity.
17. **Quality R&D must be reinforced**, namely through projects in this field, accepted as such, just like other scientific areas.
18. Quality should aim not just at satisfying but rather at **delighting** different sets of stakeholders, namely by anticipating how to go well beyond existing expectations.
19. Quality should be able **to measure well**, what really needs to be measured in order to improve and drive changes, including good perceptions oriented "metrology" applications.
20. **Quality should be addressed, defined and implemented at different levels, including products, processes, systems, people, organizations, services, supply chains and societies**

# The 25 commandments for Quality's Future



21. Quality will lead more and more to real equality as more and more **e-Quality** facilitates access to information and knowledge share.

22. Quality will move from being "guru driven" into being "**community driven**", namely regarding its development, concepts and tools validations.

**23. Quality will relate strongly with organizational culture and societal views of the field and its contributions to the success of regions and countries.**

**24. Quality's future is also a matter of public policy choices, branding, training, population, society awareness and knowledge.**

25. Quality's future needs to get away from slogans or shallow approaches and be consolidated around **deep knowledge, foundations, culture and developments.**

# The Future of Quality



Future of quality = do it well x do it better x do it differently

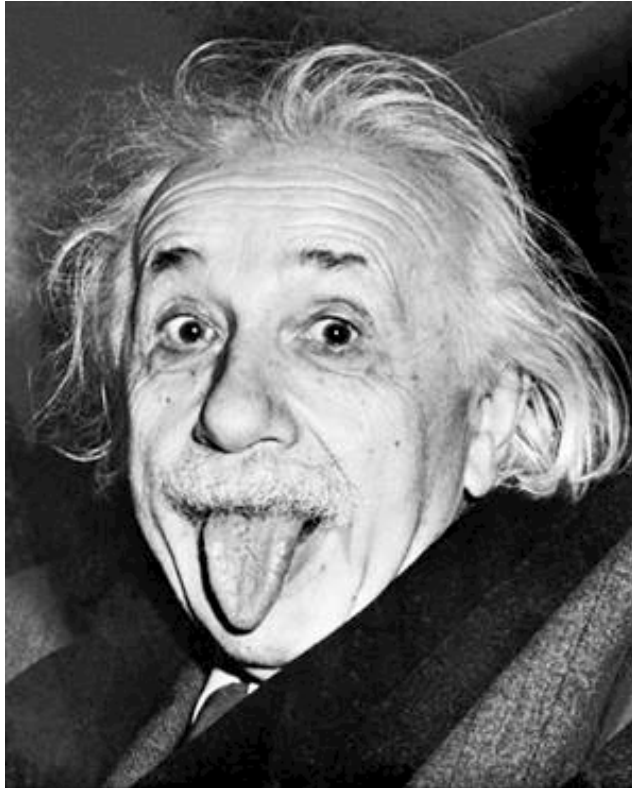
Quality has a Future!

The Future of Quality has a Present!

The Future of Quality belongs to us and it is built everyday!



# We must go further...



$$E = Q \times I$$

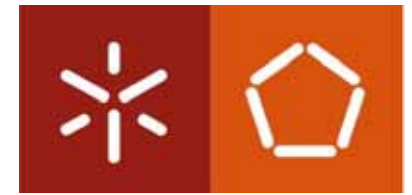
*E = Excellence*

*Q = Quality*

*I = Innovation*

## ... to Organizational Excellence!

# The Future of Quality



“Quality should be continuously understood, assimilated and implemented, both in public and private organizations. However, each one of us is responsible to push and pull quality forward, **always doing more and better.**”

*(Paulo Sampaio in “40 New Voices of Quality”, Quality Progress, American Society for Quality, November 2011)*





# Thank you!

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