

Resilient Team Performance

A literature study

TNO | Knowledge for business



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Resilient Team Performance

What is Resilience and why do we need it?

Resilience on 3 levels

Resilience of teams, the study

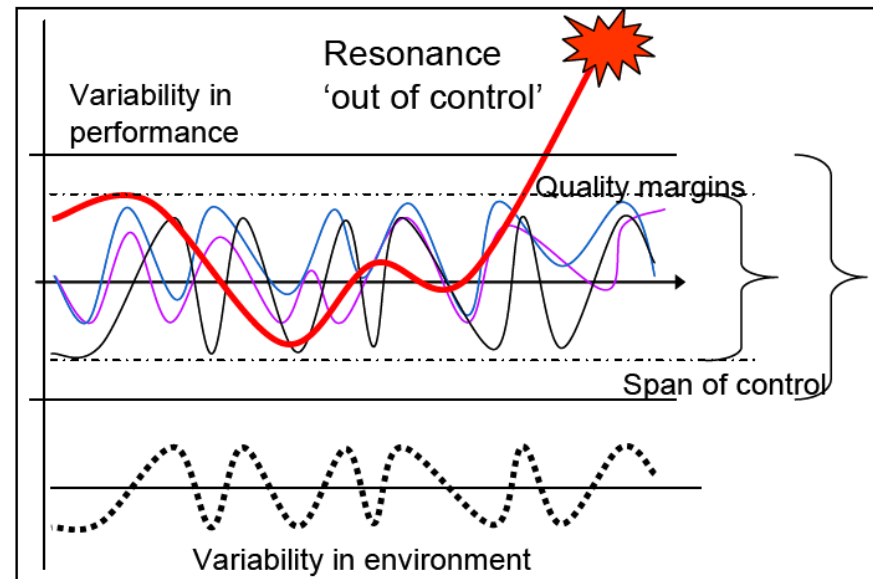
Discussion

The resilience innovation laboratory

Resilience: what is it and why do we need it?

Resilience is the intrinsic ability of a system to adjust its functioning prior to, during, or following changes and disturbances, so that it can sustain required operations even after a major mishap (or in the presence of continuous stress)”

Resilience engineering measures how safe a system is by what it is able to do rather than the negative”

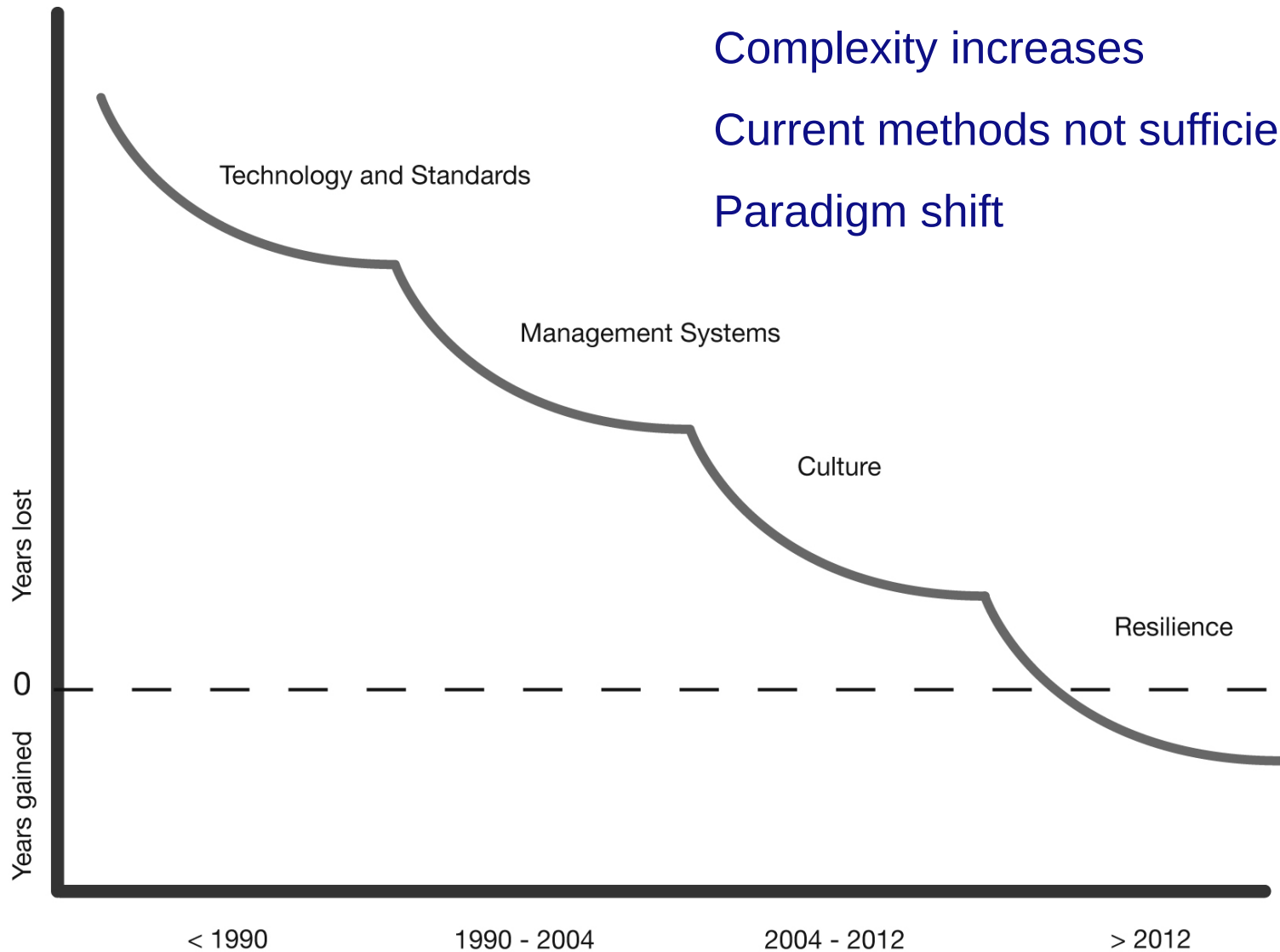


Non-linear cause – effect relationships

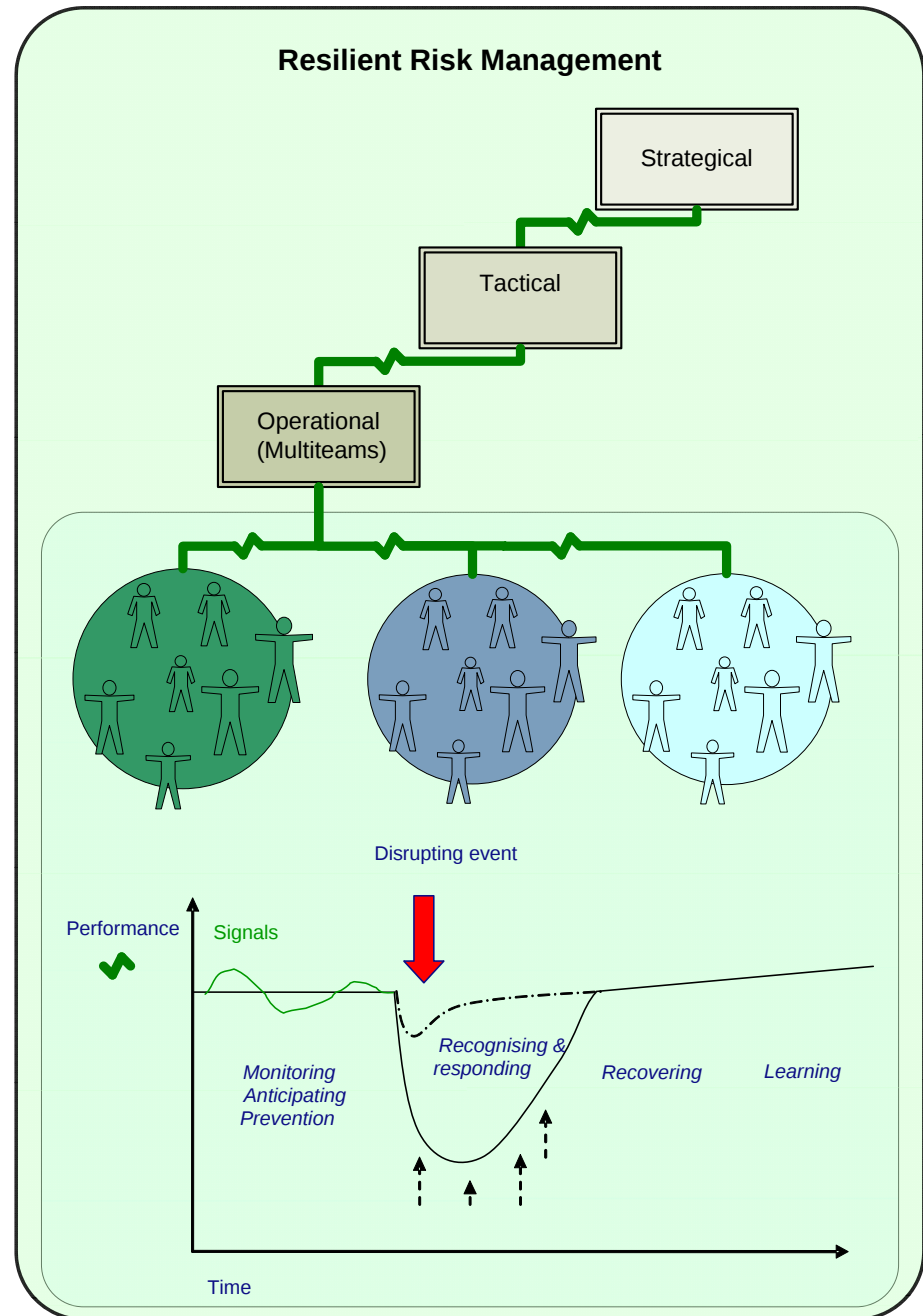
Complexity increases

Current methods not sufficient

Paradigm shift



3 levels of resilience



HRO's and team resilience

- HRO' s have five characteristics:
 - Preoccupation with failure (incl team awareness)
 - Reluctance to simplify (team performance)
 - Sensitivity to operations (teams are key)
 - Commitment to resilience (incl teams)
 - Deference to expertise (incl teams)

Resilience of teams

Research questions

- How can (operational) teams contribute to the resilience of organizational processes
 - Which resilience strategies can be applied by teams within organizations to increase effective and safe operations?
 - Which resilience strategies enhance team cooperation most effectively
- How can (operational) teams be supported by organizational management during production processes to enhance safe and resilient operations?

Literature

We found that the following items are considered to be key:

- Management responsibilities
- Organizational learning
- Collective work and resilience
- Shared transformational leadership
- Shared situational awareness
- Naturalistic decision making strategies

Literature 2

Management responsibilities:

- Climate for openness, mutual respect
- Encourage people with less status to check and suggest
- Consider the organizational workload
- Resource preparedness

Organizational learning:

- The ability to anticipate vulnerabilities to failure
- train involving scenarios with complex coordination challenges that test the limits of how teams use strategies and tactics

Collective work and resilience:

- Implicit control modes in problem solving situations
- Task take over, redundancy, cognition sharing
- The informal regulatory network allows detection and recovery of system errors and reduction of team malfunction

Literature 3

Shared transformational leadership:

- Increased level of team resilience

Shared situational awareness:

- Build and maintain awareness of the location and activities and intentions of others
- Listen in on shared communication channels for supporting anticipation, catching and recovering from error

Discussion (1)

The unique qualities of people enable them to anticipate and handle unforeseen situations. Increasing these capabilities is necessary. This can be done by:

- Decentralized, self governing teams
- reinforced coordination between teams
- reaction to errors
- The use of multi-disciplinary teams

And by using:

- Implicit, informal control modes
- Informal communication & coordination strategies
- Listen in on shared communication channels
- Naturalistic rather than normative decision making strategies

Discussion (2)

To achieve (team) resilience we need:

People

- Mutually shared cognition using specific mechanisms
- Multiple and redundant information sources
- Task takeover actions
- Workplace exchanges
- Transformational, not transactional leadership behaviour

Organization

- A top level commitment to safety

Technology

- An ergonomic work room design that enhances team performance

Further research

- 2010 - 11 research team performance at Dutch energy networks
- 2011 – 14 develop practical instruments with variables that can be measured
Implement the instruments and measure the results



Resilience Innovation Lab

Welcome to the Resilience Innovation Lab. This is the online community for all those people and organizations interested in resilience, especially in relation to safety. This community facilitates us in bringing the concept of resilience further, thus becoming a valuable tool for dealing with complex systems. The resilience innovation lab is already a community of partners, such as Mines Paris Tech, the world over and from industry and academics alike. The more people become a member, the more information about resilience will be available, the more discussions and visions will be spread and the better this important tool will develop. So if you deal with complex systems in your business consider this exclusive membership, so you could enter the online community: the Resilience Innovation Lab.

Take a look at this public section, to get an impression of the section for members online. If you have any questions left after seeing this website, do not hesitate to contact us. We hope to see and welcome you and your colleagues soon!

Read more about resilience..

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