How Mature are Maturity Models?

Embedded Eclipse Day

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Maturity

- Personal development
- Product
- Processes
- ...

Model

- Psychology – development of personality
- Development stages of a product
- Probability of acceptable outcome
- ...

- Want to be able to “rank” a characteristic of a system based on defined criteria → model

- Defines some sort of measurement framework
- Experience based
Maturity

Model

• Purpose
• Rules of deployment
Maturity Model

- Ability to deliver quality products on time
- Supplier evaluation
Quality Management Maturity Grid
[Phil Crosby, Quality is Free, 1979]

Uncertainty
• Quality problems are the fault of the Quality department.

Awakening
• Quality management might actually fix problems properly.

Enlightenment
• Management and quality people are working together to fix problems.

Wisdom
• Quality management integrated in to the way we do things.

Certainty
• We do not have quality problems because we understand everything.
Quality_{product} = f (Quality_{process})
Maturity Model

Evolution of Process Maturity

Level 1 (Ad Hoc)
Processes documented & integrated Planning & forecasting takes place

Level 2 (Repeatable)
Processes defined and basic disciplined approach emerges

Level 3 (Defined)
Process understood and managed using quantitative methods

Level 4 (Managed)
Metrics collected

Level 5 (Optimizing)
Continuous improvement methods used

Ability to guarantee reliability, availability and service

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http://zaratetarrani.blogspot.com/
# Automotive SPICE™
## Process dimension of Automotive SPICE™ compared to ISO/IEC 15504

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<td>ENG.2 System requirements analysis</td>
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<td><strong>new HIS-Scope</strong></td>
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Model is free of charge (after registration) available at [www.automotivespice.com](http://www.automotivespice.com)
Process Maturity

- 5 Optimizing
- 4 Predictable
- 3 Established
- 2 Managed
- 1 Performed
- 0 Incomplete
Quality impact of higher process maturity
Higher process capability increases product maturity.

Result of correlation.

Identified Clusters

- **Cluster 1**: Low process capability, late product maturity.
- **Cluster 2**: Transition phase, project management incomplete, product maturity differs.
- **Cluster 3**: High process capability, early product maturity.

Clear correlation between goal-oriented product maturity and process capability.
So – is there a problem?
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Process Fortress

Our processes will last!
Fast delivery of products requires Agile organisations

- Processes connect, they are not for control
- Maturity models are ok
- Their users may be immature

- We need the Inverse of Conway’s Law
  - Fast delivery of interdependent products can only be achieved by networked agile organisations
“Open Organisations”
“Value Orientation”
Control is good, trust is better.

Lenin\(^1\)