



Initiating SPI in small enterprises

Experiments with the Micro-Evaluation framework

Alain Renault

www.cetic.be



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 - Webmining
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Your speaker

Alain RENAULT

Cetic (2001-)
Research and Technology Transfert in SPI

University of Namur (1998-2001)
Software Quality Lab

Software Engineer (1989-1998)



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Initiating SPI in small enterprises

Experiments with the Micro-Evaluation framework

Experiment made by

- University of Namur
 - Naji Habra
- Cetic
 - Alain Renault
- École de technologie supérieure (Québec)
 - Claude Y. Laporte
 - Jean-Marc Desharnais
 - Mohamed Mounir Abou el Fattah
 - Jean-Claude Bamba



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Agenda

- What is the Micro-Evaluation
- The concepts behind the framework
- The experimentation
- The limitations of the first version
- The next generations of the Micro-Evaluation



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Agenda

- ***What is the Micro-Evaluation ?***
- The concepts behind the framework
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What is the Micro-Evaluation ?

- Origin
 - University of Namur : OWPL project
- Original objectives
 - Make a first **global** inventory of the software capacity in the local SMEs
 - This must not be time consuming, but must be reliable
- Provide input to the OWPL project
 - Help start a first SPI initiative
 - o Highlight strengths and weaknesses
 - Rize the awareness level of SMEs
 - o on software quality
 - o on spi



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The concepts behind the framework

Hypothesis

- SME = specific context
- SME = low maturity level
- Poor culture of quality
- Process vocabulary is too much complicated, not accessible
- Process improvement objective
- Label, quality level not so important

The concepts behind the framework

Original constraints

- Evaluation tool
 - Easy
 - Lite
 - Pragmatic
- Evaluation report
 - Lite
 - Simple and concrete
 - Usable
- Approach
 - Open minded
 - Objective (analysis)
- Team evaluated
 - One person has sufficient visibility
 - Trust this person

The concepts behind the framework

Structure of the framework

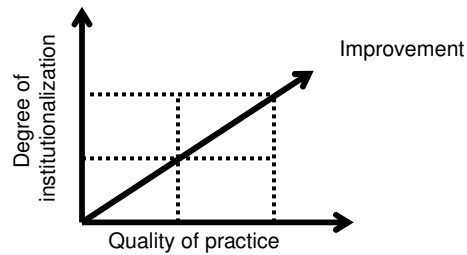
- Coverage : 6 axes
 - o Quality assurance
 - o Customers management
 - o Subcontractors management
 - o Project management
 - o Product management
 - o Training & human resources management

- Depth : 16 topics
 - o Open question and/or sub-questions

The concepts behind the framework

Structure of the framework

- Evaluation grids
 - o Objective evaluation
 - o Open questions



The concepts behind the framework

Structure of the framework

- Example of question

6a. **How do you select your subcontractors ?**

- Do you have regular subcontractors or do you sometimes question this choice ?
- Do you have a well-defined procedure to select your subcontractors?

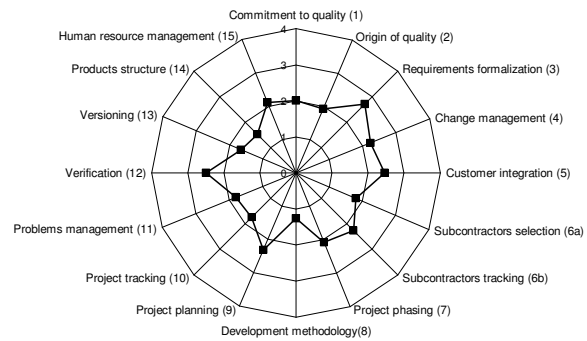
Proposition	Projects	
	Some	All
According to isolated criteria like cost, reputation		
According to a rigorous selection procedure (Request for Proposal (RFP), selection criteria)		

As far as « Subcontractors Management » is concerned, do you consider that what is done is efficient and provides expected results ?

The concepts behind the framework

Structure of the framework

Example of Capacity Profile





The concepts behind the framework

Structure of the Evaluation Report

- Practice description - summary of each axis
- Strengths and weaknesses
- Risks and opportunities
- Recommendations (short and mid-term)



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The concepts behind the framework

Structure of the Evaluation Report

- Practice description - summary of each axis

"There is no configuration management nor version management. During a modification the last version is overwritten. A specific directory contains all the standard modules, but there is a non negligible risk to overwrite these sources with others."

- Strengths and weaknesses
- Risks and opportunities
- Recommendations (short and mid-term)



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The concepts behind the framework

Structure of the Evaluation Report

- Practice description - summary of each axis
- Strengths and weaknesses
 - **Strengths**
 - *Awareness of the current weaknesses*
 - *Will to improve practices*
 - **Weaknesses**
 - *No products versions management*
- Risks and opportunities
- Recommendations (short and mid-term)

The concepts behind the framework

Structure of the Evaluation Report

- Practice description - summary of each axis
- Strengths and weaknesses
- Risks and opportunities
 - **Opportunities**
 - *Use the version management provided by the IDE*
 - *Use of the backup tools provided by the IDE*
 - **Risks**
 - *Risk of source code loss*
- Recommendations (short and mid-term)

The concepts behind the framework

Structure of the Evaluation Report

- Practice description - summary of each axis
- Strengths and weaknesses
- Risks and opportunities
- Recommendations (short and mid-term)
 - *Short term*
 - *Define the way the documents are used or managed (sources or others)*
 - *Medium term*
 - *Define standards, procedures and good practices that the team should follow for its project management, testing and development (coding rules)*

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- The limitations of the first version
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The experimentation

First experimentation

- In Wallonia (Belgium)
 - 20 organizations (1998-1999)
 - 7 re-evaluations (2000-2001)
 - 12 new evaluations (1999-2004)

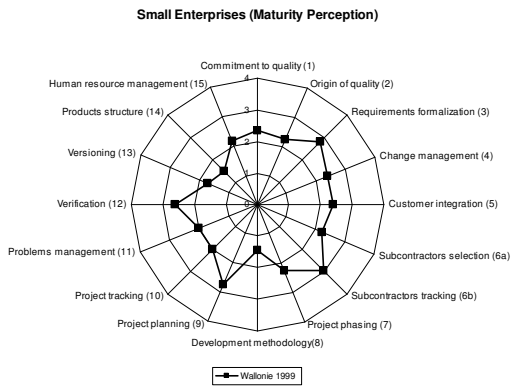
Second experimentation

- In Québec (Canada)
 - 23 organizations (2004)
 - New evaluations forseen in 2005

The experimentation

First experimentation in Wallonia (Belgium)

- 20 organizations (1998-1999)

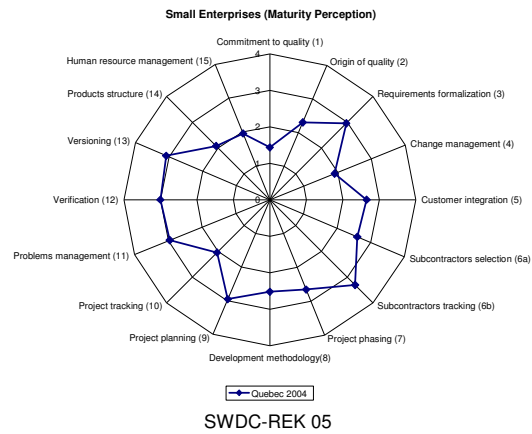




The experimentation

Second experimentation in Québec (Canada)

- 23 organizations (2004)



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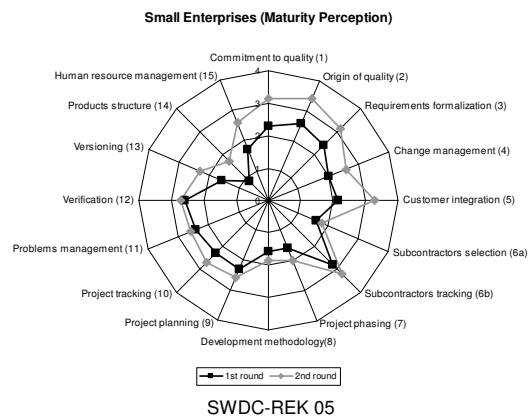
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The experimentation

First experimentation in Wallonia (Belgium)

- 20 organizations (1998-1999)
- 7 re-evaluations (2000-2001)



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Agenda

- What is the Micro-Evaluation
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- ***The limitations of the first version***
- The next generations of the Micro-Evaluation

Limitations of the first version

- The Micro-Evaluation
 - The Micro-Evaluation is very attractive as a tool for VSE
 - It offers optimum ROI
 - It gives an accurate insight into assessed organizations
 - It is affordable thanks to its simplicity
 - It takes context into account
- But ...
 - It is limited to small teams, small projects with expected low maturity level
 - It rests on one trusted person
 - It can be further simplified (concentrate on one single project or team)
 - More precision is required in the evaluation grids
 - The context needs to be even more taken into account (i.e. Agile practices)



Agenda

- What is the Micro-Evaluation
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- ***The next generations of the Micro-Evaluation***



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Next generations of Micro-Evaluation

- Even more simple
 - Terminology improvements
 - Questions and items rephrasing
 - Change order of questions
 - Concentrate on one single project or team

- 6b. **How do you monitor your subcontractors' activities ?**
- Do you keep in touch with your subcontractors during the projects ?
 - Do you hold regular meetings with your subcontractors ?

Proposition	Projects	
	Some	All
Occasional meetings, on demand		
Regular meetings		

13. **What relations, what contacts do you undertake with your suppliers during their taking part to the project ?**

- Does the supplier regularly take part to project activities ?

Proposition	Answer
Only if necessary	
On a regular basis, on fixed milestones	
As often as possible	
Continuously, the supplier participates to the project	

More propositions	Answer
Don't know	
Not applicable	



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Next generations of Micro-Evaluation

- Even precision and objectiveness
 - Improved evaluation grid

6b. How do you monitor your subcontractors' activities ?

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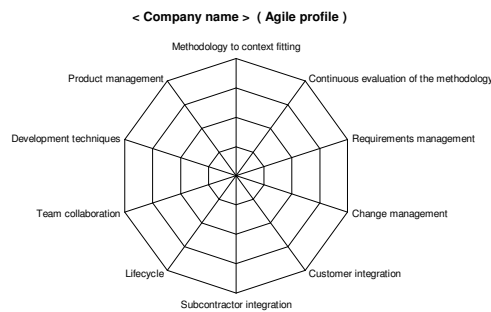
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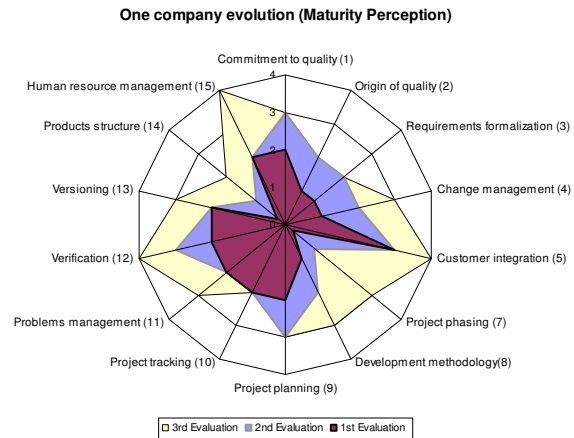
More propositions	Answer
Don't know	
Not applicable	

Next generations of Micro-Evaluation

- Even more contextual
 1. Use of OWPL Success factors
 2. Integrate more Agile concepts
 3. Provide with an « Agile profile »
 4. Create an « Agile Micro-Evaluation »



Conclusions : VSE can improve their maturity level



Conclusions

VSE can afford SPI

- Micro-Evaluation can help
- No need of a huge methodology
- No need of a huge budget

Human factor is an important concern

- communicate by yourself
- select the « right » contact person
- identify critical (positive and negative) individuals

Context must be considered

- are current practices efficient ?
- is current project a good candidate for SPI ?
- what are the business objectives of the organization ?



Thank you for you attention ...

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alain.renault@cetic.be



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