

## Session 2: Igniting the Community

### Open innovation implementation in collaborative engineering practices

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# Agenda

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## Research overview

- Research problematic
- Scope of this research
- Research aim and methodology
- Open innovation in this research

## Preliminary findings

- Philosophy of the audit tool
- Framework of the audit tool: the four *agility drivers*
- Glance at the audit framework
- Extract from the multiple valuations grid

## Research problematic

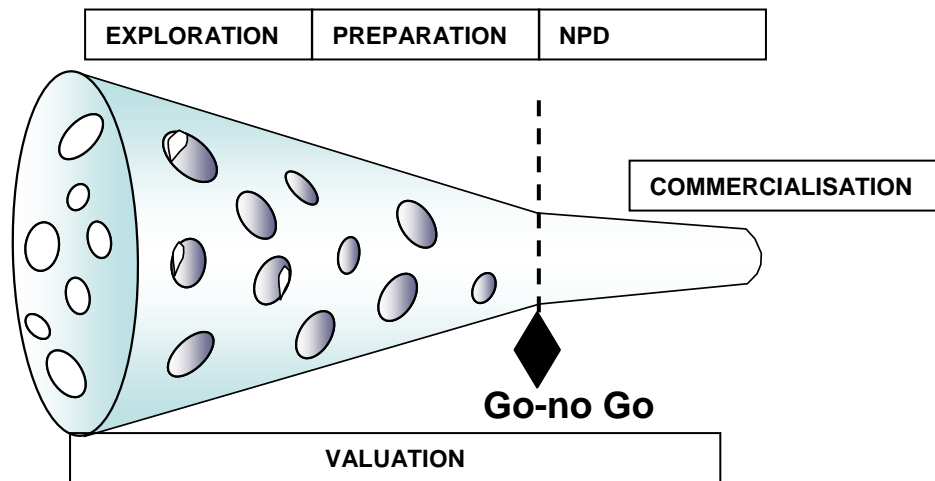
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- ❑ My company : PCO Innovation
  - **PCO : PLM & CAD Organization** : Specialist in PLM (Product Lifecycle Management) consulting and services
  - Originally created from a spin-out of Schneider Electric in 1997
  - Core competencies: product development lifecycle management
  - Around 500 employees in France and Canada
  
- ❑ Problematic of the Business consulting department of PCO Innovation
  - Needs to support its clients in their effort to improve their intensive innovation and open innovation capabilities
  
- ❑ My Ph.D. project (conducted with PCO Innovation and G-SCOP Laboratory)
  - R&D in the back office of the business consulting department



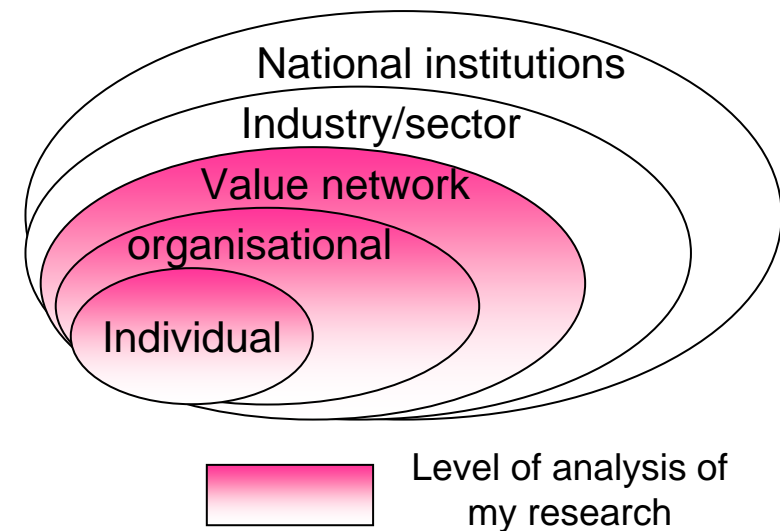
## Scope of this research

### □ The innovation process



### □ Collaborative engineering practices

- Multidisciplinary collaboration
- Collaboration with suppliers, customers, partners



### Prior and potential research an Open Innovation

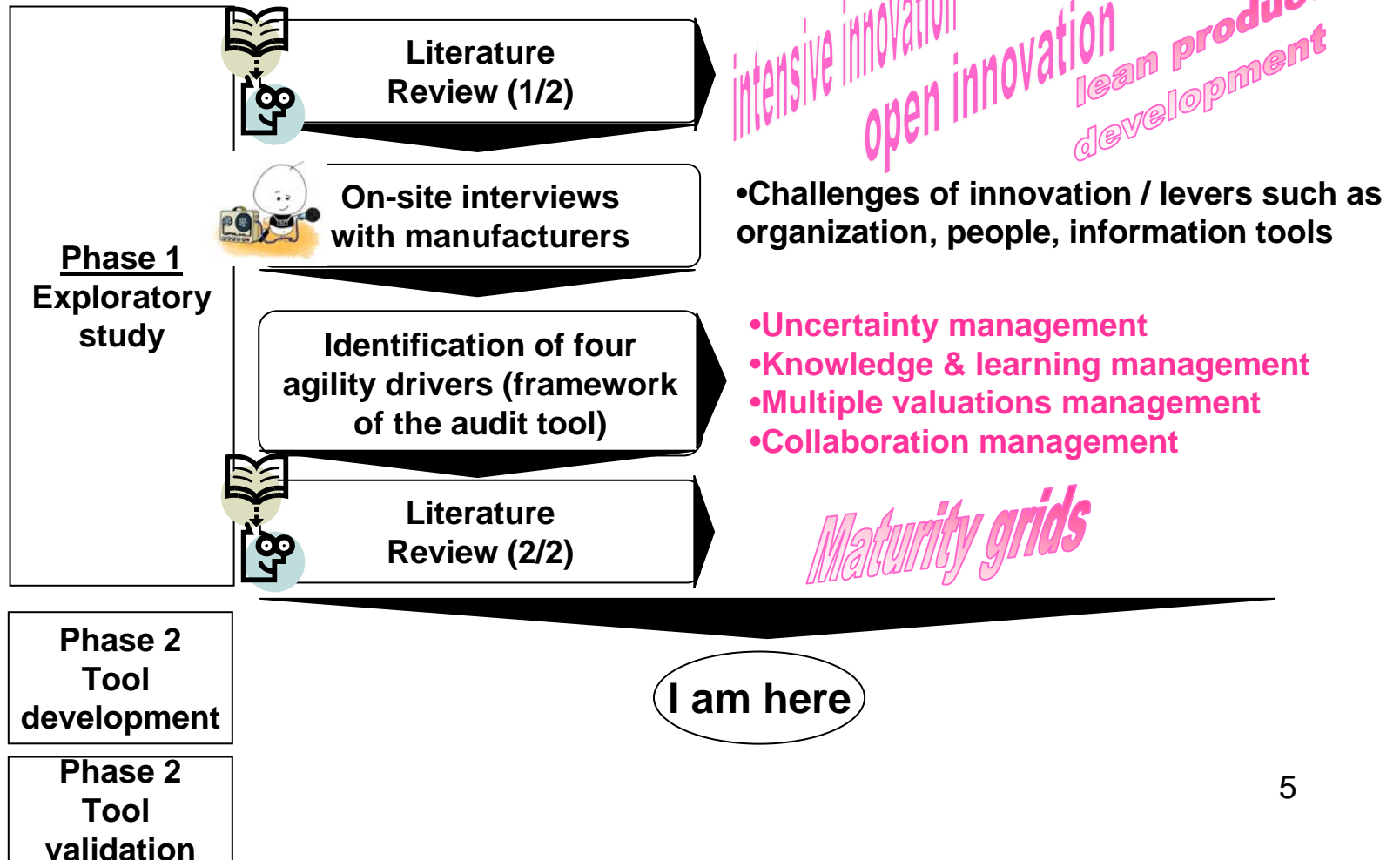
(p. 288, Chesbrough, Open Innovation – Researching a New Paradigm, 2006)

# Research aim and methodology

Research aim

Develop an audit tool to assess the open innovation capabilities of manufacturers in a context of intensive innovation

Methodology



## Open innovation in this research

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- ❑ Open innovation brings **new challenges** for manufacturers
  - **Take advantage of the permeability** of firm's boundaries
  - **Capture value** from outside the firm (« anywhere else »)
  - **Perform multiple valuations** (both inside and outside the firm)
- ❑ It requires:
  - “**new metrics** for assessing innovation capability and performance”

[p. 11, Chesbrough & al, Open innovation-  
Researching a New Paradigm, 2006]



# Philosophy of the audit tool

*intensive innovation*  
*open innovation*

**Innovation**  
requires to create, anticipate and face changes

**Agility** is necessary to innovate

*lean product development*

**Uncertainty management**  
**Knowledge and learning management**  
**Multiple valuations management**  
**Collaboration management**

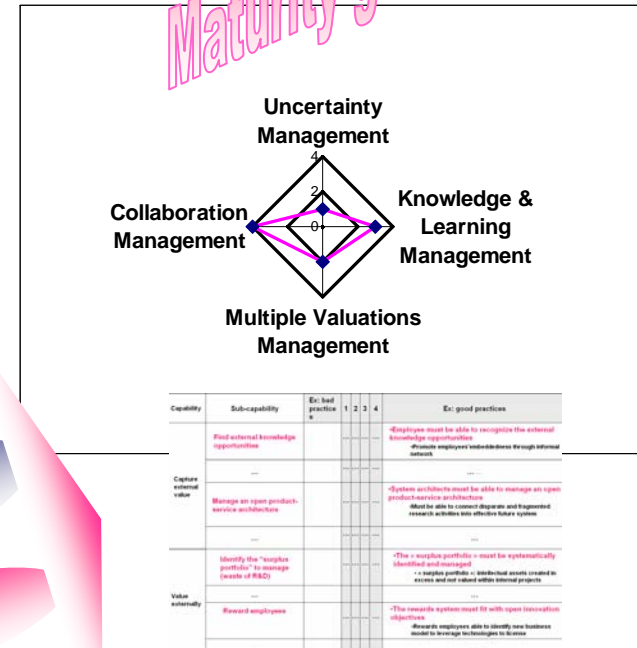
**Innovation**

**Agility**

**Agility drivers**

**Future Audit tool**

*Maturity grids*



## **Audit framework: the four *agility drivers***

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### **Uncertainty management**

- Culture promoting uncertainty management
- Characterization of the maturity level of information exchanged
- Characterisation of information dependencies between stakeholders

### **Knowledge and learning management**

- Renew existing knowledge
- Identify the lacking knowledge
- Acquire the lacking knowledge (internally, externally)
- Learn continuously

### **Multiple valuations management**

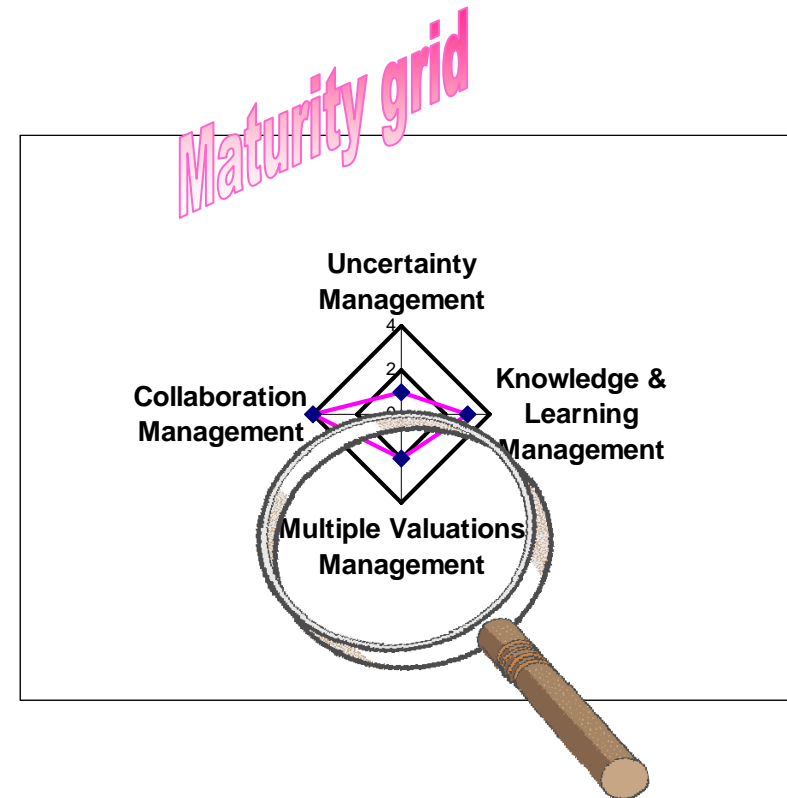
- Capture value from outside the firm
- Value your inputs inside and outside

### **Collaboration management**

- Internal collaboration
- External collaboration

## Glimpse of the audit tool

- A maturity grid based on
  - 4 agility drivers
  - 4 levels of maturity
  - A description of « bad » and « good » practices



**Preliminary findings**

# Extract from the *multiple valuations grid*

Capability	Sub-capability	Ex: bad practices	1	2	3	4	Ex: good practices
Capture external value	Find external knowledge opportunities		...	...	...	...	<ul style="list-style-type: none"> <li>•Employee must be able to recognize the external knowledge opportunities</li> <li>•Promote employees' embeddedness through informal network</li> </ul>
	...		...	...	...	...	...
	Manage an open product-service architecture		...	...	...	...	<ul style="list-style-type: none"> <li>•System architects must be able to manage an open product-service architecture</li> <li>•Must be able to connect disparate and fragmented research activities into effective future system</li> </ul>
	...		...	...	...	...	...
Value externally	Identify the "surplus portfolio" to manage (waste of R&D)		...	...	...	...	<ul style="list-style-type: none"> <li>•The « surplus portfolio » must be systematically identified and managed</li> <li>• « surplus portfolio »: intellectual assets created in excess and not valued within internal projects</li> </ul>
	...		...	...	...	...	...
	Reward employees when they reach open innovation objectives		...	...	...	...	<ul style="list-style-type: none"> <li>•The rewards system must fit with open innovation objectives</li> <li>•It should reward employees able to identify new business model to leverage technologies to license</li> </ul>

# Conclusion

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- ❑ Manufacturers need to be agile, to cope with continuous change. They need to be able to manage the following **agility drivers**:
  - **Uncertainty management**
  - **Knowledge & learning management**
  - **Collaboration management**
  - **Multiple valuations management**
- ❑ Open innovation represents an important organizational and cultural shift.
  - The “surplus portfolio” should be valued instead to be considered as “waste”
  - High importance of the system architect to manage an open product-service architecture
  - The R&D reward system should better fit with open innovation objectives
  - Formal and informal network should be managed
  - R&D employees should be in closer relation with business model managers
- ❑ Open innovation requires to **renew existing metrics** to assess capability and performance

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Thank you for your attention

If you have any questions...

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