

# **A GLOBAL VISION OF INFORMATION SYSTEM**

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# SUMMARY

- ✓ **Information System**
- ✓ **MGKME**
- ✓ **MGIME**
- ✓ **Essential Points**
- ✓ **Discussion**

# INFORMATION SYSTEM

- “An Information System is an organized set of resources: material, software, employees, data, procedures, in order to acquire, to process, to store, to disseminate information (data, documents, image, sound, etc.) in organization”
- “An Information System is the set of all elements that contribute to the process and the circulation of informations in an organization (data base, software, procedures, documents) including Information Technology”
- “Technically, we can define an Information System as a set of elements interconnected which collect (or recover), process, store and disseminate information in order to support decision and process control in organization”

# Systeme d'Information

- « Le système d'information est un ensemble organisé de ressources technologiques et humaines visant à aider la réalisation des activités de l'organisation » (Nurcam et Rolland, 2006, p. 222)

# Our Definition of Knowledge Management

CCRC ECRIN working group

The management of activities and processes designed to amplify the use and creation of enterprise knowledge through two complementary goals that are closely related:  
a goal of creating enterprise heritage and,  
a goal of constant innovation.

These goals rest on economic, organizational, sociocultural and technological foundations

Comité de pilotage de l'action Capitalisation des Connaissances et Redéploiement des Compétences de l'Association ECRIN, 2001

## II. MGKME Description

**MGKME suggests a Sociotechnical approach defined as “*the study of the relationships and interrelationships between the social and technical parts of any system*” (Coakes, 2002).**

**MGKME incorporates **two main categories** of elements:**

**1) The underlying elements**

1. Sociotechnical environment, and
2. Value-adding processes.

**2) The operating elements**

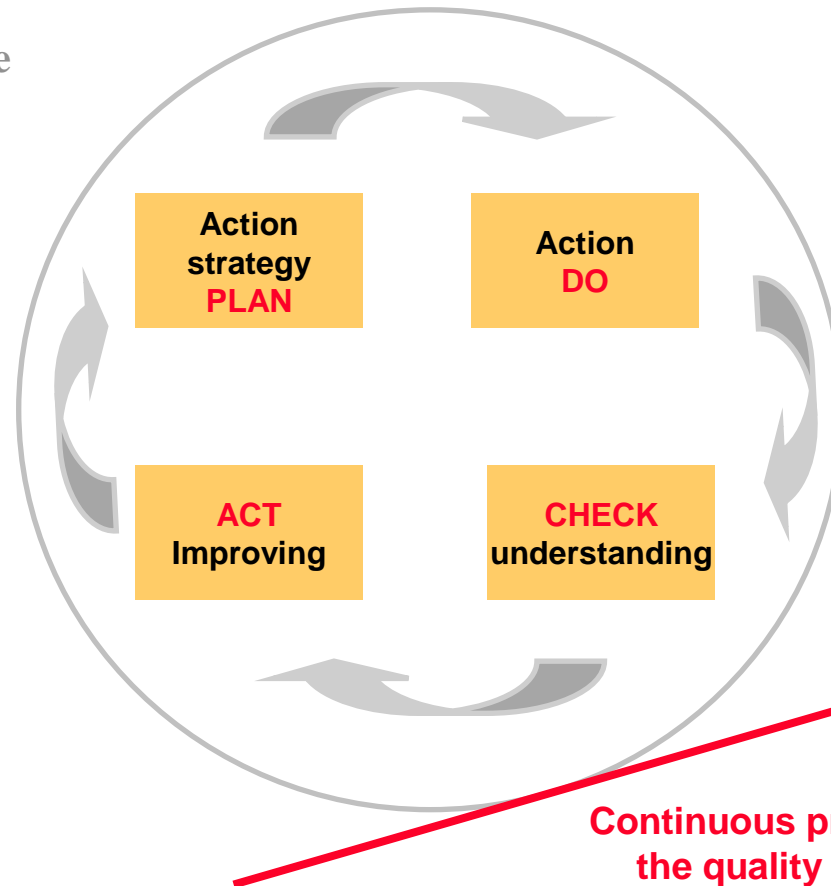
3. Managerial Guiding Principles,
4. Organizational learning processes,
5. Relevant infrastructures,
6. Generic Core processes, and
7. Methods and Supporting Tools.



## 2) The Operating Elements

### 3: Managerial Guiding Principles

DEMING 's Cycle  
(PDCA)

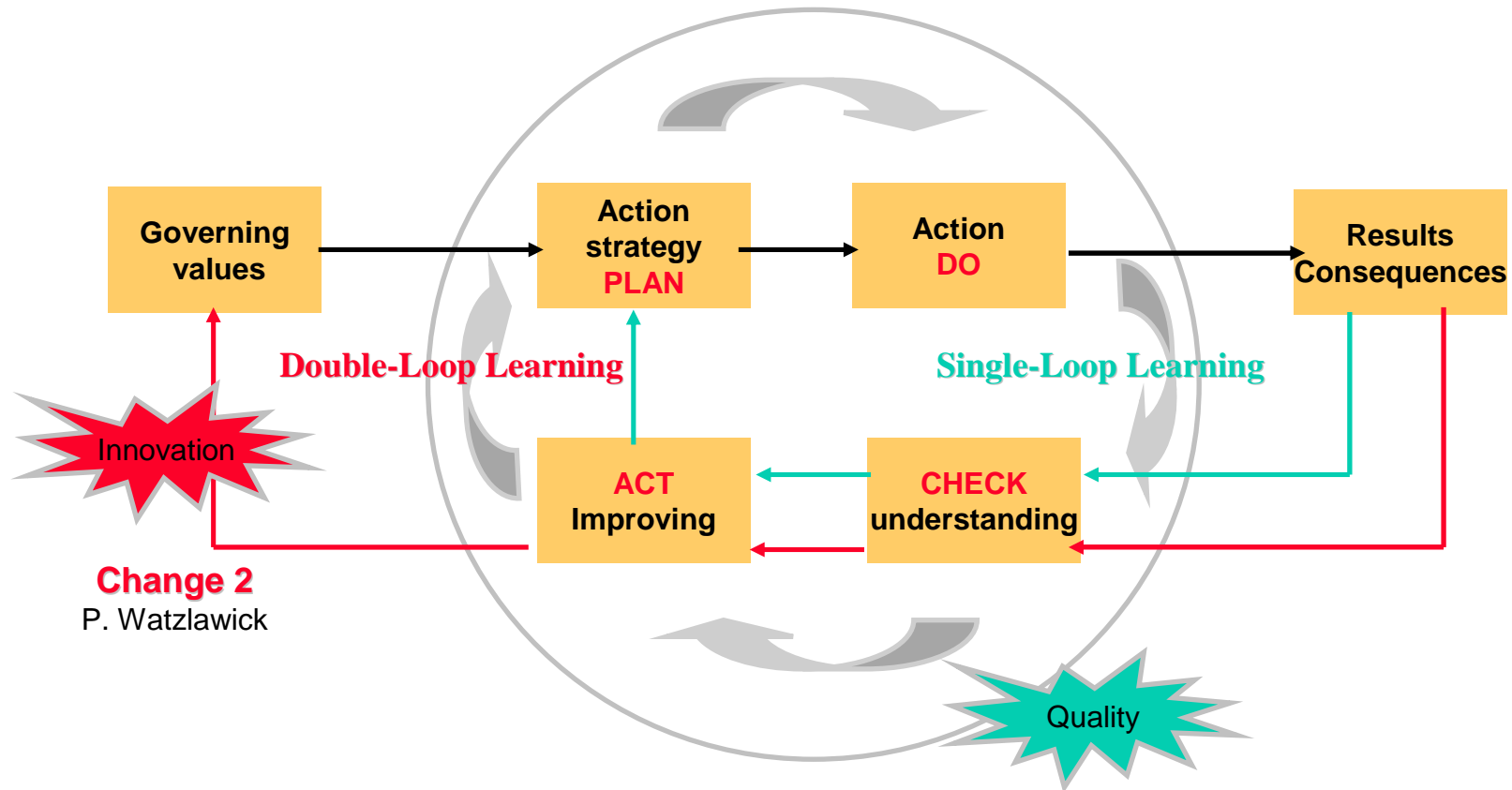


## 4: Organizational Learning Processes

Governing  
values

## 2) The Operating Elements

### PDCA's Cycle and Organizational Learning Processes Relationships



## 2) The Operating Elements

### 4 : relevant infrastructure

#### Relevant Infrastructures

**Relevant infrastructures are adapted sets of devices and means for action.**

- **Beyond a network that favors cooperative work, it is important to implement the conditions that will allow sharing and creating knowledge.**
- **Relevant infrastructures must be set up according to the specific situation of each company, and the context of the envisaged KM initiative.**
- **These infrastructures could be inspired by the Japanese concept of *Ba* that “*can be thought as a shared space for emerging relationships*” (Nonaka & Konno, 1998).**
- ***Ba* can inspire infrastructures that bring the dynamism to continually create new knowledge through a cycle of converting tacit knowledge into explicit knowledge and then reconverting it into tacit knowledge.**



Generic KM Processes

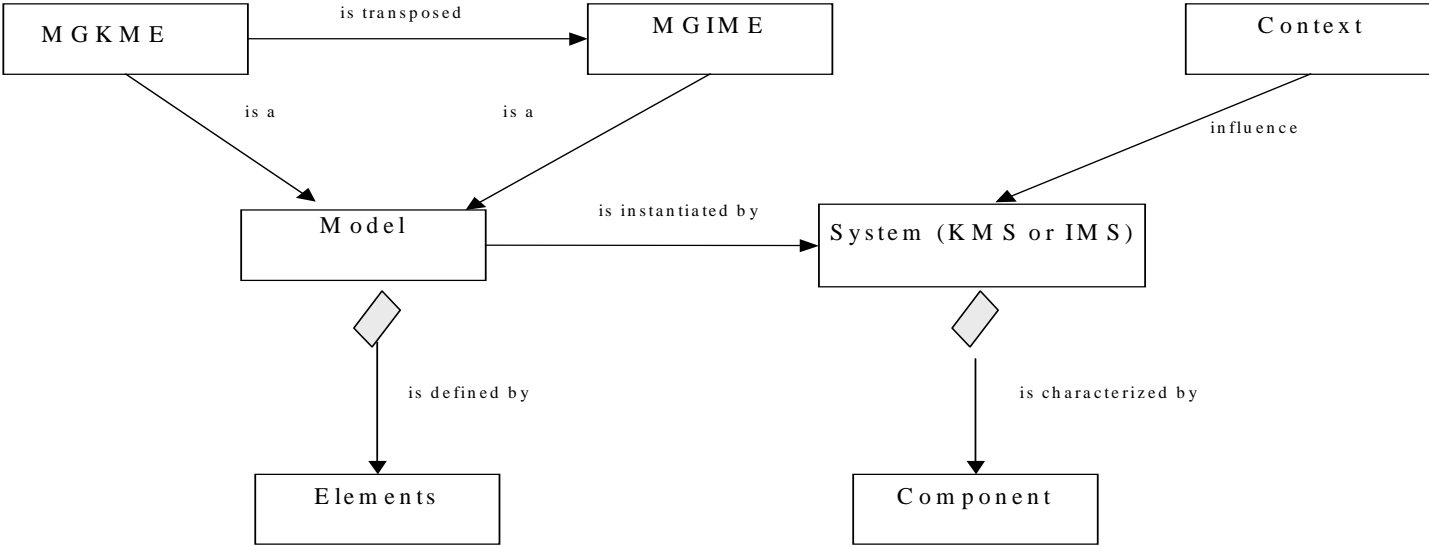


***We consider the MGKME as an ideal  
Enterprise's KM status to be reached***

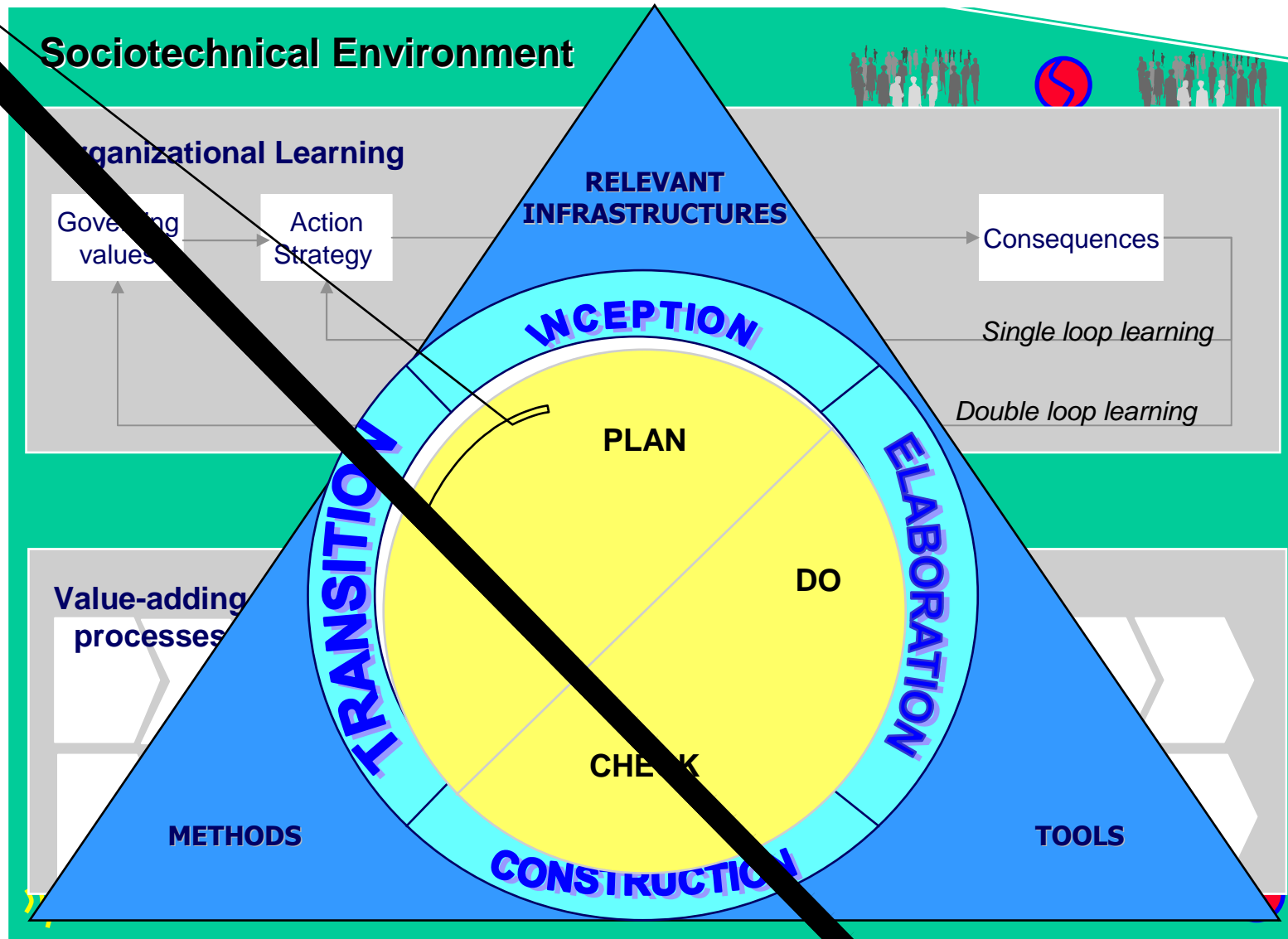
- **From the KM initiative viewpoint, KM becomes a reality in the implementation of Knowledge Management Systems (KMS).**

Identifying the Enterprise's KMS components included into the MGKME elements enable to measure the status of the knowledge management system within the enterprise. This status combined with the characteristics of the IT Governance Maturity Model suggested in COBIT (2005), enable to assess the Enterprise's KM Maturity level.

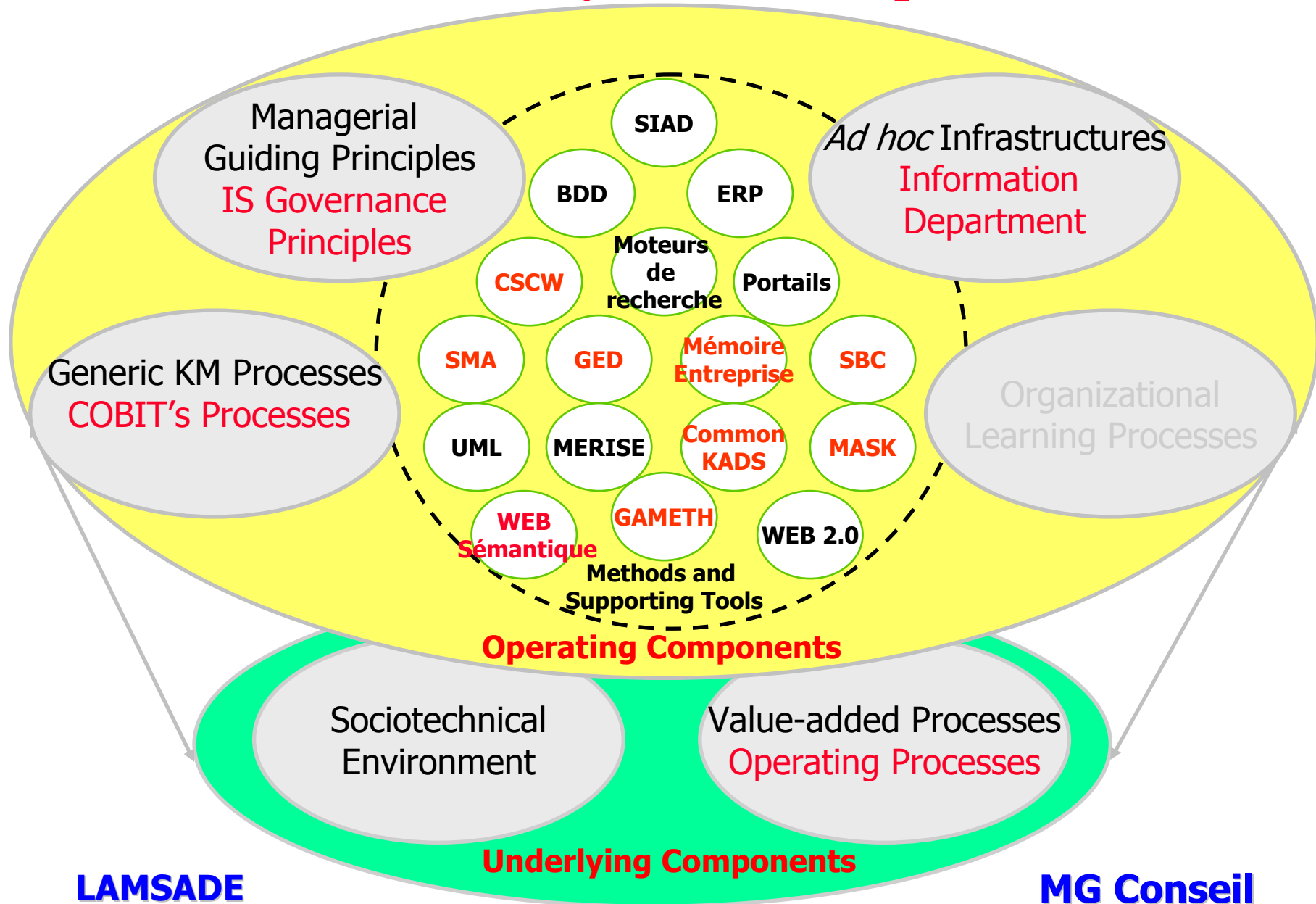
# TRANSPOSING MGKME TO MGIME (macro-architecture)



# The model



# Information System 's Components



## ESSENTIAL POINTS

- We distinguish the concept of model from the concept of system,
- Digital information system enables only flows of data and information. Therefore, distinguishing three types of information,
- In MGKME, considering tacit knowledge embedded by individuals, we have to consider individuals as integral part of Knowledge Management System (KMS), that means as a component of the system, which is a processor of knowledge. As a metaphor we think about virtual reality applications or second life applications.
- In the transposition to MGIME, beyond the vision of individuals as users, we integrate the vision of individuals as a processor of information in the context and the situation of their activities.
- The context is inherent with underlying components as sociotechnical environment and value-added processes.

# DISCUSSION

- **MGKME as a referential for knowledge Management (KM) within the enterprise.**
- **MGIME a transposition of MGKME**
- **From MGIME we highlight two categories of component for IS : underlying elements and operating components**
- (i) **How to consolidate the concept of Information System considering individuals as users and components of the system; and**
- (ii) **How to use Information System as one of the factors enabling organizational learning processes.**

**Does this distinction improve the IS engineering ?**

**Does the transposition of MGKME to MGIME allows to make companies aware of :**

- **the importance of business processing modeling,**
- **the influence of the sociotechnical dimension,**
- **the human as a user and a component of system,**
- **finally the importance of the organizational learning processes in IS engineering ?**

**In the future, we should complete and validate the MGIME, by developing our researches in that sense.**

***The virtual reality :  
an example of an hybrid system of knowledge and information  
Integrating human as users and components of the system***



imple Virtual Round Table scenario in the area of urban planning.

