

Triological principles :
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Industrial ecology, eco-efficiency, sustainable technology are some of the key words for companies development for the future. They promote cooperation between natural and social scientists, engineers, policymakers and practitioners, because its necessary to find new way of life to take in account environment. Production systems only based on ressource extraction, should be replaced by systems that reuse ressource, industrial practice have to change, its necessary to think about relocating whole factories, building new distribution and logistics arrangements, etc. On the other hand, the literature shows organizational variables for innovative companies as strategic flexibility, communication and use of IT, strategic alliances, etc. Then we can say that lean management try to reduce all kind of waste while trying to give the good answer to customer's needs.

We suppose its time now to change the way of thinking and to go from linear to circular economy as soon as possible. This notion is coming from industrial ecology. It involves remodeling industrial systems along lines of ecosystems, recognizing the efficiency of resource cycling in the natural environment. From linear system to circular system suppose redesigning industry and organization way of being, encourage cooperation, need to redesign products, have an impact on consumer behavior. This new way of thinking requires systemic changes. They must be embedded in partnerships and networks of companies operating at different points in the supply chain. Collaboration is important between companies from innovation to logistic infrastructure, but also between companies and consumers.

This a great challenge for companies, an innovation challenge and an education one for people, students, to raise public awareness. According to recent research projects about firms evolution : (Spos project, Innovation and sustainable development (SME practices),local alliances for global development), we can resume some important goals for firms improvement including sustainable development.

The first point of this paper insist on the main purpose we find the most important for the next years and their influence on human management. Firstable it could be interesting to speak about clusters and firms networks, and interfirm cooperation, then we will try to explain the importance of total life-cycle approach. According to these news organizational approaches, its necessary to explain how they change human management point of vue. Then, we will point what we name eco-socio-innovation, a new approach of the organization. At least we introduce our personal point of vue, we propose a triologic approach for the organization and for the employees. This approach is a kind of middle way between opposite recommandations, possible bareers to change. Try to gather opposite ideas in a third way which could be an answer to the complexity.

New issues for firms

1. Clusters for global exchanges

Clusters and their networks appear to be significant tools for regional development promotion, which are very important for the growth of the small and medium size companies, but also for big ones. Technological clusters, especially high technology ones, play a significant role in the process of stimulating competitiveness and innovativeness of regions.

The models of cluster life cycle and the mechanism of their formation show that its important to be careful with the co-operation between cluster members, the kind of cluster deployment policy and innovation policy.

2. Total life-cycle approach

In recent years ,environmental regulations or consumer pressures have an impact on industrial organization, for example, some companies make product design and manufacturing decisions with eventual recycling and reconditioning in mind. Its true for products (B to B and B to C) (eco-conception, eco-socio-conception) but also for firms : energy efficiency, sustainable organization. Its almost true about supply chain. It's necessary to divide the chain into its five key components and analyze options, costs, and benefits for each: product acquisition, reverse logistics, reconditioning, distribution and sales. Its necessary now to consider the life cycle of the product and to point value and costs at each step of the product.

Nowadays, most of companies make product design and manufacturing decisions with eventual recycling and reconditioning in mind. The key is to focus on end of life products. How can companies manage this new approach ? Its and important question, but not the only one. It is valuable to develop a set of key performance indicators . So we can speak about green and frugal manufacturing

What kind of changes

Then it could be interesting to point some of change, we decide to focus on human management for sustainable development and innovation.

1. We need creativity and innovation

For product firstable : consumers ask good quality products centered on use, innovation and long life products using less energy, and easy to use, reducing failures at each stage of product life. Then we need creativity and innovation for organizations, to improve eco-efficiency way of manufacturing. It requires interdisciplinary approach between scientific disciplines, economics and socio-economics.

2. We need to apply systemic approach

To apply cradle to cradle for products: to increase durability, to imagine new distribution channels. By the way, we have to reduce uncertainty and to be aware of complexity. In a company, Its not only the job of sustainable development specialists (and those with equivalent positions or responsibilities) but it may concern all the employees who became agents of change: to develop the structures, systems, ways of working and personal values that will support the organisation's sustainable development objectives; and to encourage others in the company to act as enthusiastic agents of change. But conceptual diversity is the main dilemma for the organization. There is sometimes a tension between opposite decisions. Dialogic and contradictions need change management and complexity management. We need to go to empathy, to mix social, economics and technological regards to emprove our way of life, build links between things which are apparently opposite.

Why a trialogic thinking

In a dialogic process, various approaches coexist and are comparatively relativistic in their interaction. **But we think it could be better to bring the concept of “trialogic”, consisting operate a meta-analysis of the organization and to have a a kind of mediation between opposite thinking.**

1. Dialogic effects and organization

Dialogic suppose interactions and we can explain some of them :

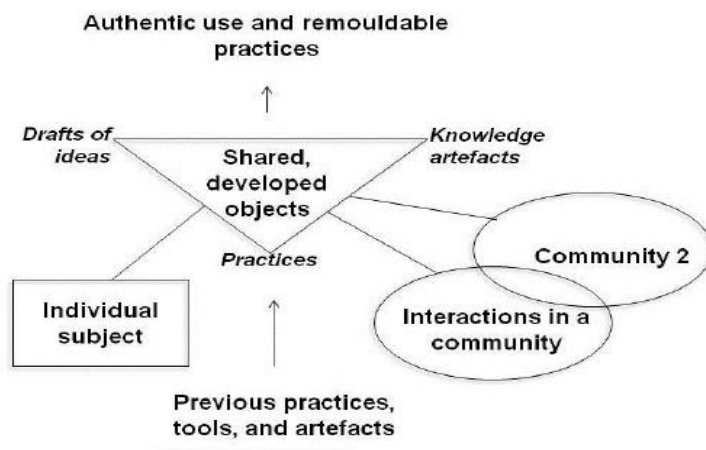
- For the firm : Global/local: Glocalization ,short term / long term, Sustainability / Profitability, profit maximization) / Social Responsibility; Competition / cooperation / cooptation
- For the employees : Creativity / procedures / standards; control/autonomy, trust /distrust, Individual / group, Intuition / rationality, etc

2 Dialogic effects and risks

All these things may be considered sometimes as opposite. As Festinger said, the main risk is a cognitive dissonance for the employees and sometimes for customers, and also lack in decision making.

3 A trialogic approach

We propose to connect opposite with a kind of mediation between which could be a third way, and we call this a trialogic approach. This approach suppose empathy and co-creation, it need to relink opposite ideas and to consider interactions between different elements. We think its necessary to combine linear approach and systemic one, but we notice that its difficult in companies and we propose as Lupasco that the fundamental dualistic antagonism present in energy and accordingly in all phenomena could be formalized as a logic of an included middle with a semantics based on ‘reality values’ in place of truth values, because complexity reduce certainty. This approach is based on learning theory and collaborative learning and could be apply for example in problem solving.



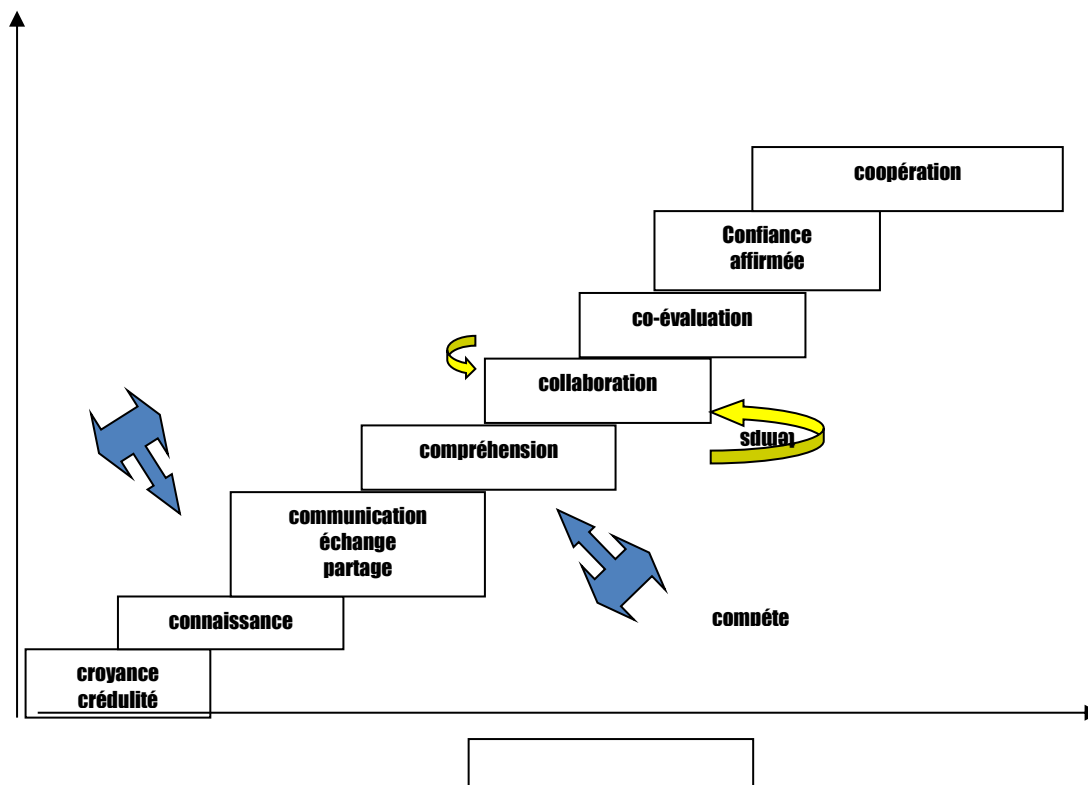
How to go to a triologic approach

Listen to innovate and co- create

Develop creative-thinking and design thinking is the first way to innovate. Its suppose to have and to get information tools to be aware of customers needs and markets tendancies. Build structure to facilitate connectivity and co-creation .We do not co-created without support, without spaces common ways to interact. Be careful to a minimum degree of diversity: people too similar to each other can co-create, but they will not produce a different result from that which would produce a single group member. A "governance" rules, arbitration arrangements, but focus on the process rather than the result, and leave large degrees of freedom to the participants.

Trust the way to co-create

As we saw, after long research in companies, it's a long way to go to co-creation and we propose a 7 steps model to reach this aimt. We call it "cooperative dynamics"



To conclude : systemics goals suppose an another point of vue about problems, think global suppose also a mediation between opposite which can be a good answer to innovation needs.