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A PATHWAY TO THE FUNCTIONAL AND COOPERATIVE ECONOMY (FCE) FROM A SUSTAINABLE DEVELOPMENT PERSPECTIVE

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THE FUNCTIONAL AND COOPERATIVE ECONOMY (FCE)

**Imagine an economy lending itself to servicing human and nature;
Imagine an economy resting on non-materialistic and potentially endless resources rather than finite resources.**

This document aims to explain and shed light on concepts developed from the Functional and Cooperative Economic model. Based on analysing the dominant economic model's impact on business performance and territorial development, the paper intends to better understand how businesses and territories may withdraw from the current model determining factors and benefit from the service economy competences from which the FCE model develops its fundamental principles, and thus evolve in line with a sustainable development perspective.

In order to reach our objectives, we will start by developing on the fundamentals of the current economic model, its consequences and the deadlocks it poses on enterprises.

We will then progress to discussing the service economy levers from which the Functional and Cooperative Economic model rests.

Examples of businesses adopting an FCE approach will allow us to illustrate this new model.

1. LIMITS OF THE DOMINANT ECONOMIC MODEL

It is now beyond questioning that for the European socio-economic actors, the current economic model does not satisfactorily respond to the challenges and stakes of sustainable development:

- A number of environmental issues raised by the scientific community on the finite characteristic of natural resources have questioned the model.
- The current model reveals an inability to adequately respond to a series of socio/societal challenges: affordable housing, breathing quality air, offering safe and balanced nutrition to all, equality of educational and cultural resources,..
- Regular health costs increase due to difficult work conditions engendered by economic pressures experienced by businesses.

The current economic model does not satisfactorily responds to the challenges and stakes of sustainable development

In this context , new models are emerging as the circular economy, the rental model, the cooperative and functional economy which tries to bring new answers to the current limiting economic model.

Among those we propose to focus on the EFC model and understand better how this model deals in a integrated way with the sustainable development issues.

THE INDUSTRIAL LOGIC BASED ON SALES VOLUMES

A dominant micro economic model based on indexing volume/turnover

The current and dominating economic model emanates from the industrial model and is based on the rationale of the sales of standardised products and services, associated with the principle of economies of scale: therefore encouraging the use of more materials, more energy, to create more value.



THE FORDIST AND THE FINANCIALIZATION OF THE ECONOMY

Since the 1980's, households markets of equipment goods became saturated, often being transformed into multi-equipment and renewal markets. Those non-stable markets are increasing at slow rates thus **intensifying competition** and the need for firms to manufacture varied products and ease goods' obsolescence.

This approach requires large company investments and commands a growth of productive lines towards greater technological flexibility.

With market saturation economies of scale undoubtedly weakens, even negates possible profit, and firms struggle to achieve two digits productivity gains.

In order to secure some productivity gains, firms have engaged in a management dynamic which includes:

- Focusing their activities on what seems to be for them the most profitable productive segments.
- Leading according to monetary and financial instruments, directly influencing the production structure, productivity and quality.

Henceforth, a regulatory performance paradigm is developed which one may qualify as a neo-industrial and financial model, with prevailing profitability objectives over those of productivity and quality.

The relationship between these three pillars is then reversed:



FORDIST MODEL

FINANCIALIZED MODEL



Profitability comes first, becoming a priority and orientates the firm strategies as well as decisions made about resources management.

Productivity is no longer regarded as tangible (so many units or products per man hour) but through monetary lenses (added value per hour/worker). The shift from a tangible approach to productivity corresponding to what operational staff perceive and experience, while management and shareholders perceive the monetary value of productivity, this further disconnects operations from the very meaning of work in the sense that value creation is no longer depends on work productivity but rather on price evolutions. Adopting this approach translates into quality becoming residual.

WHAT ARE THE CONSEQUENCES FOR FIRMS?

Preferring margins and productivity impacts:

The Industrial and financial productivity logic puts firms in difficulties.

constraints and costs, which turn into competitive disadvantages and limits sales volume. e.g.: in producing bio-goods, natural resources, responsible local production ... reflect into higher costs which impact selling price and translate in difficult market positioning amongst competitors whom do not necessarily adopt the same principles.

- **On environmental constraints' management:**

Cost pressure: resources prices, taxes and costs related to new CO2 regulations are on the increase. In this context, businesses seeking a virtuous social or environmental behaviour endorse additional

- Quality is under constant cost review, whereas innovations have to be developed through necessary investment in R&D. Following a management logic, cost reviews supports lower quality products, motivates decentralisation and shrinks workforce engendering the negative effects it will create on area employment levels.

- Associated services to the offering remain difficult if not impossible to price according to their actual value. However they are becoming critical elements to the offering and a prerequisite to profit. A disconnect slowly appears between the value created and the factors from which monetary value is realised. For example, a boardroom audio-video technician may provide advices while evaluating the client specifications, neither invoicing the consultation time nor the value related to a customised offering. He or she only considers the sole value of the equipment sold. Yet, for a part of the equipment, cost prices and selling prices drastically decrease, leading to a decrease of the turnover and that for the same time spent on the job.

- **On goods and services quality**

In the logic of financialisation, financial management performance indicators focused on costs reduction replace the production quality objectives, and undermine work ethics which allow meaning to the

What is not measured is beyond the scope of performance

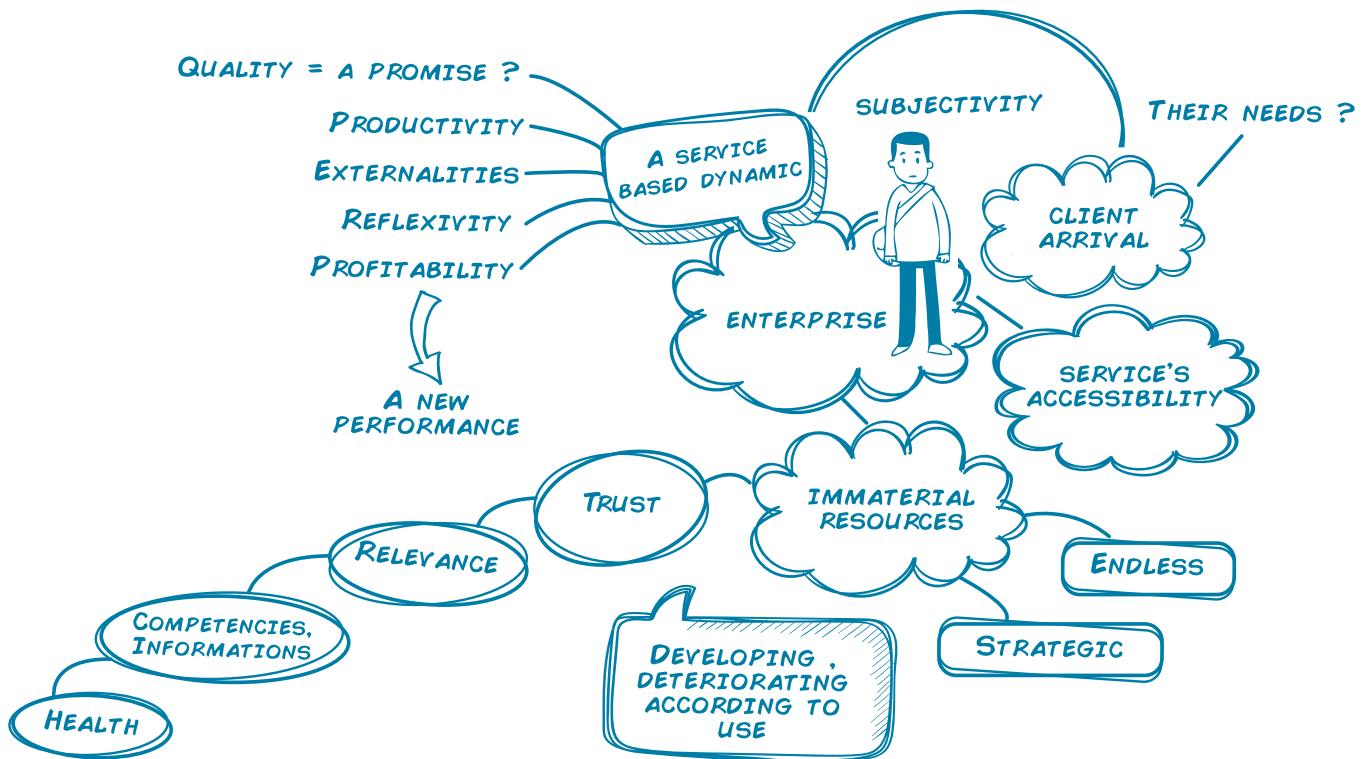
notion of work and reinforce self-esteem. Employees' efforts are seldom recognised, individual evaluation is more often focused on results and only those measurable. Productivity profits diminished over intensified labour, put employees at the heart of a paradox: the employee while contributing to productivity profits invests his efforts without excluding the accrued risk of possible job loss.

This dead end creates a central element to consider when reflecting on the creation of a new model.

Madness is to continue behaving the same way and to expect a different outcome (Einstein)

In this situation; continuing with business as usual will undeniably have negative impacts on firms life expectancy, the quality of offerings marketed, the meaning of work, and the future of territories. Nevertheless, such impasse also offers great opportunities to innovate, test, and renew client-company relationships, in other words; managing differently, producing differently and, frankly facing the challenges of sustainable development, (viable economy, equitable social relationships, shared governance, environmental protection).

Our current benchmarks of production/ management/ organisation models are remainders of the industrial in heritage, in an economy largely relying on services production. It is therefore essential to consider an alternative economic model qualified to address the identified issues; a model we would refer to as **a service-based model**.



2. THE SERVICE-BASED DYNAMIC

To explore this dynamic it might be useful to start with the fundamental activities linked to service development.

DRIVERS OF THE SERVICE-BASED DYNAMIC

Mainly the difference between the production of service and that of product is the **role of the beneficiary, customers and actor of service production**: services occur in real time while the customer is either present or at least somewhat remotely interacting with the provider, these situations empower service beneficiaries with high decision making ability and decision of action towards the firms representative.

The springs of the service-based economy

Services are co-produced by partners with divergent directives and roles for the organisation. Quality, final results will then be linked to the firm's employee ability to understand the customer needs and wants and to engage in a cooperative relationship.

- Within this setting, employees as well as service beneficiaries **subjectivity** is to be taken into account during service development, service customisation, and the solution such service may offer. Thereabout it becomes a matter of closing rather than reducing the gap between prescribed work (the task to complete) and actual work (the conditions under which one completes his task), it is about organising terms of needed adjustments; a regulating position generally undertaken while the service is being delivered.

For example: while setting up a training session, should the instructor have set objectives as well as a program to follow, he or she will have to constantly adjust the content, the time allocated, the practices, in line with the particular expectations, or/and comprehension skills of each participants as well as each trainee degree of investment in the said sessions. Competency relates to one capacity to organise these enabling modifications to reach the final objective.

- Another characteristic of service activities is on their **condition of accessibility**. Generally industrial goods depend on household ability to pay their debts or solvency, but services also poses constraints:

- Time: customer disposable time since they need to be present to receive/experience the service, time synchronisation between the provider and the beneficiary is necessary.
- Culture: understanding of the promise told by the service, shared language, cognitive numerical comprehension.
- Competences: shared technical knowledge and savoir faire acquired by the service beneficiary,
- Geographical (spatial governance): transport conditions, time, cost,..

The above relationships however based on geographical proximity, shared cultural elements and, shared experiences are all the more in favour of developing service activities.

How to leak out of the confinement of the existing model, what is our leverage?

- Finally, the service activity is based on a **service relationship**, i.e. on **intersubjectivity**: associated with the relationship that occurs between people in charge of the service provision and the beneficiaries.

This intersubjectivity mobilizes decisive immaterial resources in achieving the service:

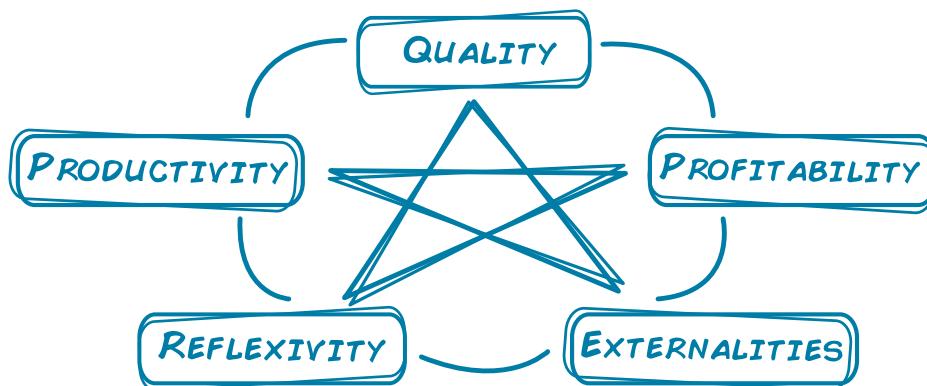
- **Trust** between actors (and thus the reliability of technical systems of products, processes, decisions); within the organization, between organizations, between organization and institution.
- **Relevance** of organizations and services against the beneficiaries' expectations.
- **Competencies** of which knowledge, know-how, thinking (ability to interpret signals from the environment); fall within the knowledge and aptitudes to deal with events.
- **Health** as a resource (availability and capacity) and result (commitment), be it considered in its physiological or mental dimension.

These immaterial resources are strategic and turn into growth drivers. **They have three characteristics:**

- They are not measurable, while they can be subject to evaluation,
- They have the opportunity to develop during work experience related to the quality of the organization and management,
- They are intrinsically linked to the human dynamics of the economy; as such they fall within the company but also the organization of the company, the quality of territorial arrangements.

TOWARDS A SERVICE-BASED PERFORMANCE

The performance is not based only on the more efficient use of hardware resources, but on conditions in which intellectual resources are mobilised.



How do the determinants of performance change?

Reconsidering Performance's determinants

• **SERVICE QUALITY** is co-produced with the recipient, so it is uncertain, not totally predictable; it becomes a promise to keep.

The focus moves from the value-in-exchange to the **value-in-use**: if a product is a component of the offer, it is the use of the product and its customization that make service and not the product itself.

Similarly, the focus is on the need for the service (by the product) offering rather than the means mobilized to implement the transactional service. For example: in order to offer a mobility solution, a bicycle should be easily accessible to the customer and suitable for different uses to reflect the promise of mobility.

This new direction allows changing of perspective: rather than seeking to reduce costs, the company may seek to increase the value or use of service-based value proposition thus creating a differentiation.

• **THE DETERMINANTS OF PRODUCTIVITY** in a service-based perspective involves the commitment of employees.

SHIFT FROM ECONOMIES OF SCALE TO ECONOMIES OF RESPONSIVENESS, AND FLEXIBILITY; be able to produce goods, different services with the same production facilities, by changing the methods, according to the expectations of the beneficiaries. The more processes are flexible, the more responsive teams are, the more time savings in terms of coordination can be achieved.

For example, the same support process of companies, with the same operational concepts can be applied to different sectors of business.

SHIFT FROM ECONOMIES OF TECHNICAL INTEGRATION RELATED TO TECHNICAL PROGRESS TO PRODUCTIVITY GAINS FROM RELEVANT GOODS AND SERVICES ASSOCIATION

For example, a company that performs maintenance of street furniture could imagine that its agents operating on the territory can simultaneously perform the display on bus shelters and, why not, manage the maintenance of other movable or equipment in public spaces.

A cleaning agent that cleans the common areas of buildings can simultaneously work on displaying information, or ensure that during a heat wave older people in the building looked after.

SHIFT FROM ECONOMIES OF SPECIALIZATION OF LABOUR FOR COMPLEMENTATION GAINS: Relevance of skills of actors matching improves the quality of cooperation and effectiveness. The more actors with complementary skills and resources cooperate together, the better complexities are treated and the faster relevant results are obtained.

For example: a computer company used to sell computers and software to its customers. Today, it sells the service the computer provides, while retaining ownership of the equipment. This change implies greater cooperation within the company between the people with technology skills, those able to know / understand the needs of

customers and business, able to formalize in legal terms an offer and a business model.

EXTEND LEARNING ECONOMIES TO ADOPTION ECONOMIES: The stability of links with the beneficiaries allows, from the confidence and the knowledge gained, to achieve significant gains in time and relevance. The more we know each other, the sooner we understand each other, the more co-production is facilitated and coordination costs are reduced.

For example: The doctor, because he knows his patients, will save time on the diagnosis. In return the patient, because he has developed a trusting relationship with his doctor, do not seek a second opinion.

SHIFT FROM ECONOMIES BASED ON THE INTENSIFICATION OF PRODUCTIVE WORK DIRECTLY TO GAINS FROM THE PROFESSIONALIZATION OF INDIVIDUALS, TEAMS, AND COMPANIES: with time investments dedicated to immaterial resources development. It is not enough to intensify the work but take the time to reflect on feedbacks from experience REX and accumulated knowledge; REX and Evaluation; REX and Professionalization; REX and service-based Innovation.

Two new registries enter the field of performance:

- **EXTERNALITIES** (company unintended external impacts created by the activities of production or consumption which could have environmental and social effects) positive or negative generated by corporate activity have to be taken into account. Should the firm manage these externalities appropriately, resulting stakeholders as well as areas management may become sources of additional value.

Integrating two new registries

Example: A solution to assist owners of older homes in the thermal renovation of their property will generate positive externalities for insurers of such persons: a renovated house often means one which received an updated electrical system according to new standards, hence reduced energy bills may further increase the solvency of people. Many positive externalities could justify that insurers contribute to the implementation of this offer.

- **REFLEXIVITY:** Given the conditions of implementation of work, and the forms in which the management takes place, immaterial resources (mobilized by the company within the promise made represent the service) can grow or deteriorate.

This applies to:

- Trust between people, trust given to the company
- Skills, information available
- Relevance of the organization's offering
- Health of employees, beneficiaries, and of the local inhabitants

Immaterial resources are potentially endless.

- **PROFITABILITY** is in this dynamic, the result of the way different registers have been linked. A reasonable return is sought.

3. FUNCTIONAL AND COOPERATIVE ECONOMY MODEL

FUNCTIONAL AND COOPERATIVE ECONOMY, WHAT ARE WE TALKING ABOUT?

The Functional and Cooperative Economy, The economy of functionality and cooperation builds on service-based axis. It proposes to re-examine the business model¹ and the economic model² of the company.

a journey Breaking with the dominant model involves for the company, whatever its status are, to rethink its product and service offers based on the consideration of the usages, and usefulness expected by the beneficiary. It takes asking questions such as: How do you use the service/product? How useful do you consider the product/service to be?

For example: the company moves from the sale of heating systems to the sale of a thermal comfort solution. What is now sold as a result; an expected number of degrees, maintenance, but also training in the use...

The solutions come in forms of promoting a **convergence of interests** between businesses and households, organizations and areas. The solutions are contracted on the basis of **reciprocal commitments** towards **performance of use of the goods and services expected as well as useful effects.**

Example: A company that sells heaters has an interest in continuing to sell the devices. If it sells comfort, it has an interest that its devices for heating are the most sustainable and energy savings are met. A joint undertaking can be implemented with the customer for sharing potential monetary gains from savings in excess of what was originally planned (savings on maintenance, device replacement, higher energy gains). The area, which also has an interest in its people changing their heating systems, can here engage in supporting the reduction of energy consumption.

This dynamic queries the scope of the challenges to be met by the solution and the expected effects it has. The seller of the heating equipment now takes into account the issues of comfort, quality of life, and energy performance.

The difficulty is not in understanding new ideas, but in escaping from old ones (Keynes, 1936)

The Functional and Cooperative Economy also re-examines areas modes of development. New scope of action manifest across **functional spheres:** meaning activity spheres that determine the industries that allow to develop solutions in the areas of living, health / wellness, food, knowledge, the mobility of goods and people... To do so, providing

(1) The business Model covers the architecture of the three economic processes that are the creation, distribution and accumulation of value. It shows in particular the conditions upon which the company capture value in monetary and non-monetary forms.

(2) The economic model reflects and characterizes the conditions under which the company transforms the various dimensions of economic value in monetary terms. It covers the conditions under which it sells (or leases) goods and services produced, of disjoint way associated or integrated and the conditions under which the company contractual purchase and sales relations with its customers and suppliers.

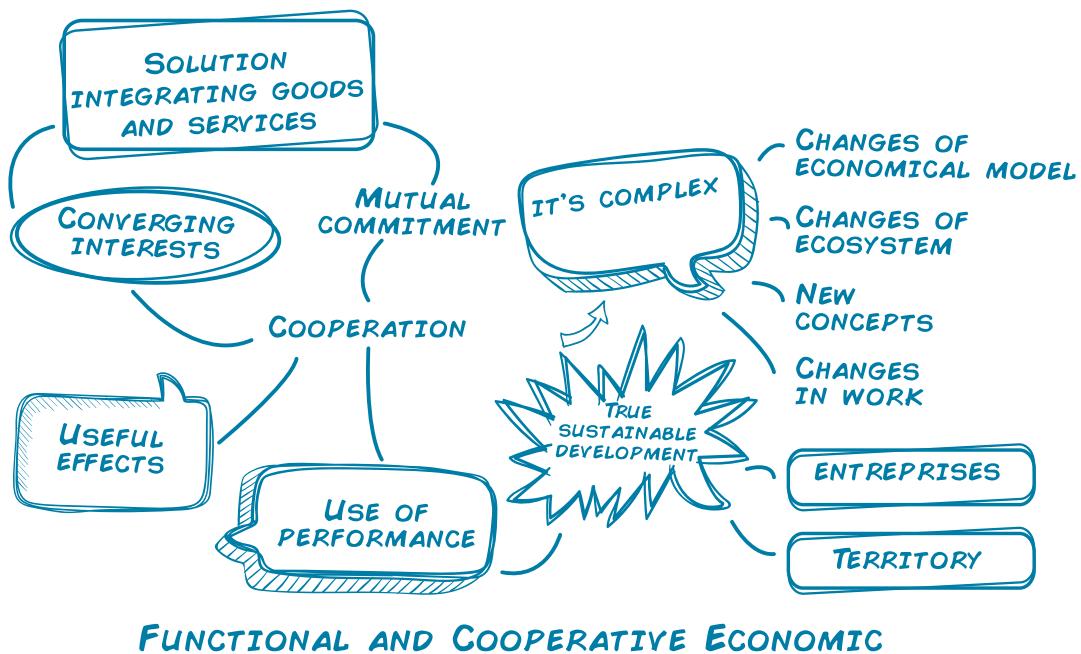
solutions, includes, generally, actors from different sectors engaged in cooperative processes that support and reduce the environmental and social negative externalities.

Another feature of this model is the **scissor's effect**. In the service economy, as the use of material resources decreases the use of intangible resources increases.

THE FUNCTIONAL AND COOPERATIVE ECONOMY FALLS INTO TWO STAGES:

Definition of the Functional and Cooperative Economy

- The first is for the company, whatever its status to move from the sale of a good or service to contracting the use of a performance based on the integration of goods and services.
- The second is to achieve integrated solutions for goods and services to assist in handling the challenges of sustainable territorial development in terms of living, mobility, food, health, knowledge, ...



IN IMPLEMENTATION, THE FUNCTIONAL AND COOPERATIVE ECONOMY:

Proposes to invest in its immaterial resources

- Suggests to economic actors to **invest in their immaterial resources** to develop and build strategic assets of the company. That is seeking to develop the skills, confidence, relevance of the organization, and address the effects of work on health (foster a work that makes sense to back a strong involvement of people).

Feedback from experience, exchange with peer groups, and such evaluation systems are all sources of reflexivity and development of immaterial resources.

- Cooperation occurs internally between collective labour and management, externally with customers and partners. Cooperation is reflected in the work from the constraints of time, from the perspective of a common goal.

Relies on cooperation arrangements

The monetary value of the offer being oriented towards performance achievement, cooperation with customers leads to a convergent interest to reduce the material resources mobilized in the implementation of the solution, and allocate the savings between the two parts. (See example Lyreco).

Build a renewed business model

The proposed solution is sold on the basis of results and elements of performance, and not longer on the resources committed only. For example, no longer a transfer of ownership of video projection equipment, but rather a contract based on a commitment to performance of use in terms of educational issues.

It therefore encourages the supplier and the customer to agree on added value according to expected results, and the customer's willingness to pay to mobilize bespoke means to achieve desired results.

Due to the consideration and management of customer expectations the proposed solution is unique. Therefore weakening competitive forces and facilitating relationship development and customer retention.

Establishes a renewed relationship to the client

Renews the link to suppliers

The relationship between the partners contributing to building a solution in response to customer's expectations is achieved through implementing a cooperative dynamic between different stakeholders.

These effective forms of cooperation between actors with different skills and approaches facilitate innovation. To create a mobility solution over a territory, we will have to mobilize automakers, car-sharing operators, public transport, telecommunications, parking managers, financial organisations,...

This new development model is built through the establishment of institutional arrangements, directed towards the development of a common territorial heritage (a trust, a capacity for action, etc.).

Brings out a renewed relationship with the territory

In doing so it re-examines and suggests renewing public policies towards business support and research of a sustainable development model.

The Functional and Cooperative Economy, a transformation path for businesses and territories



4. SOME EXAMPLES OF ENTERPRISES ENGAGED IN THE FUNCTIONAL AND COOPERATIVE ECONOMY NEW PATH

LYRECO



Lyreco is a family business selling office equipment. 4th player worldwide with a presence in 37 countries on the 5 continents, and 2,2 billion € of turnover. It has over 2000 employees in France.

The reflection the company had with Atemis on a new model from the Functional and Cooperative Economy point of view, resulted in two tracks:

- 1** Improving supply's management through developing a recycling approach;
- 2** Develop a new offer based on pursuing supplies' consumption savings through addressing and refining usage.

Current state of affairs:

- **Market's contraction**, buyers' consolidation, pressure on pricing, impacts on Lyreco's margins.
- **Logistica** limits: storage's costs, investments to meet the 24 hours delivery schedule, overstretched infrastructural capacities
- **Environmental** limits: unwrapping/wrapping repeating operations, transport and delivery. Plus, increasing complexity for delivery vehicles to access cities' centres.
- Limits in terms of **profitability**: difficulties to preserve profitability levels compatible with necessary investments in the company's development.

In response:

The new offer

- Lyreco mobilizes his knowledge of the uses of consumables by his client and compares it with the one corresponding other customers
- Lyreco and its client agree on the use of a consumable reduction target, taking into account the needs of services.
- Lyreco "takes over" the choice of certain products and supply.
- Lyreco offers a range of enriched services: provide dedicated support to users in their uses, reflected in the lump sum.
- Lyreco offers a 6 years contract

Converging interests: Lyreco-customer

For the customer: a professional manages the adjustments in consumable needs.

For Lyreco: the target of consumption savings becomes a shared goal, no longer antagonistic between Lyreco and its customer.

Proximity to the customer is strengthened, increasing differentiation from the competition. At the same time, distributing the saved monetary value helps increase margins.

Offer interest regarding sustainable development issues

Environmental issues: common interests of Lyreco and its customers to reduce volumes of consumables used. Integration of dedicated support in supply's management to end user towards responsible practices.

Social issues: considering labour issues related to working conditions and performance (equipment adapted to the needs and uses).



The company's offering consists in supplying, installing, and servicing the maintenance for non-advertising street furniture in public transport lines.

Current economical model's limits

For Urbaneo's CEO, the Functional and Cooperative Economy is seen as the opportunity to develop new solutions and exit the prevailing "vicious circle". Indeed, on one side the company was born of maintenance, on the other it provides furniture for communities. Yet, he notes that in order to win a public tender, he must provide less expensive furniture (thus affecting quality) and plan for higher needs in maintenance's labour on they own manufactured equipment.

1 PROVIDING AN INTEGRATED SOLUTION: SUPPLY, INSTALLATION AND MAINTENANCE.

The new offer

In Urbaneo furniture's maintenance contract, degradations generate business. If these impairments generate new demands on Urbaneo, they are, however, seen as negative externalities for the community.

Tackling these contradictions require actions of two types:

- On one side, a reflection on the intrinsic quality and appropriateness of the furniture (i.e. thicker glass for designated bus shelters)
- On the other, actions towards reducing criminal damage by influencing behaviour. Supported by the local actors, Urbaneo could suggest ways in preventing degradation.

2 MANAGING ACCESSIBILITY AND SAFETY ISSUES RELATED TO THE FURNITURE'S IMPLEMENTATION CHOICES.

Urbaneo is bound to developing furniture that are accessible to the visually impaired population, to provide an satisfying answer to organizing authorities and transport authorities needing to comply with legislation. As such, Urbaneo could play a coordinating role, as integrator, by adding sidewalks or highways redevelopments to its furniture installations, hence generating benefits.

3 MANAGING SUSTAINABLE MOBILITY ISSUES THROUGH EASING INTER-MODALITY.

One of the challenges of inter-modality is to remain as "simple" as possible. It requires integrated information, adapted modes of subscriptions, and physical networks. In this case, streets furniture at bus stops and stations could become the framework of a car-sharing network.

A solution integrating installation and maintenance, allows Urbaneo to keep investing in the design and manufacturing of higher quality furniture with greater value of use, while compensating the increased burden of the solution with reduced needs for maintenance.

Converging interests

Campaigning towards the target groups, aims to make visible the value and benefits of a greater respect of operators and the furniture. One of the challenges is to make each party benefit of savings from reduced repair costs. These savings can help finance these public campaigns. **Note that this new activity generates positive effects (or externalities) for the territory.**



GESNORD is a service company based in the Nord Pas de Calais, which offers planning management services to doctors. The company's CEO participated to the FCE support program animated by Atemis.

Limits of the current business model

Some business limits were rapidly identified:

- A low value-added services
- Aggressive foreign competition
- Work capital substitution's process through new technologies

All raising the question of which path to take outside the usual "industrial" response? (i.e. specialization, intensification of work, substituting technology)

Analyzing immaterial resources to allow reconsidering Gesnord offering:

A strong focus on doctors' health:

- Capturing health "weak signals" from overloaded doctors (burnout, depression, altered family life).
- Readily available information on offices occupation, and ability to redirect patients to available doctors.

Gesnord engages in design and regulation of access to health care design in the territory in response to medical desertification.

- Organizing the patient flow based on availability of offices in agreement with the doctors.
- Temporary Installations of practitioners with a guaranteed patient flow.
- Organizing concentrated consultation's days with specialist doctors.

This dynamic led to:

- Recruitment of a data manager to structure collected information.
- Investment in employees' development programs and trainings
- Evolution of labor: training operators to improve "weak signals" detection (from doctors and patients), and by doing so, increasing the understanding and meaning of the work activity.

Widening the offering

In turn, this generates:

- A stronger team dynamic, and a sense of belonging
- New employees retention
- Decreasing absenteeism
- Increasing trust with doctors, with a higher doctors retention rate

From building the solution of intangible resources, the information gathered by the operators relating to the patients needs allow a better control the patients flow in doctors' offices. This can help address the overcrowding of hospitals emergency rooms due to minor problems that doctors can handle.

Common interests

The company's scope of activity has significantly expanded and now stands out from the one of its competitors. Further discussions are ongoing with insurance companies on the preventive capacity of Gersnord activity, and with municipalities interested in having a doctor locally established. From now on, Gesnord is acknowledged as a health-planning actor of the territory.