# Taking into account the social effects of competition between products

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Because it enables us comparing the social impacts of different products' life cycles, social LCA can help decision makers to perform choices among several likely technical and economic options. The purpose of the life cycle is a service (captured in LCA by the notion of « functional unit »), which can be got either from several variants of the same industry (competing together directly and indirectly), or from substitutable industries (product substitutes, ersatz). During social LCA studies, researchers explore the relevant product system(s), and spot the leading firm. Around this firm, what are the organisations whose social effects must be taken into account? The issue is how to mark the boundaries of the **study perimeter**? Picturing the follow-up of the different steps of the life cycle by the « value chain »[1], in use in industrial economics, is not enough. Indeed, the chain is linked to the rest of the World thanks to its suppliers, themselves being linked to other suppliers and so on. Moreover, it may happen than one product entails huge and unexpected social affects, because it moves (positively or negatively) for instance the market of another product, more or less directly.

To take into account these affects, we suggest using the concept of **strategic arena**, combined with a cut-off criteria.

Making compatible the industrial approach (M.E. Porter) and study by industry, the **strategic arena** enables us to bring together -in the same analysis- competitors, suppliers, customers and substitutes who contribute to the satisfaction of the same elementary need (Rothschild, 1984). Thanks to the competitive dynamic trend (Smith, Gannon & Grimm, 1992), we can describe the strategic consequences of actions and reactions of interdependent firms, within more and more competitive surrounding conditions (D'Aveni, 1994). So, the model of **value creation** (Brandenburger et Nalebuff, 1996) enables us identifying the winning strategies which provide economic value for the leading firm. In addition to the suppliers and customers, this model considers competitors and « complementors » who co-build the offer of the leading firm. We suggest using this model to check the **creation and destruction of social value** for stakeholders, especially for workers. The cut-off criteria is based on the dependency of all the identified organisations (whatever suppliers, complementors and so on) to the leading firm.

In a first step, in order to test these proposals, we exemplify them by one case study. It is an assessment of the number of jobs of rural workers[2] (within a context where those jobs are scarce) likely created/destroyed by the firm's growth.

The Brandenburger's and Nalebuff's model enables us to mark the boundary of the group of organisations involved, whatever the impacts to be assessed. The purpose of this exploratory work is to let us take into account the indirect social affects caused by products[3], beyond the obvious affects, at suppliers' for instance.

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[1] If we add a fictive organisation standing for « users », and another for « end of life ».
[2] Of course, "number of jobs" in itself is not a social impact, but an intermediate step to calculate social impacts.
[3] "Product" means here changes in the product policies, changes in delivered quantities, or intrusion of a new product into a social space.

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