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Capacities S-LCA and Participative Score Matrix (P.S.M.)
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Abstract.

1- Introduction

1-The development of local productive sector, as part of a territorial integration policy, because its expected impacts, may require, to be estimate, to dispose instruments that can provide measurement of capacities Social LCA.

2-However, in this perspective, the question of the identification of local priorities, as multi impact indicators, is asked. The participative collection of priorities (into categories and sub-categories) and their relative weights, allow characterizing the value of results obtained from local development program, is already possible because the existence of a method developed by « le Centre d'études de projets »: the Participative Score Matrix.

3-Our concern is to propose a new version of this instrument by combining our estimation of potential capacity changes as a measure of stakeholders' impacts, with requirement for provision of participative local aims indicators. Thus, we could provide policy makers, a synthesis of results, in the form of a "*capability score*" to allow discussion and comparison of alternative options. Then, it, would be a simple indicator gathering many qualitative and quantitative changes' estimations in affected stakeholders potential capacity.

2- General principle of S-LCA capacity.

4-The principle of capacity S-LCA is to articulate a value chain analysis, with a multiple capital approach, retaining only five capital classes (technical, human, social and institutional), excluding natural capital, in order to measure capacity changes of stakeholders functioning, affected by social business practices. *It is not a behavioral performance of social or societal responsibility corporate measure, but an estimation on real or potential capacities stakeholders' impacts.*

5-The aim is to provide indicators to measure the impact of corporate action (for each level of production chain, for each type of actors and for each form of capital) on individual endowments additional capacity operating transformation.

6-Nature of estimated impact In S-LCA capacity, results from *a systematic process to identify and estimate effective changes in stakeholders impacted potential capacity*, due to development of a production chain. In this perspective, nature of complex context, and its role, are subject to special methodological reflection. *A context is a situation characterized by a specific accumulation of different types of capital forms, at a given time (t) in a given location (y), for given actors (n)*.
The advantage of this approach is to allow to combine, through multi-capital development model, identification and evaluation of multi-stakeholder impacts requirements,.

7-In this process, we distinguish a marginal effect of potential capacity with an effect of real capacity. For example, in case of **a training,** associated with production, proposed by a company, it will be *a potential capacity effects conditions indicator*. The acquisition of **knowledge** (if any), becomes a *potential capacity marginal possible effect*. When marginal knowledge becomes a **proven competence** then it is a *potential capacity marginal effective effect*. Finally, the **use of this competence**, and its capacity to increase productivity or marginal production, will be *a net marginal effect of real capacity.*
From this point of view, a marginal real capacity effect is a wellbeing effect, which is not reducible to a simple variation of income. A potential capacity marginal effective effect, however, does not become always a real productivity effect. To make this possible, some technical and institutional conditions must exist, such as provision of equipment, employee position adaptation, or existence of relevant rules. Generally, S-LCA performance selected indicators, (in terms of human and social capital) are

only *potential capacity effects "conditions" indicators* in capacities S-LCA, not *potential capacity marginal effect*. and even less *net marginal effect of real capacity*

8-Introduction of a multiple capital approach, in corporate micro accounting, allows improving its strategy design. This approach also renews the conditions of an expanded National Accounts (Aglietta 2011). It's the same, for S-LCA, whose goal is to identify consequences of additional production provision, in *economic, human, social and institutional* specific environment. Marginal transformation of the economic and social space is analyzed as a modification of its present and future conditions of sustainable development, that is to say, all of its production and accumulation capacities.

9-The implementation of S-LCA presents the following phases.
■ Classes and subclasses capital Identification
■-Potential capacity effects classes identification
■-Potential capacity effects conditions indicators identification
■-Identification and collection of internal information
■-Identification and collection of external information.
■ Diagnosis of effects of potential capacity variations.
■-Estimated variations of potential capacity effects (effective or potential capacity marginal effects).
■-Change analysis of potential capacity effects o real capacity effects.

10-On indicators, it is required to identify the main effects categories generated by each subclasses capital. In this case, the context is the real relevant identification guide. We propose, to selected subclasses capital, categories of effects generally expected of action concerned by this type of capital (for all classes of capital: Garrabé aii 2013 and H. Yildirim 2013). It is a set of generic categories, which can be discussed and validated by a control group of actors and organizations. These categories may also change over time to reflect societal priorities.

11-Informations gathered by an INTERNAL survey (in the company) allow to identify actions performed but not theirs impacts. How these actions become concretely impacts, involve multiple detailed informations from different actors, who are the investigated subjects. Given the difficulty of obtaining this information, we choose to use:
-to additional ad hoc surveys
-to external available studies (local or transferable data)
-as well as expert interviews. The use of expertise may be needed at both the collection of information and the interpretation of results.

The objective of EXTERNAL survey allows crossing internal information quality is not sufficient to decide on a capacity marginal potential variation of impacted stakeholders.
That explains the potential capacity variation, is an interaction between "social" actions of the company and the multi-stakeholders context impacted.

3-Principe of Multiple Capital Participative (M.C.P.) Score Matrix..

12-The aim of a Matrix Score, is the concern of having a participative tool for measuring local action impacts. It allows to take into account the relative weight of different actors priorities. It looks like a table with three reading levels and two levels of participation. Participation between *technical experts* who hold expertise and *political actors*, social values keepers, aims to take into account different conceptions about the same question. Each member is required to play a clearly previously defined role.

13-**Political actors** define the framework within the project will be evaluate. This framework is based on the definition and weighting of criteria and sub-criteria:
● By construction, criteria are predefined and correspond to a specific form of capital. In this hierarchy, *the function of elected officials is to assign a political value to each form of capital, under condition that the sum of the weights for each form of, capital must equal 100%.*
●The choice of sub-criteria belongs to politicians, even if they can rely on technical stakeholders to ensure the existence of these items. *The central role of politicians is to assign a weight to each criterion in knowing that, for each item, the sum of the weights must equal 100%*.

14- **Technical actors**, must determine, factually and rationally, quantitative estimation of values for actor's sub criteria chosen by political stakeholders. This expertise must mobilize competent human resources and adequate technical resources. By the nature of the multi criteria Score Matrix, informations can be monetary or techniques. The observed values are indicated on a rating scale, initially defined by technical operators. This scale used is specific to each sub criterion. For each of these scales, acceptable values can be positive, negative or zero.

15-Expertise leads to a restatement of the gross rating obtained. First, it is necessary to define an equivalent value of the raw score, to insert the latter to a 0 to 100 units scale. Each adjusted mark on a 100 base is, then, multiplied by the associated weighting in policy sub criterion. Finally, for each criterion, ie for each selected type of capital, the criterion value is obtained by summing the weighted of sub criteria values. Ultimately, we get the value of the weighted criterion, by multiplying the value of the criterion by its political weight. The third level of reading the score matrix is the final score for the project studied. The score is the sum of the values of the five weighted criteria. By construction, this score is always between 0 and 100. Particularity of this score is to take account both political weight and technical expertise of all stakeholders who have to decide on the acceptability of the project.

16-Development of a Score Matrix requires a detailed inventory of each capital type sub-criteria. The selected components can provided from either technical expertises of technical actors or values supported by politicians, or even, result of a mix between these two sources*. It is very important that the selected sub-criteria are subject to consensus among all stakeholders to ensure the acceptability and quality of the analysis.* Mostly, this work ask no particular problem, because the definition of each type of capital is quite explicit. Selected sub criteria are components which contribute significantly to each different forms of capital identity.

17-The Score matrix allows to determine the project contribution by measuring the difference between the score with and without project. This technique also allows estimating the positive real effect of the project by comparing the value of the estimate and the value of the project score. The higher the ratio Δ rating / score, the higher the contribution of project compared to the baseline is important.
In both cases, the score matrix is a tool of knowledge production for the organization that implements it. Indeed, after making the early measurements, it is possible to follow in real time the effects of the project and compare them with initial estimates. These feedbacks increase the technicians and policy makers' knowledge of problems area, and puts organization that leads it, in a continuous improvement participative dynamic position.

4-Capacities S-LCA et P.S.M. articulation.

18-The aim here, is to translate the results of a capacities S-LCA, in a decision tool to estimate relative (multi-actor and multi-capital) qualitative and quantitative impacts, of a local development project on different levels of an existing local chain activities, taking into account multiple objectives and different priorities

19-From a project development of an existing local chain activities, a capacities S-LCA is performed according to the protocol (§ 9), to assess its efficiency in terms of impacts on multi-actor and multi capital (compared to another project or relative to do nothing). Changes in capacity of different actors affected, estimated by specific capacities S-LCA indicators (Garrabé and al 2013), are then translated as scores, estimating the overall importance of capacity changes, by level of subclasses capital.

20-Because logics of actors are expressed by priorities and different weights objectives, each subclass of capital is affected by specific coefficients (as we mentioned in Section 3). Scores of capacity variations can be calibrated from 1 to n, depending on the level of accuracy. It is not necessary that these scores are the same for all subclasses of capital. The readability of the matrix, but also the quality of the mobilized information, required for high value of n, that are usually, the value is between 5 and 10.

21-Scoring is always a delicate phase in an available information translation-reduction methodology. This phase of the method must be performed by an expert. All others phases involve policymakers or calculation spreadsheet. In the capacity LCA-S, around one hundred categories of potential capacity possible variations is estimated, which indicators are mixed (qualitative / quantitative, monetary / non /

money ...). This information is then grouped in a table in which each cell displays sum estimation. Readability of the table being ensured by the use of a color process (Régnier abacus). The capacities score (§ 13-14) is usually 6X9 matrix. It must therefore concentrate the available information without degrading.

22-Exemple de Matrice Score des Capacités

Classes de capital (A)	Pondération des classes de capital (B)	Sous classes pertinentes de capital (C)	Pondération des sous classes (D)	Score (1...n) de variation capacité (E)	Valeurs des variation de capacité (F)	Valeurs pondérées des capacités (G)	Total des valeurs de capacité de la classe (H)	Valeur des variations de capacité de la classe pondérée (I)
	Participation décideurs	Participation décideurs	Participation décideurs	Enquête acteurs	Calcul E /n*100	Calcul F*D	Calcul Somme G	Calcul H*B
		Formation	15%	2	40	6		
		Conditions de travail	25%	-2	-40	-10		
Capital HUMAIN	40%	Santé	20%	3	60	12	36	14,4
		Sécurité	20%	3	60	12		
		Parité	20%	4	80	16		
		Entreprises	30%	5	100	30		
		Infrastructures	15%	3	60	9		
Capital TECHNIQUE	20%	Informations	15%	3	60	9	74	14,8
		Marchés	25%	4	80	20		
		Administration	15%	2	40	6		
		Subvention	20%	2	40	8		
		Capitaux propres	20%	2	40	8		
Capital FINANCIER	15%	Investissement	20%	1	20	4	40	6
		Crédit	20%	3	60	12		
		Effets induits	20%	2	40	8		
		Equité	30%	1	20	6		
		Participation	30%	1	20	6		
Capital SOCIAL	15%	Confiance	15%	1	20	3	25	3,75
		Intégration	15%	2	40	6		
		Réseaux sociaux	10%	2	40	4		
		Droits de propriété	20%	2	40	8		
		Concurrence	20%	3	60	12		
Capital INSTITUTIONNEL	10%	Contrats	20%	1	20	4	44	4,4
		Conflits sociaux	20%	2	40	8		
		Labels et normes	20%	3	60	12		
SCORE DE VARIATION DE CAPACITE : entre -100 et +100								43,35

5-Bibliographie.

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