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Studying performation: the arrangement of speech, calculation and writing acts within "*dispositifs*"

Carbon accounting for strategizing in a large corporation

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EGOS 2016 – Sub-theme 70: Strategy Practices and Performativity: Understanding Strategy as Performative Practice

Abstract

This paper aims at proposing an analytical framework for performation process that is performation through speech, calculation and writing acts connected within a strategic "*dispositif*". This analytical framework is put into relief by the case study of a French large corporation which has built a low-carbon strategy based on carbon accounting tools. We have found that low-carbon strategy is performed through carbon accounting tools since speech, calculation and writing acts are combined, repeated and embedded within a broader strategic "*dispositif*" The theoretical contribution is first to suggest an analytical framework of the process by which performativity's « felicitous conditions » are realized, that is to say, its *performation*. The second theoretical contribution consists in linking the communicative school of performativity with management research focusing on instruments and strategic "*dispositifs*". Finally, the empirical contribution involves an in-depth analysis of the low-carbon strategy's implementation based on a carbon accounting tool in a French large company.

Key words: performativity, strategizing, communicative school, "*dispositif*", carbon accounting, CSR

Introduction

In this section, we will explain that the question of the performativity of carbon accounting tools is first an empirical issue before being tackled (with other words sometimes) by academic literature. Finally we will raise the academic current gap concerning the felicitous conditions of performativity that we want to address in this paper.

An empirical question…

At the start of this research is the following question raised by ADEME[1], the French environmental agency: why do some companies succeed in adopting a genuine low-carbon strategy thanks to carbon accounting whereas some other fail? In fact, ADEME is working with companies to guide them to take into account the climate change issue. Particularly the agency has provided carbon accounting tools to companies and trained them to use it properly, that is to say it has tried to make them understand that ignoring climate change issues was a risky strategy for them. Indeed, carbon accounting tool was thought to assess the risk taken by companies when it produces greenhouse gases. In fact, carbon accounting tool helps companies calculate their greenhouse gases emissions by converting activity data (such as kilometers done for transportation, electricity used for offices, etc.) into CO_2 emissions[2] and classify it in different categories: direct emissions and indirect emissions. Thanks to its close and long relationship with companies and its expertise, ADEME has been able to notice companies that have managed to make carbon issue be performed into strategies with the help of carbon calculation tools, and others that have not. We consider in this paper that "low-carbon strategies" refers to all the low-carbon initiatives taken by companies that change the way business is usually done. For example there are "low-carbon strategies" for the auto-manufacturer sector when the company choose to develop "green" car models, but there are not if the company only improve building insulation. In this regard ADEME mentions the "maturity", "knowledge and control" of such "carbon-issue-advanced" companies. For the rest of the paper, we will equally talk about "low-carbon strategy" and strategic practices to tackle such initiatives. However, the question of "*why* it works or not" for companies is not

[1] Agence De l'Environnement et de la Maitrise de l'Energie, the French environmental and energy public agency whose goal is to support companies in achieving sustainable projects. ADEME has

[2] All greenhouse gases are converted into an only gas, the CO_2, which is the unit of measurement.

easy to address. That is why the question of "*how* it works in carbon pioneering companies" is a precondition to understand "*why* it works" (Foucault, 1994a).

… Which is tackled in carbon accounting academic literature

Among the growing articles dealing with carbon accounting, only a few tackle the issue of appropriating of carbon accounting tools in companies in a practice-based perspective (Ascui, 2014). Most of the empirical studies aim at proposing new tools or improving existing tools in a technical perspective (see for example the most part of articles published by Journal of Cleaner Production). Questions like: "how do companies currently use carbon accounting tools?" "What do they do with such calculative tools?" "What are the effects produced?" "Do companies use such tools in order to steer low carbon strategies?" are still largely overlooked (Gibassier & Schaltegger, 2015). Before going further, we have to explain what "carbon accounting" means. In fact, carbon accounting encompasses a set of instruments aimed at evaluating carbon emissions of a corporation or an activity (Milne, Grubnic, Ascui, & Lovell, 2011).. It is used for different purposes either external (corporate reporting) or internal (as decision aid tools) (Stechemesser & Guenther, 2012). An important point is that carbon accounting is not based on direct measurements (which is technically impossible) but is based on conventional calculations. In other words, as for financial accounting, it is both constructed (D. MacKenzie, 2009) and socially constitutive, that is to say at first glance "performative" (Lippert, 2012; D. MacKenzie, 2009; Vesty, Telgenkamp, & Roscoe, 2015). The performativity of carbon accounting means thus that it can transform business of companies by introducing carbon as key strategic issue, that is to say lead to low-carbon strategy. But what is concretely performed when carbon calculations are made? To what extent do they impact the formation of low-carbon strategic practices? How does the performativity process of low carbon strategic practices occur? Surprisingly, the two papers, which openly associate "performativity" with "carbon accounting" do not put these explanations into relief. Moreover, as said before, articles that implicitly tackle carbon accounting's performativity (by studying appropriating properties of carbon accounting) do not analyze how happen effects of carbon accounting use on strategies, that is to say the performativity process. Performativity of carbon accounting tools is therefore still overlooked.

Performativity of carbon accounting tools in question

The initial questions asked by ADEME precisely raise the issue of the performativity of carbon accounting in practice. When carbon accounting was introduced, there was the idea that measuring carbon emissions would naturally lead to identify low carbon strategies and finally actions. In other words, the tool would naturally perform strategies. According to ADEME and practitioners, this performative assumption can be questioned. Indeed, in most cases, the assumption is not verified but sometimes it works however. To address this, we should go back to the seminal works of John Langford Austin. Austin introduced the idea that performative acts depends on "felicitous conditions", that can be social, historical or contextual. If carbon accounting does not always produce impacts, what are the "felicitous conditions" of such calculations? Under which felicitous conditions could low-carbon strategies be performed through the use of carbon accounting tools?

Despite a lack of empirical studies, several authors have stressed that carbon accounting instruments seem to have little impacts on corporate decisions and strategies (Burritt & Tingey-Holyoak, 2012; Milne, Grubnic, Bowen, & Wittneben, 2011). Implicitly, these works present case studies where felicitous conditions are missing. Some other describe successful examples of low-carbon strategies' implementation but neglect to study the felicitous conditions which enabled them (Schaltegger & Csutora, 2012; Wahyuni & Ratnatunga, 2012), even if they explicitly present carbon accounting's performativity (Vesty et al., 2015). In this paper, we try to address this gap by analyzing felicitous conditions of carbon accounting's performativity into strategies. As said, carbon accounting is an interesting object for its potential performativity: carbon accounting combines the structuring power of accounting in behaviors (Miller, 2001), with the uncertainty of companies' commitment in climate change which is foremost a matter of anticipations about when carbon will finally count in the political and managerial agenda. At this point of time, carbon accounting is still an emerging issue and could either succeed or fail in performing a low-carbon strategy. Studying such tools' performativity in companies is thus an "opportunity of investigation" where the question is much more about highlighting how performation occurs rather than demonstrating what is performed (Muniesa & Callon, 2008). The study of felicitous conditions is now considered as a relevant issue for organization scholars even though still overlooked (Dumez & Jeunemaître, 2010). In this respect, we will study carbon accounting in practice and raise its felicitous conditions, namely the performativity process by

which calculations can provide low-carbon driven strategizing. For the rest of the document, we use "performation" or "performativity process" and "felicitous conditions" as equivalent.

In this perspective, the research question could be formulated as such: what are the felicitous conditions of a low-carbon strategy based on the use of carbon accounting tools?

In this regard, we will focus on one of the three "creative re-appropriation" of performativity perspectives used by management researchers (Gond, Cabantous, Harding, & Learmonth, 2015): the communicative school of performativity (Cooren, 2004, 2015). Moreover, we also adopt the Callonian approach of performation based on the study of calculative devices (D. A. MacKenzie, Muniesa, & Siu, 2007). The communicative school is the closest with the original analysis made by Austin in order to suggest a micro-analytical framework to the performation process of elementary speech acts. Although Austin has limited his work to speech acts only (Austin, 1975; Fraenkel, 2006), other authors have then introduced the concept of calculation acts (Fauré & Gramaccia, 2006), that is to say performative statements based on calculation (like budget making for example). Calculation acts is therefore linked with the study of calculative devices mentioned ahead. Beside calculation acts, other authors have specifically studied the concept of writing acts which also is overlooked by Austin (Cooren, 2004; Fraenkel, 2006, 2007), and which encompasses performative statements based on writing documents. But no one has yet studied how the combination of these three elementary acts could produce performative effects in practice within organizations. The combination of these three acts (speech, calculation and writing) implies at first the existence of a calculation tool and writing documents. In this process we will investigate how these three elementary acts could play a role in performation processes.

In this paper, we propose to pay a particular attention to the arrangement of elementary acts, built around an accounting tool by putting it into practice in an empirical situation we have studied: the development and implementation of carbon footprint's calculation tool for construction projects and their interweaving in the formation a low-carbon strategy in BuildCorp, a French large constructing company.

For the rest of the paper, we will first present the methodology of our study, which is a case study, then, the findings (the description of the how carbon accounting tools have been performed into low-carbon strategy in the company studied) and finally the discussion it

implies (about the felicitous conditions and the notion of "strategic dispositif") and the conclusion.

Methodology

We will begin this section by introducing the aim of the research, then we will present the case study before explaining the data collection which has been used for the description of the introduction and use of carbon accounting tool in a large corporation.

Aim of the research

We seek to study the mechanisms at stake when a company manages to perform a low-carbon strategy on the basis of a carbon accounting tool. That is why the case study methodology appears to be the most appropriate in order to analyze in depth how it proceeds to use carbon accounting tools and perform a strategy. In this respect, we have selected a "pioneering company" as it can be described by the French environmental agency. We have first conducted 6 several preliminary interviews with carbon managers in different companies in order to make sure that there was different level of maturity expressed by the level of control and expansion of carbon topic in companies. We have then selected one of them, a "pioneering one" (as explained as follow) called "BuildCorp" hereafter and conducted an in-depth investigation of their carbon-related practices.

Presentation of the case study

BuildCorp is a French large transnational corporation in the building sector with about 50 000 workers and 10 million euros of turnover. It has dealt with carbon accounting topic for about 10 years.

Like other large companies subjected to social activism to reduce their carbon footprint, BuildCorp has begun to manage its greenhouse gases emissions. The issue is all the most important that in new constructions, fifty percent of greenhouse gas emissions does not come from downward emissions (energy consumption of end users or the construction

process itself) but from upward emissions coming from materials, more specifically from the energy required to produce materials. The more buildings are energy efficient, the more upward GHG emissions rise in relative terms. In this perspective, carbon emissions is a broader issue than energy only and require specific attention. However, no specific regulation addresses carbon emissions even though different regulatory projects in Europe plan to introduce specific carbon emission targets in regulations.

In most sectors, carbon accounting has only limited "performative" effects for companies. After the first calculation of carbon footprint, they rarely undertake concrete actions to reduce greenhouse gases emissions. Most of the time, a lack of appropriation of carbon accounting can be observed. We have done several interviews with CSR managers in companies in different sectors where low-carbon strategies were not implemented. Most of the time, carbon accounting is oriented toward external reporting rather than internal strategy and, as corporations are rarely challenged by external stakeholders on their carbon strategy, no specific carbon-oriented actions are taken.

In the context of a recent research engaged with the French environmental agency, BuildCorp is one of the few examples that we have found in which a company has successfully developed low-carbon activities that change the "business as usual" ones on the basis of carbon accounting tool, that will be detailed below. We can therefore assume that carbon accounting has performative effects at BuildCorp. However, what are the felicitous conditions of such accounting activities?

Data collection

The French environmental agency aims at furthering carbon accounting's topic since the early 2000, that is why the agency gathers companies, puts them in touch and deals with them regularly. During the research, we have been indicated the most pioneering French companies in terms of their use of carbon accounting by the carbon accounting's project managers' of the agency: "*There is a dichotomy between companies. Some of them have a very good understanding and very good control of carbon accounting and take it into account in an extensive way. Some other don't understand the stake of greenhouse gases emissions. For instance, some companies such as X, Y and BuildCorp have genuine internal expertise."* We have actually become aware of that when we attended the 18 months meetings that enable

us to met around twenty carbon accounting managers who participated in the working group. Besides the meetings and extensive contacts with the carbon accounting's original instigator and currently main manager of BuildCorp, we have been put in contact with the other main protagonists of the carbon accounting's implementation in BuildCorp. To date, we have done seven semi-structured interviews with the closest involved protagonists in the development of carbon approach in the company (specialist and main manager of carbon accounting, carbon manager in a subsidiary, R&D project manager, sales representative, sustainable development manager, a sustainable R&D manager in the main BuildCorp' cement manufacturer's supplier and a low-carbon construction's project manager). All were recorded and fully transcribed. We have also get their documentation in relation with carbon topic. Finally, we have also been put in contact with one of BuildCorp customers (interested in BuildCorp' low-carbon solutions), the main BuildCorp' cement manufacturer's supplier, the head of sustainable department, their carbon consultant firm and the managing director. We finally have presented our work to the main carbon accounting manager who approved it.

Job of the interviewees	**Date**	**Duration**
specialist and main manager of carbon accounting (1)	14th October 2014 3rd December 2014 13th October 2015	60 min 120 min 60 min
carbon manager in a subsidiary (2)	12th March 2015	90 min
R&D project manager (3)	12th March 2015	90 min
sales representative (4)	13th May 2015	90 min
sustainable development manager (5)	16th April 2015	90 min
sustainable R&D manager in the main BuildCorp' cement manufacturer's supplier (6)	2nd March 2016	120 min
low-carbon construction's project manager (7)	12th February 2016	120 min

Beyond these protagonists, it is important to note that we have followed more than twenty meetings with carbon experts within working groups organized by ADEME and interviewed more than twenty other experts in NGO's, companies, public experts, researchers related to this topic. It enabled us to know the main private or public initiatives, whose some of them can impact all the companies, the building sector or BuildCorp specifically.

Findings: carbon accounting performation at BuildCorp

We are first going to present a description of the introduction and the use of carbon accounting tool at BuildCorp and then analyze how the elementary acts (calculation, speech and writing) interact before putting into relief other implications.

Description of the effects of the introduction and the use of carbon accounting tool at BuildCorp

Worried about the carbon emissions of the construction sector (which account for about 20% of total CO_2 world emissions[3]) and anticipating regulations on this topic, BuildCorp decided to hire a carbon manager in 2010 with a mission statement to identify key issues, propose a plan and specific actions to manage carbon within the company. After a large investigation within the company, the expert has identified that a key issue to reduce effectively carbon emissions was to mobilize the bottom line, especially project teams that develop construction projects for customers. For that purpose, he has proposed to design a specific carbon accounting tool for project management so that managers could assess carbon emissions related to different design options and propose alternative solutions to customers.

The underlying idea was to to make carbon be a distinctive argument compared to competitors when BuildCorp attends a tender. In order to reach this goal, BuildCorp developed its own tool for carbon footprint calculation, based on the French environmental agency one and with the help of an environmental consultant. When they first have designed the carbon footprint calculation tool, the consultant and the carbon manager spent a lot of time to get the data and configure the tool:

> "*The first time, it took us one year to create the data base behind the tool… We had to get a lot of operational information and in order to do that, we have asked colleagues from all the subsidiaries to do that with us. The idea was at the same time to make them learn how to use the tool and raise awareness about carbon topic. The problem was that some of the subsidiaries did not want to be part of this work. But after considering the job done, the fact that the other knew the amount of their carbon emissions, they have ended up doing it too. The huge benefit of the carbon topic*

[3] https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf

compared with other sustainable issues to make people be part of the process is that carbon can be counted." (1)

BuildCorp tool aims at figuring out a carbon footprint construction project in only thirty minutes based on different parameters related to the project (choice of materials, operational mode, and other projects features such as dimensions of the building, surface, windows, etc.). This time constraint is due to the requirements a construction project has to deal with: the project team has indeed very little time to develop a commercial proposition with a great uncertainty about the fact of being selected. Furthermore, the idea was to make regular calculations during the process when new alternatives arise or when customers ask for specific questions about the project carbon footprint. To achieve this goal, calculations had to be automatized, which means that all the data required for calculation had to be available in the tool parameters.

"Behind the carbon accounting tool we have proposed to the project managers, there is a huge data base we have constructed, that automatically makes conversions between data given by the project manager and carbon emissions it implies. For the managers, this is a simple calculation tool who know well their project and that enables them to quickly propose low carbon solutions." (1)

By having constructed this tool, BuildCorp can thus give a quick assessment, based on automated calculations but robust enough to be valuable and convincing for the customer.

After more than a year of internal testing, the tool was implemented in all construction project management processes as a routine project managers and salesmen had to use in their activity. To be able to propose alternative low-carbon solutions to customers, the R&D department was involved in the development and selection of different low construction systems (for instance based on wood structures or low carbon concrete structures). Several experiments were made on pilot projects to test the validity of such construction systems in real conditions. Below are examples of use of tool to simulate low-carbon solutions (by the carbon accounting manager first and a R&D project manager then):

"*For example someone has studied how to find solutions for an apartment block: first he designed it as usual and calculate the cost and amount of carbon emissions. Then he tried frontage wood solutions, then structure wood solutions, etc. Each time he has been able to calculate the additional cost and emissions reduction associated. If the*

customer asks for wood, the commercial team is able to tell them "Wood is correct! Look at what we could do with wood for you…" When the sales representative uses the tool with the customer, he can show him how much the wood solution has enabled to reduce carbon emissions compared with a the mean of a similar project." (1)

"*I have chosen to change a little bit the tool in order to better fit it with our needs. Then sales representatives use this version. They call me when they do not know how to say to the customers. Usually we rarely have feedbacks from customers so we think that they are not interested in carbon topic. But suddenly we are asked to propose low carbon solutions. It is hard to understand and anticipate!*" (3)

To make a commercial proposition, low-carbon options, ranged according to their impact and cost, are first calculated by the project manager, and presented to the customer by the salesman as alternative solutions to a standard solution. Then, the negotiation can take place to identity the customer's willingness to pay for such solutions. Here are few examples of such uses of the tool:

"We would like to propose an innovative project to the public customer tender based on the idea of "zero-carbon-emissions". Thanks to the tool, we could have decided and explained to the customer what does "zero-carbon-emissions" mean for us and tested different constructing scenarios with low-carbon concrete and little use of wood material in terms of carbon emissions and prices" (7)

"*Since we knew where were our stakes about carbon issue, we could have met our commercial partners to imagine low-carbon solutions with them. We have worked on a low-carbon concrete with our main supplier. After that one of our subsidiaries has experimented it in a project and it works quite well. Then during the next quarterly "carbon meeting" the subsidiary manager has explained this experiment to other colleagues in order to make them test it too.*" (1)

"*Because we have a true internal methodology about carbon issue, we explain our process to customers. But I have not seen yet any quantified criterion about carbon*

topic. But we want to distinguish ourselves with this topic, that is why we keep talking our low-carbon skills to customers. When we are told to do that by sustainable construction service, we propose low-carbon concrete to the customer". (4)

Apart from the project itself, one of the issues for BuildCorp is to raise awareness among customers and suppliers on carbon issues and stimulate strategic work in its own corporation. At this stage, the approach has both operational and anticipatory stakes.

"*After few years of implementation, we have explained many times in conferences how we have proceeded.*" (1)

"*At the early 2000, concrete carbon footprint was not really known and the partnership with BuildCorp has helped us to formalize it by taking real data from building site*." (6)

A few examples of elementary calculation, speech and writing acts and their combination:

In the situation briefly described above, three elementary acts are combined: first the project manager and the sales representative create a calculation act based on the homemade carbon footprint tool. Discussion occurs around figures within the project and an argumentation is developed based on the specific characteristics of the project and former projects with similar ones. Calculative activities become calculation "acts" (with a performative dimension) when carbon figures *make* carbon issue be important by being conveyed by figures: carbon figures are part of business core activities (construction project), carbon figures become appropriated by suppliers and consumers, carbon figures are used by a large part of workers in the company, etc. Then the outcome of this calculation act is used in a writing act (commercial proposition with specific commitments), which encompasses a set of engagements, measures and obligations toward the customer. Writing documents become writing "acts" (with a performative dimension) in the sense that they consist in a promise that, if it accepted by the customer, is turned into a contractual arrangements with specific legal obligations and associated sanctions in case of failure or lie. Speech becomes speech "act" when speech makes carbon issue be important, that is to say when it consists in a dialogical

process and a rhetorical strategy where salesmen and project managers try to convince the customer's team that they should invest in low-carbon options as this emerging value will soon become a new template for construction projects as it has become for energy efficiency. In most situations, this pioneering strategy does not meet much interest from customers. According to the interviewees, most of the time, customers are not aware of low-carbon strategy and the low-carbon solutions proposed do not influence the selection process which is based on other criteria (price, energy, confort, etc.).

In fewer situations, customers are interested in low-carbon solutions but select solutions at the same or minor cost. Even if carbon topic has a limited influence on the selection process and doesn't change the customer choice, it nonetheless may be an argument that helps improving BuildCorp's image as a leader on innovation and the environment. For the company, it is important to make actors be ready for the moment when stringent regulations or incentives will be implemented in the future.

In even fewer cases, pioneering customers (social housing management, local authorities) have developed an ambitious low-carbon strategy and are ready to experiment low-carbon solutions as a showcase of their involvement in climate change. In this perspective, one particular prominent project is a low-carbon building ensemble, selected by the Paris municipality in 2016 within a large public tender called "Grand Paris" which ambitions to be the showcase of Paris vision on architecture and urban planning. The Builcorp buildings were the only project focusing on a "low carbon" concept from which all the design choices (materials, architecture, windows, etc.) derive.

We have observed and therefore propose that this is first the combination of these three kinds of elementary acts created from carbon accounting tool that give a performative force to this tool.

The role of the repetition of the three elementary acts:

We shall stress that the performativity of these acts is also due to their repetition as part of organizational routines. Carbon accounting is now well defined and better understood by project managers and salesmen and is routinized practices at different stages: calculation, commercial propositions and contractual decisions that engage the company with the customers. The corporate carbon manager periodically organizes "carbon meetings" where

project managers and R&D managers could propose low-carbon solutions that can be proposed and where they discuss the strategic carbon roadmap. The robustness of commercial propositions depends on the work previously done upward to ensure the feasibility of technical solution and their economic sustainability. Regular returns on experiments are made to identify "best practices" and understand in which conditions customers are ready to select low carbon solutions and eventually pay for it. This return on experiment is key for salesmen who can refine their argumentation and the potential performativity of their speech and proposals.

When the strategic "*dispositif*" gives sense to these elementary acts:

These combined and repeated elementary acts do not take place independently of any organizational setting. What we have described above is that they were embedded in what can be called a broader strategic "*dispositif*". The strategic "*dispositif*" is based on the arrangement[4] of heterogeneous elements directed toward a strategic goal: developing low-carbon proposals for customers. Different elements can be listed, internal or external.

Within the corporation, as we have developed above, different decentralized calculations are regularly made at the project level. At the corporate level, a carbon committee, composed of corporate, R&D and operational managers, has been set where managers regularly meet to discuss about the returns of experiment, identify pending problems managers may face and opportunities that shall be investigated, discuss about the R&D roadmap and possible partnerships. In parallel, internal grants have been organized to incent actors to propose innovating low-carbon concepts and solutions. Another element is the setting of training programs organized to make BuildCorp employees (in particular salesmen, engineers and project managers) be familiar with the carbon topic and calculation tools. Lastly, all greenhouse gases emissions project amounts are then consolidated in an information system and are used to determine greenhouse gases emissions for the whole company and to report on them. All these heterogeneous elements are part of the internal strategic "*dispositif*".

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4 The French word "agencement" is better than "arrangement" but has no translation in English : Callon, Michel. "What does it mean to say that economics is performative." *Do economists make markets* (2007): 311-357.

The "*dispositif"* is also built on external elements. First, as internal competencies are lacking on material processes, R&D partnership with material producers have been made in order to develop and test low-carbon solutions on pilot projects. A partnership with a cement producer has been developed on low carbon concrete and other ones have been put into place with local wood producers in order to supply materials with adequate characteristics and technical and financial performance for local markets.

BuildCorp is also involved in the promotion of carbon accounting standards in the construction sector. BuildCorp takes part in the creation of a sector-specific guide including accounting conventions (rules and assumptions) for carbon footprint calculation to make sure that their homemade tools are compatible with external standards. Standardization is a key issue since the legitimacy of carbon calculations for projects depends on their compatibility with external standards and labels; that is why institutional entrepreneurship is part of the process. In a similar perspective, BuildCorp is also involved in the development of a carbon label called BBCA for "low-carbon buildings" along with different partners (technical centers, companies, architects, etc.) who have founded as specific association dedicated to the promotion of this label: the BBCA association. The idea is to label and certify new low-carbon buildings according to a specific methodology and a quantitative target and to create a quality signal that may be valued by customers on the same model that was developed for energy efficiency in France (the BBC label), which has encountered a large success.

All these elements are used for coporate communication purposes, related to CSR and sustainability and integrated in the broader corporate strategy.

The interweaving of these elements in this strategic "*dispositif*" seems to be essential to give a sense to the basic elements that take place in operational activities. We assume that the strategic "*dispositif*" enables the felicitous conditions to happen. Reciprocally, the strategic "*dispositif*" would be an empty shell if it were not based on organizational routines and connected to other "*dispositifs",* inside and outside the firm. It is interfaced with other complementary strategic "*dispositifs*" implemented by other organizations. For instance, the French environmental agency has actually built itself its own carbon strategic "*dispositif*" based on different elements and initiatives at different levels (producing technical conventions, scientific networking, network of advanced companies in carbon management, building of sectorial guides, leadership in the ISO standardization process on carbon accounting, etc.) to promote carbon accounting, carbon corporate thinking, carbon regulations, etc. If carbon issue

is enough mature for them too, BuildCorp's suppliers and customers have also their own strategic "*dispositif*", and so on. Compulsory regulations, voluntary national or international initiatives on carbon topic form other strategic "*dispositif*" which are likely to influence BuildCorp low-carbon strategy.

Discussion

We are first going to present the model for performation we propose and then how the strategic "dispositif" concept can shed light on what "low-carbon strategy" means.

The repetition and combination of elementary acts embedded in a strategic "*dispositif*" as felicitous conditions?

As noticed, the micro-practices of elementary calculation, writing and speech acts based on calculation tool seem to not be enough to perform strategy if they are not interpreted and organized within a strategic setting that gives sense to them. In line with Foucault's constructivist analysis of strategizing and collective action, we propose to call this strategic arrangement's activity: the making of a strategic "*dispositif*" (Aggeri, 2014; Foucault, 1994b; Moisdon, 1997), that can be defined as "arrangement of heterogeneous elements (discursive, organizational, material, spatial, legal) to address a strategic urgency" (Foucault, 1994b). The concept of "*dispositif"* has no equivalent in English. It has been inappropriately translated as apparatus or device but these terms refer to a structuralist view. For instance, in a recent essay, building on Foucault, Giorgio Agamben discuss the genealogy of the term apparatus and consider devices such as a phone as an apparatus, which is questionable in Foucault's perspective who used the concept to capture distributed practices oriented toward a strategic end (ex: the sexuality "*dispositif").* Therefore, as different authors suggest, we propose to use the French term "*dispositif"* (see Raffnsoe and al., 2014, Aggeri, 2014). The interest of this strategizing approach is to stress that this practice does not only encompass managers discursive practices but can be thought as a distributed collective process that plays on multiple mechanisms to conduct a strategy. We have represented below what the interweaving of elementary acts with internal and external strategic "*dispositif*" could look like:

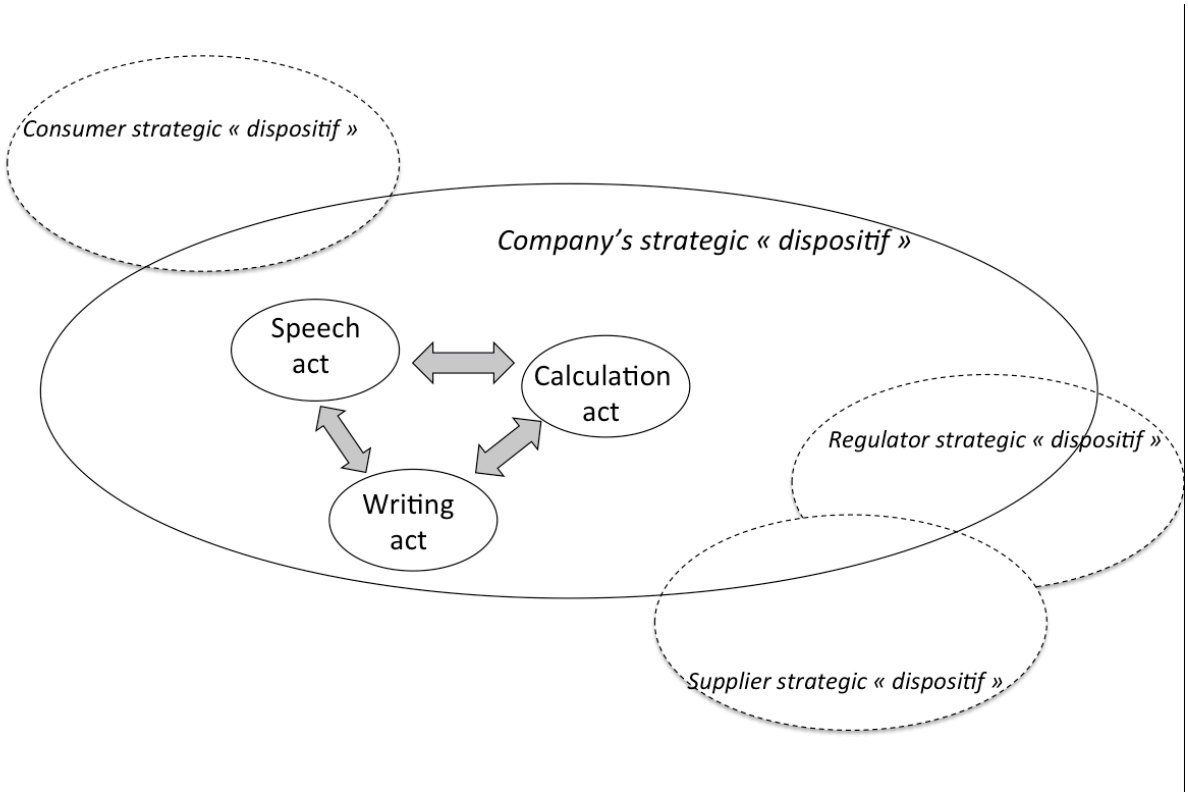


Figure 1: felicitous conditions of calculation tool's performativity

By studying how do elementary acts interact together, we could have put into relief the potential role of their combination, repetition and embedding in a strategic "*dispositif*" (both internal to the company and external to it). By proposing this model for performation, we do not present a list of felicitous conditions for performativity for the unique example of one company in a given context, but on the contrary, we have tried to present a generic model for performation that can be applied both to other companies and to another calculation tool (about carbon issue or not). Indeed, in this generic model, we have not detailed the specific range of elementary acts, neither the heterogeneous elements that compose the strategic "*dispositifs*".

The carbon strategic "*dispositif*": a proxy concept for the unclear "low-carbon strategy" one?

This study invites us to discuss the performation of low-carbon strategies in corporations. In such an area, it is hard to assess if companies truly have adopted low-carbon

strategies or not. Actually the French environmental agency and CDP[5] (ex Carbon Disclosure Project) work on a new tool which is designed to assess the level of maturity of companies about carbon issue[6]. It takes a lot of time to define indicators that encompass companies' control and carbon management practices. Very often, companies do things to manage carbon but with different impacts on core activities and corporate strategies. And when they do, it is difficult to identify the impact of carbon accounting tools in strategizing.

In this perspective, the concept of strategic "*dispositif*" is a promising approach to capture strategic practices undertaken by companies to address the carbon issue. The strategic "*dispositif*" notion refers to all the initiatives, both discursive and non-discursive, implemented to address carbon issue. It connects internal and external ones since strategizing may also encompass rule making (standardization, market creation, labelling, etc.) since specific rules are required to promote and legitimate specific practices. Indeed, a specific strategic "*dispositif*", like for BuildCorp, is dependent on others: on previous "*dispositifs"* set within the corporation and on external ones built by complementors (ADEME, competitors, scientists, customers, etc.). All these corporate "*dispositifs"* are part of a broader one, a carbon "*dispositif"* which has international connections and sets the template for an international carbon agenda and the mergence of a carbon field with specific techniques, experts and instruments.

Conclusion

How to make carbon count for companies, for customers and for society? The performation analytical framework we have proposed was induced by the BuildCorp example: elementary communication's instruments (speech, writing, calculation), if repeated and included in a broader strategic "*dispositif*" form the felicitous conditions for a performative low-carbon strategy based on accounting tools. In this process, calculability play a key role since the legitimacy of the carbon issue is highly dependent on the production of a

[5] CDP is an NGO that has released a carbon accounting tool under the form of a questionnaire that makes companies report information about how they manage carbon or how they are subject to carbon issue.
[6] https://www.cdp.net/en-US/Programmes/Pages/ACT-Assessing-Low-Carbon-Transition-Initiative.aspx

simple metric (tons of CO_2 emissions) which can be compared across time and space and aggregated in larger figures.

Nevertheless carbon accounting performativity is not unalterable. BuildCorp current success is due to the fact that calculation is made at an operational level, iterated many times and spread across the whole organization while carbon managers undertake permanent advocacy, internally and externally, about the importance of carbon issue for business sustainability. BuildCorp manages to link internal initiatives with external ones. As we have underlined, low-carbon strategizing is only an emerging issue for which only few pioneering customers are willing to pay for it. For most customers, greenhouse gases emissions remain an externality that is only valuable in political speech, without strong public incentives. For BuildCorp is a matter of strategic anticipations. Managers do believe that regulations will soon appear on the agenda in the construction sector and that customers will draw mire and more attention about it. The rapid growth of energy labeling and regulations in the last ten years is proving that changes may appear very suddenly. If this anticipation takes more time to occur than forecasted, the risk is a demotivation of collaborators and a progressive disintegration of the "*dispositif*".

The performativity turn is directed toward micro-practices analysis in organizations with special attention to the effects produced by elementary acts (Cooren, 2015). Our theoretical contribution deals with strategizing practices based on performation processes. In such a perspective, we suggest an analytical framework to this process that links elementary acts (speech, writing, calculation) to strategic "*dispositif*" that gives sense and power to them. By doing that, we further the early analysis of the link between performativity and "*dispositif*" concepts (Brisset, 2014; Dumez & Jeunemaître, 2010). Moreover, we provide an analytical framework for the study of appropriation of carbon accounting tools by furthering the comprehension of what does the "performativity of carbon accounting" means. In an empirical perspective, we contribute to analyze in-depth carbon accounting's performativity into low-carbon strategies whereas most works do not tackle the use and effects of carbon accounting tools (Ascui, 2014) and little practical analysis are available for actors (like ADEME or carbon managers).

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