

Driving sustainable development in universities: the experience of constructing a USR scorecard

*Piloter le développement durable dans l'université:
une expérience de construction d'un tableau de bord de la RSU*

Jean-Francis ORY

Assistant Professor in Management Sciences, Reims Champagne Ardenne University
REGARDS EA 6292, REIMS, FRANCE
jean-francis.ory@univ-reims.fr

ABSTRACT

Sustainable development is a new mission for French universities. This paper proposes a methodological approach that decouples the dimensions of performance and is based on the expectations of stakeholders, thus allowing a university social responsibility (USR) scorecard to

be constructed. It then examines how one French university has built a sustainability balanced scorecard by means of action research based on this methodological model.

Key-words

University, Scorecard, Sustainable development, CSR, Stakeholders.

RÉSUMÉ

Cet article présente le cas d'une université ayant eu recours à une recherche-intervention pour développer un outil de pilotage et de mesure de la performance de sa mission développement durable. Un modèle méthodologique prenant appui sur la participation des parties prenantes et le découplage pro-actif des

dimensions de la performance permet la finalisation du tableau de bord stratégique de la responsabilité sociale de l'université (RSU).

Mots-clés

Université, Tableau de bord, Développement durable, RSU, Parties prenantes.

The governance of French universities suffers from a lack of management control tools, a situation that has been noted for many years, variously in parliamentary and the Court of Auditors reports and by research work. Management control is strongly encouraged by the supervisory authorities and is gradually developing, but there are still major difficulties and disparities in its implementation. The now-frequent use of cost-based management accounting is not enough to meet the management needs of the university's core missions, let alone the management of performance extended to new missions recently included in the Code of Education, such as "social promotion", "dissemination of humanist culture" or responding "to societal challenges, and social, economic and sustainable development needs".

The last of the above-mentioned missions, like the more traditional ones, faces the considerable difficulty in French universities of making more effective the operation of control systems built to answer primarily to the needs of reporting to the supervisory authorities rather than to driving strategic objectives (Dreveton *et al.*, 2012; Chatelain-Ponroy *et al.*, 2012). These objectives remain largely unclear due to the diversity of the missions pursued and the multiple stakeholders to be reported to, even as university governance teams are waiting for focused decision management tools based on a strategic vision and characterized by a strategic scorecard-type management function (Dreveton *et al.*, 2012). The performance of universities, viewed globally, is conceived as multi-criteria and multi-stakeholder. Universities must not only answer to the main teaching and research missions, but also to new challenges related to extended missions and societal expectations.

The new "sustainable development" mission thus contributes to the overall performance of the institutions and, like the other missions, calls for the introduction of appropriate management tools to monitor and control implementation, and also to measure the results. Given this situation, how is such a control system to be made operational?

More specifically, how can we design a strategic scorecard-type monitoring system of university sustainable development able to guide this mission and measure its performance? To answer this research question and attempt to make an original contribution to the dissemination of management tools in the university system, the paper is structured in four parts.

The first part presents the context in which the university management control is difficult to implement and the theoretical field that enables this to be understood. The university's missions are expanding and stakeholders are becoming aware of new challenges, leading to an ever more complex environment in which the objectives to be pursued are poorly defined and to which management control has to adapt, taking into account the expectations of stakeholders.

The second part sets out the conceptual framework for clarifying the objectives of "the university's new sustainable development and social responsibility mission"¹ (SD-SR) and the integration of these objectives with management tools. It presents a methodological model to overcome the recurring difficulties of implementing these management tools and to make possible the development of a control system for university social responsibility (USR).

The third part examines the case of a French university that wanted to have a strategic scorecard for managing and measuring the performance of its SD-SR mission. It presents action research based on the methodological model presented, raises the question of the nature of the scorecard, then describes how a balanced USR scorecard was constructed.

The fourth part discusses the results of the research, the methodological model, and the scorecard, in terms both of its design and its use.

¹ We use the term "sustainable development and social responsibility", abbreviated as SD-SR, to adopt (and anglicise) the terminology used by the CPU and the CGE (2010) in the documents provided to ESR establishments to assist them in their efforts: *Canevas de Plan vert et Référentiel Plan vert*, since renamed *Référentiel DD&RS*.

1. IMPROVING DEFICIENT CONTROL BY TAKING STAKEHOLDERS INTO ACCOUNT

The practice of management control with regard to running the university is made difficult by organizational complexity that increases with the proliferation of the missions it is required to undertake (1.1). The dominant role of stakeholders in the university environment makes them key players with regard to the stakes involved. By identifying and taking into account their expectations pertaining to the objectives pursued as well as to the management tools that will control the realization of these objectives, it should be possible to manage the multidimensional performance of universities through new key success factors (1.2).

1.1. *New missions to be managed in a complex environment*

The managerialization of public policy theorized by New Public Management has extended to the university, in particular because of the application of LOLF (the Organic Law on the Finance Legislation of 2001) and the LRU law of 2007 with regard to the freedoms and responsibilities of universities, which have made the development of management control tools and systems essential for universities if they are to provide their supervisory bodies with the requisite indicators for measuring public performance. Although management control is now institutionalized in universities (Bollecker, 2016), its development is, however, proving particularly difficult.

Among the main explanations given in the literature for the difficulties or failures of implementation, Bollecker (2016) identifies, on the one hand, divergences between the political and managerial or accounting logics because of rationalities that are difficult to reconcile (Fabre 2013), which result

in a loose coupling between the officially declared objectives and the control systems introduced (Modell, 2003), and on the other, the varied reaction of groups of actors (Drevetton *et al.*, 2012), whose representations and expectations regarding management control are sometimes remote or even divisive (Chatelain-Ponroy *et al.*, 2013).

Conflicts of rationality are reinforced by the difficulty for the university of defining its objectives and priorities, due to its multiple missions (Mintzberg, 2003). Moreover, these missions have been extended with the LRU (2007) and ESR (2013) legislation, which formalizes, *inter alia*, professional integration, lifelong training, social advancement and responding to social challenges and societal, economic and sustainable development needs, as university missions, alongside initial training and research.

These new missions and performance challenges are additional reasons for developing management control to evaluate and manage the policies adopted, but in such a complex environment it is difficult to put into practice. In fact political control remains the only mode of control available to the organization when the ambiguity among its objectives cannot be resolved (Hofstede, 1978, 1981). The role of management control is therefore mainly confined to data production for the supervisory authorities in the context of annual performance programs and reports, a situation that is not conducive to the management of strategic objectives (Drevetton *et al.*, 2012 Chatelain-Ponroy *et al.*, 2012).

The university is simultaneously confronted with a complexity of multiplicity and a complexity of meaning (Riveline, 1991)². Because complexity of meaning is linked to the ambiguity, instability and conflictuality of ends and preferences, and occurs when the objectives are multiple and unclear (Martinet, 2006), the university seems to provide a perfect illustration. According to Côme (2007), this complexity of meaning originates from the diversity of possible interpretations of the components of the changing university environment, and the

² For Riveline (1991), complexity of multiplicity describes a problem with many possible solutions, not all of which, due to lack of resources, can be explored. Complexity of meaning, on the other hand, describes a problem for which there are few solutions, but the choice of which brings into conflict powerful and antagonistic viewpoints.

complexity of multiplicity is linked to the growing number of actors and to their diversity and the intensity of their relationships.

Hence the coexistence within the university of multiple, antagonistic rationalities and of ambiguous objectives does not allow management control systems to properly fulfill their role and requires a clarification of the objectives, taking into account the expectations of stakeholders, so that priorities may be defined.

1.2. The role of stakeholders' in management tools

By opening itself up *de facto* and *de jure* up with regard to its internal and external environment, the university is evolving towards an entrepreneurial form (Clark, 1998, 2001) in which, although control by the clan, as defined by Ouchi (1979), is still very strong, stakeholders occupy an increasingly important place. Thus many of the academic reforms aim to favor intervention by stakeholders and leave less room for the traditional bilateral university-state relationship (Musselin, 2009). These stakeholders are diverse and primarily internal in the form of users and staff, but the Code of Education in article L111-5 formalizes the presence of external stakeholders "associated with the management of public service higher education", expressly mentioning representatives of public interests and economic, cultural and social activities. Not only do these include the state and the public authorities, but also companies, which are increasingly involved in training activities (both ongoing and initial) and research partnerships.

The paradigm shift proposed by stakeholder theory places stakeholders at the center of management and forces a redefinition of strategy (Lépineux *et al.*, 2010), whereas previously they simply constituted the organization's social environment. Governance of the university must take into account this shift and move from a traditional hierarchical model of Weberian public administration to governance that meets the expectations of the stakeholders constitutive of the university (Como, 2013).

The extent to which stakeholders are taken into

account in the management of French universities today seems comparable to observations made in American universities 20 years ago. Ruben (1999) found that the management indicators traditionally used for the measurement of performance and management, however numerous, did not provide a complete picture of the situation in higher education, because they did not reflect the main key success factors for some universities and failed to capture many aspects of their missions, vision or strategic orientation. To remedy this, he suggested ascertaining which levers would ensure the university's success and performance, by identifying stakeholders along with their potentially measurable expectations and impacts (Ruben, 1999). The identification of stakeholders in the University of California and understanding of their needs was viewed as a first step in the development of measures centered on these stakeholders, using mechanisms for conducting satisfaction surveys and gathering information such as the importance and perceived performance of the university's key services, stakeholder needs and requirements that were not taken into account, and stakeholders' perception of the value and effectiveness of the services provided (Hafner, 1998). This approach based on the university's stakeholders, still untried in France, makes it possible to envisage – at least for strategic management – a new model for monitoring the multidimensional performance of universities.

So-called "interactive" control mechanisms for integrating these considerations into universities' management control systems seem particularly appropriate because they focus on strategic uncertainties and, by encouraging dialogue, are oriented towards the search for opportunities, thus facilitating the emergence of new strategies (Simons, 1995). In the framework of measurement tools for French universities proposed by Chatelain-Ponroy *et al.* (2013), interactive monitoring systems are seen as providing a common basis for communication with a view to discussing and debating universities' priorities and objectives. However, it is precisely for these purposes that the control function appears weakest, according to the findings of these authors.

Among management tools that allow interactive use, the balanced scorecard (BSC) is seen as

particularly suitable and is often adopted. Naro and Travaillé (2011) use Simons' control levers as a framework for the role of the BSC. Augé *et al.* (2010) envisage deploying the BSC in the context of French universities, in view of the need to develop interactive control levers, in particular for promoting management dialogue in the context of new governance. Ruben (1999) considers that the indicators intended to measure the performance of American universities do not take into account the diversity of their key success factors, and envisages constructing a BSC that takes into account awareness of stakeholders' expectations and their measurable impacts.

The concepts of diagnostic control (cybernetic function³) and interactive control suggested by Simons' (1995) control levers can therefore be mobilized to represent the desired shift in university management control. The shift would involve moving from monitoring largely based on data reporting to the supervisory authority to monitoring that would allow the effective management of multidimensional performance that is attentive to its stakeholders. Like Essid and Berland, who used these levers as a framework for sustainable development and global performance control systems (Essid and Berland, 2011) and to characterize the use of USR indicators (Essid and Berland, 2011). Berland, 2013), we are able to mobilize them in the context of the university with a view to constructing a control system for the SD-SR mission.

2. DECOUPLING THE DIMENSIONS OF PERFORMANCE TO CONSTRUCT A USR CONTROL SYSTEM

Establishing management control of the university's SD-SR mission calls for clarification of the objectives, for which a process based on pro-active decoupling of the dimensions of performance and

taking into account the expectations of the stakeholders is envisaged (2.1). Based on this process, a methodological proposal is formulated and justified, thereby enabling the university to design a USR control system (2.2).

2.1. The multidimensional university SD-SR mission needs to be clarified

The concept of sustainable development is inherently multidimensional, since it affects the economic, environmental and social spheres, among others. The concrete application of this concept by means of USR thus suffers intrinsically from lack of clarity regarding the objectives to be pursued or prioritized. To meet the objective of the research and design a strategic dashboard-style control system for the sustainable development of the university that allows management of the mission to be managed and measurement of its performance, it is essential to reduce the complexity of meaning and of multiplicity related to the mission and its stakeholders.

Since "USR performance" is linked to the success of the SD-SR mission, it can be analyzed as a dimension of the university's overall performance, along with other aspects of performance in relation to other missions. Breaking down performance in this way, understood as in Capron and Quairel (2006) as the separation of areas of performance, is for these authors "the best way of supporting multidimensional objectives". Without reducing the multiplicity of these many dimensions, decoupling reduces the complexity of meaning by clarifying the objectives associated with each aspect of performance.

We then adopt the neo-institutional approach of Brignall and Modell (2000). Finding that the implementation of multidimensional performance measurement systems in public service organizations is particularly difficult due to the very complexity of these multi-stakeholder organizations, Brignall

³ The concepts of cybernetic control and diagnostic control (Simons, 1995) are very similar. According to Bouquin, Simons views key success factors "as the stable factors of organization of quasi-cybernetic control, which he calls 'diagnostic control'" (Bouquin and Kuszla, 2013).

and Modell (2000) note that the dissociation of the measurement of performance at different organizational levels is a way of dealing with conflicting institutional pressures. For Travaillé *et al.* (2014), the problematic of decoupling grasped by neo-institutional approaches is manifested in different ways in the social responsibility practices of organizations. They distinguish vertical and horizontal decoupling. Vertical decoupling – or loose coupling – lies between a process aiming to legitimize the organization in the eyes of the outside world and the search for efficiency and effectiveness in operational activities, and is close to the classic meaning of decoupling found in Meyer and Rowan (1977). Horizontal decoupling leads to a differentiation of practices according to the functional domains of the organization, which involves separating the evaluation of performance, and is termed pro-active dissociation by Capron and Quairel (2006). By following this logic of horizontal decoupling we can consider the performance of the university's SD-SR mission as a decoupled dimension contributing to its overall performance.

Sustainable development has traditionally been seen as the meeting point of concerns regarding three pillars of an organization's activity: environmental, economic and social/societal. However, the various performance criteria of these activities envisaged separately do not come under sustainable development, because these pillars do not coincide. Moreover, sustainable development emerges as a distinct dimension whose performance can be measured independently. For the university, this will be its "USR performance".

In adopting this approach, we are in a position to resolve the ambiguity of the objectives to be pursued and to identify the key success factors for the university for each dimension thus separated – and for us, the SD-SR dimension. According to Bouquin, this is the basic condition for success: "To be successful is ideally to do better than others [...]" and "to do better than others is to possess key success factors [...]" (Bouquin and Kuszla, 2013).

Performance is a subjective notion, because it is assessed by stakeholders. For an organization to be judged effective by its stakeholders, it needs to meet their expectations within the framework of

the objectives set by the organization. The search for performance therefore requires attaining objectives aimed at satisfying the expectations expressed. Since the governance model implemented by university management teams has already incorporated, in principle at least, notions of efficiency, performance of public action and listening to users (Como, 2013), their expectations must therefore be identified and then taken into account in defining key success factors (KSFs).

We can then envisage a process consisting of three milestones leading to the definition of the objectives to be pursued for measuring USR performance:

- **Milestone 1: decoupling the dimensions of the university's overall performance** to reduce the complexity of meaning;
- **Milestone 2: identifying the hierarchical expectations** of the university's stakeholders in order to reduce the complexity of multiplicity due to the many and potentially conflicting expectations stemming from their diversity;
- **Milestone 3: deciding on the objectives to be pursued** taking into account the hierarchical expectations of stakeholders. By defining its KSFs in this way – not necessarily limited to the expectations identified – the university arbitrates between and adopts strategic objectives that will, if achieved, contribute to its success.

By carrying out this process, we validate the choice of objectives needed to "perform well" and guarantee the relevance of the selected KSFs, as long as they reflect the performance criteria that are deemed superior by the organization's influential stakeholders (Bouquin and Kuszla, 2013).

2.2. A methodological model for designing the USR control system

Apart from the university SD-SR mission, performance measurement as currently performed by management control systems is most often limited

to reporting requirements and measurements required for evaluation by the supervisory authorities. Assessment of performance thus amounts to the production of administrative statistics. For monitoring the SD-SR mission, we propose a step-by-step approach based on the three milestones of the process envisaged. Our approach allows us to eliminate this “limited” monitoring system and move to higher level monitoring that would permit the measurement and management of the university’s multidimensional performance, represented by its “USR performance”.

2.2.1. Performance scale

We can represent the different steps by a scale, in which moving from the starting level to the higher level involves mounting these steps one by one. The performance scale (Figure 1 below) thus constitutes a blueprint for modeling the construction of a system for monitoring and managing the multidimensional performance of the university. Our research focuses on the USR dimension of performance, with the ultimate goal of building a strategic scorecard for a university’s SD-SR mission. This development plan plays a triple role in the unfolding our research:

- It is a concomitant and necessary stage in the process of achieving a USR strategic scorecard. The methodological steps that it presents are elaborated in the framework of going back and forth between the theory and the field of action research, in response to unexpected incidents or concrete management problems arising during the field work.
- It is a means of observation of results and analysis. The development plan enables a university to be situated in terms of its performance objectives, its interest in its stakeholders, the types of monitoring it can implement and the potential uses of the control system.
- It is the outcome of research, at a dual level. The development plan is proposed firstly in order to facilitate the construction process of the USR control system, progressing up the scale, step by step. But secondly it is a

methodological approach aimed more broadly at producing a scorecard-based control system in the university. The proposed method in this respect may be seen as the type of model suggested by David (2000), that is to say, “a mental construction of reality” starting from an “idealized situation or a concrete project of transformation”, the conceptual foundations of which may allow it to be applied to university missions other than the SD-SR mission.

We identify six levels on this scale:

- Level 1: The initial situation;
- Level 2: Starting to take stakeholders into account, without any clear objectives;
- Level 3: Decoupling the dimensions of performance to allow clarification of objectives (**milestone 1**);
- Level 4: Identification of the hierarchized expectations of stakeholders (**milestone 2**);
- Level 5: Clarification of the multidimensional objectives to be pursued (**milestone 3**);
- Level 6: The optimal situation, allowing instrumentation of a control system that meets the objective.

2.2.2. Justification of the stages of the development plan

The methodology proposed by this development plan is based on feedback between:

- The conceptual and theoretical bases of the research;
- The reading of numerous parliamentary, IGAENR and Court of Auditors reports, as well as the gray literature emanating from the CPU or the AMUE, concerning the running and setting up of management control in universities;
- The field of the action research, a framework in which a strategic scorecard is designed to manage a university’s SD-SR mission.

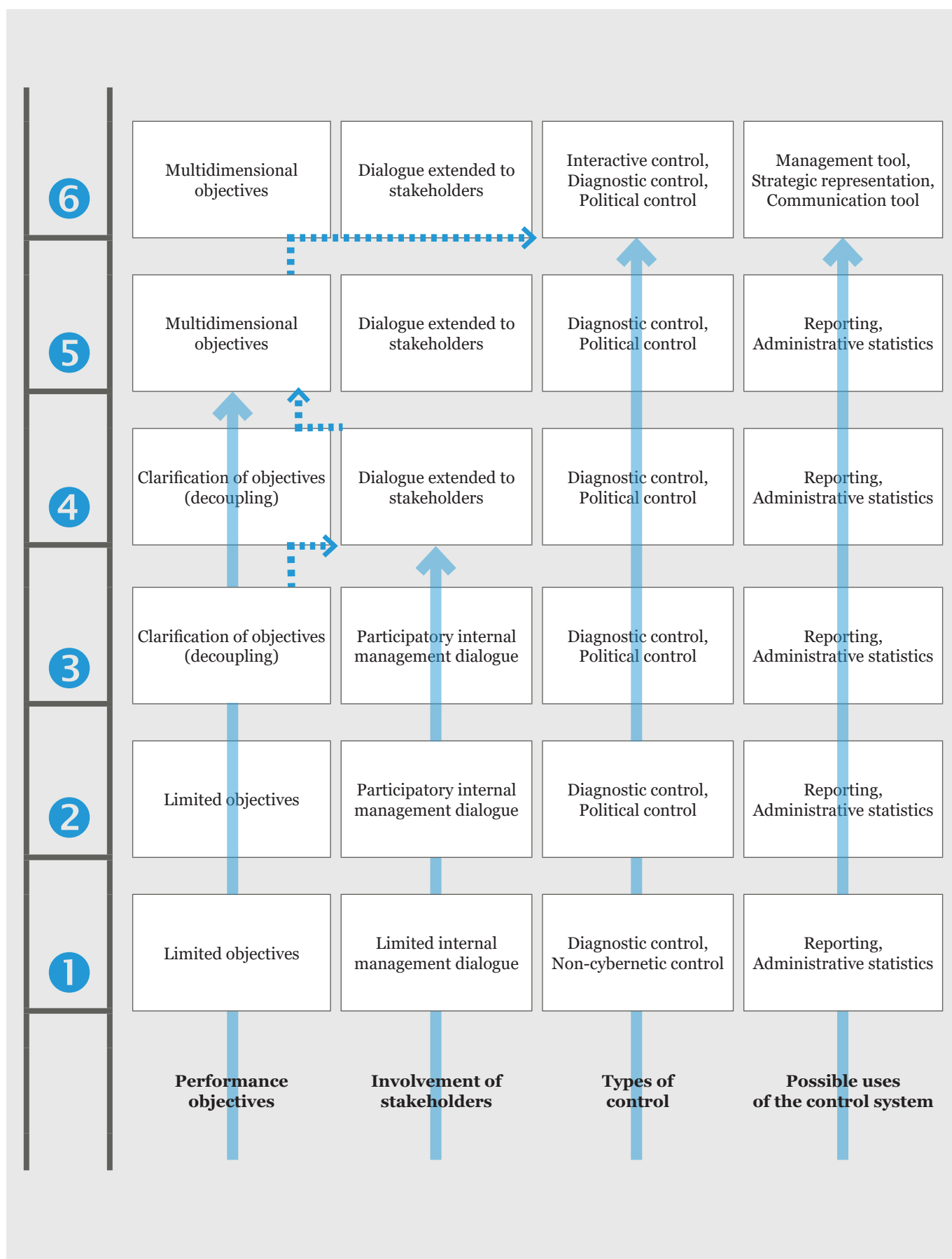


Figure 1 – Development plan of the “performance scale”

Source: Author

Based on the three milestones of the process allowing the definition of the objectives to be pursued, the performance scale was envisaged from the outset of the action research, but evolved to take its final form once this is attained.

We establish a correspondence between levels 1, 2, 3 and 6 and the performance management models proposed in the Bouckaert and Halligan (2006) framework. These authors distinguish four standard and hierarchical management models of public performance that they call (from the lowest to the most advanced): the *traditional pre-performance model*, the *performance administration model*, the *management of performances model* and the *performance management model*.

① The first level corresponds to the control system widely deployed in universities, which although diagnostic (Simons, 1995) does not provide management of the institution apart from budgetary control and the production of quantitative statistical indicators constrained by reporting obligations to the supervisory authorities and rating agencies. Cost calculation mechanisms may occasionally exist, but this management accounting does not, however, constitute a management tool. In the Bouckaert and Halligan (2006) framework this level corresponds to the traditional model, the weakest in terms of performance, which considers that measures of “performance” – in the basic and generic sense of the term – can be found in most public institution management systems, while being far removed from those in which objectives are defined and measured according to specific performance criteria. Although management dialogue exists, it is limited, since it primarily takes the form of an asynchronous “request and response” exchange with most departments and components. It becomes a little more elaborate with components having higher degree of autonomy – for example, institutes such as IUTs and IAEs –, since here it involves contracting on objectives and means. Dialogue nevertheless still takes place within a narrow view of performance

and focuses primarily on budgetary and financial concerns. At this level, diagnostic control is based on unreliable data (Court of Auditors, 2005, 2013; IGAENR 2009)⁴ and generates tensions in management dialogue, where the figures provided by the parties are regularly contested (Petitjean *et al.* 2014). This situation contributes to the parallel existence of a strong non-cybernetic “garbage can model” control system. This decision model and the notion of organized anarchy with which it is associated, developed by Cohen *et al.* (1972), describes the non-rational decision-making system used in universities, since in a situation where the objectives are multiple, ambiguous and non-hierarchical, the decisions taken occur in a disorderly manner and do not necessarily answer the problems raised (Cohen and March, 1974). In the opinion of Hofstede (1981), the garbage can model is an alternative for universities insofar as cybernetic systems are unable to operate in them.

② The second level corresponds to the *performance administration model* (Bouckaert and Halligan, 2006), characterized by performance measurement solely in relation to conformity with the legal and administrative obligations incumbent on the organization, independently of any managerial or strategic aspects, since it is primarily a matter of producing statistical administrative indicators. This level makes it possible for stakeholders to start being taken into account, through synchronous and participative internal management dialogue in line with the voluntary approach adopted by the university. But since the objectives are not envisaged in a multidimensional way, they remain ambiguous apart from those imposed by the supervisory authorities and rating agencies. Their ambiguity continues to make it essential to set up a strong non-cybernetic control system in conjunction with a diagnostic system. Such political control (Hofstede, 1981) frequently enables the necessary trade-offs to be made and uncertainties to be dealt with. Although political control, following this approach, can profitably base its decision-making on more elaborate diagnostic control systems, it is,

⁴ Communication from the Court of Auditors to the Finance Committee of the National Assembly (2005): “L’efficience et l’efficacité des universités: observations récentes et nouvelles approches”; Rapport de la Cour des comptes (2013): “La qualité des comptes des administrations publiques - comptes assujettis à la certification par un commissaire aux comptes, exercice 2012”; Rapport n° 2009-062 de l’IGAENR (2009): “La modernisation de la gestion publique: un levier pour l’autonomie des universités”.

however, inconceivable that this type of control will disappear in universities where political rationality is strongly expressed.

③ This stage corresponds to passing **Milestone 1**. Through the decoupling of the different dimensions of the university's performance, it involves clarification of the objectives to be pursued. The third level comes close to the *management of performances model* proposed by Bouckaert and Halligan (2006). It describes a situation where the concepts of management and performance are linked, but only weakly so. Management of performance goes further than simply “administrative” measures, and the management of performances is associated with heterogeneous measures of mutually disconnected managerial functions: personnel management, financial management, strategic and operational management, communication, and so on. A university that does not want to take into account the real expectations of its stakeholders in its KSFs can nonetheless start the instrumentation stage of a control system for each of the functions, missions or performance dimensions considered, but without any guarantee of effectively measuring and managing performance levers deemed to be such by the stakeholders. Among the three possible roles of a control system, the system set up in this case can justifiably be used only as an internal or external communication tool and a strategic representation tool, but will not allow performance to be managed in a way that satisfies stakeholders.

④ The fourth level is an essential stage of the development plan. It is reached when the dialogue is extended to stakeholders and allows their real expectations to be identified. This stage corresponds to passing **Milestone 2**. The university has not yet fully clarified its objectives, and still has to arbitrate between the expectations expressed and its own objectives in order finally to select its performance objectives.

⑤ At the fifth level the objectives to be pursued by the institution are now set and therefore totally clarified. This stage corresponds to passing **Milestone 3**. The objectives selected result from the confrontation between the objectives defined in principle by the university and the real

expectations of stakeholders to be met. KSFs are set and the university is able to “perform well” if it can satisfy its stakeholders, but instrumentation is still needed to move from a vision without any relevant measure of political control alone to a well-designed control system allowing the measurement and management of this performance.

⑥ The sixth level can be compared to the *performance management model*, the highest performance model in Bouckaert and Halligan's typology (2006), since it requires a clear policy to be defined for measuring and managing the performance of the organization's activities. Characterized by coherence and completeness, this model requires a strong performance measurement system linked to a coherent strategy for improving management. Thus, to make the performance management model fully operational, we can begin from the control system instrumentation stage. The control system has not necessarily evolved since level ② and management instrumentation may have remained unchanged or non-existent. In such a situation, political control will have been strengthened because of the more global view of performance, but the diagnostic control systems will still be insufficient for measuring and managing it. Reaching the sixth level is the culmination of the proposed methodological approach, but is not an end in itself. Having reached this stage, the university is able to measure and manage its performance in the most complete way, but doing so requires setting up a management control system with renewed tools. The diagnostic control system is not called into question because it is still useful, but it must coexist with an interactive control system that through dialogue and the learning process it facilitates will allow, among other things, uncertainties to be dealt with and new strategies to emerge (Simons, 1995).

By applying this development plan we were able to complete our action research, with the ultimate goal of constructing a strategic scorecard of a university's social responsibility.

3. DEVELOPING A USR SCORECARD THROUGH ACTION RESEARCH

We will first briefly justify the choice and modalities of using a balanced scorecard (BSC) to effect the instrumentation of the USR control system (3.1), and will then describe the main stages of its development and its characteristics in the context of the feedback from action research carried out within a university (3.2).

3.1. What kind of strategic scorecard is suited to USR?

Like Naro and Travaillé (2010), Simons' levers of control model (1995) allow us to legitimize the construction of a BSC viewed as an interactive control lever facilitating the emergence of new strategies. The links between the BSC and the Simons' interactive levers of control have been addressed in many studies (Augé *et al.*, 2010; Naro and Travaillé, 2010, 2011) and by Kaplan himself (Kaplan, 2009). The Simons model also provides a conceptual basis for thinking about CSR control systems (Berland 2007; Dohou-Renaud 2009; Essid and Berland 2011, 2013). Drawing on the conceptual framework proposed by Simons, we can doubly legitimize the choice of using a BSC in the context of the USR control and management system.

Among the many existing versions of the BSC in particular contexts, some concern taking sustainable development into account by organizations. The development of SBSCs ("sustainability balanced scorecards") is thus an "attempt to measure global performance, in that it would make it possible to integrate or counterbalance economic, social and environmental considerations within the same performance model" (Travaillé and Naro, 2013).

Several mechanisms for integrating sustainable development into the BSC can be envisaged. They can be summarized in three main models (Figge *et al.*, 2002), concerning which there is now consensus:

1. BSCs that include the different dimensions of sustainable development in each of the four

existing axes (financial, client, internal processes, learning and development);

2. BSCs that have a fifth "sustainable development" axis in addition to the four existing axes;
3. BSCs that are exclusively focused on sustainable development, allowing CSR performance to be monitored and managed.

The first construction model consists of total coupling between the traditional performance indicators and those of CSR within the same scorecard. For Figge *et al.* (2002) this is the standard way of integrating sustainable development. The second model represents limited coupling by adding a CSR axis to BSC alongside the already existing axes. The third model dissociates performance measurement by applying dedicated instrumentation to the CSR dimensions alone. Although researchers do not agree on which SBSC model is the best to use, in practice it seems that companies tend to prefer the dissociated model (Travaillé and Naro, 2013). This is also the model we choose for our action research, and it is consistent with the process of decoupling between the dimensions of performance, that we consider to be a way of reducing complexity.

3.2. Developing a sustainability balanced scorecard

The university in which the action research took place (which we will call UPM) is a medium-sized (about 23,000 students) provincial multidisciplinary institution. Its SD-SR mission is headed politically by a delegated vice-president, but there is no dedicated administrative structure. The vice-president does, however, receive occasional support from two administrative staff members from the heritage department (including a newly recruited energy engineer). Although untrained in management, the vice-president initiated action research aimed, on the one hand, at producing an inventory of sustainable development in UPM and, on the other, at coming up with a strategic management tool. This is the context in which our 18-month intervention began. To conduct it, a working group was set up, consisting of a member of the teaching staff (the main actor in

the intervention-research field study), the two administrative staff and the delegated V-P. Two other research professors took part in the action research in a more distanced way, in the context of analysis in the research laboratory of information obtained from the field. They also ensured that the study respected the principles of scientificity.

At the start of the intervention-research, there was no existing strategy to turn to, nor even broad guidelines sufficiently formalized to allow the development of a SBSC through a top-down process, as envisaged initially by Kaplan and Norton (1998) within a logic of aligning management tools with the strategy. While a scorecard used as an interactive control tool could facilitate the emergence of new strategies, to construct it there nevertheless need to be some initial strategic orientations, and these will only be established during the first stage of the intervention-research.

First stage: Clarification of objectives and taking stakeholders into account

In accordance with the development plan (Figure 1), we began the goal clarification stage by identifying the expectations of stakeholders. Using the framework proposed by Mitchell *et al.* (1997), the staff and students of the university were used as “definitive stakeholders”. An exploratory survey of these stakeholders was conducted, in a bottom-up stage that highlighted key themes of sustainable development for guiding and facilitating the definition of a strategy and its major objectives.

A questionnaire comprising fifteen questions was addressed to the total population of UPM, with a view to drawing up an inventory of the perception of the staff and students regarding the current situation with regard to sustainable development in their university, and in particular to respond to the main objective of finding what USR themes they consider to be most important. The questionnaire offers a panorama of themes associated with sustainable development, covering its various social, societal, environmental and governance components. With the questions interrelated in a balanced way, the fourteen sustainable development themes were

presented to stakeholders. To deploy these themes for the elaboration of the questions, we drew on the nine key sustainable development challenges provided by the *framework of the Green Plan* and the five axes of the *SD-SR reference system* developed by the CPU and the CGE, thus enabling all the fields of the USR to be covered.

From the 2,142 complete answers obtained (962 staff members and 1180 students), we established a hierarchy of the most important topics and expectations of the university community. The six objectives considered to be priorities by more than 50% of the respondents are:

- Respect for fundamental rights (freedom, respect for the individual, equal opportunities, etc.),
- Waste management,
- Proper use of resources (paper, water, etc.),
- Establishment of a diversity policy (disability, male-female equality, origin, etc.),
- Establishment of a diversity policy (disability, male-female equality, origin, etc.),
- Development of well-being at work (living environment, cultural and sports activities, etc.).

Subsequently, going beyond the survey alone, the participation of stakeholders was ensured through various events organized over a year, including an “eco-campus workshops” day and an “open forum” day, with the aim of involving them in the sustainable development approach, collecting their proposals for action and involving them in the actions proposed. Ultimately 22 performance objectives were defined and will be subject to monitoring by indicators in a scorecard.

At the time of completion of the scorecard, UPM is at the sixth level of the scale we used:

- The dialogue has been extended to all stakeholders. External stakeholders belonging to the main institutional partners of UPM are systematically associated with the events organized. The expectations of the internal stakeholders have been collected and taken into account in the prioritization of strategic orientations, and their adoption in the implementation of the action plan is included in UPM’s Green Plan;

- The performance objectives have been clarified and prioritized, taking into account the expectations of stakeholders.

Second stage: Finalization of the scorecard

The scorecard was co-constructed in the framework of the intervention-research in collaboration with the working group formed.

To organize the axes of a BSC, Kaplan (2001) recommends non-profit organizations (including public organizations) to place the objective of their basic mission at the top of the scoreboard. This objective is the very reason for the existence of the non-profit organization and represents the organization's responsibility towards society. This higher-level objective must be a long-term goal, and the sub-objectives of the other BSC axes will be directed towards enhancing it (Kaplan 2001, Kaplan and Norton 2001). In the more specific case of public organizations, Kaplan and Norton (2001) consider that "the 'true' clients of these organizations are citizens in general" and that the higher-level axes should correspond to the objectives that will enable the mission to be accomplished.

The "sustainable development mission" assigned to universities by the ESR law of 2013 considers the responsibility of universities in this area to be "service to society" and it consists precisely in "developing the capacity of expertise and support to associations and foundations [...] and to public policies designed to respond to societal challenges and social, economic and sustainable development needs." This mission is pursued through "orientation, social promotion and professional integration" (Article L123 of the Code of Education).

Based on the themes of the questionnaire, four performance axes are used to construct the UPM SBSC: internal processes, society and the environment, users (staff and students), governance and finance. These four axes of the SBSC are consistent with the five axes of the SD-SR reference system, but seem to be more conducive to the elaboration of a scorecard. It is possible to rank these four axes by determining direct causal relations between them

and to take one axis as the higher-level objective. In this way the "society and environment" axis is placed at the top of the SBSC.

Table 1 below presents the 14 themes of the questionnaire submitted to students and staff and their positioning with respect to the axes of the SD-SR reference system, and aligns them with the four performance axes selected in UPM's SBSC.

An equilibrium needs to be established between the four performance axes of UPM's SBSC so that the scorecard is exactly "balanced". But causal relationships will also exist between the axes, and consequently these are ranked. Indeed, the awareness and involvement of UPM students and staff in the challenges of sustainable development, favored by a proactive policy and exemplary governance, provide an indication of the quality of the internal processes.

By identifying the causal relationships between the axes, allowing the mission to be fulfilled, we are able to rank them and acquire an impression UPM's SD-SR strategy (Figure 2).

For example, users who are aware and supported by an institutional policy and working conditions that allow the sorting of waste and energy savings, will naturally result in these processes being performed well. The quality of internal processes will likewise provide an indication of stakeholders' satisfaction and enhance the image of a university committed to sustainable development. At a societal level, implementing the processes satisfactorily will contribute to students' education in sustainable development issues and promote academic research on these topics.

Cause-and-effect relationships between the different BSC axes and their variables are not obvious, because only rarely are there automatic relationships between them. Consequently the causal chains are assumed rather than statistically significant (Berland and De Rongé, 2013).

We can represent in more detail the causalities between the performance axes of the strategy map, revealing the cause-and-effect relationships between the objectives targeted or between groups of objectives (Figure 3).

Themes of SD-SR questions submitted to stakeholders		Axes of the SD-SR reference system (CPU-CGE)	SBSC performance axes
T01	Pollution reduction actions	Axis 4: environmental management	Internal processes axis
T02	Conserving biodiversity and ecosystems	Axis 4: environmental management	Society and environment axis
T03	Combatting climate change	Axis 4: environmental management	Society and environment axis
T04	Diversity policy (handicapped individuals, male/female equality, origin, etc.)	Axis 5: social policy and territorial rootedness	Users axis (staff and students)
T05	Proper use of resources (paper, water, etc.)	Axis 4: environmental management	Internal processes axis
T06	Waste management	Axis 4: environmental management	Internal processes axis
T07	Good business practices	Axis 1: strategy and governance	Governance and finances axis
T08	Respect for fundamental rights (freedom, respect for the individual, equal opportunity, etc.)	Axis 5: social policy and territorial rootedness	Society and environment axis
T09	Development of well-being at work (living environment, cultural and sports activities, etc.)	Axis 5: social policy and territorial rootedness	Users axis (staff and students)
T10	Development of human capital (skills, employability, personal development)	Axis 5: social policy and territorial rootedness	Users axis (staff and students)
T11	Work relations and conditions (social dialogue, health and safety at work)	Axis 5: social policy and territorial rootedness	Users axis (staff and students)
T12	Involvement with communities (relations with local actors, partnerships, etc.)	Axis 5: social policy and territorial rootedness	Society and environment axis
T13	Training students in sustainable development issues and professions	Axis 2: education and training Axis 5: social policy and territorial rootedness	Society and environment axis
T14	Inclusion of sustainable development in all areas of research	Axis 2: education and training Axis 3: research	Society and environment axis

Table 1 – Themes of the questionnaire and performance axes of the UPM's SBSC
(Source: author)

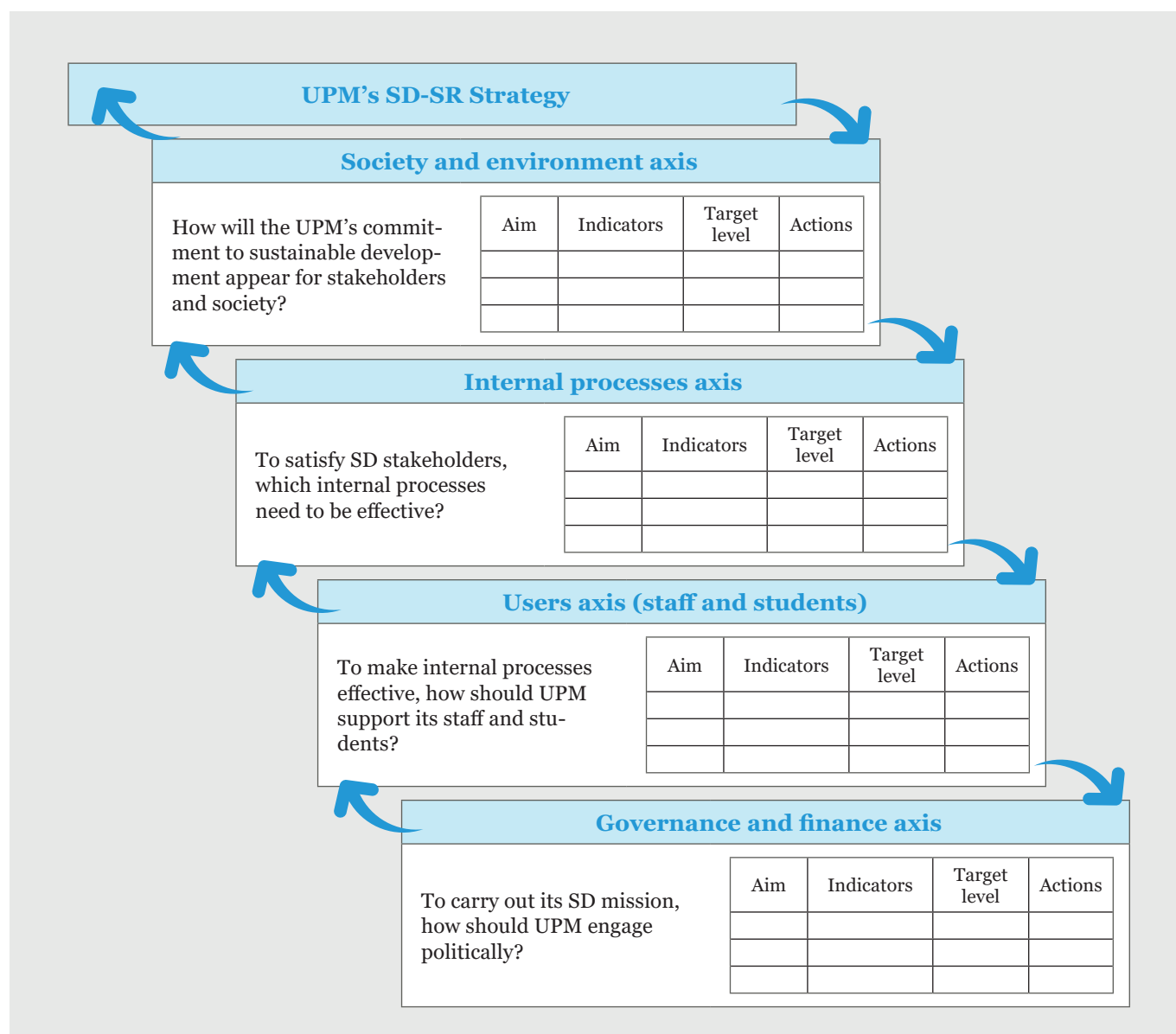


Figure 2 – Linking of axes and the achievement of goals

Source: Author, based on Kaplan and Norton (2001, page 83) and Gibert (2009, page 57)

In addition to the 14 objectives corresponding to the topics of the questionnaire submitted to stakeholders, eight additional objectives selected by the vice-president (with regard to political commitment) are added in line with the strategic orientations desired by the governance of UPM:

- Ensure the professional integration of students prepared for the societal challenges of SD;
- Conduct a responsible purchasing policy;
- Implement SD awareness and communication actions;
- Promote and enhance users' involvement of in the actions taken;
- Reduce energy consumption;
- Achieve economies through sustainable development;
- Maintain an operating budget for the sustainable development program;
- Maintain an appropriate functional organization for monitoring and management.

To determine the SBSC from this strategy map, we first identified indicators that put each objective under control and helped to assess UPM's performance. We verified that the data to obtain these indicators were available and that their measurement by the managing department or another UPM department was technically feasible.

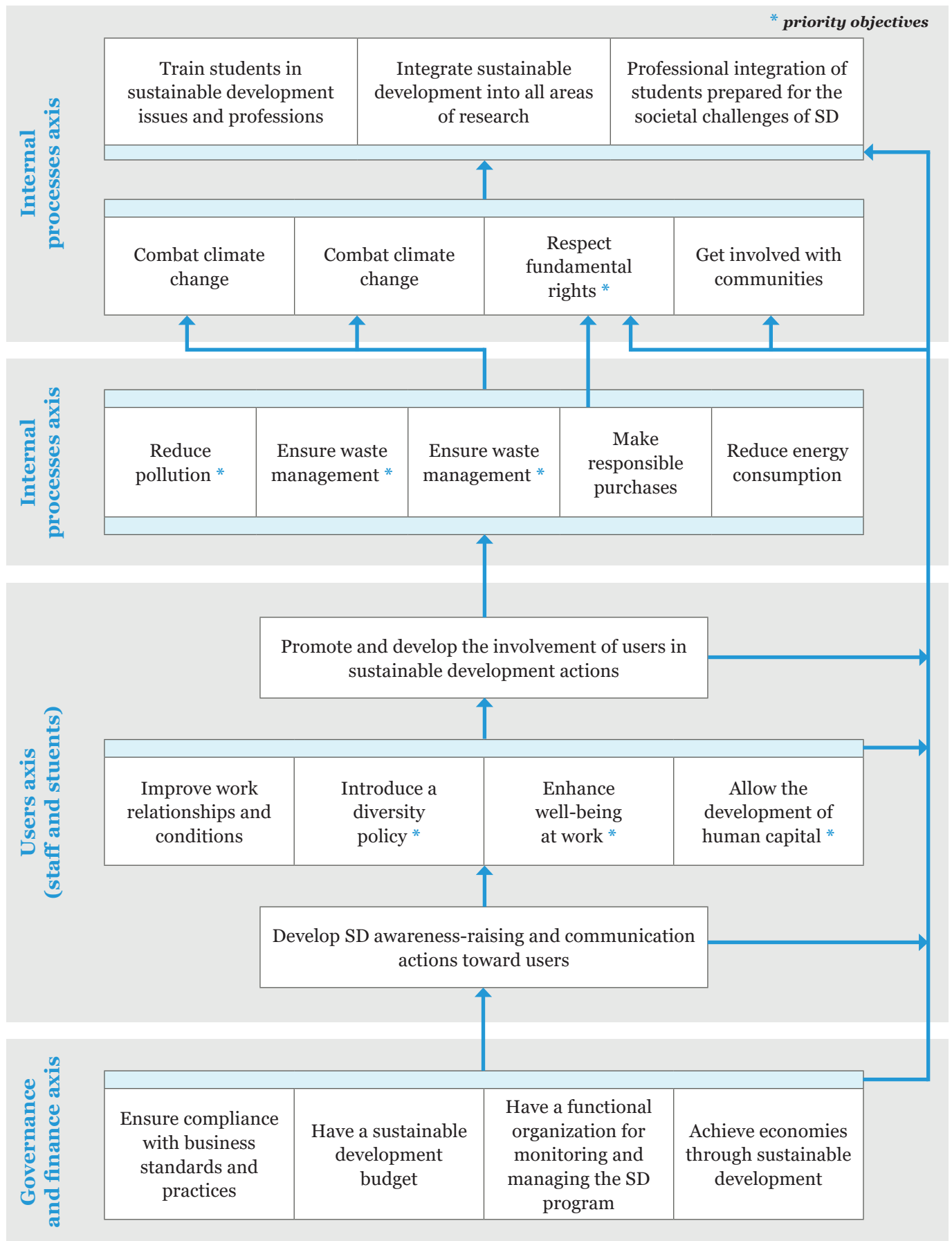


Figure 3 – Strategy map of UPM's USR - Causal relationships between objectives and groups of objectives

Source: author

In the finalized SBSC, the various axes have a different number of indicators (see details in Appendix), with respectively:

- Environment and society axis: 13 indicators for 7 objectives;
- Internal processes axis: 8 indicators for 5 objectives;
- Users axis (staff and students): 15 indicators for 6 objectives;
- Governance and finance axis: 7 indicators for 4 objectives.

Secondly, we implemented the design of the output for each line of the SBSC:

- The goal (objective pursued);
- One or more indicators for bringing it under control;
- The T-1 value of each indicator (figure obtained during the previous measurement period);
- The target level to be achieved or the desired forecast trend;
- The indicator code used to identify indicators in the “indicator sheets” defining them;
- Possible inclusion of action sheets in the Green Plan, with regard to the objectives viewed as priorities, which make the strategic choices operational.

For the progressive development of the scorecard, we adopted two logics that proved to be necessary and complementary within the overall global approach: bottom-up and top-down, taking into account the expectations of the stakeholders and promoting interactions with them. The six objectives identified as priorities by staff and students will be paid particular attention and the action plans pertaining to them will be deployed first.

4. DISCUSSION

The success of the intervention and the value of the finalized SBSC for the university should not obscure the apparent or real limits of the tool, nor the methodological approach based on the performance scale that made this construction possible. Our discussion will therefore focus on the two products of the research, namely the performance scale (4.1) and SBSC of the university (4.2).

4.1. Returning to the performance scale

Our proposed development plan together with the performance scale model should be viewed as a methodological guide, and our application of it in the action research was in accordance with this guide. But its development and its application called for considerable thought and involved adapting them to the specific context in each of the stages of our intervention. There is no “ready-made” model for management tools, and their instrumentation, if desired, requires the operationalization of a method suited to each organization (Gibert, 2009).

While the validity of this scale needs to be tested against other research contexts before considering it as a potentially generalizable methodological model, our proposal nevertheless seems to make an original and significant contribution by taking into account the expectations of stakeholders. In the many studies in the literature that find it difficult to implement and efficiently operate control systems for universities, the analyses mostly center on divergent rationales and explain these difficulties by “political logic, the actors’ strategies and the diversity of or even dissension between groups” (Bollecker, 2016). But our proposal to take into account the expectations of stakeholders in the objectives targeted overcomes these conflicts of rationale by developing a control system for the SD-SR mission built around shared objectives. If this situation is similar to a loose coupling between institutional expectations and a control system meeting specific objectives (Modell, 2003), it does, however, involve pro-active dissociation (Capron and Quairel, 2006)

in that we propose this decoupling not in order to adopt an external legitimacy strategy that would be dissociated from real activities, but on the contrary to align the objectives with these activities while still having a control and management system for this mission.

In the complex environment of the university, where the objectives targeted are ambiguous overall, the pro-active decoupling of the dimensions of performance seems to facilitate the construction of distinct control systems, with the objectives clarified for each of them. This analysis is close to the required principle of variety (Ashby, 1956), according to which the complexity of a system must at least match the complexity of the environment managed by the system. Thus, when we decouple the dimensions of performance to reduce the complexity of meaning and clarify the objectives, it seems that each dimension of performance should have its own control system.

4.2. Return to the SBSC and its construction

The SBSC was constructed by alternating the top-down and bottom-up phases. Yet the top-down approach does not at first sight appear to be most appropriate in the case of public organizations. Gibert (2009) considers that the best way of producing scorecards in a public organization is through a bottom-up approach to strategic alignment, not a top-down one. He gives three reasons for this assertion, that we can discuss with regard to our study.

The first, very standard reason concerns the vagueness of the overall objectives of public organizations, whereas basic responsibility centers always have more or less implicit objectives that guide their actions. It is therefore possible to create scorecards starting on this basis. In the case of UPM, we overcame this difficulty by clarifying the objectives achieved by taking into account the expectations of stakeholders. The second reason is the conglomerate nature of public organizations, which prevents the convergence of objectives, whereas for private

companies in conglomerate situations a common direction can always be found in the search for financial profitability on the part of the businesses. This particular problem did not apply, since the control system responds only to one main objective: the performance of the UPM SD-SR mission. The third reason given is not related to a problem, but rather to the incentive to adopt a bottom-up approach because of the positive effects of the participatory logic of which it is the corollary. In our case, although the final instrumentation of the control system was not based on a bottom-up participatory approach, all the stages of the UPM SD-SR project were, however, subject to a participatory approach involving the university's stakeholders, thus allowing the construction to take place.

In designing the SBSC we used the strategy map to show the causal links, on the one hand, between the performance axes and, on the other, between the goals pursued. We did not establish a causal link between the indicators, whereas for Kaplan and Norton (2001), "strategic hypotheses imply identifying the activities (the prospective indicators) that induce the desired results (the follow-up indicators)." This inadequacy can be seen as a limitation of the causal approach in the strategy maps presented and a departure from the method, but on practical grounds it seems to us technically impossible to apply to the indicators the same causal chain as the one concerning the objectives. Note in this regard that Kaplan and Norton themselves, in their examples of implementation of strategy maps and BSC, present indicators that apparently have no causal link between them, whereas these links exist between the objectives they monitor⁵. This absence of causality between the indicators in UPM's SBSC is therefore only a limitation with regard to the theoretical approach to the concept, but does not diminish the quality of the response given by the scorecard in terms of managing the university's SD-SR mission. This limitation does not call into question the relevance of the representation of the strategy conveyed by the two proposed strategy maps.

Although UPM has a scorecard as a result of action research, this does not imply that the full

⁵ See, in particular, Kaplan and Norton (2001) on pages 43 and 45, as well as many other examples in the same book.

potential of the control system is being used. The main limitation lies in the use and effectiveness of the SBSC constructed. It is designed to be used for the *management* and *post-evaluation* stages – as understood by Bouquin –, but we cannot guarantee at the end of the action research that users will actually do so. Like Berland (2007), we consider that the production of indicators is not the end but the beginning of the evaluation process. For it is during these management and post-evaluation stages that the control system should offer its greatest potential. Interactive use (Simons, 1995) of the USB control system set up in UPM enables actors “to interact very strongly with each other so as to deal with strategic priorities that have been defined in advance as key factors [...]. It is the control system that should allow, through this interaction, the emergence of new solutions and new positionings” (Berland, 2007). The performance of UPM in its SD-SR mission needs to be measured by diagnostic use (Simons, 1995) of the control system, made possible by the selected indicators monitoring the strategic objectives and key success factors.

The users and internal processes axes are those in which the main priorities of stakeholders tend to emerge. The causation chain encourages governance to pay particular attention to the objectives of the user axis and in particular to the development of well-being at work, which will be a key factor in the performance experienced by staff and students and will have a strong impact on achieving the objectives of the internal processes axis.

In the end, the strategic dashboard developed for UPM was confronted with a changed presidential team. Often synonymous with a *tabula rasa*, this situation put a temporary end to its use. Its gradual reappropriation may occur with the new vice-president responsible for SD, who is still calling on some administrative staff members involved in the design of the SBSC. Well-being at work thus remains a strategic priority expressed through actions. The situation nevertheless raises the question of the existence of long-term administrative structures that will ensure the continuity of certain missions and the associated management practices, since UPM did not have a department or staff specifically assigned to the SD-SR mission during and after the action research.

5. CONCLUSION

While the main contributions of the research are methodological in nature and are based on a neo-institutional theoretical framework (Brignall and Modell, 2000) that favors a pro-active dissociation of performance measurement (Capron and Quairel, 2006), our paper also enriches the theoretical framework used. We argue that the horizontal decoupling practiced on the different areas of performance, analyzed separately, must be consistent with the implementation of dissociated control systems on each of the areas selected. We justify this twofold dissociation – upstream and downstream – through the need to clarify the expectations of the final stakeholders identified on each dimension of performance, so that these can be taken into account. In turn this allows the key success factors to be considered in a multidimensional way and contributes to the management of overall performance. We thus suggest that dissociation is not only “the best guarantee for maintaining multidimensional objectives” (Capron and Quairel, 2006), but is also essential for constructing such a control system in complex environments.

In terms of methodology, the contributions of the research are related, on the one hand, to the place occupied by stakeholders in this methodology and, on the other, to the decoupling of performance, thus making it possible to clarify the objectives while taking into account the expectations of these stakeholders. The proposed development plan is a guide to implementing a USB control system in the complex organization characteristic of universities. The method could be tested on missions other than sustainable development and could lead to the construction of other scorecards that would contribute to the management of university performance.

In terms of management tools, in addition to its distinctive nature in the university, the finalized scorecard is innovative in terms of the design principles used and the development plan on which it is based. Moreover, it adds justifications for the dissociation of the measurement of performance to the literature on the sustainability balanced scorecard and more broadly on USB control systems, leading to a SBSC exclusively focused on

sustainable development. While these justifications are specific to the university context, they probably also apply to other types of complex organization, including those in the public sector. The research and the methodological proposal regarding the performance scale could thus be adapted for the SD-SR mission in other public organizations where the position of stakeholders is essential and similar to that of the users and staff in universities.

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APPENDIX: INDICATORS USED IN THE INITIAL UPM SCORECARD

The indicators presented below were used for the finalization of the scorecard. The choice of these indicators were directly related the UPM context and are open to modification. Their sole purpose is to illustrate one possible scorecard, in order to facilitate the understanding of readers who wish to adopt the proposed method. Some of the indicators are questionable and have limitations that need to be tested. They could be modified or replaced after the finalization stage, during the subsequent management and post-evaluation stages of the normative control process (Bouquin and Kuszla, 2013).

ENVIRONMENT AND SOCIETY AXIS

Objectives	Indicators
Training students in sustainable development issues and professions	• % of training courses with at least one obligatory component on an aspect of SD
	• % of training courses with at least one optional component on an aspect of SD
Incorporating sustainable development into all areas of research	• Number of laboratories that have produced research on SD (publications, communications, theses, projects)
	• Number of SD-focused studies conducted by UPM staff
Enabling the professional integration of students trained in the societal issues of SD	• % of degrees awarded to students trained in an aspect of SD
Combatting climate change	• % of staff using green or shared forms of transport for work-related travel
	• % of students using green or shared forms of transport for work-related travel
	• Carbon emissions (CO ₂ teq or C teq)
Conserving biodiversity and ecosystems	• Ratio of area of green space to area of roads and parking lots
Respect for fundamental rights	• Success rate of first-year students on grants or salaries
	• % of students on "equal opportunity" schemes
Community involvement	• Number of events organized in UPM that are open to the public
	• Number of projects (students and research) conducted in association with local communities and actors

INTERNAL PROCESSES AXIS

Objectives	Indicators
Reducing pollution	• % of buildings with selective sorting of waste
Provision of waste management	• Overall rate of recycling waste products
Responsible use of resources	• Quantity of water consumed by volume
	• Quantity of paper purchased by volume
Responsible purchasing	• % of cost of purchases from companies in the social and solidarity economy sector (integration enterprises, etc.)
	• % of cost of purchases with an environmental and/or sustainable development label (EU, NF Environnement, Rainforest Alliance, FSC, Energy Star) and/or environmental certification (ISO 14000, etc.)

AXE PROCESSUS INTERNES

Objectives	Indicators
Reduction of energy consumption	• Variation rate of electricity consumption measured in kW
	• Variation rate of non-electric energy consumption for heating measured in kW

USERS AXIS (STAFF AND STUDENTS)

Objectives	Indicators
Favoring and increasing users' involvement in SD actions	• Ratio of the number of staff participating in SD actions / Number of SD actions
Improving working relationships and conditions	• Rate of absenteeism due to illness
	• % of staff with training in risk prevention
Introducing a diversity policy	• % of first year handicapped students met by the mission
	• Female/male ratio in the total staff workforce
	• Female/male ratio in new hires
Enhancing well-being at work	• % of staff registered in SUAPS (university physical activity and sports department)
	• % students registered in SUAPS
	• Number of cultural actions implemented
	• "Well-being at work" satisfaction index
Contributing to the development of human capital	• Ratio of number of promotions and competition winner/ number of personnel recruited and promoted (BIATSS)
	• % of staff participating in continuing education programs
Developing SD awareness raising actions and communication to users	• Total number of SD awareness raising actions carried out in all areas
	• % of awareness raising actions involving students
	• % of awareness raising actions subsequently publicized internally

GOVERNANCE AND FINANCE AXIS

Objectives	Indicators
Vigilance regarding conformity to business standards and practices	• Number of restrictions formulated by the external auditor
Having a budget devoted to sustainable development	• Ratio of the budget allocated to SD actions / the total budget
	• Ratio Budget allocated / Total number of staff and students
Having an operational organization for monitoring and managing SD actions	• State of planning of activities in the SD department
	• Annual report of the head of the SD department
	• Rate of actions completed over the period / number of actions planned over the period
Making economies through sustainable development	• Economies generated (in euros)