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## Environmental Management and Business Strategy: Structuring the Decision-Making Support in a Public Transport Company

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### Abstract

The organizations ability to manage corporate environmental performance is emerging as a strategic issue for companies. Environmental decision-making requires an explicit methodology in which it must be possible to articulate the involvement of various stakeholders, incorporate multi-disciplinary knowledge, and integrate criteria involving trade-offs in order to deal with different opinions and heterogeneous factors. The choice of sustainable options for the company and the creation of commitments among stakeholders are a must for businesses. The main motivation of this paper is to present results from the initial steps of the development of a methodology to support decision-making of corporate environmental strategies. Illustrations from an ongoing case study are presented.

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### 1. Introduction

Increasing awareness of environmental problems caused by economic activity has driven to greater political and social demands on companies to mitigate their environmental impact. Managers are faced with environmental issues. This is not just a matter of defending environmental values, but it can have a direct impact on ensuring sustainable economic success.

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### *1.1. Context and motivation*

The organizations ability to manage corporate environmental performance is emerging as a strategic issue for companies. Some authors suggest that environmental management may help organizations to improve their competitiveness while others question the optimism of environmental advocates (López-Gamero et al. 2009). Since the 1990s consultants and scholars have repeatedly held that proactive environmental strategies are both urgent for the planet and good for corporate reputation and financial performance. Proactive environmental strategies were defined as systematic patterns of voluntary practices that go beyond regulatory requirements. Various typologies and taxonomies proposed different levels of proactive environmental strategy, ranging from a little more than legal requirements to excellence and environmental leadership. It is also widely accepted that the degree of strategic environmental proactivity of a company is related to its general level of strategic proactivity (Aragón-Correa and Rubio-López, 2007). Today, there is a widespread acceptance that sustainability requires coordination of prerequisites at the industry and societal levels. The research about organizational strategies and practices leading to ecologically sustainable systems of production and consumption constitute one of the main environmental challenges for organizational and management studies in the early decades of the new millennium. This path has two major consequences: (i) companies have to integrate into their strategic management environmental policies and (ii) companies assume implicitly the responsibility to promote a more active relationship with their stakeholders. This means that companies, in order to achieve their organizational purpose – which is influenced by corporate sustainability – need to rebuild their strategic management taking into account both environmental policies and stakeholders' expectations. And the way companies now make decisions naturally changes.

Within such context, environmental decision-making (DM) requires an explicit and coordinated structure in which it must be possible to articulate the involvement of different stakeholders, incorporate multi-disciplinary knowledge, integrate different and complex criteria involving trade-offs to combine different factors at the same time (economic, environmental, social, technological, socio-political), and join heterogeneous information of both quantitative and qualitative character. Our motivation is to address the existent need to assist complex decision processes within organizations in order to achieve the development of corporate objectives. Problem structuring approaches enable the creation of conceptual models to support the strategic development of organizations, contributing to an explicit formulation of feasible goals. This implies a greater depth of analysis for developing objectives for policy decisions. These objectives will provide the basis for quantifying values. The process requires considerable creativity in discussions with decision-makers and stakeholders concerned with the decisions.

### *1.2. Research purpose*

Our purpose is threefold: (i) to provide a methodology or framework to support and evaluate corporate environmental strategies and management approaches; (ii) to propose a methodological approach for structuring multi-objective problems involving multi-stakeholder DM in a participatory context, searching for value co-creation from both societal and corporate perspectives; (iii) to apply the theoretical conclusions drawn from the previous objectives to a case study in the context of a bus public transport company. The main reasons for choosing this context are now presented bearing in mind that integrating environmental policies into corporate sustainability is strongly dependent on the area of intervention. Public transport companies play a quite visible role in the dimensions of corporate social responsibility, namely because of four reasons: (i) they provide daily services crucial to mass customers' mobility; (ii) their investments are usually of high value and rather sensitive to technological development; (iii) they play a crucial role in the energy sector and (iv) are strongly dependent upon macro-policies. In this paper we concentrate ourselves in the results obtained so far for the first one of the above raised drives, illustrated with examples from an ongoing case study in STCP (Sociedade de Transportes Colectivos do Porto).

### *1.3. Structure of the paper*

After introducing in this section the context and motivation for this study, outline the main purposes of the broad research work and the reasons for the choice of the application area, we introduce in Section 2 a reference to relevant literature. In Section 3 we describe, in a brief way, the proposed framework to address the problem of decision

support with the goal of integrating the environmental policies into business strategy. And in the following section, the analysis relies on covering the methodology in a more detailed way and providing some examples related to the case study. Finally, conclusions state concisely the most important aspects of the work presented in the paper.

## **2. Background literature**

Most environmental decisions share the same characteristics but they may need different analytical approaches, given the differentiated environmental decision contexts (French and Geldermann, 2005). The literature provides a wide range of different frameworks regarding DM towards sustainability, with environmental concerns [for further details please see French and Geldermann (2005), Azapagic and Perdan (2005), Luyet et al. (2012), Merad et al. (2012)]. We will limit this short review to three of the most important topics under analysis in this paper – corporate strategy, problem structuring and analysis of the stakeholders – and, due to the lack of space, we will just mention the most influential studies in our framework.

### *2.1. Corporate strategy*

Corporate Strategy is “concerned with the overall purpose and scope of the organization to meet the expectations of owners or major stakeholders” and enhance the creation of company’s value, according to Johnson and Scholes (1999) definition. This leads us to the foundational matters of a company: its mission and its vision. Mission is related to the principal purpose of the company aligned with the values/expectations of stakeholders, while vision is the desired future state for the company (Johnson and Scholes, 1999). The definitions proposed by Mirvis et al. (2010) respecting mission and vision are slightly different: mission is defined as the organization’s answer to the purpose of the company and vision as the “picture of the future” that the company “seeks to create”. Another distinctive aspect is that these authors give the same level of importance to another feature: values, which are then defined to describe how the company acts to achieve its vision. These authors emphasize that these lines of governance (mission, vision and values) have potential to guide companies towards Sustainability/Corporate Social Responsibility. We adopt this corporate strategy definition with the same meaning of “company strategy” or “business strategy”. We also consider that the main introductory substances of a company rely on the company’s purpose and its path towards a more sustainable future, together with the main stakeholders and their values.

Strategic management combines strategic analysis, strategic choice and strategy implementation. For our purpose, our attention is focused on Strategic Analysis that involves the analysis of external and internal contexts in which the company operates. The analysis of the external context presented is being done in different and complementary ways besides understanding its nature: by auditing contextual influences and by identifying the organization’s competitive position. In terms of internal context there were several available tools: benchmarking, resource audit, value-chain analysis, identification of core competences, analysis of cost efficiency and value added, among others. A SWOT analysis provides a summary of “the relationship between key [contextual] environmental influences, the strategic capability of the organization and hence the agenda for developing new strategies” (Johnson and Scholes, 1999).

In a complementary way, the use of Balance Scorecard (BSC) as a management system tool that aids companies to operationalize its strategy provides insights into the discussion, especially from internal stakeholders. Strategic maps provide a visual representation about the linkages of the new business being redesigned and its relations with organizational performance (Kaplan and Norton, 2000). A strategic map helps to translate this new approach in an easier language, facilitating the discussion inside the company (Phillips, 2004).

The mission of companies should be duly reflected into company’s strategy. Redesigning business strategy implies rethinking company’s actions. So, the presence of strategic tools is important for giving a variety of data inputs to be used during the system’s thinking among stakeholders, allowing to give a comprehensive understanding of the current status of the company, as well as to help determining the boundaries of the problem situation.

### *2.2. Problem structuring*

Studies mentioned here are those that allow the combination of different techniques and methods that will be used (partially or in a complementary way) along the development of our framework.

In literature we found the use of Soft Systems Methodology (SSM) to structure a Multi-Criteria Decision Analysis (MCDA) model in order to appraise energy efficiency initiatives (Neves et al. 2009). The adoption of SSM helped not only to define the decision problem context, but also to reveal the main objectives of the selected stakeholders and discerning the relevant criteria of each. The Keeney's Value Focused Thinking methodology (VFT) (Keeney, 1992) was also introduced by these authors to "structure a hierarchy of fundamental objectives for each potential evaluator of efficiency initiatives."

A different approach, proposed by Azapagic and Perdan (2005), relies on a decision-support framework that provides a suitable tool for integrated DM sustainability, addressed for corporate and public policy. There are three stages: Problem Structuring, Problem Analysis and Problem Resolution. In the Problem Structuring stage there are six steps: identification and involvement of stakeholders, problem definition, identification of sustainability issues, identification of decision criteria, identification of alternatives and elicitation of preferences.

### *2.3. Analysis of stakeholders*

In business management an increasing attention has been paid to stakeholders once they may affect (positively or negatively) the performance of a company. This fact leads to the development of several approaches in order to analyze stakeholders. Stakeholders can be defined as "groups or individuals: (a) that can reasonably be expected to be significantly affected by the organization's activities, products, and/or services; or (b) whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives" (International Finance Corporation World Bank Group, 2012). There is a diverse set of stakeholders that may be involved in sustainability issues: employees, trade unions, contractors, suppliers, customers, shareholders, creditors, insurers, local communities, local authorities, governments and non-governmental organizations. Shareholders are a subgroup of stakeholders which are the owners of the company.

In literature there are different frameworks for stakeholder participation whose accent varies according to the authors' aim: for environmental projects (Luyet et al. 2012); for the resolution of sustainable development dilemmas within a public organization (Merad et al. 2012); a general approach for working with evaluation of stakeholders (Bryson, 2004), (Bryson et al. 2011).

Luyet et al. (2012) present a framework for designing stakeholder participation in environmental projects structured as a system with inputs (e.g. environmental policies), with outputs (e.g. decisions) and processes. This framework goes from stakeholder identification, to stakeholder characterization, stakeholder structure (degree of involvement definition), choice and implementation of participatory techniques. The authors aim is to "establish methods to determine who should participate, when and how". Public participation around the world has been part of a wide range of environmental applications. Distinctions are often made between the public and the stakeholders. The public is often considered as a collection of individuals generally unstructured and unorganized in opposition to stakeholders, usually seen as an organized group with common interests in a particular issue or system. Luyet et al. (2012) outstrip this difference by considering public as one specific stakeholder and therefore using the term stakeholder participation rather than public participation. Anyhow, public participation usually refers to projects of international, national, regional or even local level, but not to a lower level, as it is the case of companies. In our case, the proposed framework is to be applied in similar terms in a company, a micro level of analysis. Therefore, for our case study, we only considered the systemized work concerning the choice of participatory techniques related to the degree of involvement. And we felt the need to set out specific tools, in the different stages, more focused and related to the context of our research, which relies on corporate strategy towards sustainability by integrating environment concerns and not on big environmental projects.

A different approach is proposed by Merad et al. (2012). These authors "discuss how participatory governance frameworks may be addressed to organizations or institutions pursuing sustainable development goals". Their case study aims to implement sustainable plans within a public institution. The authors show the advantages of integrating participatory frameworks. The participatory framework is based on decision aid methodologies, stakeholder theory and contract models. The authors' approach is based on a MCDA methodology for the implementation of a participative democracy model in two steps. In step one - the "outlining and structuring problem" - they use the Organizational Analysis technique together with a contextual diagnosis. And, in step two, aggregation procedures are chosen and applied according to the available information for "each action with the aim of reaching an overall

conclusion” to give support to the decision. One of the main limits in this approach is that, despite the existence of a participatory process, the final decision is taken by the decision-maker, not allowing co-decision. There is a strong parallelism between the work of Merad et al. (2012) and our research, evidenced in two ways: by establishing the link between the participation of stakeholders and the approach to sustainability development plans; and also providing the link towards these plans into organizations. Another relevant point is that Merad et al. (2012) include democratic paradigms in their framework. This particular feature gives the owner of the company the possibility to decide if he will be the only decision-maker or if he will allow co-decision.

Another approach to address stakeholders is presented by Bryson (2004). The author focuses his research specifically on providing a stakeholder analysis to aid organizations in order to “meet their mandates, fulfil their missions and create public value”. This author is focused in stakeholder analysis for supporting public organizations. His aim is to “produce fundamental actions that shape and guide what organization is, what it does, and why it does it”. In this sense, paying attention to stakeholders is fundamental for the success of the strategic management process. To achieve this purpose an array of techniques are identified and collected into four groups: “organizing participation”, “creating ideas for strategic interventions”, “building a winning coalition around proposal development, review and adoption”, and “implementing, monitoring and evaluating strategic interventions”. This approach seems appropriate to our research, even if neither environmental nor sustainability concerns are present. There are three main reasons to assume it: the link between strategic management orientation and stakeholders’ analysis; the structuring techniques for group meetings of strategic management and the different useful tools inside each group. In our research we considered the use of “organizing participation” that includes: process for choosing stakeholder analysis participants; the basic stakeholder analysis technique; power versus interest grids; stakeholder influence diagrams; and the participation planning matrix.

This stakeholders’ analysis is complemented by the degree of stakeholders’ involvement proposed by Luyet et al. (2012), and includes the democratic paradigm that owners want to assume mentioned in Merad et al. (2012).

Our aim, in this paper, is to show how we can gather existent tools in order to provide a framework for supporting decision-makers at the company level and its field of application in a public transport company. The novelty of the proposed framework relies on the application of different approaches and diverse methodologies and techniques presented in this section, with the goal of supporting DM on the specific context mentioned above. The literature reviewed doesn’t present the necessary links between the diversity of elements drawn within such context. As in Huang et al. (2011), we note that the approaches are somewhat similar enough and the differences in the choice of their application may be based more on familiarity and available opportunities than solely on the merits of the different methods themselves. Perhaps the field would benefit if the various tools were better integrated, i.e., shared a single vocabulary, had more compatibility of similar objects, while keeping as variations those process differences that provide distinct benefits. This would allow decision-makers to more rapidly learn about and gain trust in methods. Additionally, such integration would give practitioners richer choices for how to proceed.

### 3. A framework for decision support

In Fig. 1 the proposed framework is represented under the form of a diagram (Teles and Freire de Sousa, 2014).

The integration of environmental concerns in a business strategy may involve redesigning the company’s mission. In this field we adopted the model of (Johnson and Scholes, 1999). Our departure point is based on the inputs provided by strategic analysis and our endpoint is the strategic choice. In order to meet the study purpose, we combine several methods and techniques which are integrated along the three major stages already mentioned and described in (Azapagic and Perdan, 2005).

Strategic analysis considers external and internal contexts and Johnson and Scholes, (1999) present several techniques that provide different insights for the company. Although these insights are relevant, there are two specific and relevant techniques: *value-chain* (in the internal context) and *benchmarking related (i) to environmental strategies* and objectives followed by other companies (in the external context), *(ii) to the identification of corporate sustainability issues*. These analyses are helpful for a first definition of the boundaries of the problem.

Concerning the stakeholders we focus specifically on how and why managers might go about using stakeholder identification and analysis techniques in order to help their organizations create public value (Bryson, 2004). In this context, we organize stakeholders’ participation in interviews and workshops gathering researchers, senior

executives and representatives of several stakeholders. Our approach follows, as in Neves et. al. (2009), the stream of cultural analysis (Checkland and Scholes, 2000) and its main results are compiled into a rich-picture [for further details please see Teles and Freire de Sousa (2014)]. In this step the main actors and their roles are identified.

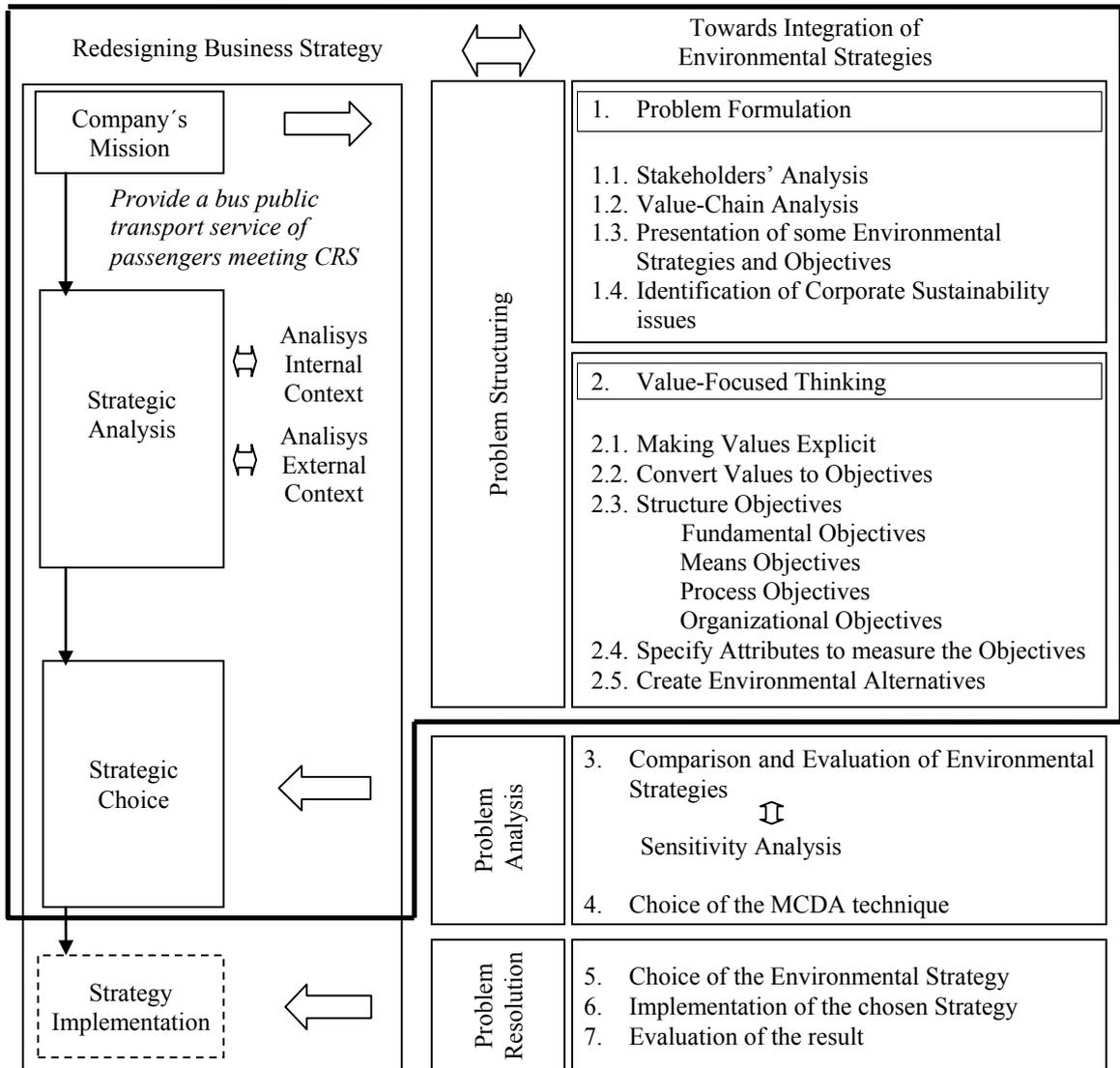


Fig. 1. The Proposed Framework (Teles and Freire de Sousa, 2014)

The ill-structured nature of the problems under analysis and the existence of “important intangibles and key uncertainties” (Mingers and Rosenhead, 2004) suggests the adoption of Problem Structuring Methods (PSM). PSM models may be expressed in a visual form, and “mostly use participants’ own language rather than mathematics or quantitative data” to represent complex problematic situations (Franco, 2008). Hence, they are a natural choice to help unveiling a cloud of objectives to be subsequently structured as a hierarchy.

In this process, the company needs to balance trade-offs between economic, social and environmental decisions between its stakeholders. These trade-off decisions are supported on values. And therefore, stakeholders’ values need to be articulated in order to provide strategic choices and thus drive the company towards sustainability.

Although may be shared values between all stakeholders, each stakeholder has its own system of values and each strategic choice may have different implications on each of them. The stakeholders' values provide the initial input to create strategic choices. For our purpose, we use Keeney's methodology: VFT. For each stakeholder we also propose the construction of fundamental objective trees that can be transformed into criteria and thus provide the input for the application of MCDA.

Shortly, SSM is used to elicit individual or group objectives from an initial disordered situation and VFT is used to structure the fundamental objectives to be used in an MCDA problem with the goal of defining a hierarchy of criteria to each potential decision-maker, reassessing the roles played by the multiple stakeholders and the way of considering their points-of-view.

So, at the Problem Analysis stage, out of the scope of this paper, we have a set of strategic choices that need to be scored or ranked by the shareholders. Our problem has a finite set of decisions, thus being a discrete choice problem. In the current case, due to its nature, there are criteria defined into different units. The selection of the MCDA techniques will be made taking into account the nature of the strategic choice, once different environmental decision contexts are addressed differently.

Structuring, analyzing and solving the problem are the three steps presented in the framework, but only the first one is addressed in the present work. We decided to dedicate a section to the framework already described in our previous paper because we thought it would be useful in order to provide a full methodology to support decision-makers who need to rethink their business when integrating environmental concerns into corporate strategy.

#### **4. Case study: STCP**

STCP is a public limited company with exclusively public capital and the largest public transport company of the Porto Metropolitan Area. It serves an area of about 900 thousand inhabitants. In the 31<sup>st</sup> December 2013, STCP had a network of 72 lines with a length of 480 kilometers and around 2500 stops, a fleet of 474 buses and 6 trams and a staff of 1231 employees. In 2013, STCP traveled 22.6 million kilometers and transported about 80 million people.

The shareholders of STCP are willing to integrate the environmental component into the company's strategy in order to promote its sustainability and meet the principles set out in its corporate social responsibility. In this sense, the shareholders (by wishing to change the current posture of the company in the market for a different approach in the future) reveal the existence of a problem and, thereby, they are the problem owners and thus the decision-makers. Alongside the reevaluation made by the Portuguese public transport sector in the later years about its role in the society, STCP has been adapting its strategy and structure to the achievement of new challenges. This modernization focused on the customer orientation as a crucial point in the activity of the company. The company's mission statement is now expressed in the form of a written document approved by its shareholders: "STCP's mission focuses on the provision of urban passenger transport in its operating area, contributing to the effective mobility of people, providing a competitive alternative to private transport and generating, by its activity, social and environmental benefits within a framework of economic rationality and financial health." This is a critical input to the intervention described in the remaining of this section.

##### *4.1. Problem formulation*

###### *4.1.1. Stakeholders' analysis*

The ability to foresee the behaviour of passengers and society contributes to reaching objectives more efficiently. This is particularly important when there is a permanent attention of the media to the activities of the company. Understanding the salience and social relations of stakeholders contributes to increase the likelihood of success in anticipating the responses of society to the company's decisions (French and Geldermann, 2005), and consequently improves the awareness of decision-makers. Based on the "organizing participation" technique of Bryson (2004), described in section 2.3, the main stakeholders of STCP were identified. This identification was made on the basis of criteria of dependence, links regarding strategic policies, responsibility, relevant impact and proximity.

- Shareholders: the owners of the company and center of the DM process.

- Regulatory Bodies: responsible for tracking the public transport sector, regulating the contradictory interests in presence, supervising the market and its operation.
- Strategic Partners: other transport operators in the market, NGOs, associations of traders, among others.
- Customers: needs of mobility and signs of emerging demand; network and operation adequacy.
- Suppliers: energy companies, bus manufacturers, electronic ticketing system developers, among many others; following up, pressure, lobbying.
- Staff: they may have a higher or lower sense of belonging and different attitudes towards change.
- Local Authorities: permanent contact, cooperation regarding mobility needs and urban planning.
- Media: regular contact, response to requests of information, press releases.
- Community: social benefits and concerns with future generations, environmental impacts and efficient use of resources, awareness of externalities induced from the different choices.
- Financial Market: financial support, attention to the economic and financial performance of the company, fulfillment of company commitments, market liquidity.
- Other Authorities: restrictions on environmental policies, legal and fiscal incentives, markets for emissions trading, responsibility for the social, environmental, economic and political impacts of legislation.

At this stage there are key strategic choices to be made by the owner of the problem about who should be involved, how and when. The answers to these questions have implication along the whole process. First, this work has been done by the analyst, one shareholder and one board member, in order to initiate this process but simultaneously deciding and establishing the boundaries and levels of participation across the problem formulation. In a second stage, a broader group of stakeholders should be involved in order to refine the results of the work done. The first step is being accomplished by promoting individual interviews with the majority of the above listed stakeholders to meet their objectives, norms of behaviour, concerns, and values. This will be followed by the realization of a major workshop for exploring the implications on service provision and activities of introducing the environmental policies into the mission statement of the company, and help defining the implementation process of the environmental strategies. The first step of this approach allowed building a rich-picture (Teles and Freire de Sousa, 2014) that will facilitate the launch of the debate. In this rich-picture the links between stakeholders and their links towards the company are evidenced. Some relationships with stakeholders are briefly summarized below.

- Shareholders: ordinary and extraordinary shareholders meetings, strategic orientations and annual objectives, easy access to a variety of information, reply to requests.
- Strategic Partners: exchange of information and know-how, common studies and projects, cooperation for intermodality, safety and security.
- Customers: client satisfaction enquiries and profile studies, management of complaints and suggestions, information and interactivity through own means and different media channels.
- Suppliers: follow up, transparency and competition.
- Local Authorities: permanent contact and cooperation, co-decision whenever desirable.
- Community: information sessions; promotion and support to social, cultural and educational initiatives; leak of operational, financial and environmental performance indicators; compliance of principles of good governance.

#### 4.1.2. Value-chain analysis

Public Transport companies play a particularly important role in the search for a sustainable mobility. One of the essential inputs to a diagnosis of the company's position is the clarification and analysis of its value-chain. Value-chain analysis describes "the activities within and around a company, and relates them to an analysis of the competitive strategy of the organization" (Johnson and Scholes, 1999). These activities can be primary – those directly involved with the provision of the service, or secondary (company's support activities). In the value-chain of a bus public transport company the main activities are: operations, maintenance, marketing (and sales) and after sales service. These activities are supported by areas like human resources, financial services or procurement. The analysis of the value-chain diagnoses what are the competitive advantages of the company. And the diagnosis of these competitive advantages contributes to the implementation of the strategy.

As reported in Teles and Freire de Sousa (2014), BSC has been used as a management system tool in order to help STCP to operationalize its strategy, providing insights into the discussion, especially from internal stakeholders. Prior to the implementation of the BSC in STCP, an analysis of the management control system of the company was conducted based on the collection of internal written information. The central document was the management contract formalized between the board of directors and the government. Internally, this contract is complemented by departmental management contracts between the board of directors and the heads of the departments, used as a basis to the boards of drivers. Each board of drivers entails the performance indicators of the departments and the respective quantitative targets. We learned that key performance indicators may be used as interactive and diagnostic controls, with stakeholders' influences being integrated into the corporation through their beliefs system. The use of a strategic map provides a visual relationship between the top level strategy and the internal processes where employees (internal stakeholders) develop their daily work in the company. This representation facilitates debate and provides a collaborative platform to promote discussion inside the company.

#### 4.1.3. Identification of environmental strategies and objectives

Some environmental strategies may embrace the promotion of technological efficiency towards its fleet, the redesign of its support areas in order to increase energy's efficiency, improving eco-driving, managing water resources and solid waste resulting from its activity. Several environmental objectives may be established: to reduce greenhouse gas emissions, to reduce energy use, to reduce fossil fuel use, to adopt comprehensive product life cycle, to reduce pollutant emissions to air, to reduce noise, to reduce resource consumption, to improve green procurement.

#### 4.1.4. Identification of corporate sustainability issues

In order to identify corporate sustainability issues in other companies in the external environment we applied benchmarking. Some sustainability issues identified in STCP are:

- Economic: Value-Added, Investments, Competitiveness, Shareholder Value.
- Environmental: Air Emissions, Use of Energy, Global Warming, Resource Use and Availability.
- Social: Safety, Employment, Equal Opportunities, Stakeholder Involvement.

#### 4.2. Value-focused thinking

VFT is a methodology that has “been used to structure objectives and create decision opportunities in several firms” (Keeney et al. 2000). This methodology and its procedures are expressed in a summary way in the next steps providing some case study examples.

*Making values explicit:* developing a list of values, converting each of these values to an objective, structuring these objectives to clarify relationships among them.

*Convert values to objectives:* this initial list of values will become disordered and, with the aim of achieving consistency, each item has to be converted into a corresponding objective respecting three features: the decision context, the object and a direction of preference. One example in our case study may be, for instance, “minimize diesel dependency”. The bus transport company has one objective concerned with minimizing environmental impacts. Therefore the decision context, the object and the direction of preference in the present case are, respectively: the bus service provided by the transport company, the diesel dependency and its minimization.

*Structure objectives:* the resulting list of objectives may contain four kinds of objectives: fundamental objectives, means objectives, process objectives and organisational objectives. Fundamental objectives concern the ends that the decision-makers value in a specific context. Minimizing environmental impacts, economic costs and resource consumptions or improving quality of bus services are good examples of fundamental objectives. Means objectives are methods to achieve those ends. Similarly, minimizing diesel dependency and pollutant emissions, improving buses reliability and noise, and reducing water and solid waste are examples of means objectives. The process objectives are the ones “concerning how the decision is made rather than what decision is made” and organisational objectives are those “influenced by all the decisions made over time by the organisation with the responsibility for

making the policy decision at hand”.

## 5. Conclusion

This paper shapes a methodological framework for corporate strategic decision support in a Public Transport Company. Firm's resources and competitive advantage may act as mediator variables for a positive relationship between environmental benefits and economic results. The values were obtained from internal executives and external stakeholders in STCP.

There have been few attempts reported in the literature at evaluating across methods and across interventions in order to characterize a methodology and compare it to other existing ones. In each case, contextual factors, the skills of the researchers and the purposes being pursued by stakeholders affect the perceived success or failure of a method. The use of standard criteria for comparing methods is therefore made problematic by the need to consider what is unique in each case, even if longer-term comparisons between methods are suggested (Midgley et al. 2013).

Stakeholder involvement in companies' strategic definition has been receiving increasing attention. More experience on the behavioral aspects of directly involving the stakeholders is needed. Easy interactive and practical ways of working with stakeholders in eliciting their priorities need to be applied in a manner that decision analytical methods will help to avoid the risks of an incorrect use of the methodologies.

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