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***Corporate Sustainability and Balanced Scorecard:  
Integrated Management of Economic, Environmental and  
Social Performances in the Airline Industry***

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### ***Introductory Note***

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## **Introduction**

Global climate change, water, air and soil pollution, resources overuse, social inequalities, human rights, workers rights, child labor, consumers and employees safety constitute ethical concerns that world society must increasingly tackle. Many subjects are responsible for the mentioned troubles and several kind and levels of responsibilities can be associated to these subjects. Corporations can be considered the main responsible actors in the world for affecting natural environment and social constructs. There is no doubt that companies must consider their social responsibility and specifically the environmental, social and economic impacts of their activities on all stakeholder categories. The reasons why firms try to behave ethically are switching from the legal field to the competitive one. Many companies adapt their activities and processes in compliance with laws and rules of the markets in order to avoid charges of taxes, penalties and fees. But many other businesses are moving towards a responsible business in order to be more efficient, reduce cost, differentiate products, satisfy customers, motivate employees, access to ethical funds and acquire image and reputation. In this way, the social responsibility of a company is seen as matter of competitive advantage. The task of corporate managers regards the integrated management of environmental, social and financial issues towards better sustainable performances. Business practices known as Corporate Social Responsibility (CSR) or Corporate Sustainability are increasingly utilized through the development of strategies oriented to sustainable development in parallel with profitability. The development of sustainability strategies is certainly a big task for top management but the larger challenge is the implementation of these strategies. In other words, the matter is “how” to integrate the environmental, social and economic impacts into daily management decisions and operations.

The Balanced Scorecard (BSC) is the appropriate managerial instrument useful for the purpose of translating strategies into actions. This can be true for sustainability guidelines as well. The multidimensional conception of the tool can help to integrate the environmental and social aspects of the business activity with the four traditional perspectives of management (financial, customer, processes, learning and growth). With the support of balanced scorecard, many companies have been able to connect business

strategy with daily operations. The emerging concept of Sustainability Balanced Scorecard (SBSC) is referred to the same managerial tool but with the additional feature of considering the environmental and social issues connected directly or indirectly with the execution of the business processes. Objectives and indicators are not regarding only economic and financial goals but they are developed with contents of social and environmental purposes. Finally, cause and effect chains among strategic objectives in the SBSC show the relations between better environmental-social performances and increasing competitiveness and profitability.

Airlines belong to one of those industrial sectors increasingly becoming more sensible with respect to sustainability performances. The case developed about the German carrier Lufthansa will help to better understand which dynamics are behind the corporate sustainability approach in a real company. More important, it will be demonstrated how sustainability strategy is translated into operative targets easier to measure, monitor and manage. The work is addressed to deepen the process for making sustainability real work. The implementation of a Sustainability Balanced Scorecard in the business segment Lufthansa Passenger Airline is a simulation based on real strategies of the carrier. The outcome is a process that goes from the establishment of long term sustainability strategy to the definition of short term targets to monitor through the key performance indicators developed. Taking as starting point the needs of stakeholders and the related environmental and social impacts generated, sustainability strategies are developed. The function of the balanced scorecard is to formalize these strategies as several strategic objectives belonging to the different perspectives of SBSC. Afterwards, for each sustainability objective, numerous key performance indicators are developed in order to monitor single operative aspects related to the achievement of objectives. Causal linkages among objectives show how responsible and sustainable performances are linked with competitive advantages and thus financial results.

The case is developed basing on strategies declared by the company in the web site, specifically for the “Passenger Airline” segment. The simulation is based on many contributions in the literature. Internal as well as external sources have been utilized for carrying out the work. Economic and sustainability data about the sector are taken from significant reports of the industry such as disclosures from IATA (International Air

Transport Association) ICAO (International Civil Aviation Organization) and ATAG (Air Transport Action Group). The process of implementation of SBSC is based mainly on the general framework of Figge et al. (2002) and adapted with the real data of Lufthansa. The strategy map is drawn following the framework of Kaplan and Norton (2004), and the causal relationships are the results of intuitions based on the logical connections between the sustainability aspects identified. Most of the indicators utilized come from Lufthansa Balance (sustainability reporting), the Annual Report (financial statement) and other additional support information available in the web page of Lufthansa Responsibility. Among the other indicators utilized, some represent own source, others are based on external sources, adapted from sustainability reports of competitors, or taken from the Global Reporting Initiative sustainability reporting guidelines G3. Furthermore, the assessment of economic, environmental and social performances, through a comparison with competitors, is based on data disclosed in the corporate responsibility and sustainability reporting of the carriers analyzed.

The work is structured as follows.

The first chapter introduces the concept of Corporate Sustainability, the evolution and disciplines from where it comes from and the explanation of the major aspects of a sustainable business activity. Afterwards, the relationships between corporate sustainability and competitive advantages are described for better focusing on the matter. The chapter ends with the introduction of the steps for managing sustainability. The process contains the following phases: identification of stakeholders and exposures, development of sustainability strategies, leadership and commitment, organizational structure and culture, performance measurement systems, reporting and feedback.

The second chapter starts with a brief explanation of the concept of Balanced Scorecard with its traditional meaning. Then, environmental and social issues are implemented within the BSC in order to give rise to the concept of Sustainability Balanced Scorecard (SBSC). Finally, two complementary processes of developing the SBSC are presented. The first is more focused on the practical and measurement aspects of the tool; the other emphasizes the strategic function and the cultural change needed in the whole organization.

The third chapter is dedicated to the development of the case of Lufthansa. First of all, the airline industry is introduced and the problems regarding sustainable development in this



sector are observed. Some meaningful data are presented about the sector and sustainability performances. Then, the case of Lufthansa is introduced. The process to implement the Sustainability Balanced Scorecard in the business segment Passenger Airline can be considered the core issue of the work. Detailed objectives, based on real strategies of the airline, with respective key performance indicators are developed and listed. The establishment of targets and initiatives makes feasible the translation of Lufthansa sustainability strategies into actions of the daily management. The strategy map, finally, illustrates the cause and effect connections among the various objectives, emphasizing the relations between sustainability performances and financial results. The case ends with the assessment of sustainability performances (economic, environmental and social) achieved by the German carrier through the comparison with the results obtained by the direct European competitor, Air France KLM, and other minor competitors.

# Chapter 1

## Corporate Sustainability and Business Management

### 1.1 Corporate Sustainability

One of the most important challenges that world is facing in 21st century concerns sustainability development. The matter of a development towards a fair and wealthy society, pointing to preservation of natural environment and cultural improvements for future generations, is increasing importance day by day. The goal of reaching simultaneously economic growth, environmental protection and social equity is affecting more and more the business environment and not only Governments, special Authorities and Organizations. The issue of incorporating sustainable and responsible practices into daily business operations is increasingly becoming one of the major interests of corporations.

Companies are paying more attention to sustainable development for many reasons: compliance of Government regulations and industry codes of conduct; relations with community represented by general public and activist NGOs; cost and revenue imperatives related to the financial value achievable through sustainability performances; societal and moral obligations<sup>1</sup>. In particular, ten market forces that drive organizations to corporate sustainability have been identified by Bob Williard<sup>2</sup>. Five of these forces (mega-issues) represent the up coming problems for the companies:

- Climate Change
- Pollution/health
- Globalization backlash
- Energy crunch

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<sup>1</sup> Epstein M J. 2008. *Making Sustainability Work. Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts*. Berrett-Koehler Publisher, San Francisco

<sup>2</sup> Williard B. 2005. *The Next Sustainability Wave: Building Boardroom Buy-In*. Gabriola Island, British Columbia. New Society Publisher

- Erosion of trust

The other five forces concern the main stakeholder categories demanding a change towards more ethical and responsible behaviour:

- Green consumers
- Activist shareholders
- Civil society and NGOs
- Governments and regulators
- Financial community

Because of the mentioned reasons, corporations have become more sensitive to social issues and stakeholder concerns, trying to be more responsible and accountable. Business managers have been facing the need of being sustainable by implementing environmental management systems (EMAS, ISO 14000), executing environmental and social audits and developing environmental and social accounting and reporting systems. But the emerging challenge concerns the incorporation of sustainability issues into business strategy, with the purpose to manage the integrated economic, social and environmental aspects as daily operations. The development of strategies based on sustainability development and responsibility is going beyond the purpose of the mere compliance of legislation and regulations. The emerging goal of corporate sustainability is about acquiring further distinctiveness for competition. But what is exactly corporate sustainability? Where does it come from?

The term “corporate sustainability” has gained, in recent years, substantial interest among business managers, academic researchers and popular press. Actually there is not a commonly accepted definition and it is still a broad approach that embraces several characteristics concerning the integration of economic, environmental as well as social aspects of a business. Even the term “sustainable” has become a buzzword that everybody interprets in a different way such as “green, eco-efficient, ethical, socially responsible etc”.

It becomes more complicated when the term is associated to corporate dimension<sup>3</sup>. In some cases the term “corporate sustainability” is used in combination or in replacement with other terms such as “corporate social responsibility” or “sustainable development”<sup>4</sup>. Next two paragraphs, based on two interesting articles, will explain the concept of corporate sustainability; afterwards it will be showed the connections between corporate sustainability and competitiveness.

### 1.1.1 The Evolution of “Corporate Sustainability”

One interesting contribution about the concept of “Corporate Sustainability” is given by Mel Wilson in his article “*Corporate sustainability: what is it and where does it come from?*”. It deepens the evolution of corporate sustainability, showing the different disciplines from where it comes.

“A review of the literature suggests that the concept of corporate sustainability borrows elements from four more established concepts: 1) sustainable development, 2) corporate social responsibility, 3) stakeholder theory, and 4) corporate accountability theory”<sup>5</sup>.

The concept of “sustainable development” is been introduced in 1987 by the World Commission for Environment and Development (WCED) through the publication of a book entitled “*Our Common Future*”<sup>6</sup>. It defines sustainable development as: “*meeting the needs of the present without compromising the ability of future generations to meet their own needs*”. In this book it is underlined that companies have caused most of pollution, damaged and wasted natural resources. At the same time they have the possibility to access to the resources required to solve these problems, thus they acquire a crucial role in growing towards sustainable development. It is matter of balancing economic growth with

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<sup>3</sup> Hockerts K. 2001. Corporate Sustainability Management. Toward controlling corporate ecological and social sustainability. Ninth International Conference of Greening of Industry Network, January 21-25, 2001, Bangkok

<sup>4</sup> Wilson M. 2003. *Corporate sustainability: What is it and where does it come from?* Ivey Business Journal March/April

<sup>5</sup> Wilson M. 2003. *Corporate sustainability: What is it and where does it come from?*. Ivey Business Journal March/April

<sup>6</sup> WCED (World Commission for Environment and Development). 1987. *Our Common Future*. Oxford University Press

social equity and environmental protection. But this concept alone does not provide the sufficient explanation of why companies should move towards corporate sustainability.

Another concept that brings elements of sustainability within businesses is “corporate social responsibility” (CSR). It regards the role, and precisely the ethical obligations and responsibilities, of companies in respect to the needs of society. CSR concerns moral philosophy in managing business. It comes from four philosophical theories<sup>7</sup>.

- Social contract theory: “according to this theory, corporations, as organizations, enter into contracts with other members of society, and receive resources, goods, and societal approval to operate in exchange for good behavior”.
- Social justice theory: “a fair society is one in which the needs of all members of society are considered, not just those with power and wealth. As a result, corporate managers need to consider how these goods can be most appropriately distributed in society”.
- Rights theory: “while shareholders of a corporation have certain property rights, this does not give them license to override the basic human rights of employees, local community members, and other stakeholders”.
- Deontological theory: “everyone, including corporate managers, has a moral duty to treat everyone else with respect, including listening and considering their needs”.

The third concept, coming from the discipline of strategic management, is “stakeholder theory”. “Stakeholders are any group or individual who can affect or is affected by the achievement of the organization’s objectives”<sup>8</sup>. From this definition it could be deduced that stronger relationship with stakeholders are fundamental to reach company’s objectives and gain competitive advantage. The relation should focus on mutual respect, trust and long term cooperation. Hence, once the main stakeholders have been identified (shareholders, investors, customers, suppliers, employees, communities, NGO, governments, authorities etc.), corporate strategies should be developed for interacting with them<sup>9</sup>.

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<sup>7</sup> Wilson M. 2003 p.3

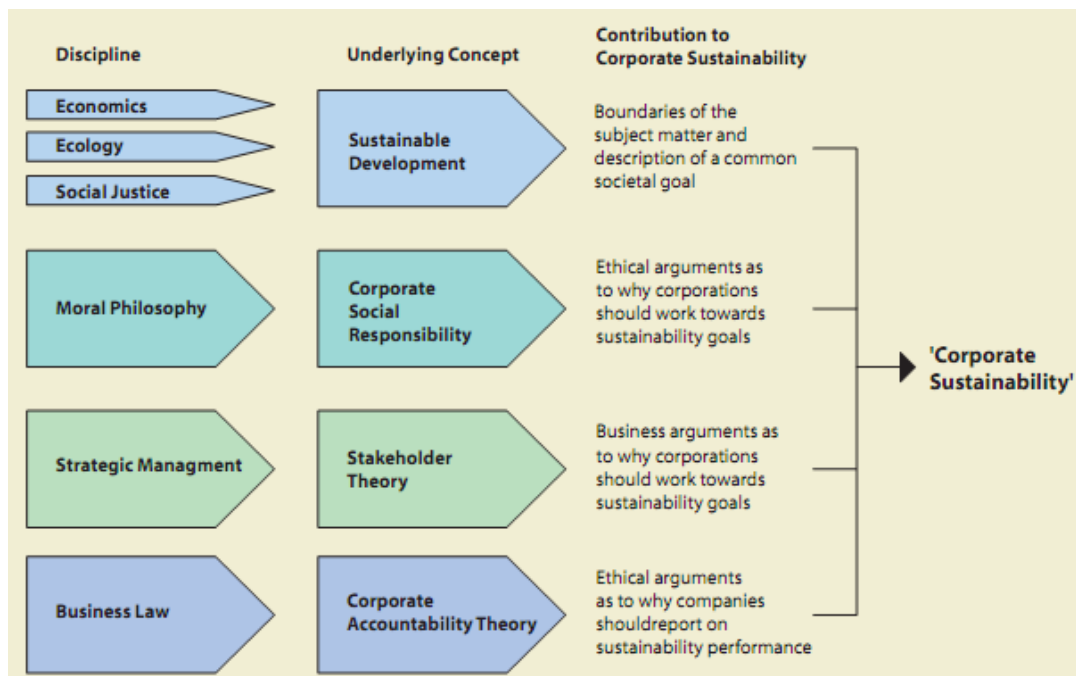
<sup>8</sup> Freeman R E. 1984. *Strategic Management: a Stakeholder Approach*. Pitman Books, Boston, Mass

<sup>9</sup> Wilson M. 2003

Finally corporate sustainability comes from “corporate accountability” theory. This concept concerns the moral duty of companies to report about sustainability performances. It consists in providing to the society information, explanations and reasons of the actions taken, thus showing the good behavior and motivating the bad one. The relation between the firms and its stakeholders should be supported by a report that should focus on environmental and social performances not only on economic ones<sup>10</sup>.

The following illustration (figure 1) summarizes the evolution of corporate sustainability. It comes from several concepts (on the center) deriving from different disciplines (on the left). The concept of corporate sustainability can be considered as the “sum” of the various contributions (on the right) belonging to the disciplines.

*Figure 1: The Evolution of Corporate Sustainability* (source: Wilson M. 2003 p.2)

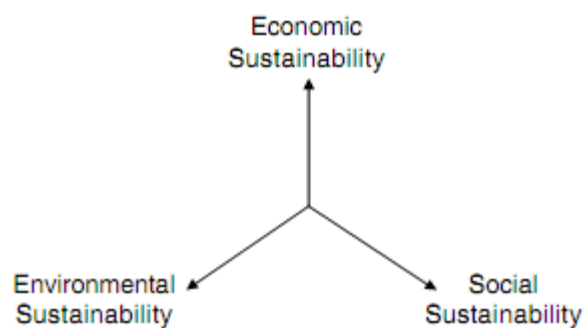


<sup>10</sup> Wilson M. 2003

### 1.1.2 Business, Societal and Natural cases of Sustainability

Another important contribution in the literature that helps to understand the practical meaning of corporate sustainability is: “*Beyond the business case for corporate sustainability*” by Thomas Dyllick and Kai Hockerts (2002). Taking as starting point the definition of “sustainable development”: “*meeting the needs of the present without compromising the ability of future generations to meet their own needs*”<sup>11</sup>, they defined corporate sustainability as: “*meeting the needs of a firm’s direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities etc), without compromising its ability to meet the needs of future stakeholders as well*”<sup>12</sup>. Dyllick and Hockerts based their work on the “triple bottom line” concept<sup>13</sup> (see figure 2). Firms should be able to manage economic, social and environmental performances (people, planet and profit) in an integrated way. Each dimension of sustainability represents already a big challenge to manage, but Elkington noticed that: “some of the most interesting challenges, however, are found not within but between the areas covered by the economic, social, and environmental bottom lines”. They are what Elkington defines the “shear zones”<sup>14</sup>.

**Figure 2:** The three Dimensions of Sustainability (from “Triple Bottom Line” concept by Elkington 1997, source: Dyllick T, Hokerts K. 2002 p.132)



<sup>11</sup> WCED (World Commission for Environment and Development). 1987. *Our Common Future*. Oxford University Press

<sup>12</sup> Dyllick T, Hockerts K. 2002. *Beyond the business case for corporate sustainability*. *Business Strategy and the Environment* 11, 130-141

<sup>13</sup> Elkington J. 1997. *Cannibals with Forks: the Triple Bottom Line of 21<sup>st</sup> Century Business*. Capstone, Oxford

<sup>14</sup> Elkington J. 1997 p.70

In conjunction with the Triple Bottom Line concept of corporate sustainability and the “shear zones”, Dyllick and Hockerts developed their framework. After having identified the three kind of capital: economic, environmental and social, they recognized different properties and thus different approach and purposes of management towards sustainability. Economic capital is still far to be very well understood and there are many approximations and estimations in defining financial, tangible and intangible capital. Despite this problem, managing it in a sustainable way is not a new challenge of the businesses. *“Economically sustainable companies guarantee at any time cash-flow sufficient to ensure liquidity while producing a persistent above average return to their shareholders”*<sup>15</sup>.

Regarding the natural capital they classified two main types: natural resources and ecosystem services. The firsts, used in the production processes, could be renewable (wood, food, wind etc.) or non-renewable (fossil fuel, soil quality etc.). The second kind of natural capital (climate stabilization, water purification soil remediation, reproduction of plant and animals) has very big importance and value for the whole society. Despite this fact, it is bad understood and very difficult to account. *“Ecologically sustainable companies use only natural resources that are consumed at a rate below the natural reproduction, or at a rate below the development of substitutes. They do not cause emissions that accumulate in the environment at a rate beyond the capacity of the natural system to absorb and assimilate these emissions. Finally they do not engage in activity that degrades eco-system services”*<sup>16</sup>.

The social capital is also divided in two main types: human capital and societal capital. The first is about skills, motivation and loyalty of employees and partners. The second concerns the quality of public services given as education, culture, infrastructures etc. *“Socially sustainable companies add value to the communities within which they operate by increasing the human capital of individual partners as well as furthering the societal capital of these communities. They manage social capital in such a way that stakeholders can understand its motivations and can broadly agree with the company’s value system”*<sup>17</sup>.

Dyllick and Hockerts noticed also some characteristics of natural and social capital that create problems of managing them in a sustainable way. The non-substitutability of capital

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<sup>15</sup> Dyllick T, Hockerts K. 2002 p.133

<sup>16</sup> Dyllick T, Hockerts K. 2002 p.133

<sup>17</sup> Dyllick T, Hockerts K. 2002 p.134



is one of them. The economic capital cannot substitute all kind of environmental capital (see ecosystem services for example). The same is true for social capital (societal capital more difficult than human capital); it can be substituted until certain thresholds. Another feature that generates troubles in managing sustainability is the irreversibility of environmental and social capital. Some kind of environmental (biodiversity, soil erosion etc) and social impacts (cultural diversity) are definite and thus cannot be reversed. Last but not least is the non-linearity of capital depletion. Usually the consumption of natural and social capital has no impact until some limits are reached.

Based on the above classification and according to the “shear zones” of the “triple bottom line” concept, Dyllick and Hockerts identified three cases of sustainability. They concern the integrated management of sustainability challenges by linking the three dimensions of sustainability, overcoming the conviction to manage them separately<sup>18</sup>. In other words, the three cases of sustainability regard the management of the “shear zones” defined by Elkington.

The first case of sustainability is the “business case”. It regards the management and improvement of economic sustainability by focusing, and hence increasing, the environmental and social efficiency. Eco-efficiency is the main criteria followed by many companies to manage sustainability. The WBCSD (World Business Council for Sustainable Development) specifies some indicators of eco-efficiency<sup>19</sup>. They are about reducing material, energy and water intensity, reducing waste and toxic emissions, improving recyclable policy. More in particular “eco-efficiency is calculated as the economic value added by a firm in relation to its aggregated ecological impact”. On the other hand, “socio-efficiency describes the relation between a firm’s value added and its social impact”. It has to be noticed that, differently than environmental impacts, social impacts can not be only negative but positive as well<sup>20</sup>.

Improving eco- and socio-efficiency is important but it does not solve the overall problem of sustainability. Due to the non-substitutability, non linearity and irreversibility of natural and social capital, it should be taken into account not only relative improvements but also

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<sup>18</sup> Elkington J. 1997

<sup>19</sup> WBCSD (World Business Council for Sustainable Development). 1992. *Changing Course*. United Nation Conference on Environment and Development (UNCED), Rio de Janeiro

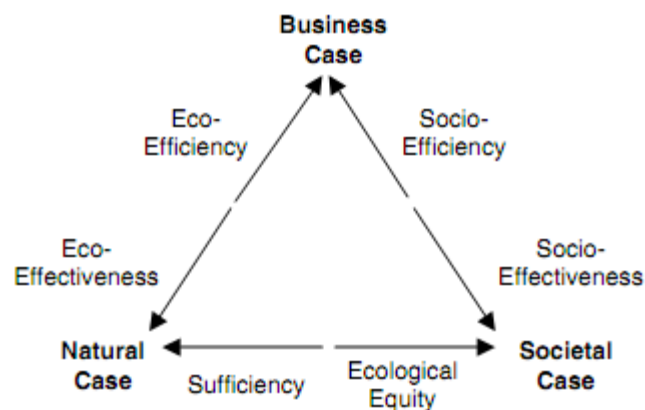
<sup>20</sup> Dyllick T, Hockerts K. 2002

absolute values of the impacts. The “natural case” regards ecological sustainability. It can be achieved by two paths: eco-effectiveness and sufficiency. The first consists in focusing and thus reducing absolute amount of emissions, materials, waste, etc. The second is a criterion that sees companies responsible of customer choices towed by brand and marketing policies adopted.

Finally there is the “societal case”. The first principle to reach social sustainability is socio-effectiveness. From this perspective “business conduct should be judged not on a relative scale but rather in relation to the absolute positive social impact a firm could reasonably have achieved”<sup>21</sup>. Food or pharmaceutical industries, for example, should strive in providing its products to poor countries as well. The other guiding principle is ecological equity. The current generation that is consuming the world’s natural capital, should take care about the consequences that future generations will receive. A problem related to this criterion is the total lack of indicators that can drive companies to this kind of sustainability.

The following picture (figure 3) shows the three different cases of sustainability with the specifics challenges that occur within the “shear zones”.

**Figure 3:** Business, Natural and Societal Cases of Sustainability (source: Dyllick T, Hokerts K. 2002 p.138)



<sup>21</sup> Dyllick T, Hokerts K. 2002 p.138

Although the three cases of sustainability represent the foundations of sustainability performance, a deeper explanation could help to understand which aspects are important in managing practically sustainability within a business reality. Epstein and Roy<sup>22</sup> classified nine principles of sustainability:

- ethical standards and practices in dealing with all stakeholders
- governance based on trust, consciousness and effectiveness
- transparency of information disclosures
- fair business relationships
- financial return to investor and lenders
- community involvement and economic development
- value of products and services (respect needs, desires and rights of customers)
- employment practices (development, diversity and work conditions of employees)
- protection of the environment

From these values, corporate sustainability can be seen more as a practical matter of management; discussions, analysis, measurements and reports about sustainability issues, in the business reality, are related mainly to the above cited principles<sup>23</sup>.

This section provided the theoretical and practical definition of corporate sustainability, and identified the disciplines that embrace the evolution of the concept. Corporate sustainability is an evolutionary concept coming from different disciplines and concerning the integrated management of economic, environmental and social aspects of an Organization. The interest of companies for achieving environmental protection and social equity simultaneously with profit, is acquiring a growing importance nowadays. The reasons go beyond the compliance with legislation and embrace the field of competition. Next section will try to find the connections between sustainability and competitive advantage.

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<sup>22</sup> Epstein M J, Roy M J. 2003. *Improving Sustainability Performance: Specifying, Implementing, and Measuring Key Principles*. Journal of General Management 29,I: 15-31

<sup>23</sup> Epstein M J. 2008

## 1.2 Sustainability and Competitiveness

Many people from the academic world as well as the business environment have been interested in finding the relations between corporate sustainability and competitive advantages. The KPMG International Survey of Corporate Responsibility Reporting 2008<sup>24</sup> documented that there are eleven motivations why companies take the path of sustainability for competitive reasons:

- Ethical considerations
- Economic considerations
- Reputation or brand
- Innovation and learning
- Employee motivation
- Risk management or risk reduction
- Strengthened supplier relationship
- Access to capital or increased shareholder value
- Market position (market share) improvement
- Improved relationships with governmental authorities
- Cost savings

Depends on the level of commitment and formalization of practices towards environmental protection and social equity simultaneously with profitability, sustainability becomes increasingly a strategic success factor. In order to achieve satisfactory performances in the aspects above mentioned, companies must consider corporate sustainability as part of their business strategy. In the “path to corporate responsibility” of Zadek<sup>25</sup> five stages of organizational learning represent the level of commitment and formalization of sustainability practices. The stages are classified as follow:

- defensive, denying every kind of responsibility on the actions taken;

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<sup>24</sup> KPMG International Survey of Corporate Responsibility Reporting 2008 P.18

<sup>25</sup> Zadek S. 2004. *The path to corporate responsibility*. Harvard Business Review

- compliance, adapting responsibility policies as a cost of business;
- managerial, integrating sustainability with daily business operations;
- strategic, implementing sustainability into business strategy;
- civil, promoting and collaborating with competitors towards responsible business.

The strategic stage is strongly related to the acquisition of competitive advantages of the first movers. Many industrial sectors such as automobile, food and pharmaceutical are becoming more sensitive to responsible practices. Evidently, in the future, sustainability will increasingly represent a main critical success factor. The strategic relevance of sustainability is emphasized by many other authors. The “strategic frontier” of “the virtue matrix” of Roger Martin<sup>26</sup> is defined as those intrinsic responsible behaviors that bring benefits to shareholders and society simultaneously. Companies that first move to this frontier will get the advantage to be unique, dragging the behavior of competitors. The “logic of social and ecological transformation” represented by Hockerts<sup>27</sup> shows three levels of transformation towards corporate sustainability. The *cognitive level* is based on the sole measurement of ecological and social impacts; the *normative level* takes into account stakeholder perceptions and claims voiced via the market, politics and public; finally, in the *competitive level*, these claims are turned into fields of competitive advantage through cost and differentiation strategies. But how do firms acquire distinctiveness through the responsible behavior? What are specifically the aspects on which the competition is based?

Many contributions in the literature are treating the relations between corporate sustainability and competitive advantages. Mario Minoja<sup>28</sup> identified three types of positive impacts from corporate social responsibility (CSR here is meant as the large conception of corporate sustainability) to competitiveness. Firstly, CSR is considered as an integrative value proposition to customers. They can acquire both, tangible advantages directly deriving from socially responsible attributes of the products or intangible advantages based

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<sup>26</sup> Martin R L. 2002. *The Virtue Matrix: Calculating the return on Corporate Responsibility*. Harvard Business Review

<sup>27</sup> Hockerts K. 2001 based on Dyllick et al. 1997

<sup>28</sup> Minoja M. 2008. *Responsabilità sociale e strategia: alla ricerca di un'integrazione. Chapter 4: Le relazioni fra vantaggio competitivo, profitto e “socialità” nelle imprese che integrano la RSI nella strategia*. Egea, Milano

on ethical values. In both of cases the positive effect is that more customers will be willing to buy the product or pay a premium price for it.

Secondly, CSR could facilitate the access to resources valuable, rare and difficult to imitate that can help to improve the positioning of the firms in the competitive contest in which it operates. These resources are classified as follow.

- Human resources and professionals skills. Socially responsible organizations are more able to attract, keep and motivate the best employees.
- Capital. Reduction of legal, reputation and enterprise risks together with ethical preferences of some investors, aid the access to financial capital.
- Agreement with society. By developing policies of corporate citizenship, organizations will increase relations with local communities, governments and other authorities in order to acquire legitimacy to act.
- Trust and reputation. They cannot be acquired in the market of strategic factors but depend on past good actions and future perspectives.

Finally, the social cohesion is the third type of positive impact coming from CSR. Good social performances will increase stakeholder relationships. In some cases, such as change in the strategy, is required a common sacrifice from stakeholders. Social cohesion regards the unity of strengths coming from all stakeholders for a structural change within the organization.

Another contribution that emphasizes the positive synergy between social strategies with economic and competitive results is from Chirieleison<sup>29</sup>. The investment for improving social performances contributes to create the strategic positioning, differentiating the company with the other competitors in terms of social legitimacy, reputation, visibility and image. These differences will generate positive effects in the economic and financial performances. Similarly to Minoja contribution, the main ambits on which the synergies occur are:

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<sup>29</sup> Chirieleison C. 2002. *Le strategie sociali nel governo dell'azienda. Chapter 3: Strategie Sociali e Performance Economico-Competitive*. Giuffrè, Milano

- investment decisions of capital market;
- attraction, management and motivation of human resources;
- customer choices.

Then, another deserving work is the Hockerts' classification<sup>30</sup> of competitive advantages deriving from sustainability transformation. He classified the advantages as follow:

- Relative cost advantages. A transformation in the competitive field that imposes higher costs to all firms can be faced by sustainability strategy that allows to meet the new requirements at relatively lower costs than competitors. One example is a tax on CO2 emissions. Companies that have already developed concrete plans to reduce carbon emissions will be less hurt by the tax than competitors.
- Relative differentiation advantages. Companies can differentiate their products through sustainability-related criteria. A good example is the "Fair Trade" label for those products characterized from a growing anxiety among consumers about unfair suppliers in the Third world. Some companies acquire relative advantages by offering "fair products", to ethical consumers, at higher prices than normal ones.
- Absolute cost advantages. A sustainability-related investment could generate positive return even in an unchanged competitive field. For instance the purpose of decreasing the disposal costs can prompt companies to optimize the material flows. Procurement, inventory and handling costs could be also reduced. In this case the rising disposal cost has had a discovery function for decreasing other costs.
- Absolute differentiation advantages. Some sustainable innovations can help to discover new market niches. One example is the Smart car, introduced originally to be sold to young people who did not want big, environmentally unsustainable cars. But after it was bought also by elderly people willing to avoid the traffic problems in the city.

Other authors who have connected positively sustainability with competitive performances are Kaplan and Norton<sup>31</sup>. In the strategy map of the regulatory and social processes, the

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<sup>30</sup> Hockerts K. 2001

aspects of financial perspective affected by sustainability practices (environment, safety and health, employment, and community) concern the reduction of business risks and the attraction of socially conscious customers and investors. In particular, based on Forest Reinhardt's book<sup>32</sup> "*down to earth*", they identified five ways for achieving competitive advantage simultaneously with the improvement of environmental performances: cost reduction through *total quality management* and *activity-based costing* systems; product differentiation for "green customers" disposed to pay a premium price for "green products"; management of competitors by establishing new ecological standards for the sector; redefinition of markets through innovative product policies, and finally, the reduction of environmental risk (compensation and legal costs, boycotts, loss of reputation and image etc) related to potential environmental incidents.

Finally, another aspect of competitiveness acquirable through a responsible behavior regards the investment in the community and social projects in order to be a good corporate citizen. Cooperation with Non Government Organizations (NGO) seems to acquire notable importance. The article "Turning gadflies into allies" by Michael Yaziji<sup>33</sup> emphasizes the role of NGOs in the society and the importance of partnering with them. Specifically, he identified four strengths of NGOs that represent, for corporations, threats and opportunities at the same time. These strengths consist in: legitimacy, awareness of social forces, distinct networks and specialized technical expertise. Because of this social power, companies that will collaborate and cooperate with NGOs can acquire many benefits. Yaziji recognized the following five benefits:

- Head off troubles by avoiding boycotts, loss of image and reputation, legal costs, etc.
- Accelerate innovation. NGOs are requiring more than the mere economic results, therefore companies will be motivated to improve societal and environmental aspects simultaneously with profits.
- Foresee shifts in demand. Since NGOs often leads social movements, consumers' tastes can be influenced by awareness champagne about the "ethical content" of some

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<sup>31</sup> Kaplan R S, Norton D P. 2004. Strategy Maps: converting intangible assets into tangible outcomes. Chapter 6: Regulatory and Social Processes. Harvard Business School Press

<sup>32</sup> Reinhardt F. 2000

<sup>33</sup> Yaziji M. 2004. *Turning Gadflies into Allies*. Harvard Business Review



products or services. In this way companies that collaborate can predict the demand of alternative ethical products or services.

- Shape legislation. NGOs can influence the Governments' legislation about tax policies, regulations of competition, labor and environmental standard, etc.
- Set industry standards by the advantages of the first movers in being ethical business.

The interest in managing sustainability among firms is increasing constantly for reasons that goes beyond legislation and embrace the competitive sphere. The driving forces towards more responsible business are: legitimacy, freedom to act, proactive compliance, good image and reputation, process or product innovations, reduction of waste, eco-efficiency etc. These are some of the reasons why different businesses are moving towards sustainability. But how companies should face the implementation of sustainability in the business strategies? How do they should link them to daily operations? How do they should manage, account and report sustainability performances? Next section will try to give answers to these questions.

### **1.3 Steps towards Sustainability Management**

Once the Top Management has decided to undertake the path of sustainability, general mission, strategies and operative activities must be aligned through the development, incorporation and communication of general objectives, principles, values, programs, methodologies and tools within all levels of business activity. In recent years many business realities have been facing with sustainable management by implementing Environmental Management Systems (EMS), acquiring certifications ISO 14000 or SA8000, developing variety of environmental and social accounting and reporting systems, etc. Nevertheless a common problem is been encountered: sustainability matters have been left out from the general management of the businesses by the development of separated and parallels management systems. The outcome of these choices has been the lack of priority in struggling environmental and social issues, whereas economic and financial

aspects were more important and imminent. However, in some cases, companies have linked sustainability guidelines with corporate strategies, making feasible the daily integrated management of economic, environmental and social aspects through the business operations. This latter approach is of course harder but ensures a real connection between the purposes of be responsible and the concrete actions to undertake.

There are many contributions in the literature concerning the implementation of sustainability issues into strategies and the related management of sustainability performances. In the book “*Making Sustainability Work*” by Epstein (2008) it is presented a well structured framework of the process for implementing sustainability. From the same author, in collaboration with Roy<sup>34</sup>, a further contribution is “*Sustainability in Action: Identifying and Measuring the Key Performance Drivers*”. It focuses on the process to make sustainability issues and goals concrete actions to take. Another interesting article is “*Integrative Management of Sustainability Performance, Measurement and Reporting*” by Stefan Schaltegger and Marcus Wagner<sup>35</sup>. The main point of this latter work concerns the integration of management tools utilized to make the above mentioned process (Epstein and Roy’s framework) feasible with the focus on the linkages between performance measurement and management system with sustainability reporting. With the main support of these contributions, below it is explained the process or better the steps that a company must make to move towards sustainability, from the main strategies and objectives, through the operative targets, to accounting and reporting of environmental, social and financial facts. The phases identified are the following<sup>36</sup>:

- Identification of stakeholders and related environmental and social exposures
- Leadership and implementation of sustainability strategy
- Definition of concrete actions to take
- Design of organizational structure and management systems
- Measurement and communication through sustainability accounting and reporting

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<sup>34</sup> Epstein M J, Roy M J. 2001. *Sustainability in Action: Identifying and Measuring the Key Performance Drivers*. Long Range Planning 34: 585-604

<sup>35</sup> Schaltegger S, Wagner M. 2006. *Integrative management of sustainability performance, measurement and reporting*. Int. J. Accounting, Auditing and Performance Evaluation, Vol. 3, No. 1

<sup>36</sup> The phases are based mainly on: Epstein M J, Roy M J. 2001; and considering also: Epstein M J. 2008; Figge et al. 2002a, 2002b; Schaltegger S, Wagner M. 2006; Hinna L. 2005; The Copenhagen Charter 1999

- Stakeholders' reaction, financial performance and feedback

### 1.3.1 Stakeholders and Exposures

A preliminary step that must be made concerns the analysis of current strategies with the purpose to understand if and how they could impact with sustainability issues like environmental pollution and damage, energy consumption, human rights, employee satisfaction, product responsibility, etc. This phase regards the identification of the key stakeholders and the measurement of the potential environmental and social impacts (exposures) that could represent critical success factors for the business success<sup>37</sup>. Stakeholders are all the subjects that primarily affect business performances and, at the same time, are largely affected from company's actions<sup>38</sup>; specifically, in the context of sustainable development, they are impacted by company's social and ecological policies and actions. Therefore it becomes crucial to understand which stakeholders are the most relevant and what kind of social or financial pressure they exercise to the company. The identification of key stakeholders could be done with the support of the matrix interest/influence<sup>39</sup>. The tool, advised in "The Copenhagen Charter", can be useful to recognize which stakeholder category exercises high or low influence to the business activity and, at the same time, what kind of interest, significant or insignificant, the company detains for each category. Numerous classifications of stakeholders exist in both business and academic worlds: level of importance, strategic relevance, type of influence, kind of relation, etc. The following is my own general classification that includes all those actors which are affected and can affect somehow the firm existence.

- Shareholders
- Financial community
- Employees

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<sup>37</sup> Epstein M J, Roy M J. 2001, Figge et al. 2002a, Schaltegger S, Wagner M. 2006, Hinna L. 2005

<sup>38</sup> Freeman R E. 1984

<sup>39</sup> The Copenhagen Charter. *A Management Guide to Stakeholder Reporting*. 1999. Ernst & Young, KPMG, PricewaterhouseCoopers, House of Mandag Morgen

- Customers
- Suppliers and partners
- Governments
- Non Government Organizations (NGO)
- Science and Education
- Community
- Society (largely conceived)

After having classified the main stakeholder categories, the identification of the particular impact exercised for each category is easier. In order to be aware of how the firm actions are impacting stakeholders, it is necessary to identify the particular environmental and social exposures related to the company's industry, market, geographical location, process technology, labor policy and practices, etc. "Different types of tools and techniques can be used to measure potential social and environmental impacts of a company's business activities" [...]. "Life Cycle Assessment (potential environmental impact through R&D, sourcing, manufacturing, packaging, marketing, sales, distribution, consumer use, and disposal) and social audits are powerful tools to help companies to better understand the environmental and social characteristics of their business activities"<sup>40</sup>. Stakeholders and exposures identified constitute the field of action for developing the sustainability strategies, the organizational structure, plans, programs and actions.

### **1.3.2 Leadership and Strategy**

The starting point of the process towards corporate sustainability is a clear and strong commitment of top management to implement and communicate strategy. Board of directors, CEO and management must focus on the best ways of communicating vision, mission and strategy to all levels of organization. Corporate leaders must align business goals with environmentally and socially responsive activities, providing internal credibility to promote the improvement of social and environmental management within the whole

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<sup>40</sup> Epstein M J, Roy M J. 2001 pp.590-591

organization. The commitment of top management encourages the employees to behave in ways that are acquiescent and reliable with company strategy<sup>41</sup>.

Business strategy must be the starting point for sustainability. Corporate and business unit strategies regard the choices, the guidelines and the philosophies of a company's management to reach certain objectives established by a general mission. Formulating a strategy entails the examination of the kind of industry the company is operating, in which market it is competing, the ways how it is organizing the resources and utilizing the competencies<sup>42</sup>. Strategy defines the identity of a company in the relations with the environment (here refers to stakeholders), underlining *what, why and how it does or it wants to make the business activity*<sup>43</sup>. Since managerial behavior and operative actions are affected by general strategy, internal and external drivers that can really address company's actions to integrated social, ecological and financial goals must be embodied into business strategies. In this sense, moving towards sustainability gives rise to the necessity of following a process to implement these new ecological and social philosophies and values inside the general guidelines of the business management.

Once stakeholders and relative impacts have been identified, next step consists in formulating the sustainability strategy. It should contain the main goals, the guidelines, the values and the obligations related to ecological and social issues such as emissions in the air and water, energy consumption, labor practices, employees diversity, etc. Epstein classified three stages of sustainability strategies that reflect the commitment towards full corporate sustainability<sup>44</sup>. Stage 1 is the simple management of regulatory compliance; stage 2 regards the achievement of competitive advantage; and stage 3 consist in the completion of social, economic and environmental integration. This latter stage is about managing sustainability as a routine in all the levels of the organization. In this sense, strategy must be made feasible, in other words, it should be adapted to the business unit

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<sup>41</sup> Epstein M J. 2008

<sup>42</sup> For deepening the concept of "Strategy" see Coda V. 1995. *L'orientamento strategico dell'impresa*. Utet Università, Milano

<sup>43</sup> Coda V. 1995 p.24

<sup>44</sup> Epstein M J. 2008. p.64-67

level and the local daily operations. For this purpose it can be useful to deepen the concept of Balanced Scorecard<sup>45</sup>.

BSC is a management tool that translates strategies into actions. The major feature of this instrument is the multidimensional conception of business performances. For this characteristic it can efficiently face the main challenges of corporate sustainability management<sup>46</sup>; sustainability issues can be easily incorporated in the several management perspectives of balanced scorecard and the related performances can be monitored through adequate key performance indicators (KPI). KPIs are linked in cause and effect “chains” (strategy map) that focus on the relations between different objectives and perspectives, clarifying how environmental and social performances affect the financial ones<sup>47</sup>.

When the connection between sustainability strategy and operations is clear, next step is about planning the right actions in line with the general guidelines.

### **1.3.3 Actions**

Based on the main objectives established, the third step is about planning concrete actions to carry out in order to be responsible and sustainable. Epstein and Roy, in their framework, have treated the development of plans and programs. They distinguished two ways of developing plans and programs. One regards the improvement of environmental and social performances. It could be made by improving the existing routines or facing radical changes. “They may include capital investments in new technologies, product or process redesign, or R&D spending, [...] programs to promote ethical sourcing, work force diversity, or more stringent codes of conducts in terms of labor practices”<sup>48</sup>. Further actions concern investments in social communities, training programs, ISO certifications, preventions and safety programs. The second way to develop plans and programs concerns the promotion of sustainability performance to the stakeholders. It provides at the same time responsibility as well as communication to stakeholders. “These initiatives may

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<sup>45</sup> Kaplan R S, Norton D P. 1996. *The Balanced Scorecard: Translating Strategies into action*. Harvard Business School Press: Boston

<sup>46</sup> SBSC will be treated next chapter

<sup>47</sup> Schaltegger S, Wagner M. 2006

<sup>48</sup> Epstein M J, Roy M J. 2001 p.592

include marketing efforts to promote social and environmental product features, lobbying efforts to governmental agencies related to social and environmental issues, [...] community surveys to assess public opinion on the company's social and environmental performance and community advisory panels"<sup>49</sup>. In addition, external reports should be provided to stakeholders. They should contain information about sustainability policies, actions taken and results reached<sup>50</sup>. The actions mentioned regard only some of the possible ways for translating the strategies in terms of plans and programs.

Once leadership commitment is addressed to the development and communication of sustainability strategies, and plans and programs have been established, companies need to implement them through appropriate organizational structures and management systems<sup>51</sup>. They will be presented in the next paragraph.

#### **1.3.4 Organizational Structure and Management Systems**

This phase could be considered as the hardest. Based on a change of corporate culture, it requires the alignment of strategy, organizational structure and management systems towards the coordination of activities and the motivation of employees.

The first step that must be made, in order to align organizational structure with sustainability strategy, is the involvement of the whole organization in the sustainability practices. By making a deep assessment of all the value chain activities, it is possible to identify the particular impacts that each functional area is exercising, the responsibilities and the potential ways to reduce these impacts. Both primary and support activities of the value chain are fundamental for reaching financial, ecological and social goals. Hence, each functional department must be involved in promoting sustainability<sup>52</sup>.

Afterward, the development of several management systems is crucial for supporting corporate sustainability. "To drive a sustainability strategy through an organization, various management systems such as product costing, capital budgeting, information, and

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<sup>49</sup> Epstein M J, Roy M J. 2001 p.592

<sup>50</sup> Hinna L. 2005

<sup>51</sup> Epstein M J. 2008

<sup>52</sup> Epstein M J. 2008

performance evaluation must be designed and aligned”<sup>53</sup>. Performance evaluation systems should be built and developed in order to monitor sustainability facts. Therefore, sustainability measures must be developed. Incentives and rewards should be established to drive managers and employees behavior to excellence in sustainability outcomes. In order to monitor and assess the actions taken, key performance indicators (KPI) should be elaborated. The strategies must be translated to measurable targets and other measures should be developed for monitoring the level of achievement of plans and programs.

One really interesting framework, given by Schaltegger and Wagner, concerns the integration of several management tools for supporting sustainability management. They have built a framework that links at first “*business strategy with sustainability performance measurement and management*” and consequently “*performance measurement and management with reporting and communication*”<sup>54</sup>. This link can be characterized by two perspectives: “outside-inward perspective” and “inside-outward-perspective”. The first, based on external considerations, “will screen publicly discussed issues, communicate the corporate contribution to these issues and thus define measurement and management activities on basis of these issues”. The latter approach “is based on the business strategy and the analysis of what issues are relevant for an effective implementation of the strategy and to succeed with this strategy”. They have focused their framework more on the “inside-outward-perspective”. It regards the strategic management of the crucial aspects of stakeholder relationship and thus which ones should be measured and managed in a communicative interaction. Is matter of selecting those sustainability performance indicators that are important for stakeholders and the business success<sup>55</sup>. “The management task is to identify strategy-related sustainability issues, to account for them and finally, to report them”<sup>56</sup>. The result is an integrated framework for sustainability performance measurement and management that links several management tools: sustainability balanced scorecard, sustainability accounting and sustainability reporting (see figure 4).

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<sup>53</sup> Epstein M J, Roy M J. 2001 p.594

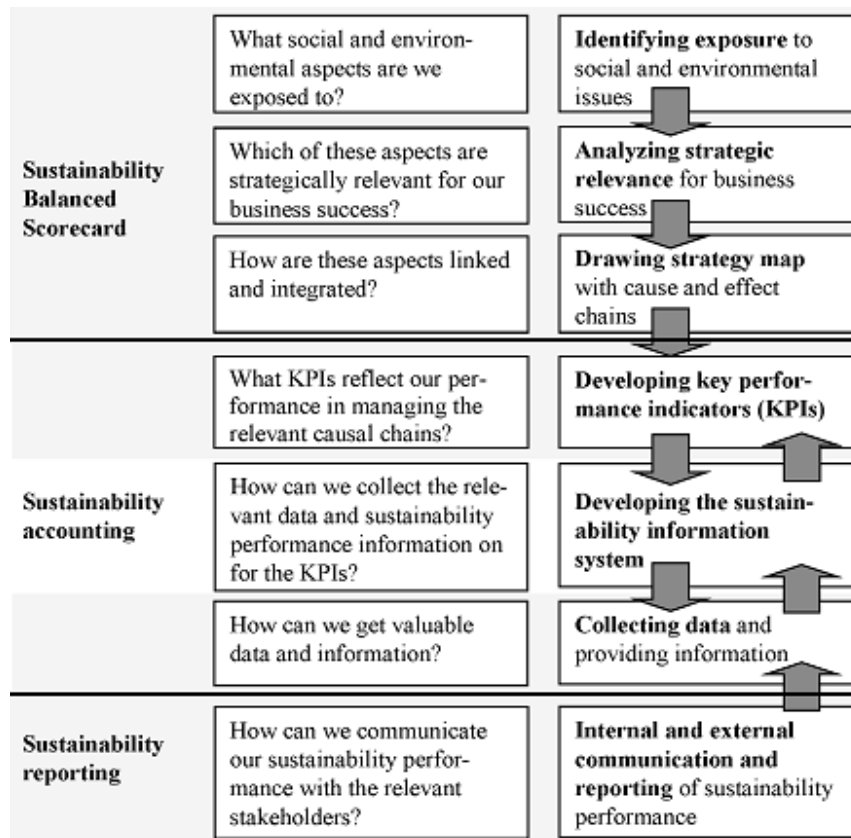
<sup>54</sup> Schaltegger S, Wagner M. 2006. *Integrative management of sustainability performance, measurement and reporting*. Int. J. Accounting, Auditing and Performance Evaluation, Vol. 3, No. 1 p.3

<sup>55</sup> Hinna L. 2005. *Come gestire la responsabilità sociale dell'impresa. Chapter 6 Le fasi del processo di relazione con gli stakeholder nell'ambito dell'orientamento alla Rsi (The Copenhagen Charter)*. Il sole 24 ore

<sup>56</sup> Schaltegger S, Wagner M. 2006. p.4



**Figure 4:** An integrated framework for sustainability performance measurement and management linking the SBSC, sustainability accounting and sustainability reporting (source: Schaltegger S, Wagner M. 2006 p.5)



As showed in the figure 4, the main steps to reach this integration are:

- identification of environmental and social exposure of the business
- analysis of strategic relevance of environmental and social aspects
- development of causal chains and the strategy map
- definition of key performance indicators and development of the measurement methods to create the respective performance information
- consideration of the identified key sustainability performance indicators in the company internal and external communication and reporting activities
- BSC implementation, revision and reporting on sustainability indicators.

These steps made clear the linkages between SBSC, accounting and reporting system. General standard indicators based on the industry, sector etc, are taken into consideration (outside-inward-perspective) but the choices about key performance indicators (KPI) used in the overall performance system are mainly driven by strategic considerations and stakeholders relevance (inside-outward-perspective). Sustainability accounting system, then, provides the right elaborated data useful to feed reporting requirements as well as strategically relevant information. Sustainability performance management could be seen, in this way, “strategy-focused”. This means that operational activities are based on KPIs identified. For this purpose, accounting system needs a considerable change pointing to the implementation of environmental and social issues with their economic and financial impacts. The accounting system must be oriented towards the provision of the needed data for developing KPIs. The outcome is an accounting system characterized by a mix of several indicators: strategic and operational, monetary and non-monetary, quantitative and qualitative. Through such as accounting system, SBSC is linked to sustainability reporting. Next paragraph will be dedicated to the accounting and reporting systems.

### **1.3.5 Measurement and Communication**

Sustainability accounting and reporting can be described as the system of activities and techniques to collect, processing and disclose information about environmental and social impacts, induced economic and financial outcomes, links and interactions between the three dimension of sustainability, social, environmental and economic. Therefore sustainability accounting can be considered as a new information management system while sustainability reporting concerns new way of communication based on the provision of information about corporate sustainability. Connection between accounting and reporting is fundamental; sustainability issues accounted must be communicated and information has to be trustworthy in order to create a feedback process of continuous development of accounting and communication practices towards the improvement of sustainability

performances<sup>57</sup>. This relation is reinforced by the strategic character of sustainability accounting; KPIs identified in SBSC approach have to be properly calculated and accounted in order to increase the quality of disclosure. Reliable and strategy-related reporting, by contrast, influence stakeholder reactions and feedback towards better accounting and performances<sup>58</sup>.

Among the major motivations for firms to make public sustainability reports there are: the communication with stakeholder about non-market issues, the motivation of employees to deal with sustainability, the scope to increase legitimacy, credibility and reputation among the society<sup>59</sup>. Recently it is increasing the necessity to standardize accounting, performance measurement and reporting procedures. The need of systematic measurement about social and environmental issues conducted to some initiatives (Global Reporting Initiative is the most important) pointing to the utilization of sector specific performance indicators. The trend towards the standardization will facilitate comparability and transparency of information between different firms. Standards will also help the development of a unique integrated accounting and reporting system. The existence of these reporting guidelines arises the problem of which way should be used to manage sustainability performances<sup>60</sup>: strategy and accounting-driven sustainability reporting (inside-out perspective) or reporting-driven sustainability accounting (outside-in perspective)? “Both the inside-out and the outside-in approaches are related to each other. On one hand, a good corporate strategy has to consider external stakeholder expectations and requirements and thus is not isolated from reporting requirements. On the other hand, good corporate reporting requires substantive performance results which can be demonstrated only on the basis of relevant, reliable, comparable and understandable information about corporate sustainability”<sup>61</sup>. But how are structured corporate sustainability accounting and reporting? Which are the main challenges that drive the accounting process? How is organized the “new sustainability information system”?

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<sup>57</sup> Schaltegger S, Bennett M, Burritt R. 2006. *Sustainability Accounting and Reporting. Chapter 1: Sustainability Accounting and Reporting: Development, Linkages and Reflection*. Berlin, Springer 1-33

<sup>58</sup> Hinna L. 2005. The strategic relevance of the KPI and the functioning of sustainability accounting is better deepened in: The Prince's Accounting for Sustainability Project 2007. *Connected Reporting: a practical guide with worked examples*. accountingforsustainability.org London

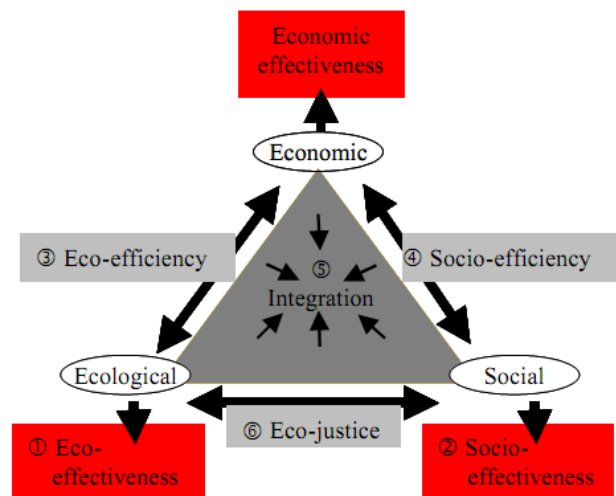
<sup>59</sup> Hinna L. 2005

<sup>60</sup> Schaltegger S, Bennett M, Burritt R. 2006

<sup>61</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.17

Based on the *triple bottom line* concept, Schaltegger, Bennet and Burritt developed a framework concerning the challenges of sustainability and the related accounting dimensions. They based their work on the “sustainability triangle” (see figure 5). Similarly to figure 3, it shows the three dimensions of sustainability and the relative challenges of managing them with their relations.

**Figure 5: Sustainability Triangle** (source Schaltegger S, Bennett M, Burritt R. 2006 p.8)



It could be noticed that in the corners of the triangle is shown the effectiveness while in the lines the efficiency. Effectiveness, measurable through absolute indicators, represents a goal of a single dimension (ecological, social and economic) of the triangle. Efficiency expresses the relation between different dimensions and is thus measured with relative indicators such as eco-efficiency. On the top of the triangle there is the economic effectiveness. Concerning the most classic business management goal, it consists in the achievement of the best possible economic result. Hence it is not particularly aimed as a corporate sustainability objective that usually is focused on ecological, social, economic and integration challenges.

The ecological challenge is to increase Eco-effectiveness. “Ecological effectiveness measures the absolute environmental performance and is a general description of the extent

to which the targeted objective of minimizing environmental impacts has actually been achieved”<sup>62</sup>. The main problems related to the environment embrace greenhouse effect, destruction of ozone stratum, acidification and over-nitrification of soil and water, declining biodiversity, toxic emissions harmful to humans and the environment, desertification etc. To deal with ecological challenge, companies should aim to absolute reductions in the above mentioned environmental impacts of production processes, products etc. The provision of information is made by physical environmental accounting tools such as product life cycle assessment (LCA) that contains aggregated indicators of eco-effectiveness. Examples of absolute indicators are: CO2 emissions, quantity of materials utilized, amounts of energy and/or water consumed and wasted, other toxic emissions etc.

The social challenge is to increase the social effectiveness. The main challenge of social sustainability is to take care about the diversity of social, cultural and individual demand while managing the business success. In other words, ensuring a stable profitability, companies should acquire, at the same time, social acceptance and legitimacy to act. Socio-effectiveness is a sustainability measure aiming to reduce the absolute amount of negative social impacts while increasing positive impacts and benefits relative to expectations of society. Due to the different cultural contexts (equality of rights, fairness, equity of needs, etc.) where firms operate, these expectations differ from a reality to another one. It means that is difficult to satisfy completely different and unlimited human needs. Encountering these problems, it gets difficult to establish a general accepted concept of absolute social impact; thus it becomes complicated to account and report socio-effectiveness. Some social indicators are the ones related to the employees’ work conditions, development and diversity such as wages, working hours, percentage of women, people with disabilities, training hours, health and safety programs/investments, etc. Others indicators are related to product safety, respect of essential human rights, “healthy” relationships and partnerships, social programs (donations, funds to NGO etc.).

Then there is the economic challenge. “The economic challenge to environmental and social management aims to improve eco-efficiency and socio-efficiency”<sup>63</sup>. Economic

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<sup>62</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.9

<sup>63</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.10

sustainability challenge regards the improvement of environmental and social performances while increasing company's value and profitability. Social equity and environmental protection can be achieved in parallel with increase of revenue and reduction of costs. The criteria to measure economic success are based on the efficiency.

Eco-efficiency can be measured with the ratio of an economic value to a physical environmental impact measure. "It can be defined as the ratio of value added to environmental impact added per unit, where environmental impact added is equivalent to the sum of all environmental impacts which are generated directly or indirectly by a product or activity"<sup>64</sup>. The WBCSD (1992) has identified seven elements that businesses can use to improve their eco-efficiency: reduce material intensity, reduce energy intensity, reduce dispersion of toxic substances, enhance recycling, maximize use of renewable energy, extend product durability, increase service intensity<sup>65</sup>. Examples of indicators are: value added or contribution margin per tons of CO<sub>2</sub> emitted, revenues per liter of fuel or watt of energy consumed and so on.

Socio-efficiency like eco-efficiency can be measured with the ratio of an economic value to a quantified social impact measure. It "can be defined as the ratio of value added to social impact added, where social impact added represents the sum of all negative social impacts originating from a company, product, process or activity"<sup>66</sup>. Socio-efficiency measures, similarly to socio-effectiveness ones, rely on social impacts or value created. Hence weakness in measuring socio-effectiveness makes also difficult and troublesome the development of accounting for socio-efficiency. Examples of indicators are: value added per number of employees' accidents, value added or revenue per investment in healthy and safety, etc.

Finally, the integration challenge concerns the integration of the three challenges over mentioned. It must be reached by combining and simultaneously satisfying the goals of the other challenges. Integration challenge is the hardest one and thus critical for corporate sustainability accounting and reporting. Epstein and Roy classified four possible levels of integration of sustainability reporting. These levels represent the progressive integration of

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<sup>64</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.11

<sup>65</sup> WBCSD (World Business Council for Sustainable Development). 1992. *Changing Course*. United Nation Conference on Environment and Development (UNCED), Rio de Janeiro

<sup>66</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.11

sustainability actions into business strategies through a connection to financial performances. The four levels of integration are<sup>67</sup>:

1. descriptive information not linked to financial performance
2. quantified information not linked to financial performance
3. monetized information on expenditure, partially linked to financial performance
4. monetized information on the benefits of expenditures (cost and benefits), fully linked to financial performance

In conclusion, an important aspect that deserves to be underlined regards the differences of business environment and social expectations in influencing the role of sustainability accounting and reporting. The following table<sup>68</sup> (table 1) classifies four types of business environments with the relative social expectations and level of relevance of sustainability accounting and reporting.

**Table 1:** Role of sustainability accounting and reporting in different societal business environments (source: Schaltegger S, Bennett M, Burritt R. 2006 p.18)

| Business environment | Societal expectation                             | Relevance of sustainability accounting   | Relevance of sustainability reporting   |
|----------------------|--|--|---|
| Trust me             | None   | Internal efficiency improvements   | Internal communication to achieve efficiency improvements   |
| Tell me              | Communicate                                      | Information creation for highly visible and formally required issues                                     | Sustainability as an important internal and external communication element  |
| Show me              | Communicate and illustrate                       | Information creation for an over-arching picture of sustainability performance                           | Essential communication element as part of a set of “voluntary” communication activities                            |
| Prove to me          | Measure, account for, communicate and illustrate | Basis of sustainability performance management<br>Basis to create transparency<br>Basis for verification | Additional element in a systematic set of trust building activities (such as stakeholder dialogues and involvement) |

<sup>67</sup> Epstein M J, Roy M J. 2003. *Improving Sustainability Performance: Specifying, Implementing, and Measuring Key Principles*. Journal of General Management 29,I: 15-31

<sup>68</sup> Schaltegger S, Bennett M, Burritt R. 2006 p.18

Measurement and communication regard crucial aspects in managing sustainability. The awareness of environmental, social and financial integrated performances is essential in order to know the real advantages of the responsible business. Well structured information systems can help to answer promptly to existing problems, for example improving the management system or planning new sustainability strategic objectives. The communication is also important; information collected and elaborated must be properly communicated, internally, for continuous improvements and externally for building a stable dialogue with stakeholders.

### **1.3.6 Stakeholder Reaction, Financial Performance and Feedback**

Short and long term economic and financial performances are all influenced by stakeholder reactions from sustainability performances from which they are affected. Sustainability performances, concerning for instance employee diversity, human rights, environmental impacts, product safety and ethical sourcing influence stakeholders' reactions and thus financial performances. Customer loyalty, for example, ensures long term revenues; reliability of work environment increases employees' satisfaction and productivity; aware and pleased community about ecological and social protection gives legitimacy to act and good image; the part of financial community based on social criteria would react positively, facilitating the access to further funds; finally, satisfied shareholders will keep long term capital within the business activity<sup>69</sup>.

Short term (costs and benefits) and long term financial performances are influenced from all the elements discussed. Typical cost reductions and benefits are energy optimization, waste reduction, material substitution, avoidance of fines and legal conflicts with NGO and local communities. Long term financial performances are the ones related to the durable profitability and growth depending on customer loyalty, employees' satisfaction, and good relations with neighbors, NGO, regulators and ethical financial communities.

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<sup>69</sup> Epstein M J, Roy M J. 2001. *Sustainability in Action: Identifying and Measuring the Key Performance Drivers*. Long Range Planning 34: p.588



An important aspect of the framework is the feedback process that should be undertaken to improve the sustainability management system. It must rely on continuous review of the system and the development of a learning organization toward the optimization of the company's environmental, social and financial performances and the related reporting. Hinna<sup>70</sup> emphasized the importance of consulting the stakeholders in order to receive a feedback on:

- performance achieved;
- comprehensibility of information disclosed and the Key Performance Indicators;
- ways and channels of communications;
- quality of relationship;
- connection between mission and values with the facts attained.

In order to understand better the functioning of the process over mentioned is helpful to rely on the graphic illustrations of the general framework by Epstein and Roy (see figures 6 and 7).

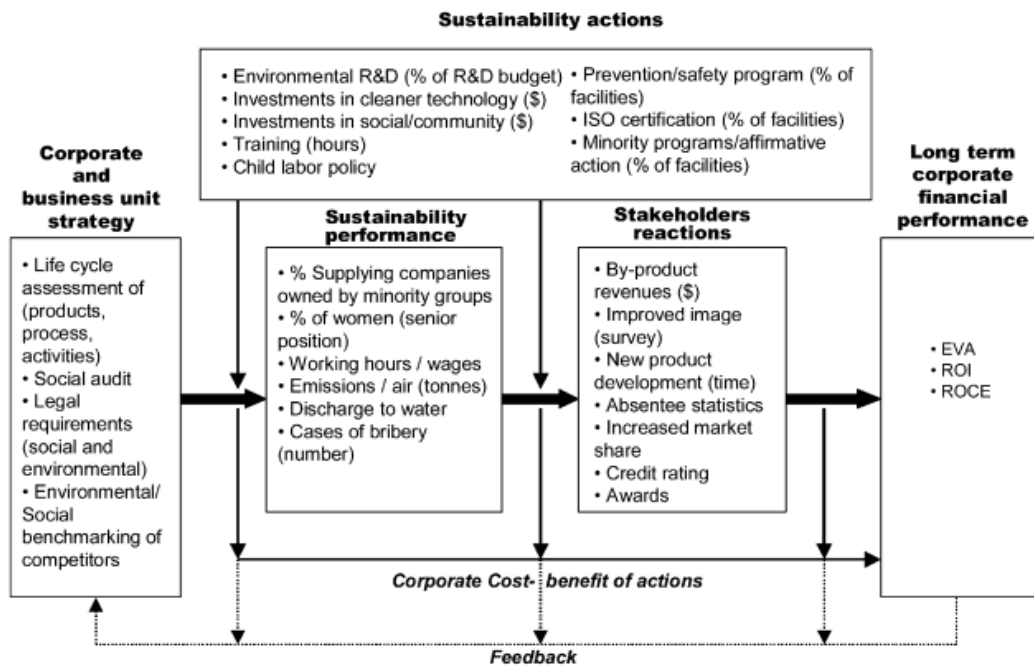
*Figure 6: Drivers of sustainability and financial performance* (source: Epstein M J, Roy M J. 2001 p.588)



<sup>70</sup> Hinna L. 2005 p.226

Figure 6 shows the process of sustainability management. Everything starts from the development of strategies aimed to improve sustainability performances. What they called “sustainability actions” represent the support of the elaborated strategies. They concern the investments addressed to improve sustainability performances. Then, stakeholders’ reactions will influence long term corporate financial performance. This latter will be influenced as well by the sustainability actions, thus, both costs (investments) and benefits of actions will affect the financial results. Finally, the feedback process will be the support for developing new strategies or modifying the existing ones. Figure 7 takes as starting point the same components of the framework in figure 6 and gives the metrics, both financial and non-financial, that need to be monitored to evaluate the sustainability actions.

**Figure 7: Metrics of sustainability and financial drivers** (source: : Epstein M J, Roy M J. 2001 p.601)



Summarizing, in this section it is been showed the process to implement sustainability practices within the general management of the business. Incorporating environmental, social and related economic objectives into strategy is the challenge of corporate sustainability. Once sustainability enters in the strategy level of the organization, the other challenge is to make it action. First of all, organizational structure must be involved in the

process and then, sustainability management systems have to be developed. Targets, initiatives and measures must be elaborated and information has to be reported to the stakeholders. In order to make real this process several management tools must be utilized and integrated. At first sustainability balanced scorecard should translate strategy into operative targets and measures. Then accounting system should work for collecting data and elaborating them for the reporting disclosure. Reliability of information will stimulate interactive communication with stakeholders and feedback process towards the improvement of sustainability performance outcomes as well as the sustainability management system.

Next chapter will be dedicated to the deepening of the concept of Sustainability Balanced Scorecard and the process of implementation of the managerial instrument.

## Chapter 2

### Sustainability Balanced Scorecard

#### 2.1 Traditional Balanced Scorecard

The concept of Balanced Scorecard (BSC) has been developed by Robert S. Kaplan and David P. Norton in the early 1990s. It was firstly conceived as a management tool aimed to improve the existing traditional performance measurement systems, which were addressed to measure and monitor mainly economic and financial performances with the relative evaluation of only tangible assets<sup>71</sup>. “Since the efficient use of investment capital cannot be longer the sole decisive aspect of competitive advantage, traditional financial measures are not sufficient to explain business performances. Many companies have lack of techniques to manage, quantify and improve intangible capital. Performance measurement systems should evaluate also company’s intangible and intellectual assets, such as high quality products and services, motivated and skilled employees, responsive and predictable internal processes, and satisfied and loyal customers”<sup>72</sup>.

Originally Kaplan and Norton developed BSC concept as a measurement tool that links financial perspective with customer, internal process and learning & growth, emphasizing the importance of operational measures that drive future financial performance<sup>73</sup>. Therefore it was seen only as a balanced set of key performance indicators. But balanced scorecard is more than a performance measurement tool. Subsequently they addressed and focused their framework on the relevance of linking business strategy with activities and operations strategically relevant for the achievement of objectives established. Strategy should be translated and causally linked in terms of operative planning. In this perspective, BSC can be seen as a strategic management tool that translates strategies into actions. This new

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<sup>71</sup> Kaplan R S, Norton D P. 1992. *The Balanced Scorecard. Measures that Drive Performance*. Harvard Business Review

<sup>72</sup> Kaplan R S, Norton D P. 1996. *The Balanced Scorecard: Translating Strategies into action*. Harvard Business School Press: Boston

<sup>73</sup> Kaplan R S, Norton D P. 1992

approach of the framework was driven by the emerging concept, at that moment, of “strategy map”<sup>74</sup>. Strategy maps refer to the causal relations between domains of management and elements of the strategy in the key perspectives of BSC (financial, customers, processes, learning and growth). Cause and effect chains indicate the relations between operations, activities and results within the four perspectives of BSC. In order to better understand the functioning of the BSC, it is useful to deepen the features and linkages among these perspectives. They are characterized as follows<sup>75</sup>.

The *financial perspective* concerns the traditional financial objectives of conventional management and accounting systems utilized for the measurement of economic success. Focusing on the importance of so-called value drivers for future profitability, the purpose of this perspective is to define and measure the financial performances a strategy is expected to achieve. At the same time it is the endpoint of cause and effect relationship with the other perspectives.

The *customer perspective* identifies the relevant customers and market segments in which the business competes and that contribute to the financial goals. Customer value is established through the identification of the necessities of current and future markets. Products, services and processes are aligned to these needs for the achievement of competitive advantage.

The *internal processes perspective* identifies those value-driving processes that permit the company to meet the expectations of customer and shareholders. This perspective regards the internal operations that must be done in order to satisfy customer needs.

The *learning and growth perspective* concerns the intangible infrastructure required for the attainment of the goals of all the other perspectives. Due to the increasing importance of human resources as critical factor of success, this perspective emphasizes the qualification, motivation and goal orientation of employees. Considerable importance is given also to the development of information systems.

The main function of the BSC is to develop a hierarchical system of strategic goals in the four perspectives. For each perspective appropriate strategic objectives, measures, targets

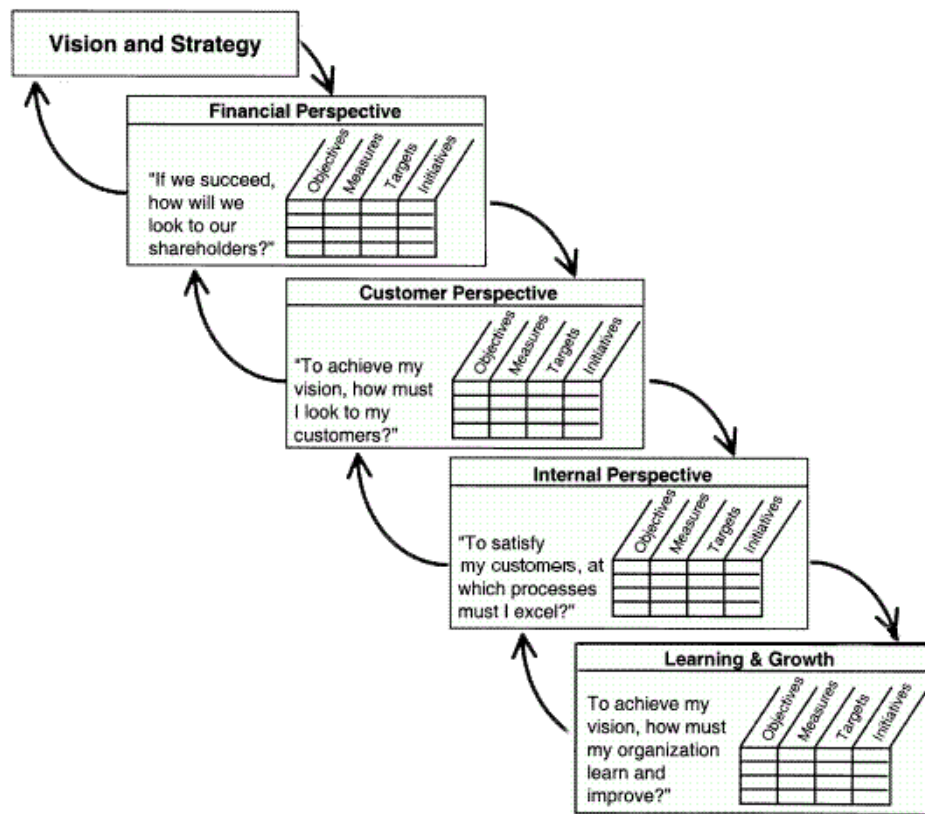
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<sup>74</sup> Kaplan R S, Norton D P. 1996, 2003, 2004

<sup>75</sup> Kaplan R S, Norton D P. 1992, 1996

and initiatives are established and aligned with the business strategy towards the financial goals (figure 8). The causal system of interaction between and within the different perspectives, thus, is based on measures formulated for each perspective and linked through cause and effect relations. These measures, better known as key performance indicators (KPI), are distinguished by Kaplan and Norton in lagging and leading indicators.

**Figure 8: The Balanced Scorecard and its Perspectives** (source: adaptation of Kaplan R S, Norton D P. 1996)

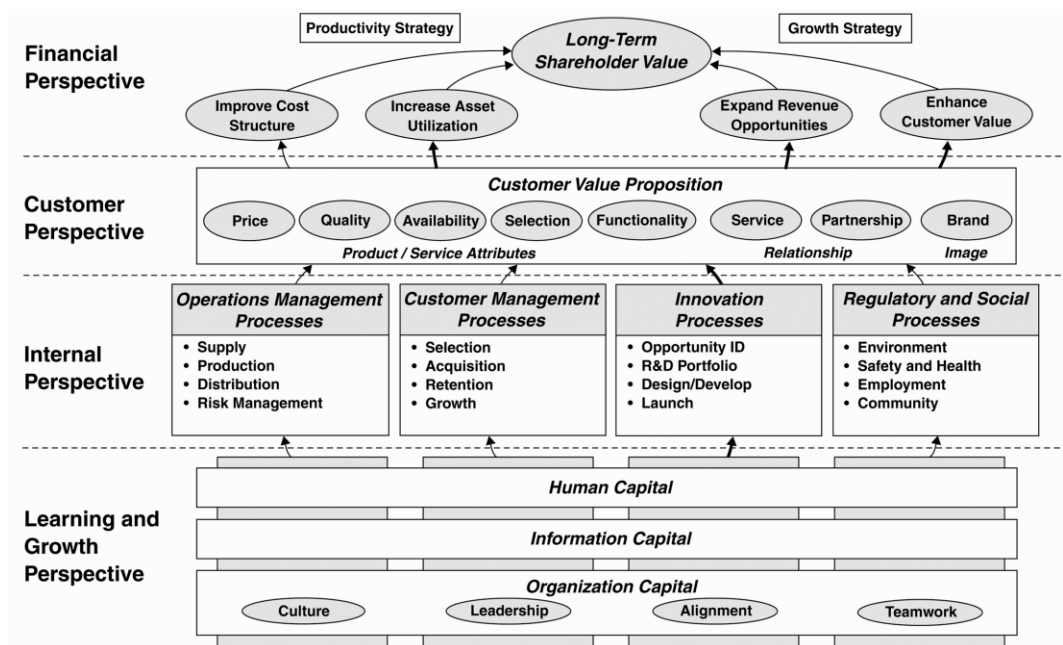


Lagging indicators, expressing the strategic core issues of each perspective, specify whether a strategic goal of a perspective is been achieved. Leading indicators represent the key performance drivers that have the influence on the attainment of strategic core goals measured by lagging indicators. They express how the results (lagging indicators) should be achieved. These drivers (leading indicators) are integrated in the four perspectives and aligned to the business strategy by the translation of the main strategic objectives in measures and targets. Therefore, for each perspective, strategic core issues are defined and

key performance drivers are identified. Measures and targets are hierarchically linked towards the financial perspective containing the final objective of long term economic success. The result is a cascade system, or better a *strategy map*, where one perspective is causally linked to another one from the learning and growth perspective to the financial one. Hence, lagging indicators of a lower level in the strategy map could act as leading indicators of the higher level perspective (see figure 9).

The balanced scorecard then must be systematically integrated into the management system of the organization by establishing strategy oriented operative budgets and continuous feedback loop of the system. Another focal point emphasized by Kaplan and Norton is the need of a regular training, internal communication of strategies, incentives and rewards system to involve the employees in the accomplishment of strategic objectives.

**Figure 9: The Strategy Map** (source: Kaplan R S, Norton D P. 2004)



After having analyzed functions and features of BSC, one question arises: what is the relation between Balanced Scorecard and corporate sustainability? The idea to utilize BSC as an environmental and social management tool was already been suggested by Kaplan

and Norton in the late 1990s. As it can be seen in the image about strategic map above, the internal process perspective comprises regulatory and social processes that include environment, community, employment, safety and health<sup>76</sup>. The function of BSC, to translate strategy into operative targets monitored by physical KPIs, is decisive in order to incorporate environmental and social strategies and manage them through daily operations. Sustainability management with BSC tries to integrate the problems of improving simultaneously corporate performances in all the three dimension of sustainability: economic, environmental and social<sup>77</sup>. Ecological and social issues must be managed within the perspectives through the establishment of operative targets. Then, the hierarchical structure of BSC will allow to link ecological and social goals within the perspectives with the endpoint perspective of economic success (financial perspective). Next section will explain better the implementation of sustainability issues in the BSC through the introduction of the concept of Sustainability Balanced Scorecard.

## **2.2 Implementing Environmental and Social Aspects: Towards Sustainability Balanced Scorecard**

The growing interest for a development that takes care about environmental protection and social equity simultaneously with the evolution of the studies about strategic and performance management have driven the idea to implement social and ecological issues within the Balanced Scorecard (BSC). Many contributions in the literature<sup>78</sup> as well as companies' attempts faced and are still facing the challenge to manage sustainability as a strategic objective, integrating it with economical and financial long term performance management. Before to show the different possible ways to incorporate sustainability in the BSC, is useful to keep in mind some important principles for developing the tool.

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<sup>76</sup> Kaplan R S, Norton D P. 2004. *Strategy Maps: converting intangible assets into tangible outcomes. Chapter 6: Regulatory and Social Processes*. Harvard Business School Press

<sup>77</sup> Figge F, Hahn T, Schaltegger S, Wagner M. 2002a. *The Sustainability Balanced Scorecard. Linking Sustainability Management to Business Strategy*. Business Strategy and the Environment 11, 269–284

<sup>78</sup> Zingales et al. 2002, Figge et al. 2002a,b, Hockerts K. 2001, Bieker et al. 2001, Hamner 2005



“When defining and implementing a Sustainability Balanced Scorecard, strategic, cultural, structural as well as methodological aspects seem to be most relevant”<sup>79</sup>. First of all sustainability strategies must be elaborated within a strategic planning process that define goals, indicators and measures to address the employees. Then, cultural factors play important role. Introducing a new management tool implies changes in corporate culture; the new instrument, with the related new way of management, should be internally accepted. Hence commitment of top management and involvement of departments and employees are crucial. Another aspect that deserves to be emphasized is the corporate structure. It is important to integrate SBSC in the general management of the business in order to avoid the development of separate management systems (one example is when the environmental management system is independent than the core one). Environmental and social issues should be managed as core aspects, in combination with long term financial performances, within a single management system. Finally, process-related and methodological factors are significant. A management calendar of work and sufficient resources must be provided. Then, internal resistances should be overcome by building a system of indicators approved by employees. In order to do this, the process to develop the SBSC must rely on a combination of top down as well as bottom up decision making<sup>80</sup>.

After having showed the fundamentals of SBSC, it is opportune to give a definition. Sustainability Balanced Scorecard is a “strategic approach targeted to improve the integration of environmental, social and economic aspects of corporate sustainability measurement and management”<sup>81</sup>. Therefore, SBSC is a strategic approach because of the main function, consisting in translating strategies into operative targets through the development of KPIs in each perspective. In addition, SBSC aims to improve the integration of environmental, social and economic aspects because of the cause and effect relations among the different indicators, objectives and thus perspectives. Finally, the purpose of SBSC is to measure sustainability performances in order to better manage the environmental, social and economic dimensions in line with the strategy.

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<sup>79</sup> Bieker T. 2005 p.3

<sup>80</sup> Bieker T. 2005. *Sustainability management with the Balanced Scorecard*. Institute for Economy and the Environment, University of St. Gallen (IWOe-HS)

<sup>81</sup> Schaltegger S, Wagner M. 2006 p.6

From this definition of SBSC, it could be deduced that many features are the same than traditional BSC conception. The main difference regards the introduction and emphasis of the social and ecological aspects. Thus it is matter of implementing the new sustainability aspects, exploiting the multidimensional nature of BSC. In the literature, several approaches of implementing environmental and social issues within BSC can be identified. The first contribution taken into consideration is the implementation of the most relevant sustainability aspects inside the four perspectives of BSC. Here, environmental and social aspects are integrated in the four perspectives by building selected bridges between environmental and social accounting system and the existing BSC. Such approach would look only to few sustainability impacts with a specific strategic relevance in some BSC dimensions, and will translate them in lagging and leading indicators<sup>82</sup>. In this way the logic behind the BSC remain almost the same; the economic sphere is the one to be more emphasized and sustainability aspects that are outside the market mechanism are not considered<sup>83</sup>.

Another approach that deserves to be mentioned is the one of Kaplan and Norton. In their book, *“Strategy Maps: converting intangible assets into tangible outcomes”* (2004), they have deepened the management of sustainability aspects through the introduction of the *“regulatory and social processes”*. They are meant as those internal processes of management addressed to optimize the performances related to environment, safety and health, employment and community<sup>84</sup>. In this approach, despite the integration of sustainability aspects remains inside the four perspectives of BSC, Kaplan and Norton take into consideration also environmental and social aspects that are not integrated in the market exchange process (investment in community, foundations, NGO partnerships, etc), trying to highlight the possible competitive advantages related to the market as well as non-market processes.

One further contribution is given by Figge, Hahn, Shaltegger and Wagner through their article: *“The Sustainability Balanced Scorecard – linking sustainability management to business strategy”* (2002). This approach regards the introduction of an additional non-market perspective. Since environmental and social facts come from non-market system

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<sup>82</sup> Hockerts K. 2001

<sup>83</sup> Figge et al. 2002a

<sup>84</sup> Kaplan R S, Norton D P. 2004

and social constructs, often they represent externalities and thus not considered as important factors for the competitiveness. “Environmental and social aspects as social constructs can emerge in all spheres and can become strategically relevant for firms through other mechanisms than the market exchange process”<sup>85</sup>. Given these features of some sustainability issues, an additional perspective is needed<sup>86</sup>. It should integrate strategically relevant but non-market related environmental and social aspects. These aspects can impact economic performances both, directly to the financial perspective, or indirectly, through the other perspectives. The development of strategic objectives, targets, measures and causal relations, follows the same process as the traditional BSC.

One extension of the mentioned approaches is given by the same authors. It regards the deduction of a derived environmental and social scorecard. It cannot be developed as a single independent tool but, as said above, is just an extension of the main BSC that relies on the general strategies of the business. This specific sustainability oriented BSC could be useful to clarify, and thus better coordinate, the cause and effect relations between ecological, social and economic integrated aspects.

The following illustration (figure 10) shows the structure of the SBSC and subsequently there is an example of the SBSC of Hamburg Airport. Environmental and social aspects that depend directly from the market exchange process are contained in the traditional perspectives (learning and growth, process and customers). Other sustainability aspects which not belong to the “market perspectives”, but strategically relevant, are inserted in the non-market perspective. The example of Hamburg Airport (see figure 11) is the practical case of a strategy map with the real causal connections among the several strategic objectives within the perspectives. Cause and effect relations between the several sustainability objectives are showed through the arrows. In addition to the traditional perspectives of the BSC, it can be seen the non-market perspective, represented in the image by the “location perspective”. This perspective is in connection with all the other perspectives and influence, directly or indirectly, the financial goals. A better explanation of the strategy map with the non-market perspective and the deepening of causal relations

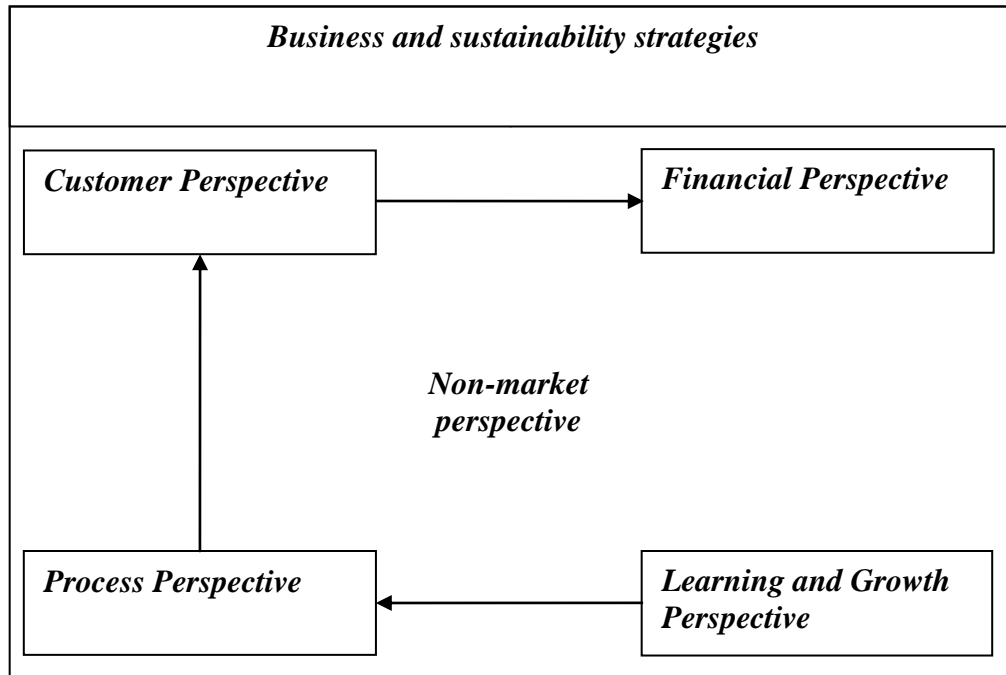
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<sup>85</sup> Figge et al. 2002a. p.274

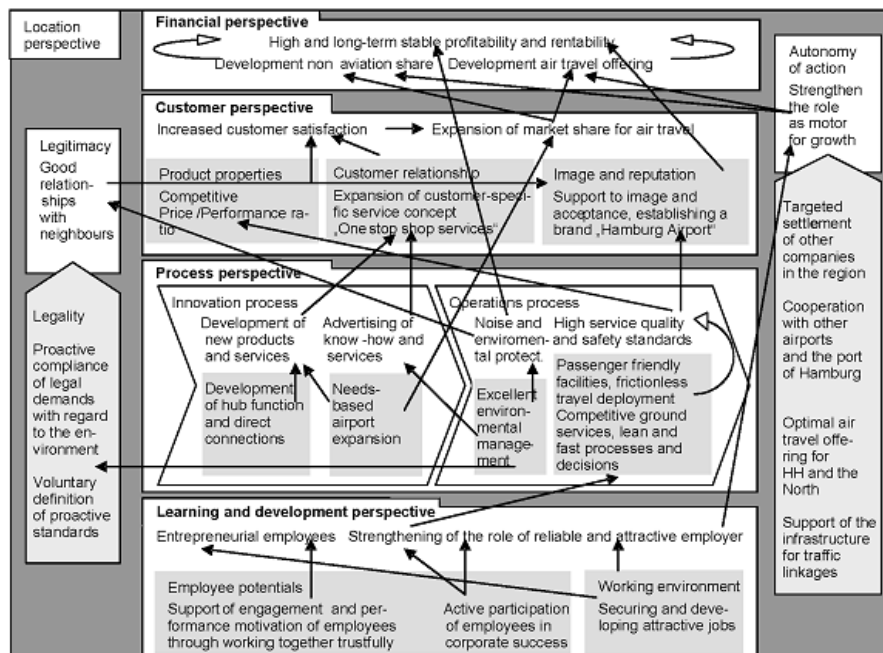
<sup>86</sup> Figge F, Hahn T, Schaltegger S, Wagner M. 2001. *The Sustainability Balanced Scorecard – a tool for value-oriented sustainability management in strategy-focused organizations*. Conference Proceedings of the 2001 Eco-Management and Auditing Conference. ERP Environment: Shipley; 83–90

among sustainability objectives will be given at the end of chapter 3 through the case developed about Lufthansa Passenger Airline.

**Figure 10: The Sustainability Balanced Scorecard** (source: adaptation of Kaplan R S, Norton D P. 1992, adaptation of Figge et al. 2001)



**Figure 11: Sustainability Balanced Scorecard of Hamburg Airport** (source: Schaltegger S, Wagner M. 2006 p.8 based on Diaz Guerrero et al. 2002)



Next section will deepen the process of developing a Sustainability Balanced Scorecard through some technical as well as strategic phases.

## 2.3 The Process of Implementing a SBSC

Every process of implementation and development of a new management instrument within an organization is usually characterized from some practical-technical steps, as well as some cultural-strategic crucial phases. From the numerous studies about the utilization of balanced scorecard for managing sustainability development within a company, I have identified two main contributions regarding the process for developing a SBSC. One is focusing more on the measurement aspects of the tool, trying to highlight the cause and effect relations among the several ecological, social and financial indicators and the connections with strategic guidelines. This contribution, given by Figge et al. (2002), is developed in two articles: *“The Sustainability Balanced Scorecard – Linking Sustainability Management to Business Strategy”* and *“The Sustainability Balanced Scorecard – Theory and Application of a Tool for Value-Based Sustainability Management”*.

The other approach, really new in the literature, is one article written by Caroline Cheng, Annik Fet and Elsebeth Holmen (2010), *“Using a Hexagonal Balanced Scorecard approach to integrate Corporate Sustainability into Strategy”*. This work takes as starting point the criticism of the reliability of cause and effect relations in the SBSC. It emphasizes more the strategic-cultural process for developing a SBSC, shifting the emphasis from causal measurement aspects to the learning ones. The practical-technical process is the first to be dealt.

### 2.3.1 The Practical-Technical Process

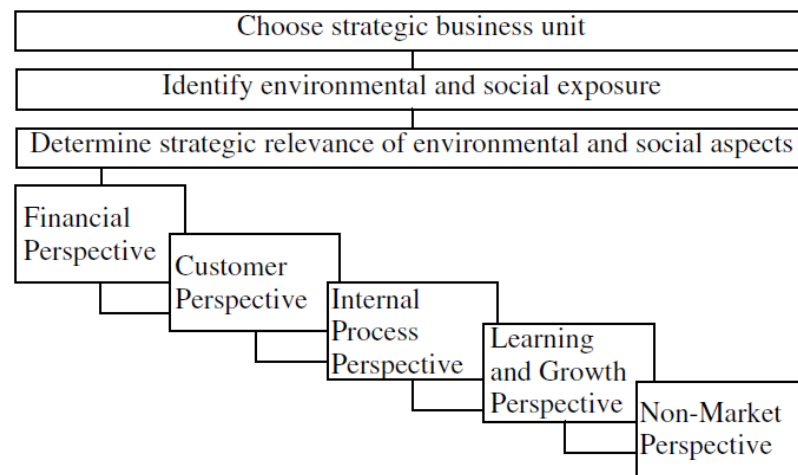
Figge<sup>87</sup> distinguished three steps for formulating a SBSC (see figure 12): the choice of strategic business unit, the identification of environmental and social exposures and the

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<sup>87</sup> Figge et al. 2002 a,b.

determination of strategic relevance of environmental and social aspects. Big companies usually act through several business units that have different products/services, serve different customers and are organized in different profit center. Therefore they implement different business strategies. Small companies have usually one business unit with one corresponding strategy while big companies have many business unites with different corresponding strategies. The importance to identify the single organizational unit of business is crucial in order to mange the relative strategy.

**Figure 12:** Process of formulating a SBSC (source: Figge et al. 2002a p.277)



Next step developed by the authors is the identification of environmental and social exposures of the business. Many types of activities carried out in a company generate several kinds of impacts in the environment as well as in the society. Therefore all the potential and strategically relevant impacts arisen from the business activity must be listed by category. For this purpose two generic frameworks can be used<sup>88</sup>. The first framework concerns the identification of environmental exposures. Business unites, with their activities, are responsible for causing problems in the environment in term of emissions, pollution, waste etc. The ecological impacts originated from the business operations, processes and products should be traced in terms of physical and/or chemical impacts generated. The purpose is to build a table that emphasizes the business unit specific

<sup>88</sup> Figge et al. 2002a

environmental exposures by type of emission, waste or damage (see table 2). In the following table the column on the left shows the generic types of impacts in the environment; the one on the right describes the specific kind of emission, waste, energy, etc.

**Table 2: Environmental Exposures** (source: Figge et al. 2002a p.277)

| Environmental exposure of a business unit    |                                   |
|--|-----------------------------------|
| Type of environmental intervention           | Business unit specific occurrence |
| Emissions (to air, water, and soil)          | ...                               |
| Waste  | ...                               |
| Material input/material intensity            | ...                               |
| Energy intensity                             | ...                               |
| Noise and vibrations                         | ...                               |
| Waste heat                                   | ...                               |
| Radiation                                    | ...                               |
| Direct interventions on nature and landscape | ...                               |

Similarly to the environmental aspects, social exposures of a business unit can be identified and classified by categories. Nevertheless, the big differences within the society, the variety of cultures, laws, religions, traditions among different geographical locations and the lack in common accepted social performance standards, generate problem for classifying social exposures. Social aspects, differently than ecological ones, are more difficult to identify and quantify. They depend on the values and choices of the different actors involved in the company's activities. Hence, Figge, relying on stakeholder theory<sup>89</sup>, developed an approach that classifies social claims according to the different actors involved and thus affected by business activity. The framework distinguishes among several kinds of relevant stakeholder groups: internal, along the value chain, in the local community and societal. Furthermore these are clustered in direct (direct material resource exchange flow) and indirect (no direct exchange flow). The first step of the framework regards the identification of particular

<sup>89</sup> Figge et al. 2002, Freeman R E. 1984

stakeholder group and then (second step) the specific claims and issues regarding those groups identified (see table 3). The table below can help to better understand the classification of social impacts to type of stakeholder category proposed by Figge. For each stakeholder category it must be identified the kind of social impact (claim/issue) that business activities generate.

**Table 3: Social Exposures** (source: Figge et al. 2002a p.278)

| Social exposure of a business unit  |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Direct stakeholders                 |                                     |                                     |                                     | Indirect stakeholders               |                                     |                                     |                                     |
| Internal                            | Along the value chain               | In the local community              | Societal                            | Internal                            | Along the value chain               | In the local community              | Societal                            |
| <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> | <i>particular stakeholder group</i> |
| ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 |
| <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  | <i>claim/issue</i>                  |
| ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 | ...                                 |

Finally, the last step is the determination of the strategic relevance of environmental and social aspects. This last part of the framework is the most important. It could be considered as the core step of BSC as well as SBSB process. The purpose is to translate the verbally formulated strategies into causally linked objectives and indicators<sup>90</sup>. Traditional BSC concerns a top-down process that identifies the most strategic relevant aspects in all the perspectives and links them hierarchically towards the long term success (financial perspective). As Kaplan and Norton defined the BSC process, Figge’s framework follows the same principles but considering as well environmental and social issues. Hence, by following a cascade process from the financial perspective through the other perspectives, including environmental and social dimensions, the hierarchical cause and effect linkages among KPIs is guaranteed. The framework distinguishes among three stages of strategic relevance of sustainability aspects. Firstly, strategic core issues, represented by lagging indicators, indicate whether strategic environmental and social objectives in the perspective

<sup>90</sup> Figge et al. 2002a p.279



have been achieved. Secondly, performance drivers, reflected by leading indicators, display how the results in each perspective, measured by lagging indicators, can be achieved through causal linkages. Finally, hygienic factors, represented by diagnostic indicators, are necessary but not sufficient conditions that should lead to the execution of the strategy. Although they do not have strong strategic importance, they must be managed sufficiently in order to guarantee company's success. One example of strategic core issue is the level of satisfaction, productivity and motivation of employees measurable respectively through lagging indicators such as internal surveys, revenue per employee and number of voluntary hours in social projects. Performance drivers that can lead to the strategic issues of the just mentioned example could be the quality of working environment, measurable through turnover rate or average salary per employee category; or the personnel development, measurable through training hours. Finally, hygienic factors could be represented through amount of funds to NGOs<sup>91</sup>.

Following the stages of strategic relevance and based in Kaplan and Norton framework (1996), Figge (2002) suggested two tables (table 4 and 5) with generic categories for the formulation of leading and lagging indicators along the perspectives of SBSC. Indicators in table 4 (strategic core issues) are useful to monitor whether a result has been achieved. Indicators in table 5 (key performance drivers) drive the monitoring of those performances which lead to the achievement of the strategic results shown in table 4. All these indicators are related each other in a cascade cause and effect chain. The linkages regard the effective relations between performance drivers and strategic issues within one perspective and externally with indicators of other perspectives. For example, a good climate for action (leading indicator within learning and growth perspective) will influence the employee productivity and satisfaction (lagging indicators within the same perspective). At the same time, employee productivity will influence positively indicators of other perspectives such as cost indicators (leading) in the process perspective or productivity growth (lagging) in the financial perspective. Another example: the product attributes (leading indicator within customer perspective) could affect the customer satisfaction (lagging) that will influence surely the revenue growth (financial perspective).

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<sup>91</sup> The funds given to NGOs do not represent direct sustainable strategies but, since they help to acquire corporate reputation, their consideration is also important

**Table 4:** Generic categories for the formulation of lagging indicators (source: Figge et al. 2002a p.279)

| Financial perspective  | Customer perspective  | Process perspective  | Learning and growth perspective  | Non-market perspective  |
|--|---|--|--|---|
| <ul style="list-style-type: none"> <li>◦ Revenue growth</li> <li>◦ Productivity growth</li> <li>◦ Asset utilization</li> </ul> | <ul style="list-style-type: none"> <li>◦ Market share</li> <li>◦ Customer acquisition</li> <li>◦ Customer retention</li> <li>◦ Customer satisfaction</li> <li>◦ Customer profitability</li> </ul> | <ul style="list-style-type: none"> <li>◦ Innovation process</li> <li>◦ Operations process</li> <li>◦ Postsale service process</li> </ul> | <ul style="list-style-type: none"> <li>◦ Employee retention</li> <li>◦ Employee productivity</li> <li>◦ Employee satisfaction</li> </ul> | <ul style="list-style-type: none"> <li>◦ Freedom of action</li> <li>◦ Legitimacy</li> <li>◦ Legality</li> </ul> |

**Table 5:** Generic categories for the formulation of leading indicators (source: Figge et al. 2002a p.280)

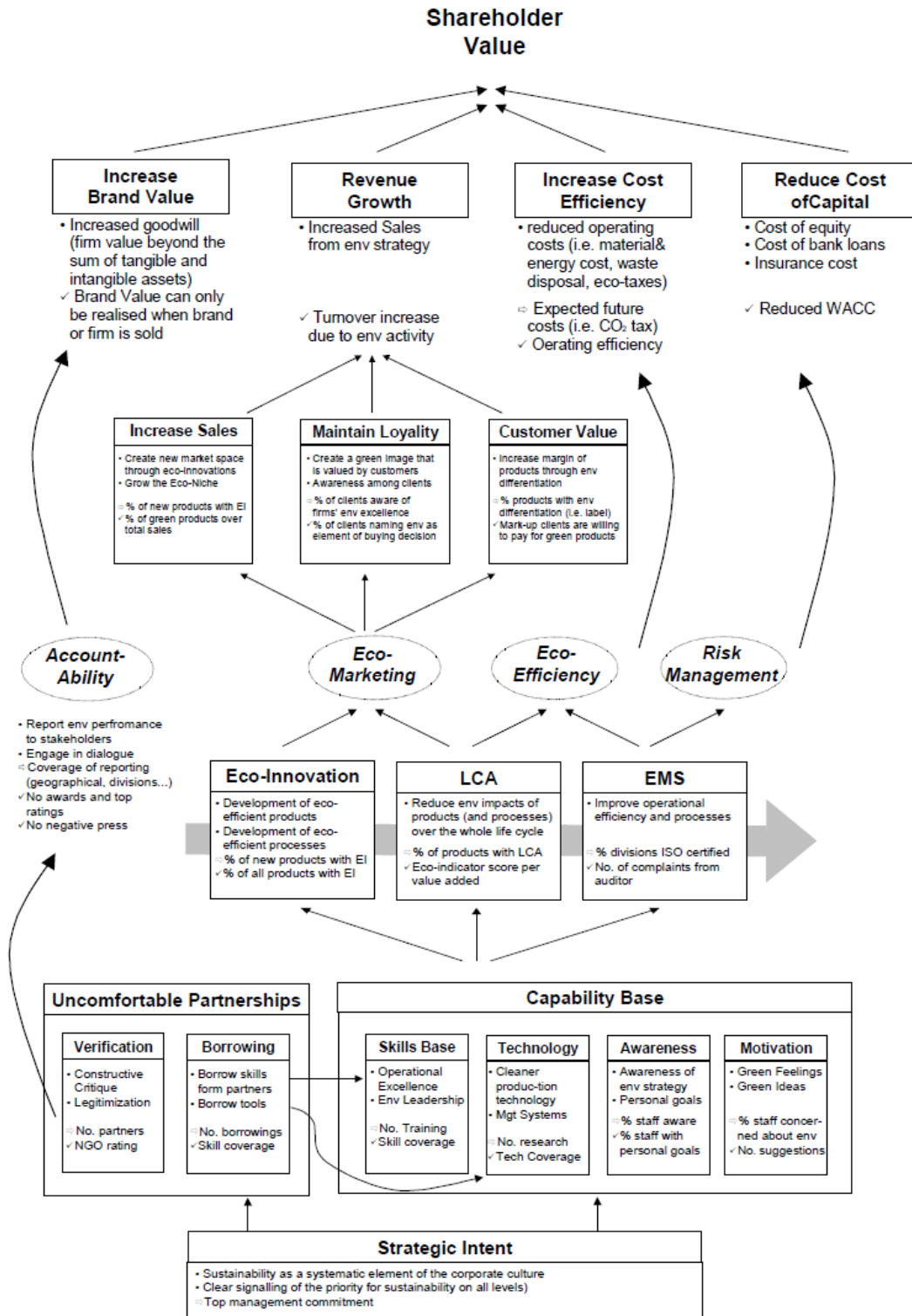
| Financial perspective | Customer perspective  | Process perspective  | Learning and growth perspective   | Non-market perspective                                    |
|-----------------------|---|--|---|---|
| –                     | <ul style="list-style-type: none"> <li>◦ Product attributes</li> <li>◦ Customer relationship</li> <li>◦ Image and reputation</li> </ul> | <ul style="list-style-type: none"> <li>◦ Cost indicators</li> <li>◦ Quality indicators</li> <li>◦ Time indicators</li> </ul> | <ul style="list-style-type: none"> <li>◦ Employee potentials</li> <li>◦ Technical infrastructure</li> <li>◦ Climate for action</li> </ul> | leading or lagging indicators from all other perspectives |

The result of such process could be represented by a strategy map<sup>92</sup>. The strategy map shows graphically the hierarchical network of cause and effect chains between strategically relevant economic, environmental and social aspects. Once sustainability aspects have been identified and linked in the strategy map model and indicators have been defined, next step is to establish targets and initiatives in order to drive corporate performances towards sustainability. One interesting contribution in the literature about the development of a SBSC strategy map is given by Kay Hockerts<sup>93</sup> in which he provides an illustrative example of SBSC for eco-efficiency. Despite the example is limited on the consideration of the sole ecological aspects related to the business, this illustration provides very important issues of environmental performance management along the perspectives of balanced scorecard, implications, targets, indicators and causal linkages that address them to the long term financial goals (see figure 13).

<sup>92</sup> Kaplan R S, Norton D P. 2004

<sup>93</sup> Hockerts K. 2001 and adaptation in Bieker T, Dyllick T, Gminder C U, Hockerts K. 2001. *Towards a sustainability balanced scorecard: linking environmental and social sustainability to business strategy*. Institute for Economy and the Environment, University of St. Gallen (IWOe-HS), INSEAD Center for the management of Environmental Resources, Fontainebleau, France

**Figure 13: SBSC Strategy Map for Eco-efficiency** (Source: Bieker T, Dyllick T, Gminder C U, Hockerts K. 2001 adapted from Hockerts K. 2001)



The above mentioned contributions establish an exhaustive framework that strictly relies on the practical phases for internalizing sustainability issues into general management of the company by the implementation of SBSC. Nevertheless, it has to be noticed that the introduction of a new management tool requires a change in the organization's culture, achievable through the diffusion of the awareness among the people about the new practices and objectives, and a well structured communication process. In order to do so, a strategic approach is required to better implement and continuously improve the effectiveness of such management tool. Next approach emphasizes such a strategic process to implement SBSC.

### **2.3.2 The Cultural-Strategic Process**

The other framework could be considered as an evolution of the just cited, from the conventional measurement focus to a mechanism that facilitates bottom-up strategy planning and learning within the daily operations<sup>94</sup>. In their article, Cheng, Fet and Holmen (2010), introduced the concept of Hexagonal Balanced Scorecard, where environmental and social perspectives are added to the four traditional ones. Hexagonal BSC “links these six perspectives in logical flow rather than in a cause and effect relationship. “The six perspectives also represent key stakeholder categories”<sup>95</sup>.

This “new” Balanced Scorecard approach is graphically represented as a hexagon (see figure 14) where the bottom half (learning and growth, internal process and customer perspective) constitutes the intangible assets of the company while the top half (environmental, societal and financial) represents the “triple bottom line”<sup>96</sup> dimension. The logical relations of this model start from the learning and growth perspective which focus on employees, skills and knowledge. Like the former approach (see strategy map), after general sustainability strategy is formulated, this perspective is taken as starting point.

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<sup>94</sup> Cheng C Y, Fet A M, Holmen E. 2010. *Using Hexagonal Balanced Scorecard approach to integrate Corporate Sustainability into Strategy*. Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology, Trondheim

<sup>95</sup> Cheng C Y, Fet A M, Holmen E. 2010 p.8

<sup>96</sup> Elkington J. 1997. *Cannibals with Forks: the Triple Bottom Line of 21<sup>st</sup> Century Business*. Capstone, Oxford

Spreading awareness and knowledge about sustainability issues among the people in the company increases the sensitivity and proactive behavior of human resources towards environmental and social objectives. The difference of this new approach is that it does not pretend to build causal relations with the other perspectives but just logical ones and thus, specific strategy is formulated for each perspective and relative stakeholder group. Strategic objectives could be summarized as follow:

- developing higher order capabilities for sustainable development (learning and growth)
- quality and productivity of internal processes within and outside the value chain (internal process)
- unique value proposition (customer)
- environmentally sustainable economic activity (environmental)
- transforming social problems into business opportunities (societal)
- long term sustainable profitability

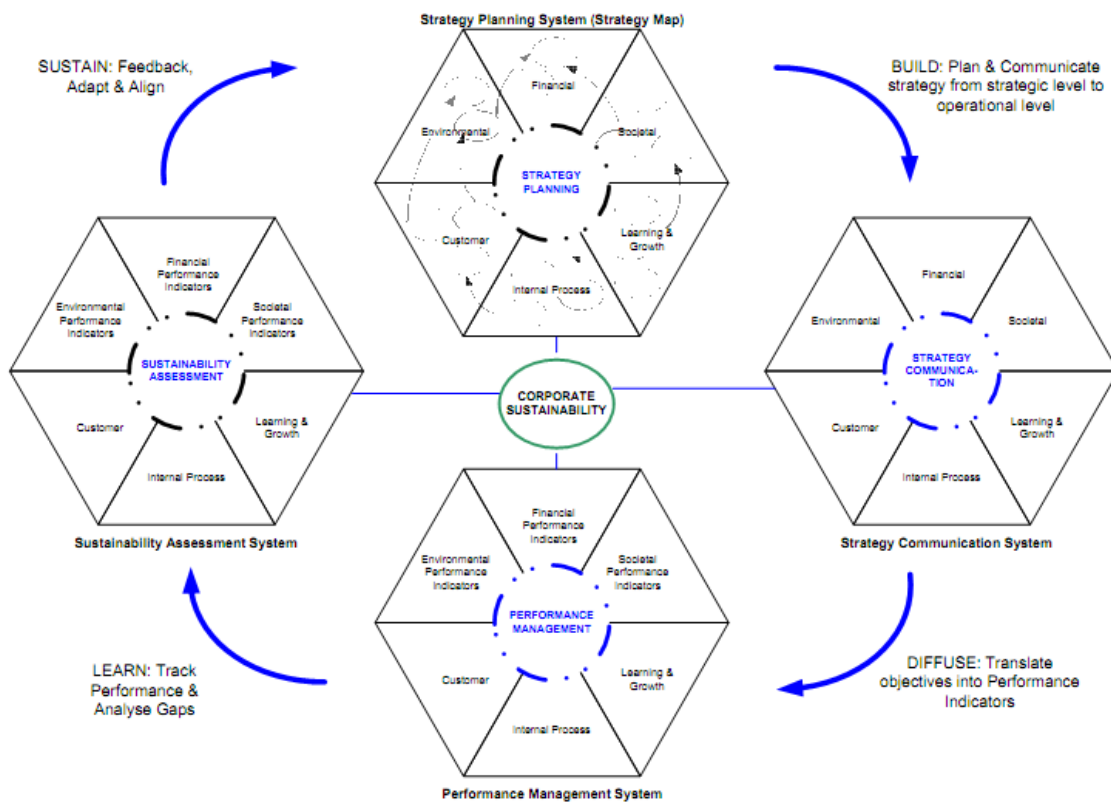
**Figure 14: Hexagonal Balanced Scorecard** (source: Cheng C Y, Fet A M, Holmen E. 2010 p.8)



Similarly to the practical process, indicators are also established for monitoring the performances of each perspective but, differently than the previous approach, the emphasis

is on logical relations among the parallel objectives of the six perspectives. The arrows (figure 14) show these logical linkages between perspectives. In summary, the integrated management of intangible assets towards sustainability together with the efforts to deliver profit, to preserve the environment and to act in accordance with social protection, are the main pillars of the framework and constitute the starting point of the model.

**Figure 15:** Closed-loop Management System of Hexagonal Balanced Scorecard (source: Cheng C Y, Fet A M, Holmen E. 2010 p.10)



Subsequently the model focuses on the phases to implement sustainability practices in the core management. The process is developed as a closed-loop management system (see figure 15) that integrates four sub-systems: *build*, *diffuse*, *learn* and *sustain*. It starts with a *strategic planning system*. The first step is to *build* a learning platform that aims to develop the capabilities towards the awareness of economic development together with environmental protection and social equity. The output of this step is the statement of strategic objectives under each perspective. Next step is to *diffuse* the six perspectives

objectives through a specific top-down communication process (*strategic communication system*) to business unit, operational and individual level. Then, objectives will be translated into specific performance indicators for each perspective in the *performance management system*. The output is a selective set of KPIs to monitor in order to *learn* and improve sustainability performances. The last sub-system of the cycle is the *sustainability assessment system*. This final step consists in a bottom-up mechanism, based on the occurrences and problems faced at the operational level, which aggregates the knowledge acquired for the feed-back process. Performances and gaps reported in internal and external reports must be the starting point of such feed-back. Then, strategy should be readapted and realigned to the organization's needs in order to *sustain* sustainability performances.

In this section it is been dealt the topic of implementation of SBSC. Both the technical and the cultural processes are crucial in order to change the general management approach towards sustainability. Practical steps for translating environmental and social strategies into actions are very important. Strategically relevant sustainability exposures, related indicators and causal relations are fundamental elements for managing sustainability. At the same time, a cultural process is needed with focus on continuous learning and feedback, in order to build and extend the human capital attitudes towards better environmental, social and economic integrated management. The optimal management of these aspects is required in order to be successful in terms of sustainability performance.

Next chapter will be dedicated to a practical case of the real world. The aviation is one of industrial sectors with a growing interest for corporate sustainability. For this reason, next chapter will be dedicated to sustainable development in the airline industry with the deepening of the particular case about the German carrier Lufthansa.

# Chapter 3

## Corporate Sustainability in the Airline Sector: Simulation of SBSC in Lufthansa

### 3.1 Airline Sector and Sustainable Development

In the context of sustainable development the aviation sector plays an important role for two main reasons: in one hand, it brings many social and economic benefits; in the other hand, it is environmentally and socially responsible for many reasons. Air transport industry could be considered as one of the major contributors to global economy prosperity and, at the same time, it plays an important role in acting towards sustainable development. Before to describe social benefits created and responsibility of airline companies, is necessary to introduce some important recent facts that have regarded the sector.

In the last ten years, the airline sector has been facing a plenty of turbulence due to important internal and external factors that affected the industry. Global events destabilized the world's economy in the past decade. Terrorist attacks in 2001, SARS epidemic in 2003, financial crisis in 2008 and continuous significant increase in fuel prices contributed to a slowdown and the biggest historic loss of the airlines in 2008<sup>97</sup>. Furthermore, internal factors affected the sector with the change of the competitive scenario. The deregulation and the restructuring of the industry contributed to the establishment of private low cost companies and the switching of the big national carriers from public to private sector with management systems focusing on quality of services, continuous efficiency and more competitiveness. Cost cutting, diversification of services and continuous efficiency

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<sup>97</sup> Jordao T C. 2009. *A sustainability overview of the best practices in the Airport Sector*. Faculty of Economics and Administration, Institute of Public Administration and Law, Pardubice, Czech Republic  
For better deepening the historical data of the aviation sector see:

- ATAG (Air Transport Action Group). *The Economic And Social Benefits of Air Transport 2008*
- ICAO (International Civil Aviation Organization). *ICAO Environmental Report 2010*
- IATA (International Air Transport Association). *Fact sheet 2010*



characterized the new competitive environment; new management challenges have arisen from the new scenario<sup>98</sup>.

Despite these negative influences from external as well as internal factors, airline sector (here I refer to passenger transportation segment) experienced an historical strong growth in traffic volumes and revenues. Since 1970, when the 383 million of passengers flown, the annual average rate of growth is been a bit more than 6% per year with a peak of 14,9% in 2004, when the revenues were about 295 billion \$ (+17,7% from 2003). Traffic volume and revenues registered a drop caused by the global financial crisis in 2008 and 2009. Nowadays the sector is again growing. The number of passenger carried is nearly 2.3 billion with about 430 billion \$ of revenues and passenger traffic is expected to grow at an average rate of 4.8% per year through the year 2036<sup>99</sup>.

Economic and social benefits generated from aviation sector are many. Air transport makes possible the existence of a global network that links people, countries, cultures and arises opportunities for more integration and development. In the world operate about 2000 airlines with a total fleet of 23.000 aircrafts. They serve nearly 3.750 airports through a big network of several million kilometers managed by about 160 air navigation service providers. Air transport generates economic growth by facilitating tourism (40% of tourist worldwide travel by air), trade (35% of total value of international trade), improving productivity by encouraging investment and innovation, and opening up new market opportunities. Considering direct, indirect, induced and catalytic impacts, the industry generates a total of 32 million jobs globally (5,5 million direct jobs, 6,3 million indirect jobs, 2,9 million induced jobs and 17,1 million catalytic jobs) and an economic impact estimated in 3.560 billion \$ (408 billion \$ direct, 2.500 billion \$ catalytic), equivalent to 7,5% of world Gross Domestic Product. In addition, other social benefits are generated. They concern the strong commitment towards sustainable development, the access to remote areas, the delivery of humanitarian aids and the contribution to consumer welfare<sup>100</sup>. The sector is still expanding and the future growth depends strictly on economic growth and technical innovations that allow decreasing the costs. According to economic forecasts,

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<sup>98</sup> Lynes J K, Andrachuk M. 2008, Yilmaz A K. 2008 based on Stanford University  
<http://adg.stanford.edu/aa241/intro/airlineindustry.html>

<sup>99</sup> IATA. *Fact sheet 2010*, ICAO. *ICAO Environmental Report 2010*

<sup>100</sup> ATAG (Air Transport Action Group). *The Economic And Social Benefits of Air Transport 2008*

the annual economic growth between 2010 and 2030, expressed as GDP world average, will be 4% per year. Furthermore technical innovations in aviation sector are continuously improving towards better efficiency. These factors are making positive growth expectations in air passenger traffic, estimated at an average rate of 4,8% per year for the same period. The optimistic forecast generates the problem of sustainable growth especially related to environmental issues. ICAO Environmental Report 2010 identifies three main aspects of sustainability in the air transport: noise generation, local air quality and climate change. With regard to noise generation, aircraft entering today's fleet are 20 decibels quieter than 50 years ago (75% reduction in noise generation). Nevertheless, in 2006 the world population exposed to more than 55 DNL (55 decibels day night average sound level)<sup>101</sup> was 21,2 million. In 2036 the people worldwide exposed to this level of noise will range from 26,6 to 34,1 million. This means that despite the improvements in noise generation, the noise impact is expected to increase, arising new challenges in terms of noise reduction<sup>102</sup>.

Regarding the local air quality, airlines affect the environment through the generation of two main emissions: Nitrogen Oxides and Particular Matters. The emissions of Nitrogen Oxides (NOx) below 3.000 feet were 0,25 million metric tons (Mt) in 2006. NOx emissions are expected to increase between 0,52 Mt (+ 2,4% per year) and 0,72 Mt (+ 3,5% per year) in 2036. Moreover the Particular Matter (PM) release below 3.000 feet is estimated to rise from 2.200 metric tons in 2006 to 5.800 metric tons in 2036 (+3,3% per year)<sup>103</sup>. Therefore, local air quality is also expected to get worse by airlines' emissions in the future.

Finally, the most important issue regards the climate change. It is influenced mainly from the emissions of Carbon Dioxide, better known as CO<sub>2</sub>. Air transport's contribution to climate change represents 2% of CO<sub>2</sub> emissions by human activities worldwide and this impact could reach 3% by 2050. The release of CO<sub>2</sub> in the air is caused by fuel consumption. In 2006 aircraft worldwide consumed approximately 187 Mt of fuel and this is expected to increase at a rate between 3% and 4% per year. Despite today's aircraft fleet are 70% more fuel-efficient than 40 years ago (the datum of consumption is 3,5 liters per passenger per 100 Km and 25 Million tons of CO<sub>2</sub> have been saved in 2006-2007), an

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<sup>101</sup> For better understand the noise measures and limits within the airline industry see ICAO 2010 page 23

<sup>102</sup> ICAO 2010, ATAG 2008

<sup>103</sup> ICAO 2010, ATAG 2008

additional fuel efficiency gain is targeted to face the continuous growing impact of fuel consumption. The ICAO Program of Action on International Aviation and Climate Change, agreed in 2009, set a goal of 2% annual fuel efficiency improvement until the year 2050<sup>104</sup>. Although the improvements towards more efficient technologies to reach better fuel efficiency, the utilization of bio-fuels, important improvements for decreasing noise and reducing NOx and PM emissions, the environmental and social challenges towards more sustainable airlines remain important for the sector. Furthermore, it must be taken into consideration also the social responsibility. It regards work conditions, employment policies, safety and health standards for employees and customers, selection and relations with suppliers, compliance and so on. Many motivations are driving airlines and other companies in general to move in the direction of sustainability. They can be summarized as follow<sup>105</sup>:

- Long-term financial strategy (e.g. investing in efficient and low-emission technologies);
- Eco-efficiency (e.g. reduction in expenses as a result of savings achieved through waste reduction);
- Competitive advantage;
- Good corporate citizenship;
- Image enhancement;
- Stakeholder pressures;
- Desire to avoid or delay regulation action.

Due to these several factors, airlines are trying to better manage their businesses in a sustainable way, trying to achieve exhaustive integrated performance in all the dimensions of sustainability. But which is the real commitment of the sector towards better management of ecological and social issues? How are the different airlines facing the challenge of sustainable development?

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<sup>104</sup> ICAO 2010, ATAG 2008

<sup>105</sup> Lynes J K, Andrachuk M. 2008. *Motivation for corporate social and environmental responsibility: a case of Scandinavian Airlines*. Journal of International Management 14, 377-390 p.380

An interesting contribution in the literature is given by Jordao and Ben Rhouma with the article “*An Assessment of the Attitude of World’s Largest Airlines towards Sustainability*” (2010). With the intend to provide a meaningful contribution for Global Reporting Initiative (GRI), the article concerns the development of a grid of sustainability indicators specifically designed for the airline sector with the related performance evaluation. The study regards the assessment of 48 passenger airlines with two different perspectives of sustainability management: the Triple Bottom Line and the Stakeholders’ Engagement. They noticed that between 1999 and 2009 only five airlines adopted GRI guidelines and indicators: British Airways (1999), Air France-KLM (2004), Iberia (2004), Asian Airlines (2006) and SAS (2009). Also Lufthansa has released comprehensive and well elaborated sustainability reports using their own framework of indicators different than GRI. Furthermore, there are only three airlines listed in the DJSI (Down Jones Sustainability Index) and FTSE4Good index: Lufthansa, Air France-KLM and Iberia<sup>106</sup>.

As mentioned above, the assessment has been developed considering two different perspectives. Regarding the TBL perspective, indicators were classified in relation to the three dimensions of sustainability; concerning the Stakeholders engagement, indicators were classified in relation to the different categories of stakeholders identified (see table 6). The results of the assessment reflect how airlines worldwide are moving towards corporate sustainability. Among the more sustainable European carriers they identified Air France-KLM, Lufthansa, SAS, Iberia and British Airways. Considering also worldwide airlines the best practices are Singapore Airlines, Korean Air, Qantas Airways, Cathay Pacific and Asiana Airlines<sup>107</sup>. It should be noticed that the cited assessment was influenced partially by the quality and completeness of the sustainability reports disclosed by the carriers. Hence it represents more a report-driven assessment.

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<sup>106</sup> Jordao T C, Rhouma A B. 2010. *An Assessment of the Attitude of World’s Largest Airlines towards Sustainability*. Faculty of Economics and Administration, Institute of Public Administration and Law, Pardubice, Czech Republic

<sup>107</sup> Jordao T C, Rhouma A B. 2010

**Table 6:** Some of the indicators utilized in the assessment (Source: adaptation of Jordao T C, Rhouma A B. 2010)

| <i>Indicators</i>                                       | <i>Stakeholders</i> | <i>Triple Bottom Line</i> |
|---|---------------------|---------------------------|
| Dividend payouts  | Shareholders        | Economic                  |
| Consistent codes of conducts                            | Shareholders        |                           |
| Fines and sanctions for incidents of non-compliance     | Shareholders        |                           |
| Policies and Initiatives against Corruption and Bribery | Shareholders        |                           |
| Economic growth and job creation                        | Government          |                           |
| Taxes and other charges                                 | Government          |                           |
| Punctuality and management of flight                    | Customers           | Social                    |
| Baggage handling  | Customers           |                           |
| Compliance to laws and regulations                      | Government          |                           |
| Procurement system adopted by airlines                  | Suppliers           |                           |
| Cabin Staff Service                                     | Customers           |                           |
| Supplier relationship                                   | Suppliers           |                           |
| Supplier training                                       | Suppliers           |                           |
| Sponsorship and community investment                    | Society             |                           |
| Diversity in the workplace                              | Employees           |                           |
| Personnel Development                                   | Employees           |                           |
| Safety in the workplace                                 | Employees           |                           |
| Airlines salaries, benefits and pension plans           | Employees           |                           |
| Climate change policy and action plan                   | Government          | Environmental             |
| Improvement on environmental performance                | Society             |                           |

The above presented illustration shows just some of the possible indicators utilizable for monitoring corporate sustainability performances. In the next section a more detailed list of indicators is developed from a corporate sustainability case of the real world. The case is about the German carrier Lufthansa, its sustainability strategic guidelines and the utilization of balanced scorecard for translating strategy into operative targets through the development of performance indicators related to the identified sustainability objectives.

### **3.2 The Case of Corporate Sustainability in Lufthansa**

The case developed in this chapter regards a simulation for developing and implement the SBSC within an airline of the real world. The European airline company Lufthansa seems to be a suitable example of big carrier fully moving towards sustainability for many reasons. First of all, the company has been developing and well defining continuously a long term sustainability/responsibility strategy regarding several matters: climate change policies, environmental care, social responsibility to employees and society. At the same time sustainable long-term profitability is pursued through optimal relations with stakeholders and well structured risk management, corporate governance and compliance systems. Secondly, a corporate citizenship detailed program is followed and constantly developed in order to contribute to variegated social interests. Thirdly, sustainability reporting is very well developed. Full and qualitative disclosure about environmental, social and economic sustainability is provided and available with other additional information in the well structured web site. Finally a real commitment towards better environmental and social performances could be seen from the results achieved.

The case is developed basing on strategies declared by the company in the web site, specifically for the “Passenger Airline” segment. The simulation is based on many contributions in the literature. Internal as well as external sources have been utilized for carrying out the work. Economic and sustainability data about the sector are taken from significant reports of the industry such as disclosures from IATA (International Air Transport Association) ICAO (International Civil Aviation Organization) and ATAG (Air Transport Action Group). The process of implementation of SBSC is based manly on the general framework of Figge et al. (2002 a, b) and adapted with the real data of Lufthansa. The strategy map is drawn following the framework of Kaplan and Norton (2004), and the causal relations are the results of intuitions based on the logical connections between the sustainability aspects identified. Most of the indicators utilized come from Lufthansa Balance (sustainability reporting), the Annual Report (financial statement) and other additional support information available in the web page of Lufthansa Responsibility. Among the other indicators utilized, some represent own source, others are based on external sources, adapted from sustainability reports of competitors, or taken from the

Global Reporting Initiative sustainability reporting guidelines G3. Furthermore, the assessment of economic, environmental and social performances, through a comparison with competitors, is based on data disclosed in the corporate responsibility and sustainability reporting of the carriers analyzed.

### **3.2.1 Lufthansa Overview and General Strategies**

Deutsche Lufthansa AG is a global aviation group that operates worldwide through five business segments, each of which has a leading role in its industry. Altogether, the Group includes over 400 subsidiaries and associated companies. The core business is the passenger transportation managed within the Passenger Airline business segment. With more than 76 million passengers, the objective in this business segment is to strengthen the position as a leading European premium carrier offering services in a global network serving all major traffic flows inside, outside and across Europe. To realize its goal, Lufthansa rests its growth strategy on three pillars<sup>108</sup>.

- Expand short and long-haul network in the medium term through organic growth and cost efficiency.
- Increase cooperation with partners. Star Alliance, above all, is playing a major role in opening up new markets.
- Participate in the ongoing consolidation of the airline business in Europe by acquiring stakes of others airlines, accordingly evolving into a multi-hub-/multi-brand-airline system.

Additionally, long term responsible and sustainable development is pursued in all the business segments of the Group. For several years sustainability and social responsibility have been anchored in the principles of Lufthansa's strategies. Many efforts are addressed to improve climate and environmental protection, employee satisfaction, training and continuing education in all the levels of the Organization. Moreover, sustainable development is aimed to increase the company's value long-term.

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<sup>108</sup> Lufthansa Corporate (web): <http://konzern.lufthansa.com/en/>

The general frameworks of Sustainability and Social Responsibility belongs to the corporate level and are addressed to the different businesses units. The organizational structure for managing and controlling the processes related to sustainability issues, is developed by an interdisciplinary cross-departmental body called Sustainability Board. It belongs to the Top Management level of the Organization, strongly committed in a leadership role. It means that sustainability is truly and robustly incorporated into general management. Then, the implementation of sustainable goals, strategies and measures is the task of Environmental Management and Human Resources Management<sup>109</sup>.

Corporate strategy guidelines include several principles of long term sustainable development and social responsibility. The strategic guidelines could be summarized as follow<sup>110</sup>.

#### *Long-term profitability*

Lufthansa's efforts are focused on positioning the airline as the leading network carrier in Europe. In order to achieve this goal, the main objectives consist in getting long-term value creation and profitable growth. The parameter for measuring these efforts is the cash value added (CVA) metric defined in value-based management.

#### *Focus on customer benefits*

The customer is central in the business activity and thus Lufthansa tries to satisfy customer requirements, providing products and services to meet their needs. Punctuality, reliability, high security and safety standards are crucial elements in winning the trust of customers.

#### *Emphasis on core competencies and system integration*

Lufthansa core competences include managing flight networks, partnerships and operating processes on the ground and in the air as well as the provision and maintenance of infrastructure and production factors.

Close cooperation with major partners, suppliers and infrastructure providers is aimed in order to integrate and optimize the core processes. Star Alliance is a decisive reason for

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<sup>109</sup> Lufthansa Responsibility (web): <http://verantwortung.lufthansa.com/en/>

<sup>110</sup> Adaptation of Lufthansa Investor Relations Web Site



Lufthansa's success. The cooperation allows easier access to markets and limits, at the same time, market entry risks. This is the reason why Lufthansa is willing to invest more in profound partnerships.

Sustainability in the operating processes is pursued by optimizing the core processes, taking care simultaneously of environmental, transport and cost efficiency.

#### *Attractive working environment*

The guiding principle for the personnel functions is to build a working environment with focus on quality, competence and motivation of staff, combined with corporate culture. These aspects are key success factors for the Lufthansa Group in order to enable it to thrive on competition.

#### *Environmental and Social responsibility*

Lufthansa is responding to new challenges in environmental policy, with the focus on further reducing greenhouse gas emissions, noise pollution, and energy consumption. Striking a balance between economic interests and environmental responsibility is a guiding principle in the company's policy. In order to acquire good image and reputation Lufthansa is involved in several social and environmental projects not related with his core business.

General vision and mission of the German airline can be deducted from general goals and core business strategies cited.

**Vision:** *“be the first network carrier in Europe and one of the majors worldwide”*

**Mission:** *“achieve long term profitability with a sustainable development”*

Relying on the vision, mission and the above mentioned strategic guidelines, the simulation for implementing the Sustainability Balanced Scorecard in the business segment Passenger Airline will be developed during next section.

### **3.3 The Implementation of Sustainability Balanced Scorecard within the Business Segment “Lufthansa Passenger Airline”**

This section represents the “heart” of the work. The simulation for developing the sustainability scorecard is structured in several steps based on the model introduced in the paragraph 2.3.1. In fact, as anticipated before, the process for the implementation of the Balanced Scorecard for sustainability is adapted from the framework of Figge, Hahn, Shaltegger and Wagner (2002), *“The Sustainability Balanced Scorecard – Theory and Application of a Tool for Value-Based Management”*. The model<sup>111</sup> takes as starting point the choice of the strategic business unit to analyze. In the case of Lufthansa Group the core business is the passenger transportation and thus, due to the size of the network worldwide and the amount of activity, the business segment that faces more with sustainability issues is the “Passenger Airline”. Based on the type of business activities, stakeholders' expectations and previsions of growth, environmental and social exposures are identified. Sustainability strategy then is developed considering the exposures identified and specific targets are established for each kind of environmental and social impacts. The objectives of sustainability, including also economic sustainability, then are inserted in the perspectives of BSC and appropriate KPIs are established for monitoring the achievement of the targets. Cause and effect chains then are developed between the several objectives giving rise to the strategy map. The map emphasizes how ecological and social objectives influence financial results. In this way, sustainability strategy takes part of the general strategy of the business and is linked to the operative performance management.

#### **3.3.1 Environmental and Social Exposures**

Once the business unit is been chosen (in this case the business unit analyzed is the Lufthansa’s business segment “Passenger Airline”), next step consists in identifying those

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<sup>111</sup> See paragraph 2.3.1

environmental and social impacts generated by the business unit<sup>112</sup>. The purpose of this step is to find and list the strategic relevant environmental and social aspects deriving from the activity of the business unit. It is matter of selecting those environmental and social impacts that have strategic relevance. In order to do that, two generic frameworks can be followed. One regards the identification of the environmental exposures. In this phase, all the activities, operations, services and products must be checked against the categories of the framework shown in table 2. In the case of Lufthansa the environmental issues have been adapted to the specific case of an airline company. For each category of environmental aspect in the table, then have been identified the impacts generated from Lufthansa’s operations (see table 7).

**Table 7:** Environmental exposures Lufthansa “Passenger Transportation” (source: adaptation of Figge et al. 2002b; Kaplan and Norton 1996)

|   |   |
|---|---|
| <i>Emissions</i>                        | <ul style="list-style-type: none"> <li>- Carbon dioxide emissions (CO<sub>2</sub>)</li> <li>- Nitrogen oxide emissions (NO<sub>x</sub>)</li> <li>- Carbon monoxide emissions (CO)</li> <li>- Unburned hydrocarbons (UHC)</li> </ul> |
| <i>Fuels consumption</i>                | <ul style="list-style-type: none"> <li>- Kerosene consumption</li> <li>- Biofuel consumption</li> </ul>   |
| <i>Energy and resources consumption</i> | <ul style="list-style-type: none"> <li>- Electricity consumption</li> <li>- Water consumption</li> <li>- Heating</li> <li>- Cooling</li> <li>- Energy from renewable sources</li> </ul>   |
| <i>Waste</i>                            | <ul style="list-style-type: none"> <li>- Waste water</li> <li>- Hazardous waste</li> <li>- Non-hazardous waste</li> <li>- Recycling</li> </ul>  |
| <i>Noise</i>                            | <ul style="list-style-type: none"> <li>- Noise emissions in the vicinity of airports</li> </ul>   |

The strategic relevance of these aspects identified could be explained through the importance given from stakeholders. For example, the category “emissions” is addressed to monitor and reduce those emissions in the air affecting climate change and local air quality.

<sup>112</sup> Figge F, Hahn T, Schaltegger S, Wagner M. 2002b. *The Sustainability Balanced Scorecard. Theory and Application of a Tool for Value-Based Sustainability Management*. Center for Sustainability Management, University of Luneburg

Relevant stakeholders interested in these issues are: society, local communities, NGOs and Governments. The monitoring of “energy and resource consumption” is addressed to resource efficiency that interests mainly shareholders for the reduction of operative costs. Noise emissions, instead, affects the neighborhood of airports in which Lufthansa operates. Social acceptance and good reputation gives to a company the legitimacy to act and avoids problems of possible contrasts with some stakeholder categories such as Governments, society, NGOs.

**Table 8:** Social exposures Lufthansa “Passenger Transportation” (source: adaptation of Figge et al. 2002b; Kaplan and Norton 1996 ; Jordao T C, Rhouma A B. 2010)

| <b>Stakeholders</b>  | <b>Social claims and issues</b>  |
|--|--|
| All stakeholders categories  | - Communication and awareness diffusion of ecological and social issues  |
| Shareholders   | - Long term profitability  |
| Financial community  | - Reduction of environmental and social risk   |
| Employees  | - Diversity<br>- Working conditions<br>- Personal development<br>- Salaries, benefits and pension plans<br>- Job healthy and safety                              |
| Customers  | - Prices<br>- Quality of services<br>- Network<br>- Flight punctuality<br>- Baggage handling<br>- Security and safety<br>- Average age of fleet                  |
| Suppliers  | - Stable relations<br>- Fairness in contractual agreements   |
| Governments and Regulators   | - Proactive behavior beyond compliance   |
| Non Government Organizations (NGO)<br>Local Communities<br>Neighbors of airports | - Climate change policy<br>- Local Air Protection<br>- Hazardous waste<br>- Noise generation   |
| Society  | - Employment<br>- Economic growth and job creation<br>- Environmental and social projects trough Corporate Citizenship Programs<br>- All environmental exposures |

The second framework concerns the identification of social exposures. Due to the various and different social issues and realities, is difficult to find a universally accepted classification of social aspects<sup>113</sup>. Since social claims depend on the preferences of actors involved they should be classified according to the potentially relevant stakeholder groups<sup>114</sup>. Therefore after having selected the strategically relevant stakeholders, several types of social claims and issues have been identified for each category (see table 8). It should be noticed that many environmental impacts are related to the social exposures. The strategic relevance of the social claims and issues identified can be easily caught from the direct connection with the relative interest of each stakeholder category.

### **3.3.2 Developing Sustainability Guidelines**

After having identified the particular types of environmental and social impacts generated from the business activity and identified the categories of stakeholders potentially affected, sustainability policies and strategic guidelines must be developed in order to make a plan of actions. In other words, next phase must be the development of the sustainability strategies based on the environmental and social issues emerged from the past analysis<sup>115</sup>. In particular, four different dimensions of social responsibility and sustainability can be identified in Lufthansa's commitment: economic, which is related to the sustainable long term profitability; environmental, regarding the protection and care of ecosystem through the cut of emissions and consumptions; social, concerning the responsibility towards all employees; and corporate citizenship, which is based on the dedication to local community and society in general. Sustainability objectives and specific targets are then developed and pursued in each dimension above cited. For the construction of the Balanced Scorecard and the Strategy Map, sustainability strategic guidelines will be afterward formalized into various strategic objectives which represent the main components of the perspectives (financial, customer, process, learning and growth, non-market). The following dimensions of sustainability at Lufthansa with the related guidelines are exclusively based on the web

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<sup>113</sup> Clarkson M. 1995 p.102

<sup>114</sup> Freeman R E. 1984, Liebl F. 1996, Zadek S. 1999

<sup>115</sup> Epstein M J, Roy M J. 2001

page of Lufthansa Responsibility. Hence they represent the real plan of actions developed in the German carrier.

*a. Economic Sustainability<sup>116</sup>*

The principles of sustainability are applied firstly in the economic sphere. Without economic sustainability the company cannot survive for generating the social benefits to redistribute. Lufthansa's business development is pursued through a strategy of profound partnerships and the development of a global network in order to offer better services to customers and reduce market entry risks. The main commitment of Lufthansa is to create a long term sustainable value by concentrating in the core business passenger transportation. The sustainable enhancement of corporate value in the long term is achieved by a value-based management approach through a system of remuneration and incentives variable and related to the Cash Value Added (CVA) generated. In order to overcome the threats of the global financial crisis, Lufthansa strategy is to continue expanding the network worldwide, offering high quality of services with lower prices and pointing at the same time to operative efficiency. Optimal management of liquidity is pursued as well.

Many factors must be managed adequately for reaching the long term value creation. In Lufthansa this is pursued through the optimal management of corporate risks, by establishing good relations with customers, suppliers and other stakeholders, and also implementing corporate governance and compliance systems in order to obtain clear, legal and fair management.

Risk management system should facilitate the sustainable creation of value. Corporate risks concern capacity and load factor, strategic, political, operational, procurement, collective bargaining, information technologies and financial treasury. Risks and opportunities are identified in the early stages and managed in a way that risks must be appropriate and acceptable in relation to the value created.

Then, an important factor that needs to be optimally managed and translated in long term value is the customer. The trust and loyalty of customers should be acquired by better

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<sup>116</sup> Based on:

- Lufthansa Responsibility (web): <http://verantwortung.lufthansa.com/en/>
- Lufthansa Investor Relations (web): <http://investor-relations.lufthansa.com/de.html>
- Lufthansa Annual Report 2009

performances in terms of punctuality, reliability, high security and safety standards. Customer satisfaction and loyalty is measured in Lufthansa through an appropriate internal indicator specifically made for the purpose: the Customer Profile Index. Another factor concerns the relationship with suppliers. In the area of procurement the main objective is to optimize long-term value through a fair relationship. For this purpose, Lufthansa follows a three-pillar model in the purchasing processes. It is composed of some internal guidelines, transparent decision making and tender systems, as well as sustainability provisions in all contracts with suppliers.

Additionally, with the motto *“trust as the basis of success”* Lufthansa wants to emphasize the importance of a trustworthy and well structured stakeholder dialogue and relationship. A critical and constructive exchange of information is needed with all the subjects that are ready and potentially can jointly move towards a sustainable future. Stakeholders must be included in the decision making processes. One very important tool for communicating sustainability performances and strategies is the sustainability report *“Balance”*. It is aimed to provide information about ecology, economy, society and social engagement, forming the basis for a constructive dialogue with a number of stakeholders. In addition, Lufthansa uses other media and is constantly developing its communication tools.

Finally, corporate governance and compliance systems should ensure a stable economic sustainability. Corporate governance regards the efficient structures and clear processes that guarantee responsible corporate leadership, administration and monitoring, with the target of sustainable value creation and respects of the rights, the interests of shareholders and other parties. The Compliance guidelines should prevent conflicts with the law and help employees to apply statutory regulations correctly. Lufthansa Compliance Program includes the following elements: Competition, Capital Markets, Integrity and Corporate Compliance.

#### ***b. Environmental Sustainability***

The growing demand of air mobility is posing many challenges in terms of environmental policy towards climate and ecological care. In order to balance ecological issues and economic interests, the commitment of Lufthansa must be addressed to the reduction of greenhouse gas emissions, noise pollution, and energy consumption while increasing

profitability. Based on the internationally acclaimed Four-Pillar Strategy for air transport<sup>117</sup>, in 2008 Lufthansa implemented new strategies for environmental and climate protection. In detail the Four-Pillar Strategy includes technological progress, improved infrastructure, operational measures and economic instruments. Based on these four pillars, Lufthansa developed an environmental strategy that establishes 15 guiding principles pointing to the drastic improvement of ecological performances by 2020. The guidelines are:

- Reduce carbon emissions
- Cut nitrous oxide emissions
- Modernize fleet
- Promote alternative fuels
- Increase efficiency in the operational sphere
- Improve infrastructure
- Implement emissions trading on a global scale
- Continue offsetting carbon footprint
- Develop further incentive systems
- Reduce aircraft noise
- Improve aircraft
- Optimize flight procedures
- Develop comprehensive traffic concepts
- Build green
- Expand environment management

Many of these objectives are pointing to the same goals simultaneously. For example, the promotion of alternative fuels or the improvements of infrastructures have the final goal of reducing carbon emissions; the general guideline “improvement of aircraft” is also pointing to the reduction of noise emissions. This means that the major objectives of environmental sustainability are less than the guidelines above mentioned; in other words, Lufthansa’s environmental strategy is based, like most of the carriers moving towards sustainability, on

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<sup>117</sup> IATA (web): <http://www.iata.org/Pages/default.aspx>



three main commitments: reduction of greenhouse gas emissions (CO<sub>2</sub>, N<sub>2</sub>O) and local air emissions (NO<sub>x</sub>), reduction of noise, optimization of energy and resource consumption.

Reduction of carbon and nitrous oxide emissions are both pursued by diminution of fuel consumption. By supporting IATA climate protection targets for the aviation industry, Lufthansa will try to achieve carbon-neutral growth by 2020 as well as a 50 % reduction in CO<sub>2</sub> emissions from fossil fuels by 2050 compared to 2005 levels. Additionally, through the project “Fuel Efficiency Leadership” recently launched, a further 25% (compared to 2006) reduction of CO<sub>2</sub> emissions is pursued by 2020. Another objective concerns the bio-fuels. By 2020, an amount of 5 to 10 % share of synthetic fuels produced from renewable raw materials must partially replace the traditional kerosene. The ways how the efficiency can be continuously enhanced are many: kerosene can mainly be saved by lowering aircraft weight, implementing more efficient processes on the ground, developing technical improvements and optimizing flight procedures and air space management<sup>118</sup>.

Another central problem of emissions for the aviation sector regards the noise generation in the areas close to the airports. In order to reduce noise emissions, Lufthansa should continuously invest in modern fleet with quieter aircraft and also working together with partners in the industry, administrations, universities and large-scale research institutions to promote the development of noise reduction measures. The objective of noise reduction consists in acquiring acceptance by the neighborhood of the airports through the generation of noise below the limit of “minus 10 EPNdB” criterion (Effective Perceived Noise decibel) formulated by the International Civil Aviation Organization (ICAO).

Finally, another pillar of the environmental strategy of Lufthansa regards the resource management. The Principles of sustainable business operations cannot be limited merely on flight operations. Also the operational process on the ground should be optimized in terms of efficient resources consumption. Lufthansa aims to attain successful performances related to the saving of energy and freshwater and the diminution of waste and wastewater. Energy and Resource Management projects of Lufthansa regard energy management, green

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<sup>118</sup> Based on:

- Lufthansa Responsibility (web): <http://verantwortung.lufthansa.com/en/>
- “Environmental Performance data 2009”, “Fuel Efficiency Leadership” from Lufthansa additional reports from Lufthansa Responsibility (web)
- Lufthansa Sustainability Report BALANCE 2010

buildings, renewable sources, energy savings, recycling policies, instruction and awareness about energy and resources matters.

Despite the historical relative improvements achieved in environmental performances, expectations of continuous traffic growth give rise to the problem of absolute emissions always increasing. For example, although eco-efficiency can be constantly improved, total fuel consumption or number of people exposed to noise generation will increase continually because of the rise in traffic volume and world population. Furthermore, other reasons such as political, compliance, economic, competitive advantage, image and reputation, contribute to pose more challenges in terms of environmental sustainability. Therefore, commitment in environmental protection must be continually reinforced.

### *c. Social Sustainability*

The other dimension of sustainability regards the social responsibility. For social responsibility is meant the commitment towards long term sustainable personnel management, from the selection to the retention and development. With the main goal of enhancing the attractiveness and reliability of the working environment, Lufthansa concentrates the efforts in four aspects of responsibility to employees for improving the related performances. Personnel development, employment politics, diversity, safety and health protection are the four pillars of responsible personnel management in Lufthansa.

Since human resources are critical success factors, many efforts must be spent for promoting training and continuing education of employees. Traditional apprenticeships, operations-stipulated qualifications, continuing education and also own courses for Service Professionals represent the pillars in the area of personnel development in Lufthansa.

The second aspect of social responsibility concerns the employment policy. The traditional core personnel policy rely on strong corporate identity and secure position but nowadays flexibility policies are acquiring increasing importance. Selection philosophy is based on openness, efficiency and transparency in order to acquire competent and committed employees. The promotion of leadership, based on short decision-making channels and decentralized responsibilities, is another characteristic of the policy. In particular Lufthansa employment policy is organized in many points. Firstly, the cultural pluralism based on the diversity of personnel is promoted. Secondly, the flexible working hours based on various

part-time variations, shift and duty roster models with the purpose to balance the employees' professional and private lives. Thirdly, the replacement of those employees that lost their positions, for organizational reasons, is pursued through the “JobChange” internal agency. In addition, continuous personnel valuation and dialogue is carried out in order to assess the previous targets achievement and establish new objectives. Then, incentives and remuneration systems are aligned to individual performances. Finally, an important support regards the special leave of employees from job in order to take care of children, parents or life partners beyond legally granted nursing care times.

Another aspect of social responsibility is the promotion of diversity among the employees. In Lufthansa, people are working from all over the world with differences of age, gender, religion, ideology, nationality, ethnicity, sexual orientation and also disability. An additional diversity factor consists in the employees' own biography curriculum based such as specific skills and knowledge, past studies, specific work and life experiences, etc. Diversity is seen as an opportunity in Lufthansa because it helps cultural interchange, expansion of creativity and consequently increasing in innovation capability.

Finally, employees' safety and health protection are playing an important role in the contest of social sustainability. Healthy and safe working conditions constitute important pillars in the company's organization. Lufthansa health and safety program is articulated in five main points. Firstly, an own medical service, divided in industrial and aviation medicine, is active within the Group. Representatives of employees are involved in decision making related to health and safety issues. Secondly, hazard analysis is performed in order to assess job activities, work conditions and situations. The risks identified are evaluated and reduced or avoided by frequent medical checkups of the personnel. Thirdly, up-to-date safety technical equipment is kept in all the buildings and work stations. Then, emergency procedure plans are carried out in all the companies of the Group. Furthermore, in every work area there is at least one safety commissioner or employee expert in first aid. Finally, regular training courses regarding health and safety prevention and application of protection procedures, are addressed to employees. The promotion of health and safety, in Lufthansa, does not regard only the present and immediate work. It points to long term preservation of the staff through preventive and reintegration measures. Workability is

ensured in advance by the company's social and medical preventive support. In addition, reintegration policies are addressed to those employees with recurrent or longer illnesses. Social sustainability is intended in Lufthansa as the responsible treatment of the employees, from their selection and training, through development and management, until the after job. This treatment must be continually improved in terms of quality, ethic, safety and motivation.

**d. Corporate Citizenship**

Since companies belong to society, Lufthansa feels the responsibility to contribute to social sustainable development. Lufthansa tries to take an active part in the society through several civic projects belonging to five different areas of social responsibility: culture, social issues, education, sports, and environmental sponsorship.

Lufthansa is involved in several important social projects. The most important is “Help Alliance”, an association founded by many staff members of the Group, with the goal of supporting worldwide business startups, projects for street kids, educational institutions, orphanages and bush hospitals.

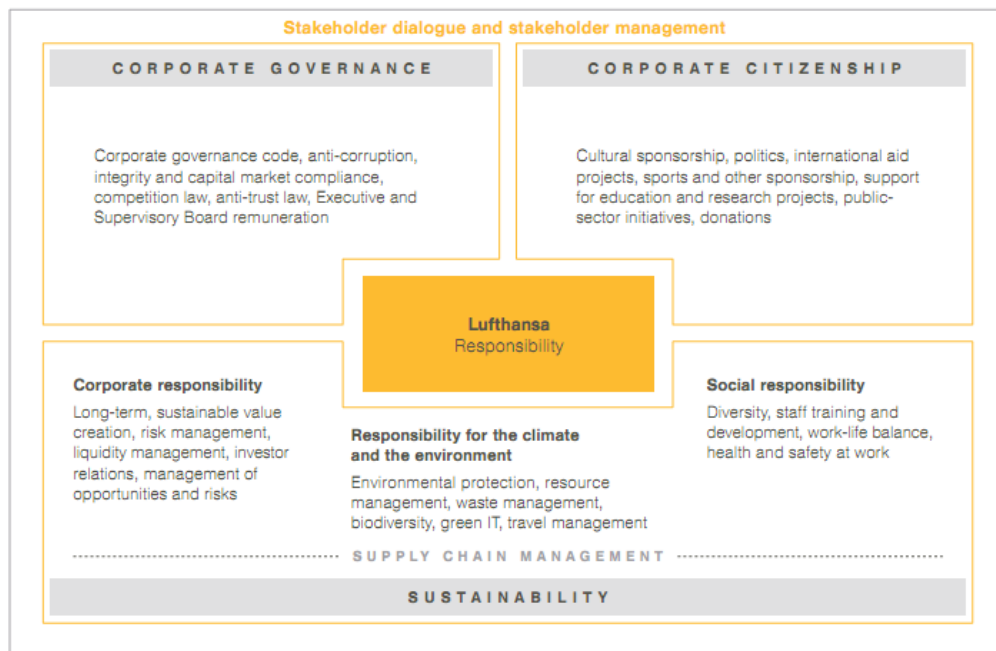
The Environmental Sponsorship Program constitutes another important social commitment of Lufthansa with the aim at preserving biological diversity. The several projects concern reforestation (so called “Rainforestation Farming”), establishment of sustainable agricultural systems in areas of western China, preservation of natural resources through a network to protect freshwater lakes and others minor ecologically related projects. Among these environmental projects it must be mentioned the Lufthansa strong support to the crane-protection through financial, logistical and communications resources to several organizations operating for this purpose.

Additional social commitments regard culture, education and sport. All the supports of culture are addressed to musical projects. Lufthansa is the first global partner of the German orchestra “Gürzenich-Orchester Köln” and further commitments regard the Lufthansa Festival of Baroque Music in London and the New Year's concert in Berlin. The educational projects are: Lufthansa Experience Knowledge that introduce young people to working and professional aviation worlds; business@school that introduces to students some business topics in a practice-oriented manner; Girl's Day involvement for showing

girls between the ages of 12 and 16 the work opportunities in Lufthansa. Finally, Lufthansa supports sport activities through the German Sports Aid Foundation and sponsoring many athletes<sup>119</sup>.

Corporate Citizenship programs cannot be considered as strategic core issues but they represent very important commitments useful for the development of local community and society in general. Increasing investments in social projects can bring direct as well as indirect benefits to business performances. Good social performances contribute to lead the growth of corporate image and reputation useful to acquire political and social legitimacy. The just mentioned four dimensions of sustainability in Lufthansa are summarized in the following illustration available in the web page Lufthansa Responsibility (figure 16).

**Figure 16:** Lufthansa Responsibility (source: Lufthansa Responsibility (web), Annual Report 2009)



<sup>119</sup> Lufthansa Responsibility (web), additional report “Environmental Sponsorship Program”, BALANCE 2010

### 3.3.3 Perspectives, Objectives and Related Indicators

In this paragraph the “heart” of balanced scorecard will be developed. Perspectives, objectives and key performance indicators represent the “bridges” that connect strategies with daily management. This paragraph is dedicated to the translation of the general strategies into several perspectives of the Sustainability Balanced Scorecard. Afterwards, sustainability strategic guidelines above listed will be formalized into several practical objectives belonging to the perspectives of the scorecard. Subsequent to the insertion of the objectives identified in each perspective, key performance indicators, targets and initiatives will be defined for each objective.

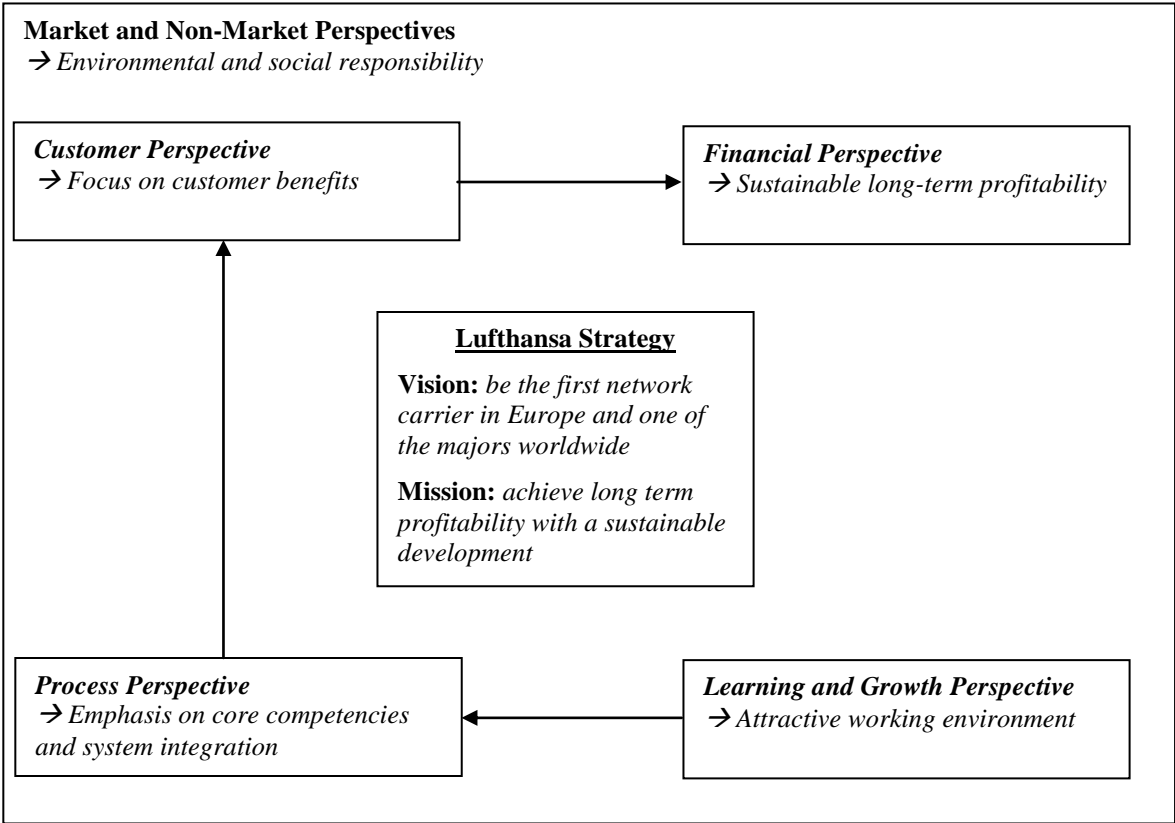
Following the framework of Kaplan and Norton (1996) and considering at the same time the general guidelines of Lufthansa’s corporate strategy, some similarities and points of connections can be found. The financial perspective is represented by the guideline “*long-term profitability*”; the “*focus on customer benefits*” is clearly associated with the customer perspective; the process perspective includes mainly the “*emphasis on core competencies and system integration*”; the guideline of “*attractive working environment*” could be easily related to the learning and growth perspective; finally, the guideline “*environmental and social responsibility*” is related to all the perspectives market as well as non-market perspective<sup>120</sup>. The latter observation needs some examples in order to be better understood. Environmental responsibility can be associated to the process perspective aiming to reduce emissions from core activities. At the same time environmental responsibility regards the non-market perspective when is referred to non-core environmental projects aiming, in the case of Lufthansa, to the safeguard of forests and the crane protection. The same is true for social responsibility. When it is referred to employee diversity, it regards the learning and growth perspective. In the other hand, social responsibility such as humanitarian aids sent to poor countries belongs to the non-market perspective.

Relying on what said above, the general structure of Lufthansa balanced scorecard could be represented with the following illustration (figure 17).

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<sup>120</sup> Kaplan R S, Norton D P. 1996, Lufthansa Responsibility (web), Figge et al. 2002b

**Figure 17: Sustainability Balanced Scorecard Lufthansa Passenger Transportation** (source: adaptation of Kaplan and Norton 1996, adaptation of Figge et al. 2002, Web Lufthansa Responsibility)



After having defined the five perspectives of the scorecard, next step is the definition of objectives for each perspective. The necessity of simplification in management requires not so many objectives and indicators to control, therefore, for each perspective have been defined few objectives reflecting the sustainability and responsibility guidelines and the relative stakeholders interests (identified in the analysis of exposures). Afterward many indicators have been chosen for properly monitoring the achievement of the listed objectives. Most of the indicators are real information disclosed regularly by Lufthansa in the Annual Reports, Sustainability Reports Balance and additional information available in the web site Lufthansa Responsibility. Other KPI are suggested by authors<sup>121</sup>, represent own sources, are adapted from reports of competitors, or are based on Global Reporting

<sup>121</sup> For a detailed list of sustainability indicators about the air transport sector see: Jordao T C, Rhouma A B. 2010. *An Assessment of the Attitude of World's Largest Airlines towards Sustainability*. Faculty of Economics and Administration, Institute of Public Administration and Law, Pardubice, Czech Republic

Initiative (GRI) guidelines<sup>122</sup>. The following list<sup>123</sup> contains the several objectives (in italics) for each perspective (underlined) of the scorecard and the related appropriate key performance indicators (bullet points).

Learning and Growth Perspective → *Attractive working environment*

*Development of employee skills and competences*

- GRI - LA10 - Average hours of training per year per employee by employee category
- GRI - LA11 - Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings
- GRI - LA12 - Percentage of employees receiving regular performance and career development reviews
- Percentage of trainers and trainees among employees<sup>124</sup>
- Ratio investments in training and continuing education/capital expenditure\*

*Pursue quality and flexibility*

- Average salaries and wages per employee category (% comparison with average sector EU)\*
- Percentage of employees with permanent contract<sup>125</sup> (stability)
- Employee turnover (stability)
- % part-time employees (flexibility)
- % female part-time employees (targeted flexibility)
- Social security contributions (average per employee category)\*\*
- Pension and other employee's benefits (average per employee category)\*\*
- GRI - LA4 - Percentage of employees covered by collective bargaining agreements

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<sup>122</sup> Crawford D, Scaletta T. 2005. *The Balanced Scorecard and Corporate Responsibility: Aligning Values for Profit*. CMA Management, 79(6), p 20-27

<sup>123</sup> The indicators without \* (except the GRI ones) are taken exactly from Lufthansa Reports (Annual, Sustainability and additional); the indicators with \* are advised by myself (own source); the indicators with \*\* are developed by Jordao T C, Rhouma A B. 2010; the GRI indicators derive from Global Reporting Initiative (GRI) 2000-2006. *Sustainability Reporting Guidelines G3 (version 3.0)*

<sup>124</sup> Adapted from Air France KLM Corporate Social Responsibility Report 2010

<sup>125</sup> Air France KLM Corporate Social Responsibility Report 2010



*Promote diversity among employees*

- % employees in Germany (of which % not German citizenship)
- % female employees (of which % in management positions)
- Average age
- % people over 50 years old
- % people with disabilities (in Germany)

*Promote health and safety in working environment*

- GRI - LA7 - Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region
- GRI - LA7 - by employee category\*
- Maternity leave<sup>126</sup>
- Expenditure in the internal medical service\*
- Expenditure in health and safety programs (technologies, prevention, hazard analysis, protection, employee awareness etc.)\*
- Training hours in health and safety matters\*

*Improve satisfaction, motivation and productivity of socially and ecologically capable employees*

- Employee feedback management
- Amount of hours for volunteer work\*
- Revenue per employee

Process Perspective → *Emphasis on core competencies and system integration*

*Optimization of flight networks*

- Ratio between flights served by Lufthansa and flights served by partners\*
- Investments in partnerships and new alliances\*
- Size of fleet

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<sup>126</sup> Air France KLM Corporate Social Responsibility Report 2010

- Passenger load factor
- Freight ton kilometer (FTK)

*Improvement in ground and flight operations*

- Flight punctuality: % flight on time (15 minutes tolerance)\*\*
- Baggage handling: ratio of mishandled or delayed baggage upon total number of baggage handled\*\*
- Health and safety: GRI - PR2 - Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services, by type of outcomes
  - Incidents of non-compliance with regulations resulting in a fine or penalty
  - Incidents of non-compliance with regulations resulting in a warning
  - Incidents of non-compliance with voluntary codes
- Average lifetime fleet (age, flight-hours and n° flights)\*\*
- Average boarding time\*

*Improvement on environmental performances*

- Fuel consumption (tons)
- Biofuel ratio (% of total fuel utilized)
- Fuel efficiency l/100 pkm
- CO2 absolute emissions (tons)
- CO2 emissions kg/100 pkm
- NOx emissions g/100 pkm
- UHC emissions g/100 pkm
- % average fleet reduction in noise emissions (“minus 10 EPNdB” ICAO criterion)
- Electricity consumption (MWh)
- Gas (MWh)
- Heating/Cooling (MWh)
- Water consumption (m3)
- Waste water (m3)
- Non-Hazardous waste (tons)

- Hazardous waste (tons)
- Recycling (% of waste)<sup>127</sup>

*Improvement of management systems related to environmental and social exposures*

- Expenditure in internal plans and programs addressed to environmental and social issues related to core business activities\*
- Level of formalization of environmental and social management systems (certifications, audits, surveys among employees)\*

Customer Perspective → *Focus on customer benefits*

*Increase satisfaction and loyalty*

- Customer Profile Index
- N° customer complaints\*
- N° frequent flyer program (FFP) (miles program)
- Ratio n° FFP/total n° passengers\*

*Develop continuously brand image and reputation*

- Reputation quotient (survey among several stakeholder categories)<sup>128</sup>

*Increase the market share and customer acquisition*

- % of market share (revenues)\*
- % of market share (number of customers)\*
- % change in number of customers\*
- N° frequent flyer program (FFP) (miles program)

*Increase the customer profitability*

- Average prices\*

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<sup>127</sup> Adapted from United Airlines Corporate Responsibility Report 2009-2010

<sup>128</sup> Fombrun C J, Gardberg N A, Sever J M. 2000. *The Reputation Quotient: A Multi-stakeholder Measure of Corporate Reputation*. Journal of Brand Management 7,4: 241-255

- EBTDA/n° of customers\*
- Operative income/n° customers\*

Financial Perspective → Sustainable long-term profitability

*Achieve and maintain high and long-term profitability*

- Equity ratio (Shareholders' equity/ total assets)
- Return on Equity (Net profit/shareholders' equity)
- Return on Assets (Operating result/total assets)
- Return on Sales (Operating result/total revenues)
- Cash Value Added (EBITDA/cost of capital)

*Long-term sustainable development*

- Sustainability indices performances and trends:
  - DJSI
  - FTSE4Good
  - ASPI
  - ESI

Non-market Perspective → Environmental and social responsibility

*Improve image and reputation in order to acquire political and societal legitimacy*

- Reputation quotient (survey among several stakeholder categories)<sup>129</sup>
- Surveys among all stakeholder categories (% of stakeholders contacted of which % of responses obtained, assessment by stakeholders)\*
- New Awards

*Improvement in communication on sustainability issues with stakeholders*

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<sup>129</sup> Fombrun C J, Gardberg N A, Sever J M. 2000

- Expenditure in communication tools\*
- Reliability, quality and completeness of information disclosures (surveys among stakeholders categories, external audit valuation, comparison with competitors and GRI standards)\*

*Provide economic growth and job creation*

- Direct and indirect employment (Germany, worldwide)\*
- Economic value distributed (Germany, worldwide)\*
- Social investments (corporate citizenship)
- Salaries and employees' benefits
- Taxes

*Development of Corporate Citizenship*

- Ratio sponsorships and community investments/capital expenditure\*
  - Social projects
  - Environmental sponsorship
  - Culture, education and sport
- % of employees involved in volunteer social projects\*
- Number of volunteer hours

*Promote proactive behavior towards the compliance with legislation and regulations (legality)*

- Level of commitment in corporate governance and compliance systems (investment, training hours and people involved)\*
- Monetary value of fines and total number of non-monetary sanctions for non-compliance with laws and regulations (with respect to GRI – SO8, PR9, EN28)
- Level of attainment of environmental objectives with respect to IATA guidelines and other authorities\*
- % of socially responsible (with respect to environment, labor practices, human rights, society) certified suppliers and partners\*

The purpose of developing the above-mentioned indicators is the establishment of targets to achieve in the short and long term through concrete actions to take. These actions are called by Kaplan and Norton, *initiatives*<sup>130</sup>. The managerial function of the balanced scorecard is emphasized from this aspect. The linkage between strategy and operations occurs with the establishment of initiatives and thus the commitment to undertake real actions. In order to simplify the work, targets and initiatives have not been fully developed for all the objectives; only some examples have been taken into consideration. The following table (table 9) is giving instances of targets and initiatives undertaken in Lufthansa in order to reach better performances in the future.

**Table 9:** Detailed scorecard with targets and initiatives (source: adaptation of Kaplan and Norton 1996, data Lufthansa Annual and Sustainability Reports 2009, 2010, own source)

| <i>Perspective</i>  | <i>Objective</i>                               | <i>Indicator</i>                                     | <i>Actual data (2009)</i>                                      | <i>Target</i>   | <i>Initiative</i>  |
|---------------------|--|--|--|---|--|
| Learning and Growth | Promote diversity among employees              | % female employees<br>% women in management position | 45,1 % female employees<br>14,7 % women in management position | Continuous increasing of female employment especially in management positions | Selection process based exclusively on professional and social aptitudes                 |
| Learning and Growth | Development of employee skills and competences | Investments in development and continuing education  | 185 million €  | Keep high annual investment in training and continuing education              | Increasing traditional training and service professionals; Lufthansa School of Business  |
| Process             | Improvement on environmental performances      | Fuel Efficiency<br>liters/100 pkm                    | liters/100 pkm<br>4,30   | Reduction of 25% by 2020 compared to 2006                                     | Project Fuel Efficiency Leadership (see paragraph 3.3.2 b)                               |
| Process             | Improvement on environmental performances      | CO2 emissions<br>kg/100 pkm                          | kg/100 pkm<br>10,84  | Reduction 50% by 2050 compared to 2005  | Supporting IATA's Carbon Neutral Growth goal; utilization of 5 to 10% of biofuel by 2020 |

<sup>130</sup> Kaplan R S, Norton D P. 1996

| <i>Perspective</i> | <i>Objective</i>                                      | <i>Indicator</i>   | <i>Actual data (2009)</i>                              | <i>Target</i>                                      | <i>Initiative</i>   |
|--------------------|---|--|--|--|---|
| Process            | Improvement in ground and flight operations           | Flight punctuality<br>% flight on time<br>% flights late | 80,94 % on time<br>3,21 % 1 hour +<br>0,19 % 3 hours + | 0% flights late under carrier's own responsibility | Better integration with airports and availability of free aircrafts for critical events |
| Customer           | Increase satisfaction and loyalty                     | Customer Profile Index (internal indicator)              | scores 7958  | Constant annual growth of 150 to 250 scores        | Continuous improvement in high quality ground and flight services                       |
| Financial          | Achieve and maintain high and long-term profitability | ROS Operating result/revenues                            | 0,58%  | 5% short term<br>8-10% long term                   | Increasing operative efficiency such as load factor and various eco-efficiencies        |
| Non-market         | Development of Corporate Citizenship                  | Social projects expenditure by "Help Alliance"           | 736.960 €  | Continuously increasing                            | Awareness campaign "Small Change –It's a Big Help" for collecting donations             |

### 3.3.4 Strategy Map

The construction of the strategy map is a phase that must be made after objectives have been defined. Hence, indicators, targets and initiatives are secondary to the identification of causal relations between objectives. The picture below (figure 18) illustrates the strategy map of Lufthansa Passenger Airline. The mentioned objectives have been inserted inside the several perspectives and linked each other where causal relations occur. The small arrows show the connections among objectives within a perspective and between market and non-market perspectives. Performances of one objective influence the performances of another objective. For example, the development of employees' skills and competences will

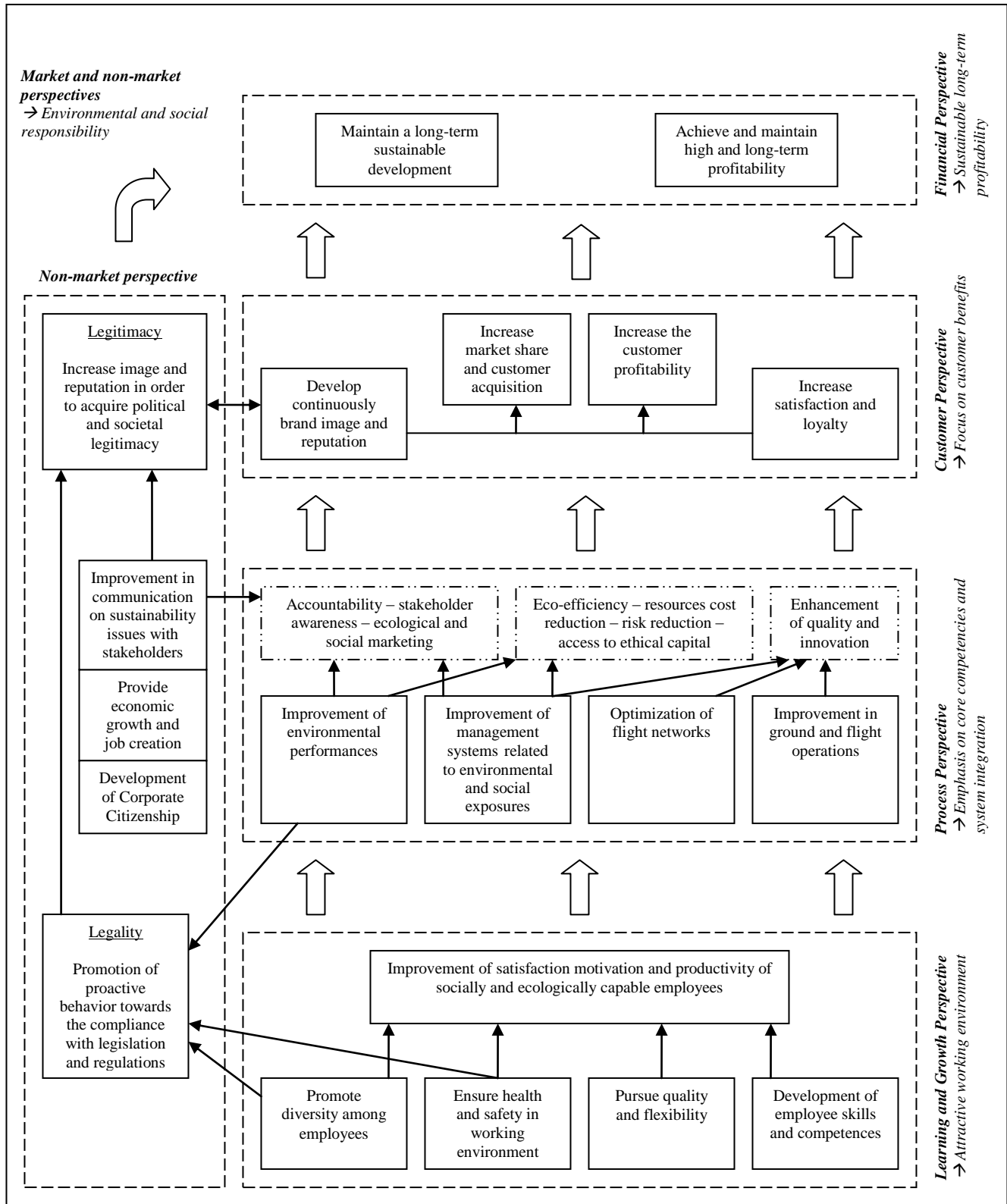
influence positively the improvement of motivation and capabilities; the rise of customer satisfaction and loyalty will affect the growth of customer profitability and market share; an effective corporate citizenship program with well developed communication and dialogue tools on sustainability issues, will increase good relations with all stakeholder categories making easier the acquisition of political and societal legitimacy.

The big arrows show the cascade process of the balanced scorecard; performances of a previous level perspective, measurable as leading indicators, influence the performances of the following perspective (lagging indicators). For example, an attractive working environment with capable, motivated and satisfied employees will allow better execution of the core processes respecting the principles of efficiency, quality and sustainable development; focusing on customer benefits and simultaneously taking care about environmental and social responsibility will permit to achieve a sustainable long-term profitability.

Some other things must be noticed. First, in some cases the illustration of some direct connections (between objectives of different perspectives) has been omitted. For instance, employees' productivity, eco-efficiency, access to ethical capital and avoidance of fines for non-compliance (legality) are directly connected to the financial perspective. Second, the three boxes on the top level of the process perspective represent the core goals related to the main objectives below and thus they do not have relative indicators (for this reason they have been drawn in a different way). Another important aspect is represented by the two objectives of the financial perspective. They fully reflect the mission of Lufthansa's strategy: "achieve long term profitability with a sustainable development".



**Figure 18: Strategy Map Lufthansa Passenger Airline** (source: adaptation of Kaplan and Norton 1996, 2004 adaptation of Hockerts 2001, adaptation of Figge et al. 2002, adaptation of Shaltegger and Wagner 2006, Lufthansa Responsibility (web), own source)



### **3.4 Sustainability Performance Data, Comparison with Competitors, some Criticisms and Suggestions**

The simulation of sustainability balanced scorecard in Lufthansa is been useful to understand how sustainability strategies of the carrier have been translated into actions. It has been seen how Lufthansa's commitment to corporate sustainability is articulated into several strategic guidelines, objectives and indicators. The willingness by Lufthansa to move towards an environmentally, socially and economically sustainable business is without discussion. Now, the question that arises is whether the Airline's commitment brought satisfactory environmental and social performances and if financial results have been ensuring a stable profitability in the short as well as in long term. In order to make this assessment, some criteria of analysis must be followed.

Firstly, real sustainability performances data are needed in order to make the valuation of actual results reached by the carrier. Then, the data and further sustainability aspects of other airlines, preferably real competitors of Lufthansa for dimension, network and business strategies, are required for making a comparison and creating a base for the assessment. Lastly, opinions, criticisms and suggestions have to be carried out from the assessment.

Regarding sustainability performances, some dimensions of assessment have been chosen. They are articulated as follow.

- Transport performances, which contain data about passenger carried, load factor, fleet size and age.
- Economic and financial results, regarding the traditional measures of income, cash flow, equity and assets, with the additional elaboration of financial indicators such as ROE, ROA, ROS
- Environmental performances, which contain all the data about the emissions in the air, fuel consumption, energy and resource consumption, recycling, and noise emissions.
- Social performances, including all the data about personnel selection, training, development, policies, safety and health.

- Community performances, which are related to those actions, such as social projects, funds to NGO, humanitarian aids, voluntary work and other social commitments, that do not belong to the core processes but bring benefits in terms of image and reputation.
- Sustainability reporting and stakeholders dialogue, concerning the quality and completeness of disclosures for building a structured relationship with all stakeholders.

Afterwards, at least one competitor was needed for the comparison. Selection criteria have been based on the similarity of dimensions, network, business strategy and commitment towards sustainability. Airlines similar to Lufthansa are big international carriers with large network worldwide, strategies aiming to have high quality of services simultaneously with efficiency, pointing to have good and stable profitability, taking care at the same time of environmental and social sustainability. The European company Air France KLM possesses the features above mentioned, thus, it was chosen for the comparison purposes. It must be noticed that right now Air France KLM represents the first European competitor of Lufthansa; therefore the comparison acquires more importance. Furthermore other global carriers have been taken into consideration for the scope of showing additional good practices of performing and reporting in a sustainable way. The main goal of the analysis is to build an unbiased opinion, with opportune criticisms and acknowledgements, of Lufthansa environmental, social and economic performances, and stakeholders' engagement as well.

Before introducing the dimensions of analysis, it could be opportune to clarify some peculiarities of the valuation. For reasons about the availability of sustainability reports disclosed by the two carriers, years taken into consideration for environmental and social performances are 2008 and 2009 (there are not more recent data available). Regarding the economic and financial performances, three fiscal years have been analyzed (2007, 2008, 2009) for showing better the trends of income and capital. It is important to observe that Lufthansa fiscal year ends the 31<sup>st</sup> of December of each year (data refer to years 2007, 2008 and 2009) while Air France KLM fiscal year term is the 31<sup>st</sup> of march of each year (data refer to 2007-2008, 2008-2009 and 2009-2010). Additionally, it must be noticed that the period taken into consideration for the analysis coincides with the global financial crisis

between 2008 and 2009, thus, performances of profitability and growth are heavily influenced by the world markets situation in that period.

### 3.4.1 Transport Performances and Related Economic-Financial Results<sup>131</sup>

The starting point for the assessment will be the introduction of some important key transport and economic related performances achieved by the two carriers taken into consideration: Lufthansa (LH) and Air France KLM (AFKL). Afterwards, an economic and financial comparison analysis will be made in order to understand the “health” of the companies. All these data will be illustrated through the following two tables. Table n° 10 shows the most meaningful transport figures of LH and AFKL in the years 2007, 2008 and 2009. Tables n° 11 and 12 illustrate economic and financial results of the two airlines with the addition of some significant analysis indexes.

**Table 10:** Transport figures Lufthansa and Air France KLM (Sources: ATW World Airline Report 2007, 2008, 2009; Lufthansa BALANCE 2008, 2009, 2010; Air France KLM Corporate Social Responsibility Report 2008, 2009, 2010)

|                             | Lufthansa |        |        |        |        | Air France KLM |        |         |        |         |
|-----------------------------|-----------|--------|--------|--------|--------|----------------|--------|---------|--------|---------|
|                             | 2007      | %      | 2008   | %      | 2009   | 2007/08        | %      | 2008/09 | %      | 2009/10 |
| Passengers                  | 62.894    | 12,16% | 70.543 | 8,51%  | 76.543 | 74.795         | -1,27% | 73.844  | -3,32% | 71.394  |
| Load Factor                 | 79,80%    |        | 78,90% |        | 77,90% | 80,80%         |        | 79,70%  |        | 80,70%  |
| Size of Active Fleet        | 514       | 1,36%  | 521    | 32,05% | 688    | 607            | 2,31%  | 621     | -4,35% | 594     |
| Average age of Active Fleet | 10,7      |        | 11,1   |        | 10,7   | 10,13          |        | 10,39   |        | 9,83    |

First important traffic fact that must be observed is the big rise in LH passengers in the years 2008 (+12,16% than 2007) and 2009 (+8,51% than 2008). The increasing demand of

<sup>131</sup> All data treated in this paragraph are taken or elaborated from: ATW World Airline Report 2007, 2008, 2009; Lufthansa BALANCE 2008, 2009, 2010; Lufthansa Annual Reports 2007, 2008, 2009; Air France KLM Corporate Social Responsibility Report 2008, 2009, 2010; Air France KLM Annual Reports and Financial Statements 2007-08, 2008-09, 2009-10)

passenger transport drove LH to a coherent drastic growth of the fleet size in 2009 (+32%). With an opposite trend, AFKL lost passengers in those years. Until 2008 the French-Dutch carrier was the first airline in Europe for number of passengers carried but, since 2009, LH has overtaken AFKL, becoming the leading European carrier for passenger transported. Related to transport data, revenues registered similar trends. Nevertheless, LH revenues in 2009 had a drop of 10% despite the rise in passengers transported. This fact can be justified by lower prices practiced by the German carrier in order to contrast the effects of the crisis and the big growth of low cost airlines.

**Table 11: Economic and Financial Performances Lufthansa** (Source: Lufthansa Annual Reports 2007, 2008, 2009)

|                      | unit      | Lufthansa  |         |            |          |            |  |
|----------------------|-----------|------------|---------|------------|----------|------------|--|
|                      |           | 12/31/2007 | %       | 12/31/2008 | %        | 12/31/2009 |  |
| Revenues             | € million | 22.420     | 10,80%  | 24.842     | -10,30%  | 22.283     |  |
| Operating Result     | € million | 1.378      | -7,11%  | 1.280      | -89,84%  | 130        |  |
| EBTDA                | € million | 3.023      | -22,36% | 2.347      | -25,73%  | 1.743      |  |
| Net Profit/Loss      | € million | 1.655      | -67,25% | 542        | -120,66% | -112       |  |
| Earning per Share    | €         | 3,61       | -67,31% | 1,18       | -120,34% | -0,24      |  |
| Total Assets         | € million | 22.320     | 0,39%   | 22.408     | 17,78%   | 26.392     |  |
| Shareholders' Equity | € million | 6.900      | 0,28%   | 6.919      | -10,36%  | 6.202      |  |
| Operative Cash Flow  | € million | 2.862      | -13,59% | 2.473      | -19,49%  | 1.991      |  |
| Return on Equity     | %         | 23,99%     |         | 7,83%      |          | -1,81%     |  |
| Return on Assets     | %         | 6,17%      |         | 5,71%      |          | 0,49%      |  |
| Return on Sales      | %         | 6,15%      |         | 5,15%      |          | 0,58%      |  |

**Table 12: Economic and Financial Performances Air France KLM** (Source: Air France KLM Annual Reports and Financial Statements 2007-08, 2008-09, 2009-10)

|                      | unit      | Air France KLM |          |           |          |           |
|----------------------|-----------|----------------|----------|-----------|----------|-----------|
|                      |           | 3/31/2008      | %        | 3/31/2009 | %        | 3/31/2010 |
| Revenues             | € million | 24.127         | -0,63%   | 23.975    | -12,41%  | 20.999    |
| Operating Result     | € million | 1.281          | -115,07% | -193      |          | -1.632    |
| EBTDA                | € million | 3.700          | -40,54%  | 2.200     | -50,00%  | 1.100     |
| Net Profit/Loss      | € million | 756            | -207,67% | -814      |          | -1.559    |
| Earning per Share    | €         | 2,66           | -203,76% | -2,76     |          | -5,30     |
| Total Assets         | € million | 30.690         | -6,25%   | 28.773    | -3,47%   | 27.775    |
| Shareholders' Equity | € million | 9.975          | -43,10%  | 5.676     | -4,55%   | 5.418     |
| Operative Cash Flow  | € million | 2.594          | -69,24%  | 798       | -200,00% | -798      |
| Return on Equity     | %         | 7,58%          |          | -14,34%   |          | -28,77%   |
| Return on Assets     | %         | 4,17%          |          | -0,67%    |          | -5,88%    |
| Return on Sales      | %         | 5,31%          |          | -0,81%    |          | -7,77%    |

Through a deeper analysis of the income statements, it is easy to observe the continuous decline of profitability in both companies. The effects of the global financial crisis influenced a lot the incomes of many big industrial groups, airlines as well. However, differently than AFKL, LH has been able to sustain profitability in the best possible way. With a strategy of permanent expansion of the flight network worldwide, LH was attracting more customers, increasing and renewing the fleet, keeping, at the same time, the operative result positive. Nevertheless, the rise in fleet size drove the fall in the passenger load factor in 2009 (-1%), signifying a lost of operative efficiency. On the other side, AFKL lost customers and cut the fleet size in 2009, registering negative operative results. The drop of profitability in AFKL can be justified also by the investments in new fleet in 2008. Actually, with an average age of 9,83 years for each aircraft, AFKL has the newest fleet in

Europe. Another good aspect that must be observed is the high load factor (almost 81% in 2007 and 2009), which means an efficient management of the flight network.

Bad operative results have been reflected in the net profits and losses, affecting consequently the earnings or losses per share. Shareholders in LH were more satisfied than the ones in AFKL, in fact, LH share earned more than AFKL in 2007-2008, and lost only 0,24 € in 2009. AFKL earning per share was positive only in 2007 while it lost 2,76 € in 2008 and 5,30 € in 2009. Financial crisis effects can be deducted also from the amount of shareholders equity, decreasing in both airlines, and the operative cash flow. The latter have an important meaning in terms of liquidity coming from current operations. Since LH system of remuneration and incentives is based on Cash Value Added (CVA) generated, optimal management of cash flow is pursued in order to obtain a sustainable growth.

In conclusion, the elaboration of some economic-financial indexes of profitability can help to explain better the situation within the two companies. The three indicators analyzed are the profitability of shareholders' equity ( $ROE = \text{net profit} / \text{shareholders' equity}$ ), the productivity of investments ( $ROA = \text{operating result} / \text{total assets}$ ) and the operative efficiency ( $ROS = \text{operating result} / \text{revenues}$ ). In the year 2007, LH return on equity, investments and sales can be considered satisfactory enough for ensuring a stable growth. In 2008, although profitability of sales and investments is still adequate, equity is not remunerated enough. Operative costs are adequately covered by revenues but the weight of financial area influences negatively the net profit. In 2009 the drop of profitability is evidently demonstrated by all the three indicators (ROE is even negative). AFKL ROE, ROA and ROS in 2007 can be considered acceptable. However, it must be observed the better performance of LH in both operative and financial areas. In fact even if AFKL revenues are higher than LH, the German carrier obtains better operative result and more than the double of net profit. Negative operative results in 2008 and 2009, demonstrated by the negative indexes of return on sales and assets, confirm the critical situation in AFKL Group after the global financial crisis. The bad general economic performance in AFKL is verified by the highly negative return on shareholders' equity in those years.

Summarizing, global financial crisis has threatened economic sustainability in LH as well as AFKL. The French-Dutch carrier tried to face the problem by cutting and renewing the fleet, increasing simultaneously the efficiency by raising the load factor. Results have been

inadequate to satisfy shareholders. The German airline, differently, pushed for the expansion of the flight network by raising the fleet, the number of passengers and, limitedly for the year 2008, the revenues, obtaining better performances in the operative area. Furthermore, a suitable management of the cash flow, ensured the sufficient liquidity to face the crisis. Considering the global economic context, the satisfactory operative and financial performances, made more certain the economic sustainability within LH Group.

### 3.4.2 Environmental Performances<sup>132</sup>

The first step for the assessment of environmental performances is the construction of a table that contains the data of results reached, from the two airlines (Lufthansa and Air France KLM), by type of emission, consumption of resources and energy intensity. As seen before, the major objectives of environmental sustainability for the airline sector are based on some main commitments: reduction of greenhouse gas emissions (CO, CO<sub>2</sub>), local air emissions (NO<sub>x</sub>, SO<sub>2</sub>, HC, UHC), noise generation, and optimization of energy and resource consumption. Considering that emissions in the air are all related to fuel consumption, the diminution of absolute and relative utilization of kerosene simultaneously with increasing use of biofuels, represents a main objective of the commitment towards better environmental results.

**Table 13:** *Environmental Performances Lufthansa and Air France KLM* (Sources: Lufthansa BALANCE 2009, 2010; Lufthansa Environmental data 2010 additional report; Air France KLM Corporate Social Responsibility Report 2009, 2010)

|                            | Lufthansa  |            |            |        | Air France KLM |            |            |         |
|----------------------------|------------|------------|------------|--------|----------------|------------|------------|---------|
|                            | unit       | 2008       | 2009       | %      | unit           | 2008       | 2009       | %       |
| <i>Emissions</i>           |            |            |            |        |                |            |            |         |
| CO <sub>2</sub>            | tons       | 24.170.394 | 24.194.229 | 0,10%  | tons           | 27.506.000 | 25.269.000 | -8,13%  |
| CO <sub>2</sub> efficiency | kg/100 pkm | 10,93      | 10,84      | -0,82% | kg/100 pkm     | 9,50       | 9,50       | 0,00%   |
| NO <sub>x</sub>            | tons       | 112.820    | 112.645    | -0,16% | tons           | 143.500    | 130.800    | -8,85%  |
| MO                         | tons       | 17.095     | 17.376     | 1,64%  | tons           | na         | na         |         |
| SO <sub>2</sub>            |            | na         |            |        |                | 14.925.000 | 12.902.000 | -13,55% |
| HC                         |            | na         |            |        | tons           | 3.400      | 4.200      | 23,53%  |
| UHC                        | tons       | 2.066      | 1.982      | -4,07% |                | na         | na         |         |

<sup>132</sup> Based on: Lufthansa BALANCE 2009, 2010; Lufthansa Environmental data 2010 additional report; Air France KLM Corporate Social Responsibility Report 2009, 2010



|                             |           |           |           |         |                       |           |           |         |
|-----------------------------|-----------|-----------|-----------|---------|-----------------------|-----------|-----------|---------|
| <i>Fuel Consumption</i>     |           |           |           |         |                       |           |           |         |
| Fuel Total                  | tons      | 7.673.141 | 7.680.708 | 0,10%   | tons                  | 8.731.000 | 8.021.000 | -8,13%  |
| Fuel Efficiency             | l/100 pkm | 4,34      | 4,30      | -0,92%  | l/100 pkm             | 3,80      | 3,80      | 0,00%   |
| <i>Noise</i>                |           |           |           |         |                       |           |           |         |
| Noise Emissions             |           | *         |           |         | 10 <sup>^</sup> 12 kJ | 1,93      | 1,79      | -7,25%  |
| <i>Energy and Resources</i> |           |           |           |         |                       |           |           |         |
| Electricity                 | MWh       | 538.465   | 627.685   | 16,57%  | MWh                   | 417.990   | 421.581   | 0,86%   |
| Gas                         | MWh       | 111.628   | 128.603   | 15,21%  | MWh                   | 157.975   | 164.189   | 3,93%   |
| Heating/Cooling             | MWh       | 120.532   | 183.047   | 51,87%  | MWh                   | 177.057   | 161.091   | -9,02%  |
| Water                       | m3        | 3.674.822 | 3.915.036 | 6,54%   | m3                    | 1.145.000 | 979.000   | -14,50% |
| Waste water                 | m3        | 445.635   | 438.037   | -1,70%  |                       | na        |           |         |
| Rainwater use               | m3        | 7.449     | 8.716     | 17,01%  |                       | na        |           |         |
| Waste Total                 | tons      | 109.646   | 193.921   | 76,86%  |                       | 67.138    | 67.028    | -0,16%  |
| Hazardous Waste             | tons      | 5.566     | 4.105     | -26,25% |                       | 6.084     | 5.961     | -2,02%  |
| Non Hazardous Waste         | tons      | 104.080   | 189.816   | 82,38%  |                       | 61.054    | 61.067    | 0,02%   |
| of wich Recycling           |           | na        |           |         | % of hw               | 48%       | 58%       | 10,00%  |
| of wich Landfil             |           | na        |           |         |                       | na        |           |         |

na: datum not available because not disclosed by the airline

\* Lufthansa does not disclose an average datum of noise generation but the single emissions for each aircraft (for noise disclosures see Lufthansa Balance)

Table n° 13 compares the most meaningful environmental impact data of Lufthansa and Air France KLM. In 2009 LH burned 7.680.708 tons of kerosene releasing in the air 24.194.229 tons of carbon dioxide (CO<sub>2</sub>), 112.645 tons of nitric oxide (NO<sub>x</sub>), 17.376 tons of carbon monoxide (CO) and 1.982 tons of unburned hydrocarbons (UHC). These absolute data alone do not clarify the environmental impact of the carrier. The comparison with absolute impacts of AFKL corresponds to a first stage of contextualization of the data. Fuel used by AFKL in 2009 (8.021.000 tons) was more than LH but it should be noticed the decrease of AFKL fuel absolute amount in the years (-8,13% than 2008) that is partially justified by the reduction of passenger carried (-3,32%). In the other side, LH was able to maintain the same consumption of kerosene despite the big growth of passenger transported (+8,51%) and size of active fleet (+32,05%). In fact Fuel efficiency policies are strongly followed in Lufthansa. Transport performance (passengers per kilometers) trend compared

with fuel consumption trend<sup>133</sup> shows the continuous improvements achieved. Since 1991 to 2008, transport performance increased by 257 % while fuel consumption and CO2 emission rose by 145 %. Therefore important efficiency was gained in the consumption of kerosene. Nowadays (data of 2009) the consumption is 4,30 liters/100 passenger kilometers, equivalent to 10,84 kg/100 pkm of CO2 (the lowest level in Lufthansa's history), while in 2001 was 4,65 l/100 pkm. Nevertheless the direct competitor AFKL has been much more efficient than LH; in both years (2008 and 2009) the consumption was 3,80 l/100 pkm corresponding to 9,50 kg/100 pkm of CO2. LH must be more eco-efficient in this area. In addition, since fuel represents a big amount of LH operating expenses, the commitment towards increasing fuel efficiency acquires stronger importance not only in the ecological sphere but also for competitive and economic motivations.

Reduction of CO2 absolute amount emissions is pursued also by introducing the utilization of alternative fuels. LH is the first carrier in the world to utilize biofuel in a scheduled commercial flight. Actually, since April 2011 until October of the same year, the Airbus 321 in the route Hamburg-Frankfurt-Hamburg will utilize 50% of bio-synthetic fuel. During these six months trial, the German airline will save around 1.500 tons of CO2 emissions<sup>134</sup>. The goal in LH is to reach, by 2020, the utilization of 5 to 10 percent share (with respect to the amount of conventional kerosene) of synthetic fuels produced from renewable raw materials.

Another central problem of emissions for the aviation sector regards the noise generation in the areas close to the airports. Almost the overall LH group fleet is performing very well in terms of noise emissions. Actually only three kinds of aircraft are over the "minus 10 EPNdB" criterion (Effective Perceived Noise dB), formulated by the International Civil Aviation Organization (ICAO). These performances should be well accepted by the neighborhood of airports. The investments in a quieter fleet is also bringing economic benefits since many airports base their charges in part on the noise measured of landings and take-offs. Furthermore, operational advantages are acquired: quieter aircraft are more often allowed to take off earlier in the mornings or land later in the nights<sup>135</sup>. Same

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<sup>133</sup> Lufthansa Responsibility (web): <http://verantwortung.lufthansa.com/en/>

<sup>134</sup> <http://www.airlinereporter.com/2010/11/lufthansa-first-airline-to-use-biofuel-on-passenger-flights/>

<sup>135</sup> IATA (web): <http://www.iata.org/Pages/default.aspx>

advantages is acquiring AFKL whom noise impact is constantly reducing (-7,25% in 2008-2009).

Finally, another pillar of the environmental strategy of LH and AFKL regards energy and resource management. In this area AFKL performed better than LH. Reduction of energy use for heating/cooling (-9,02%), water consumption (-14,50%) and a considerable amount (58%) of hazardous waste recycled, are the most meaningful results reached by AFKL. Lufthansa Group achieved altogether unsatisfactory performances in all the types of energy and resource consumptions. Nevertheless, important results have been achieved between the years 2008 and 2009 by the business segment LH Passenger Airlines. 6,2% of electricity have been saved (41.815 MWh in 2009 against 44.592 MWh in 2008); freshwater consumption (m3) decreased by 10,5% and the waste of water even dropped by 38,2% (92.206 m3 in 2009 against 149.187 m3 in 2008); another successful performance regards the hazardous waste declined by 43,6% (23 tons in 2009 against 40 tons in 2008). Despite the improvements in ecological efficiency reached, absolute environmental performances achieved are still disappointing. The path towards environmental sustainability is thus presenting more challenges for several reasons such as political and NGOs pressures, compliance, efficiency, image, reputation, and in general, competition.

### **3.4.3 Social Performances<sup>136</sup>**

The other dimension of sustainability regards the social performances intended, in this context, as all the conditions and situations regarding the relationships with employees. Quality and attractiveness of working environment rely on the proper and fair management of personnel selection, training and development, right trade-off between stability and flexibility, diversity in the workplace, health and safety of all worker categories. The following table (table 14) compares the social performance data, listed by area of personnel management, of LH with the ones of AFKL. Immediately, it can be seen that AFKL is reporting better than LH in these aspects of sustainability.

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<sup>136</sup> Based on: Lufthansa BALANCE 2009, 2010; Air France KLM Corporate Social Responsibility Report 2009, 2010

**Table 14: Social Performances Lufthansa and Air France KLM** (Sources: Lufthansa BALANCE 2009, 2010; Air France KLM Corporate Social Responsibility Report 2009, 2010)

|                                | Lufthansa |         |         |        | Air France KLM |         |         |         |
|--------------------------------|-----------|---------|---------|--------|----------------|---------|---------|---------|
|                                | unit      | 2008    | 2009    | %      | unit           | 2008    | 2009    | %       |
| <i>Employees</i>               |           |         |         |        |                |         |         |         |
| Number of employees            | n°        | 107.800 | 117.521 | 9,02%  |                | 110.878 | 108.367 | -2,26%  |
| of which permanent contract    | na        |         |         |        |                | 104.601 | 104.425 | -0,17%  |
| Recruitments                   | na        |         |         |        |                | 4.280   | 1.562   | -63,50% |
| Leavings                       | na        |         |         |        |                | 6.206   | 7.913   | 27,51%  |
| <i>Workforce Diversity</i>     |           |         |         |        |                |         |         |         |
| Ethnic minority                | n°        | 42.105  | 52.780  | 25,35% |                | na      |         |         |
| Women                          | %         | 43,40   | 45,10   | 3,92%  | %              | 42,90   | 42,60   | -0,70%  |
| Women in Top Management        | %         | 14,60   | 14,70   | 0,68%  | %              | 14,90   | 14,90   | 0,00%   |
| Average age years              | %         | 40,40   | 40,30   | -0,25% |                | na      |         |         |
| People over 50 years old       | %         | 19,40   | 19,20   | -1,03% |                | na      |         |         |
| People with Disabilities       | %         | 3,40    | 3,40    | 0,00%  | %              | 3,14    | 3,58    | 14,01%  |
| <i>Stability/Flexibility</i>   |           |         |         |        |                |         |         |         |
| Turnover Rate                  |           | 6,80    | 7,10    | 0,30   |                |         |         |         |
| Part-time ratio                | %         | 26,50   | 26,90   | 1,51%  | %              | 22,90   | 23,90   | 4,37%   |
| Part-time ratio Men            | %         | 14,00   | 14,00   | 0,00%  | %              | 10,10   | 10,30   | 1,98%   |
| Part-time ratio Women          | %         | 42,70   | 42,70   | 0,00%  | %              | 39,90   | 42,20   | 5,76%   |
| <i>Health and Safety</i>       |           |         |         |        |                |         |         |         |
| Industrial Injury Frequency    | na        |         |         |        | IF*            | 4,50    | 4,27    | -5,11%  |
| Total Workplace Accidents      | na        |         |         |        | n°<br>AF+KL    | 3.653   | 2.640   | -27,73% |
| Absenteeism                    | na        |         |         |        | *              |         |         |         |
| Maternity Leave                | na        |         |         |        | *              |         |         |         |
| <i>Personnel Development</i>   |           |         |         |        |                |         |         |         |
| Percentage of payroll trainers | na        |         |         |        | %              | 10,4    | 8,7     | -16,35% |
| Training hours per employee    | na        |         |         |        | hours          | 45      | 34      | -24,44% |
| Percentage of payroll trainees | na        |         |         |        | %              | 94      | 92      | -2,13%  |
| <i>Labor Relations</i>         |           |         |         |        |                |         |         |         |
| Collective Agreements          | na        |         |         |        |                | 23      | 19      | -17,39% |

na: datum not available because not disclosed by the airline

\* Air France KLM discloses these data and many others by employee category.

First of all it is useful to mention some general data of employees. LH workers have increased in 2009 by 9% from 2008 while AFKL cut some personnel (-2,26%), increasing the leavings of 27,51% decreasing simultaneously the new recruitments of 63,50%. Important aspect is the stability of the workplace in AFKL; in 2009, 96% of employees in

AFKL were under permanent contract. At the same time, LH workplace loses a bit of stability in the years; turnover rate registers a continuous increase (6,30 in 2007, 6,80 in 2008 and 7,10 in 2009).

Second aspect to be analyzed is personnel development. In 2009 (data from descriptive reports) LH Group counted 1.227 classic apprenticeships and 307 students in the own bachelor program. Furthermore, 4.089 Service Professionals, such as cabin crews and passenger handling, were trained in the same year. At the end of 2009, 1.248 young past trainees were been employed. Even after the apprentice course has been run, LH offers to the new employees several ways to obtain additional qualifications, combining work and university studies<sup>137</sup>. It must be noticed that the lack of data disclosed by LH in this area makes impossible the comparison with AFKL. In fact the French-Dutch carrier is disclosing more meaningful data regarding percentage of trainers and trainees among employee categories and average training hours. By the way, it is opportune to observe the reduction of training activities in AFKL associable to many reasons: diminution of employees, financial crisis, negative growth and profitability.

Workforce diversity constitutes another important aspect of social responsibility. In this dimension LH is reporting more complete data of AFKL and obtaining at the same time good performances. Nationality of employees is the first issue to be analyzed. Employees without German citizenship in LH are 42.105 in 2008 (40% of total personnel), and 52.780 in 2009 (45% of total personnel). AFKL does not publish these data. Afterwards, the percentage of female employees is constantly increasing in LH. In 2009, 45.10% of workers were women while in AFKL this percentage is 42,60%. Then, women in management position are almost 15% in both airlines. Another important aspect is the percentage of employees with disabilities: around 3,50 % equally for the two carriers. Since selection process is based exclusively on professional and social aptitudes, the globalization and change in demographic development are causing and continuously increasing the diversity among Lufthansa's employees.

Flexibility of working hours plays an important role within a society more dynamic than ever before. Therefore some part-time jobs can be helpful to ensure many people to balance

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<sup>137</sup> Lufthansa Sustainability Reports BALANCE 2010, additional report from Lufthansa Responsibility (web) “Apprenticeships at Lufthansa”

work and private lives. In 2009, percentage of total part time workers within LH is around 27% while in AFKL this is almost 24%. Part-time ratio is very different considering the gender of employees. Part-time men within LH were 14% in 2009 while in AFKL they were 10,30%. This percentage is much bigger for women in LH as well as in AFKL. Considering the female employees of each company, about 42% of them have part-time contracts in both airlines. This phenomenon could be due to maternity reasons or maybe cultural causes.

Health and safety in the workplace represents the last dimension of personnel related performances. LH is not reporting at all any data about accidents, injuries and absenteeism hence it is impossible make a comparison with performances achieved by AFKL. This latter carrier is very well reporting and performing data about accidents (-28% in 2008-2009), industrial injury frequency (-5% in 2008-2009), absenteeism due to sickness or accidents, and maternity leave for each employee category.

The social aspects of personnel management in LH are very well explained in the present and future commitment towards better performances in this field. Nevertheless there is a significant lack of information disclosed about results achieved in the areas of safety in the workplace and personnel development. This fact makes partial the valuation of social performances achieved by the German airline.

#### **3.4.4 Community Performance**

This dimension of sustainability performance is not analytically reported by the airlines assessed. Considering the several social projects in which LH and AFKL are committed, it can be observed a strong commitment by both companies in the field of corporate citizenship. Main social purposes regard humanitarian aids, funds to NGOs caring about ecological and social issues, development of local communities through science and education projects and other minor commitments addressed to the society care.

Important social projects are carried out in LH through the association “Help Alliance”. It is been founded by many staff members of the Group LH, with the goal of supporting worldwide business startups, projects for street kids, educational institutions, orphanages

and bush hospitals. In 2009, Help Alliance expenditures for social projects were 736.960 €; the highest social investment since the association was founded. Considerable support is given by the customers' donations, through the campaign “Small Change –It's a Big Help”, amounting to 224.053 €. This amount corresponds to 30,3 % of total association revenues<sup>138</sup>. Another important social project is “Cargo Human Care”, consisting in humanitarian aids, principally medical equipments, for the people in Nairobi and other poor countries. Corporate citizenship programs are many in LH group but, as said before, they are not well reported in terms of right amount of funds given, voluntary work by employees or customer contributions. This problem embraces AFKL and most of the airlines socially committed as well. Hence, it is difficult to compare results in order to make impartial valuations.

### **3.4.5 Sustainability Reporting and Stakeholder Dialogue<sup>139</sup>**

Stakeholders' dialogue constitutes another important pillar of corporate sustainability. Making aware all stakeholder categories, especially the relevant ones, about sustainability performances is an essential mode for building an accurate relationship. After having identified relevant stakeholders, for example through the matrix interest/influence<sup>140</sup>, quality, completeness and reliability of reporting disclosures are the preconditions for developing the structured dialogue on which the relationship is based<sup>141</sup>. The sustainability reporting disclosed by Lufthansa, called “Balance”, contains very useful information on social responsibility, environment, and corporate citizenship. Furthermore, the additional reports on sustainability issues available in the web site, are increasing the quantity and quality of information. Nevertheless, looking at sustainability reports from other airlines, some weakness can be identified in LH Balance.

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<sup>138</sup> Help Alliance. *HelpAlliance Annual Report 2009*

<sup>139</sup> Based on: Global Reporting Initiative (GRI) 2000-2006. *Sustainability Reporting Guidelines G3 (version 3.0)*; Air France KLM Corporate Social Responsibility Report 2010; Asiana Airlines Sustainability Report 2010; United Airlines Corporate Responsibility Report 2009-2010

<sup>140</sup> For deepening the matrix interest/influence see paragraph 1.3.1 and The Copenhagen Charter. *A Management Guide to Stakeholder Reporting*. 1999. Ernst & Young, KPMG, PricewaterhouseCoopers, House of Mandag Morgen

<sup>141</sup> Hinna L. 2005

First aspect that has to be observed is the utilization of Global Reporting Initiative guidelines for sustainability reporting<sup>142</sup>. In fact, a lot of airlines such as Air France KLM, Asiana Airlines, United Airlines and many others are reporting sustainability facts in line with the GRI guidelines G3. The utilization of the guidelines among the airlines, and in general among other industrial sectors, can be very helpful in order to standardize the disclosures for making easy comparisons about performances achieved. However, despite LH Balance contains detailed data about environmental and social performances, it does not contain references to GRI guidelines. Fortunately, the variety and completeness of LH data make possible some comparisons with competitors but, in the future, a higher level of standardization will be needed.

Then, other aspects regard the issues of disclosure in the report. Areas which will be analyzed concern the disclosures about: environmental performance, social responsibility and corporate citizenship. The section containing information about the environmental impacts in LH is very well structured and detailed. All types of impacts below mentioned are disclosed by overall performance of the group and detailed single performances of each business segment. Greenhouse gas emissions and fuel consumption are published in absolute as well as relative amounts. The most important local air emissions are listed and quantified in absolute amounts. Then, among the data of energy and resource consumption, very well reported, it has to be signaled that, differently than other competitors, there are not indicators of waste recycling in LH. For example, Air France is reporting the percentage of industrial hazardous waste recycled<sup>143</sup>; Asiana Airlines is reporting total and relative amounts of waste recycled<sup>144</sup>; United Airlines is reporting recycle and landfill equivalents of direct as well as indirect waste<sup>145</sup>.

Finally, relying on the “minus 10 EPdB” ICAO criterion, noise emissions are reported in LH by type of aircraft. There is not an average indicator of the overall noise performance of the Group. In fact, some competitors are giving this general data. Air France KLM reports

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<sup>142</sup> Global Reporting Initiative (GRI) 2000-2006. *Sustainability Reporting Guidelines G3 (version 3.0)*

<sup>143</sup> Air France KLM Corporate Social Responsibility Report 2010

<sup>144</sup> Asiana Airlines Sustainability Report 2010

<sup>145</sup> United Airlines Corporate Responsibility Report 2009-2010



the average noise emission in 10<sup>12</sup> kJ; Scandinavian Airlines discloses the average noise generation by km<sup>2</sup>/85dB(A) at takeoff<sup>146</sup>.

Regarding social responsibility, the aspects very well treated in LH Balance concern the workforce diversity and the trade-off stability-flexibility. Then, there is an important lack of information disclosed about performance related to personnel development and health and safety at the workplace. Concerning personnel development, competitors' disclosures can be taken as examples. Air France KLM is reporting, for each employee category, the percentage of total payroll devoted to training, the number of training hours by employee type and the participation rate (number of agent trained/total workforce); Asiana Airlines is publishing data about total and per person education expenses and the education hours per person; United Airlines report contains data about on-line training courses available, training activities completed, leadership/management training courses completed. LH information about employees training and education is contained only in the descriptive section of the Balance; in this way, important data, not published through visible tables or graphics, are not enough emphasized.

Performance related to safety and health in the workplace is not reported at all in LH. Some suggestions of indicators in this field can be taken again from competitors. Air France KLM is disclosing data, for each employee category, regarding absenteeism due to illness, absenteeism due to work accidents, maternity leave, workplace accidents, number of fatal accidents, frequency rate of workplace accidents and severity rate of workplace accidents; Asiana Airlines is providing data about the number of flight crews receiving specialized healthcare services divided in health check-ups, primary care, follow-up care, health education, incapacitated passenger care; additionally, the Asiatic carrier provides data about accident rate, work-related diseases, injuries and deaths; Scandinavian Airlines publishes data about percentage of total sick leave, classified per long term leave, gender and age; in addition, SAS safety disclosure contains data about total number of occupational injuries with more than one day's sick leave and occupational injury frequency (number of occupational injuries per million work hours).

Corporate citizenship commitment in LH is without discussion. The "Help Alliance" (LH foundation) annual report provides some meaningful data about funds received from LH

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<sup>146</sup> Scandinavian Airlines Group Sustainability Report 2010

workers or customer contributions but it represents still a partial commitment towards community. Since LH corporate citizenship program goes beyond the own foundation, the problem in this area is again the lack of structured information, such as comparable indicators, regarding the overall real-practical commitment towards society. Many companies, airlines included, in their sustainability reporting are providing data about investments in the community, funds to NGOs, volunteer workers and volunteer working hours for social projects, etc. For example, United Airlines Corporate Responsibility Report dedicates a section to the community performances; disclosures regard the amount of contributions to united partners and causes divided per category, customer contributions to Charity Miles Program, total volunteer hours and total number of volunteers.

Summarizing, Lufthansa sustainability report Balance needs some improvements in the areas of social performances (employees and community). Firstly, the area of responsibility towards human resources requires the integration of some meaningful performance indicators, especially in the fields of personnel development and health and safety; then, the area regarding the commitment for the society needs to contain more detailed indicators about all actions undertaken. In addition, the emerging needs of standardization and comparisons within and among industrial sectors lead the necessity to report indicators in line with GRI guidelines. The increasing quality, completeness and reliability of sustainability report will enhance the dialogue with all stakeholder categories, focal point of a structured relationship.

## Conclusions

The integrated management of economic, social and environmental performances is the emerging challenge of a growing number of companies willing to move towards a sustainable business. Among the numerous reasons, competitive pressures have been driving many corporations to develop strategies aimed to improve environmental and social performances together with long term financial results. Making strategies feasible is a difficult task of corporate managers; it is true also for those strategies aiming to improve profitability reducing simultaneously social and environmental impacts generated from the business activity. Since Balanced Scorecard is a tool that works like a managerial approach aimed to translate strategies into actions, many authors in the literature have already given the suggestion of implementing environmental and social issues in the instrument. In this way sustainability strategic guidelines could be translated into operative targets to monitor through some performance indicators. Furthermore, some organizations in the business world have already practiced this approach towards sustainability management.

Many industrial sectors are becoming increasingly sensible with respect to ethical concerns which go beyond the compliance with law and regard the field of competitive advantage as well. The airline sector represents one of those experiencing more challenges towards a responsible business. Global climate change, local air quality, noise emissions and employee policies are the main critical issues emerging in the sustainability sphere of the aviation industry. For these reasons, the development of the case about Lufthansa's business segment "Passenger Airline" could be an appropriate way for better understanding the dynamics behind the implementation of sustainability strategies in a real company. The case of the Sustainability Balanced Scorecard developed in Lufthansa is a simulation based mainly on some theoretical frameworks about the process to make sustainability operatively and daily manageable. Since the case is been developed externally (all data utilized are publicly disclosed), the simulation certainly differs than the real dynamics of management happening inside Lufthansa. Despite this fact, it can be considered very close to the reality for many other reasons following listed.

First of all, the general strategic guidelines of Lufthansa (long-term profitability, focus on customer benefits, emphasis on core competencies and system integration, attractive

working environment, environmental and social responsibility) fit perfectly with the five perspectives of the Sustainability Balanced Scorecard. Then, it can be noticed a strong connection between the strategic objectives within the SBSC and the sustainability strategic guidelines identified in Lufthansa which are classified as economic, environmental, social and corporate citizenship. The case is been developed basing on real sustainability and responsibility strategies of the carrier. Strategic objectives within the perspectives have been deducted directly from the existent sustainability strategic guidelines introduced in the web pages about the responsibility at Lufthansa. It can be noticed that perspectives contain between two and five objectives which have strategic relevance. Few objectives helped to simplify the formalization of the strategy within the perspectives.

Secondly, many meaningful data and peculiarities of the carrier and the airline sector derive both from reliable and significant sources: annual and sustainability reports of Lufthansa and competitors, GRI guidelines, contributions of researchers in the field, ATAG, IATA and ICAO reports are only some of the informative supports utilized for the research. These sources have been employed for identifying the key stakeholders, listing environmental and social exposures with the particular kind of impact generated, developing the key performance indicators, and making the assessment of performances attained. By the way, the assessment based on the comparison with competitors opened new ways for enhancing the management of sustainability aspects and the stakeholder reporting. For example, despite Lufthansa eco-efficiency increased a lot in the years, the comparison with the better results reached by Air France KLM made impartial the valuation and laid the basis for future improvements. Then, differently than some good competitors, the lack of indicators disclosed by Lufthansa regarding some dimensions of employee policies emphasizes the need to enhance some aspects of sustainability report published by the German carrier.

Furthermore, even if the whole list of key performance indicators derives only partially from the reports disclosed by Lufthansa, many other indicators have been developed basing on suggestions of researchers in the field of corporate sustainability in the aviation sector, adapted from sustainability reports of competitors, or taken directly from Global Reporting Initiative sustainability reporting guidelines G3. It must be noticed that some objectives contain an excessive number of indicators. In fact, despite the BSC framework by Kaplan and Norton provides between 15 and 25 indicators for all the perspectives, the list of

indicators developed in the case of Lufthansa is much bigger. The reason is that it aims to be purposeful and helpful in order to better realize the connection between strategy and operations.

Finally, strategy map is been drawn connecting the strategic objectives through causal linkages based on logical relations that much probably occur in the reality of a business activity.

The above mentioned features make the work more credible and thus consultable by both business as well as academic world. For its vicinity to the reality, the case is aimed to be a sort of consultancy on corporate sustainability in the airline sector. Furthermore, the detailed process to implement the Sustainability Balanced Scorecard can be adapted to all types of business activities and not only to the airlines. In fact, the identification of the field of action (stakeholders and exposures), the development of strategies and its translation to objectives and indicators, finally, the construction of the strategy map, are all compulsory steps that every company must make in order to develop a balanced scorecard for corporate sustainability.

In addition, further research can be made in the field of corporate sustainability management in the aviation sector. Other indicators, which could be more meaningful for the purpose of monitoring the integrated sustainability performances, can be identified. Then, deeper analysis about the historical trends of indicators identified and their connections can be useful for confirming or rejecting the assumptions about the causal relations among objectives. New relations between indicators, and thus objectives, could even be discovered. For these purposes, mathematic tools and statistical analysis, such as multiple regressions, are needed.

In conclusion, the work was expected to introduce and clarify the process to translate sustainability strategies into actions trough the implementation of the SBSC. This tool can be considered a good starting point for incorporating environmental and social aspects into business management decisions. Nevertheless, the support of the scorecard for moving towards corporate sustainability represents only a partial step. The full commitment in the direction of a sustainable business must be characterized by many other changes affecting culture, structure and management of the organization. First of all, leadership and strategy represent the key factors. Commitment of top management towards social and

environmental concerns must be communicated to all levels of the organization. The whole organization has to be practically and culturally involved in the process towards corporate sustainability. Then, management systems should support the successful implementation of the sustainability practices. Costing, capital investment and risk management systems must contain parameters for the evaluation of the integrated environmental, social and economic performances. Connected to the performance evaluation system, incentives and rewards should address the employees to social and environmental improvements. In addition, payoffs of sustainability actions have to be measured and assessed. New measurement systems, based on collection and processing of integrated environmental, social and economic data, should provide information useful for improving both sustainability and financial performances. Finally, external sustainability reporting must be disclosed in order to share information with all stakeholders.

Despite it remains only a phase for moving towards a responsible business, Sustainability Balanced Scorecard represents an important starting point for the integrated management of economic, environmental and social performances.

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