

GREEN BPM

The BSC: defining green goals and strategies

The authors Butler, Henderson & Raiborn (2011, p. 9) claim that the strongest limitations of incorporating the fifth imperative (sustainability) into the financial goals and strategic programmes of a company are represented by the inability to measure the effects of sustainability on shareholder value, the inability to document the consequences of applying sustainability on financial performance, and the lack of decision-making frameworks that consider environmental aspects. Butler et al. (2011, p. 9) continue explaining that taking the Balanced Scorecard (BSC) into account can help overcome these barriers by providing a framework for the integration of qualitative measures into the operations of a company and by linking the corporate goals, objectives and strategies with sustainability principles. The BSC concept emerged in the 90's and was proposed by Kaplan and Norton as a new way to measure the performance of companies to move away from the unilateral orientation (accounting and financial goals) and short-term goals and strategies. Thus, Kaplan and Norton (1996, p. 8-9) introduce this new methodology to combine financial and non-financial goals within the performance management system, identifying key components of operations, setting goals for them and finding ways to measure progress towards their achievement. The innovation of BSC was on the evaluation of an organisation from four perspectives, elaborated by the authors (1996, p. 25-29) as follows:

- The financial perspective is related to profitability: it measures revenue growth, return on investment (ROI), cash flow, cost reduction, economic value added, etc.
- The customer perspective focuses on customer satisfaction, retention and acquisition, the identification of market segments and the delivery of value proposition.
- The internal business perspective aims at identifying and improving processes for the achievement of high efficiency as well as innovation in process operations.
- The innovation perspective is a key driver to innovate, improve and learn. The ability to develop new products and/or services, create value for customers and improve the operations efficiency has a direct impact on the company value and opens opportunities for new markets and increasing revenues.

Kaplan and Norton (1996, p. 15) highlight the dynamic nature of the instrument; there are cause-effect relations between the perspectives. As it can be seen, this management instrument offers a space for the analysis of financial as well as non-financial (qualitative aspects) aspects, providing the top management with a comprehensive and easily understandable view of the whole business model. If the integration of qualitative aspects in this instrument is possible, then the evaluation of environmental aspects could also be taken into account, and due to the cause-effect relations among the four perspectives, the sustainable aspects could be integrated into the general management system. The authors Butler et al. (2011, p. 4) argue that once organisations have established their approach to sustainable operations, the management can choose between three ways for incorporating "green" aspects into the BSC in order to assist their operations:

- The addition of "sustainability" as a fifth perspective to the management instrument.
- The development of a new BSC, meaning separately from the classical one.
- The integration of sustainable measures throughout the four perspectives.

To evaluate the objectives, strategies and risks using the Horus BPM tool, the third way was chosen.

Green business goals model

Once the Supply & Services Model was defined, the framework for the analysis and modelling activity can be defined more elaborately. As a complementation of this model type, the Business Goals Model follows: the organisations goals are defined, derive from the company's mission, and can be refined and specialized until a desired area is fully identified. The Green Business Goals are the most important starting point for the organisational strategies.

Due to the idea that the management of green business processes intend to reduce the environmental impact generated by business process operations without neglecting the economic goals of an organisation, in order to set these goals it is necessary to consider two important things: to asset environmental concerns on a par with financial aspects rather than being subordinated to the second one, and for efficient goals it is necessary to determine them once their measurement is known.

The Horus Green Business Goals Model was then first defined for the internal business perspective (the goals for the rest of the perspectives are derived from this first one) through the evaluation of the availability of key ecological indicators for organisations.

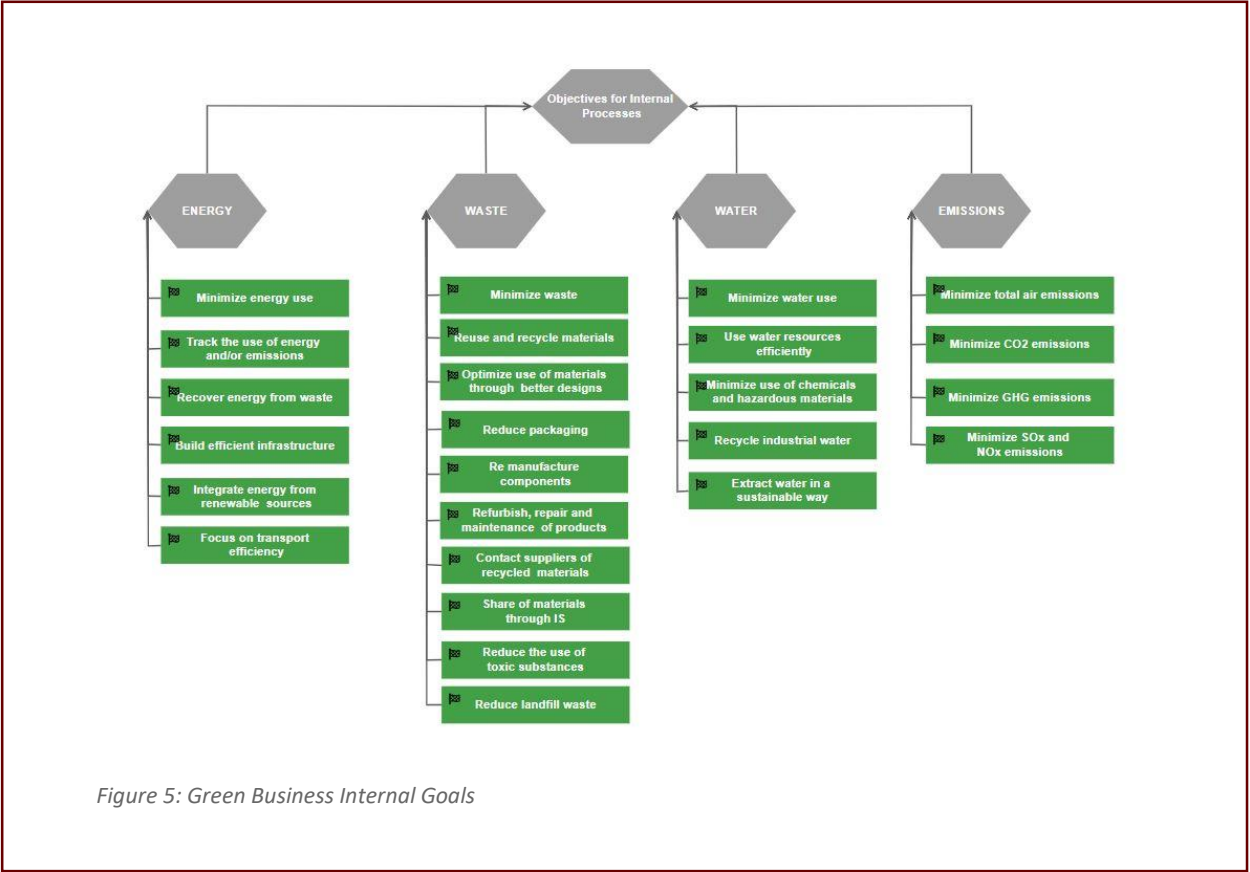


Figure 5: Green Business Internal Goals

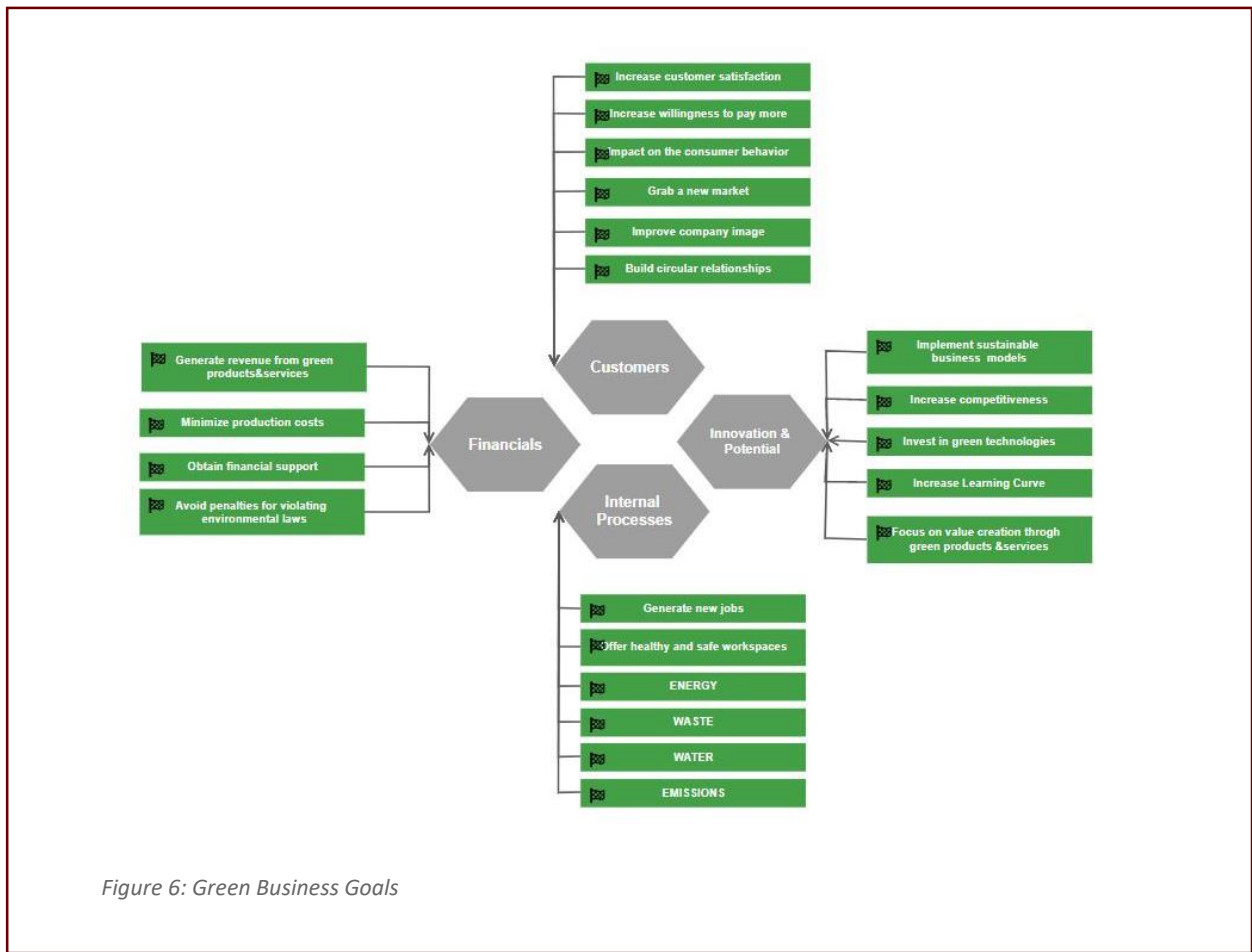


Figure 6: Green Business Goals

The figures above show the resulted model of the green business goals designed by the Horus Business Modeler based on the four perspectives of the BSC and the findings of literature review, so the different aspects that could be achieved by facing the internal process perspectives can be seen.

Once the green service model was defined, the second step is the selection of the internal process goals to be achieved. The “greening” of the process will define the aspects that will be taken into account when determining the other perspectives of the BSC. It is important to mention that the goals diagram has general purposes. The priorities and cause-effect relationships between the elements of the table can be different among organisations.

Green business strategies model

The Horus Strategies Model provides the necessary approach to achieve the established goals, therefore, having a well-structured Business Goals Model is of great importance for this stage. For every goal, the strategies appropriate to achieve sustainable aspects will be defined. The strategies will later be assigned to risks, key performance indicators and objectives.

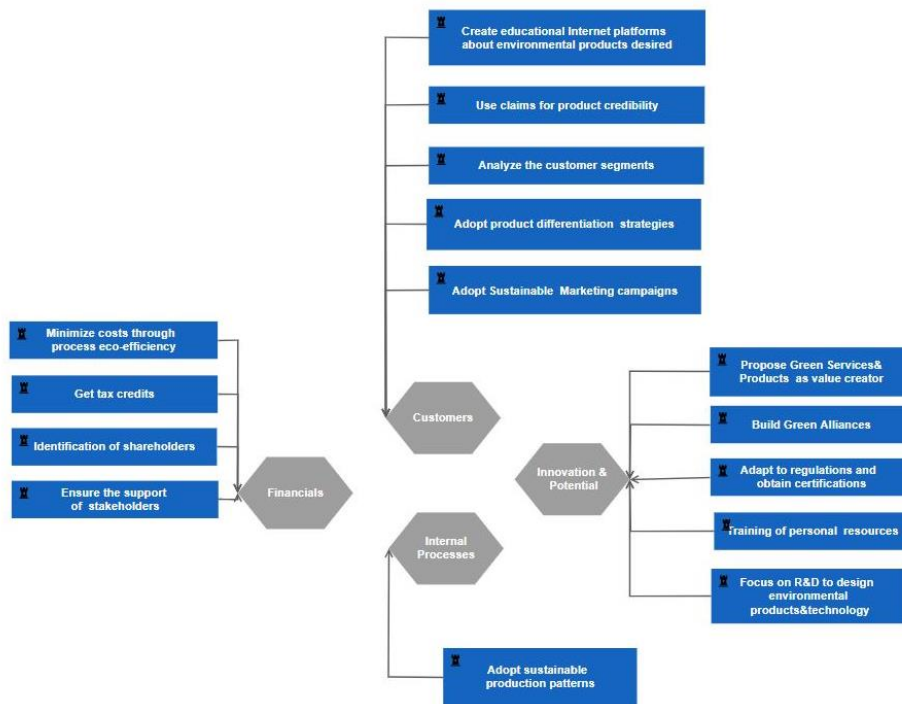


Figure 7: Green Business Strategies

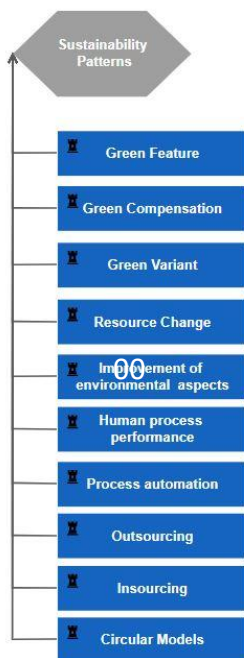


Figure 8: Sustainable Production Patterns

Making recourse to the definition of green business, the design of the Green Strategies Model begins by addressing the perspective of the company's internal operating processes. Based on the chosen goals, the definition of a sustainable production pattern represents one of the first steps. The selection of the strategies involves in the different perspectives of the BSC depend on the selected green goals.

Literature

Butler, J. Cherie Henderson, S. Raiborn, C. (2011). Sustainability and the Balanced Scorecard: Integrating Green Measures into Business Reporting. *Management Accounting Quarterly*. Vol. 12, No 2, p. 1-10.

Kaplan, R.S. Norton, D.P. (1996). *Translating Strategy into the Balanced Scorecard*. Boston, USA. Harvard Business School Press. p. 8-9, 15, 25-29

Nowak, A. Leymann, F. Schleicher, D. Schumm, D. Wagner, S. (2011). *Green Business Process Patterns*. IAAS Institute of Architecture of Application Systems- University of Stuttgart. Stuttgart, Germany, p. 1-10.