

# **Corporate Sustainable Development Performance Measurement: A Systematic Review and proposal of an indicator Grid for Manufacturing Companies**

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## **Abstract**

Interest in measuring corporate sustainable development performance has increased considerably in recent years. Efforts to define, quantify, and measure progress in sustainable development have contributed to the development of a wide variety of indicators, expressed in technical language, and targeting the multi-dimensional aspects of sustainable development. Such interest has favored the emergence of various organizations specialized in sustainable development performance measurement and the development of an ever-increasing number of international standards and indices. Examples of such standards include the Global Reporting Initiative (GRI), the Pacific Sustainability Index (PSI), the Dow Jones Sustainability Index (DJSI), the Corporate Sustainability Index (ISE) supported by the World Bank Group, the Sustainability Accounting Standards Board (SASB), ISO 26000, ISO 14001, TOTAL and FORD indicators grids, UN Global compact, etc. In addition, over the last decade, an overwhelming number of scientific publications have suggested a variety of indicators for corporate sustainability performance assessment in different industrial contexts. In the same vein, many governments have also worked hard to identify indicators and set targets for measuring progress on sustainable development.

The objective of this paper is twofold. First, this paper exposes the results of a systematic review covering both professional and scientific literature. Second, it draws up an inventory of SD indicators and proposed an indicator grid specific to manufacturing companies. These indicators will allow i) to monitor and measure the impacts of the manufacturing company's sustainable activities, ii) to facilitate comparisons and rankings between companies, iii) to improve communication with stakeholders (Fiorino, 2006; Perrini & Tencati, 2006), iv) to inform decision-making processes (Perrini and Tencati, 2006) and v) to offer companies (whether or not engaged in sustainable development activities) assist them in selecting relevant and appropriate actions for sustainable development.

In terms of results, a systematic review of the scientific literature and the professional standards was conducted. On one hand, 610 articles were collected for the period 2007-2017 and a detailed analysis was carried out on 141 articles dealing with sustainability performance assessment for manufacturing companies. On the other hand, 7 standards and their associated indicators were analyzed (GRI, ISO-16000, DJSI / RebecoSam, UQAC grid, United Nations, Ford PSI, TOTAL). Results in terms of indicators provided by the scientific literature and the standards were confronted. They show that novel sub-dimensions and aspects, not yet included in the existing standards, emerged from the

scientific literature. Moreover, as the majority of the standards that were analyzed was not specific to manufacturing companies, our research work proposes an indicator grid created specifically for manufacturing companies. The grid includes 94 economic indicators, 51 environmental indicators and 60 social indicators.

### **Keywords**

Sustainable development, Extra-financial performance, manufacturing companies, measurement, standards and norms.

### **Acknowledgements**

The authors would like to thank the “Centre d’expertise universitaire voué au développement des organisations” of University of Quebec at Rimouski who funded this research.

### **Biographies**

**Anissa Frini** is professor in quantitative methods and production in the department of management science of University of Québec at Rimouski. She holds a Ph.D in operations and decision support systems and an MBA in Information Systems, both from Laval University. She has expertise with decision science, multiple criteria decision aid, dynamic and sequential decisions, temporal evaluations, and uncertainty management. Her research is applied for sustainable development, project selection, healthcare, and military contexts.

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