

A Critical Evaluation of the Sustainability Balanced Scorecard as a Decision Aid Framework

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Abstract

Despite being one of the most renowned systemic thinking decision aid frameworks in sustainability management, the Sustainability Balanced Scorecard (SBSC) suffers from a fragmented literature on architecture design methodologies. These often depend on the modeler's viewpoint, contextual inputs and subjective assessment. A structured critical analysis of the existing architectures and their construction methodologies can make a clear contribution to this field of research. In this paper, we initially present an overview of the major decision aid frameworks used in sustainability management which we classify in two categories: operational methods and systemic approaches. Then, we focus on the SBSC and conduct a critical evaluation of this decision aid framework's key features and architectures in order to depict the most salient characteristics and conceptual flaws. We propose consequently some research directions for the construction of more promising SBSCs.

Keywords: Balanced Scorecard, Sustainability Balanced Scorecard, Sustainability decision aid frameworks, sustainability management, system thinking, system dynamics.

INTRODUCTION

Sustainability management is a serious challenge facing the modern mankind. Organizations are striving to successfully create and implement the right sustainability strategies. This task is particularly daunting at the moment managers feel they need to make the classical societal-economic trade-off. Yet, research has shown that companies that are most successful in creating "blue oceans" and reinventing double-digit growth businesses are those who quickly understood that the foundations for their business models need to be built around sustainable thinking and created shared value [1]. The question we ought to ask, therefore, is no longer the *why* but rather the *how*. How should firms and organizations integrate sustainability into their business models? Which tools, frameworks or approaches can help decision makers create competitive advantage around fair, equitable and eco-friendly growth strategies?

The literature on sustainability decision aid frameworks is

abundant. However, two trends are noteworthy: The first one, which concerns the vast majority of studies, addresses operational decision aid including multi-criteria/multi-objective decision making methods, [2-4], artificial intelligence [5-7] or mathematical programming techniques [8], to help solve, among others, evaluation, selection or outranking problems. The second trend, the less widely explored one, pertains to system thinking approaches which cover such patterns as adaptive capacity, feedback, emergence, and self-organization [9].

This discrepancy in research coverage is of particular significance, especially when scholars contend that effective sustainability management requires a systemic all-encompassing analysis of ecosystems, with carefully drawn interconnections between social, political, environmental and economic factors [10].

The Sustainability Balanced Scorecard (SBSC) is one of the most renowned frameworks in system thinking approaches dealing with sustainability management [11]. However, a close analysis of the literature unveils that proposed architectures present some evident drawbacks that can benefit from further honing. A revised and systematic SBSC construction methodology is needed in order to make it more encompassing, more adaptive to various contexts, and less prone to human mental models' biases.

In this work, we present a holistic overview and categorization of the main decision aid frameworks used in sustainability management and Corporate Social Responsibility (CSR). Then, we focus on the SBSC and make a critical review of the corresponding architectures and construction methodologies. Finally, we propose some promising research avenues for a more robust SBSC.

OVERVIEW OF DECISION AID FRAMEWORKS IN SUSTAINABILITY MANAGEMENT

The aim of this overview is to depict the types and usage frequency of the main decision aid frameworks used in sustainability and CSR management over the past fifteen years. In order to efficiently reap the largest benefit from the existing literature, the synthesis method consisted of analyzing the major literature review works that have been

