Chapter 7
An Introduction to the Green IT Balanced Scorecard as a Strategic IT Management System

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ABSTRACT

This chapter introduces the Green IT Balanced Scorecard by incorporating an environmental aspect of technology into the scorecard measurement method. The authors conceptualized the Green IT balanced scorecard as "a nomological management tool to systematically align IT strategy with business strategy from an environmental sustainability perspective in order to achieve competitive advantage." The objectives of the Green IT balanced scorecard include the measurement of technology performance via the effective integration of environmental aspects, the investigation of both tangible and intangible assets of Green IT investment, the alignment of IT performance and business performance, and the transformation of the results into competitive advantage. This concept offers a new possibility for both practitioners and researchers to translate their sustainable business strategies into Green IT actions.

INTRODUCTION

The Strategic Balanced Scorecard (BSC) was first introduced in 1992 by Kaplan and Norton as a measurement tool used to achieve corporate goals in a dynamic environment (Kaplan and Norton, 1996). The basic concept of this balance scorecard was to translate an organization's mission and strategy into a comprehensive set of performance measures that establishes the framework

for a strategic measurement and measurement system. This scorecard was created to supplement traditional financial measures with criteria that assessed performance from three additional perspectives: namely, customer, internal business process, and learning and growth perspectives (Kaplan and Norton, 1996). This scorecard also allowed companies to track financial results while simultaneously monitoring their progress in building the capabilities and acquiring the intangible assets they would require for future growth. These intangible assets affect a company's performance by enhancing the internal processes most crucial to the creation of value for customers and stakeholders (Kaplan and Norton, 2004).

The Balanced Scorecard has already been implemented at corporate, strategic business unit, shared service functions, and even individual levels (Epstein and Rejc, 2005). Since the first introduction of BSC, the tool has undergone a significant evolution, driven by a series of external factors (Cram, 2007), including the IT environment. The adoption of a balanced scorecard in IT functions and its processes has been previously conducted by some researchers (e.g. CIO, 2003; Martinsons *et al.*, 1999; Van Grembergen, 2000). The IT-balanced scorecard has also been adopted as the foundation of specific IT scorecards such as ERP (e.g. Chand, 2005; Rosemann and Wiese, 1999; Rosemann, 2001). However, until this stage, even though this scorecard has successfully integrated some important IT aspects and aligned them with business strategies, this IT management tool does not include environmental aspects as a component of imperative business drivers. Environmental concerns have become increasingly important in the business world; however, those concerns are only incompletely reflected in economic transactions (Figge *et al.*, 2002). Therefore, in this paper we have incorporated the environmental aspects of technology into scorecard measurement, as one of the soft factors that may ultimately prove more important than the efficient use of investment capital. We identified our model as the *Green IT*

Balanced Scorecard. In the next sections, we will discuss in a step-by-step manner the development of the Green IT Balanced Scorecard, including the Cause and Effect Model, Green IT Metrics, and a range of recommendations for the companies when implementing this scorecard.

BACKGROUND

The Development of the IT Balanced-Scorecard

Since its early stages, the IT balanced scorecard has received a great deal of attention from IT researchers and IT practitioners. One of the best-known versions of the IT balanced scorecard is the one developed by Van Grembergen and colleagues (1998, 2000). This scorecard proposed four perspectives: the User Orientation perspective represents the user evaluation of IT; the Operational Excellence perspective represents the IT processes employed to develop and deliver the applications; the Future Orientation perspective represents the human and technology resources needed by IT to deliver its services, and the Business Contribution perspective captures the business value of the IT investment (Van Grembergen, 2000). The working council for Chief Information Officers (2003) conducted an extensive review of IT scorecards and found that the most advanced scorecards shared in common the following six structural attributes: simplicity of presentation, explicit links to IT strategy, broad executive commitment, enterprise-standard metrics definitions, drill-down capability and available context, and individual manager compensation should be linked to scorecard performance. Additionally, these progressive scorecard practitioners track metrics in five key categories: financial performance, project performance, operational performance, talent management, and user satisfaction, as well as two additional metric categories--information security and enterprise initiatives.

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