

Posters

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## **Life-Cycle Learning: A Pathway to Sustainable Strategic Management**

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### **Abstract**

It is tacitly acknowledged that life-cycle analysis (LCA) is both conceptually and methodologically central to effective environmental management because of its focus on analyzing the environmental impacts of a firm's products, services and processes from cradle-to-grave. According to Richards, et al. (1994, p. 13), "The most far-reaching implication of integrating environmental concerns in the economic decisions of companies is the need to take a life-cycle approach to environmental analysis." According to Sharfman, Ellington, and Meo (1997), life-cycle analysis will have to be a core process in organizations in the 21st century. LCA involves analyzing environmental effects of resource extraction, materials processing, transformation, distribution, consumption, and ultimate disposal (Makower, 1993; Gladwin, Levin, & Ehrenfeld, 1994). LCA provides the framework to give firms timely data on ways to improve environmental performance, to cut costs, to extend the life of products, and to make firms more competitive (Meffert & Kirchgeorg, 1994; Sullivan & Ehrenfeld, 1994).

Organizational learning focuses on the development of continuous, cyclical, dynamic organizational processes which allow the organization to continuously adapt to its environment (Lei, Hitt & Bettis, 1996). Organizational learning has been conceptualized as information processing with a focus on knowledge acquisition, knowledge creation, and knowledge diffusion (Attewell, 1992; Huber, 1991; Leonard-Barton, 1992). Key elements of effective organizational learning include analytical processes, information systems, and human resource systems designed to support concurrent learning within the organization (Grant & Gnyawali, 1996). Effective organizational learning systems encourage both adaptive, lower-level learning-the incremental exploration and exploitation of familiar routines-and generative, higher-level learning-the innovation and exploration of new organizational cognitive frameworks and routines (Argyris, 1977; Fiol & Lyles, 1985; March, 1991; Senge, 1990). In essence, adaptive learning involves doing things differently-problem solving and idea evaluation based on current mental models, whereas generative learning involves viewing things differently-questioning mental-models in order to generate new ideas.

To this point, LCA has been employed primarily at the lower, adaptive level of learning. That is, it is been used as an analytical tool for incremental improvement of current environmental routines in order to enhance the environmental performance of organizations. However, it has been widely acknowledged that achieving sustainability will require that organizations elevate their strategic focus from environmental management to sustainable strategic management (Hart, 1995, 1997). It has also been acknowledged that, whereas effective environmental management requires learning new ways of doing things, the transition to sustainable strategic management will require that organizations learn new ways of viewing things (Shrivastava, 1995; Stead & Stead, 1996). Thus, whereas the adaptive learning focus of LCA has been an effective tool for improved environmental management, the transition to sustainable strategic management will require that the focus of LCA be elevated to a higher, more generative level of learning, which we refer to as life-cycle learning (LCL).