Chapter VI

Improving Competitive Intelligence Through System Dynamics

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ABSTRACT

To survive in a complex and dynamic world, organizations need relevant, timely, and accurate information about their environment. Due to the increasing complexity and dynamics of the environment, organizations run into several difficulties in their efforts to structure the intelligence activities. Two particularly persistent problems are (1) determining the relevant environmental cues and (2) making sense of the particular values of these cues. The current available methods for competitive intelligence do not eliminate these problems. In this chapter, system dynamics (SD) is
proposed as an appropriate tool for competitive intelligence. System dynamics is a simulation methodology that deals with the dynamics of complex systems from a feedback perspective. How SD can help in dealing with the problems in direction (selecting the relevant environmental cues) and analysis (making sense of cues) stages and how ICT can support the use of SD in intelligence activities are discussed.

INTRODUCTION

To survive in a complex and dynamic world, organizations need relevant, timely, and accurate information about their environment. Information about, for instance, clients, competitors, and technological or ecological trends is vital for constructing or revising strategies. The process of delivering this information is sometimes called the “competitive intelligence” process (cf., Kahaner, 1997; Cook & Cook, 2000). This process normally consists of four phases. In the direction phase, an organization decides on what environmental aspects information should be gathered. In the collection phase, the requested information is collected. In the analysis phase, the collected information is interpreted in the light of the strategy of the organization. Authors on competitive intelligence would say that in this phase, “intelligence is produced”—meaning that during analysis, it may be concluded that some piece of information is “relevant strategic information” or “intelligence.” In the last phase, the intelligence is shared with strategic decision-makers and used to construct or adjust strategies. The collection of these phases is usually referred to as the “intelligence cycle” (see, for instance, Sammon, 1986; Gilad & Gilad, 1988; Herring, 1992; Bernhardt, 1994; Kahaner, 1997).

Obtaining information about the environment for (re)formulating strategies has, of course, always been important. However, due to an increase in complexity and dynamics of the environment (e.g., increased competition, globalization, increase of amount of information, rapid political change, increased speed of technological developments), many organizations recognize the need to structure the intelligence activities (cf., Gilad & Gilad, 1988; Prescott & Fleisher, 1991; Cook & Cook, 2000). Organizations such as Shell, Motorola, Kellog, Xerox, or Akzo-Nobel implemented or are currently implementing so-called “intelligence units” in the hope that they can obtain the requested intelligence.

However, in their efforts to structure the intelligence activities, organizations run into several difficulties (see e.g., Vriens & Philips, 1999, for an
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