

# ICT-Supported Gaming for Competitive Intelligence

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## INTRODUCTION

Collecting and processing competitive intelligence for the purpose of strategy formulation are complex activities requiring deep insight in and models of the “organization in its environment.” These insights and models need to be not only shared between CI (competitive intelligence) practitioners for the purpose of data direction, collection, analysis, and dissemination, but also between CI practitioners and strategy makers. Sharing these insights and models requires high-quality communication (both regarding content and process) between these parties. In this overview, we examine the potential of (ICT- [information communication technology] enabled) simulation games to improve the quality of communication between CI practitioners and strategy makers.

## BACKGROUND

Organizations need to collect and process competitive intelligence about the environment to formulate their strategies. Moreover, the pressure to produce timely, accurate, actionable, and strategically relevant intelligence is growing because the complexity and dynamics of the environment is increasing rapidly (cf. Cook & Cook, 2000; Fuld, 1995; Kahaner, 1997).

CI processes produce this intelligence. Usually, these processes are broken up into four stages: direction, collection, analysis, and dissemination (Fuld & Company, 2002, Kahaner, 1997). In the direction stage, CI professionals establish what data are relevant for the purpose of strategic decision making. In the collection stage, relevant data sources are determined and data are collected from them. In the analysis stage, collected data are transformed into competitive intelligence that can be used by strategic decision makers. In the dissemination stage, the competitive intelligence resulting from analysis is disseminated over strategic decision makers so that they can incorporate it in the process of (re)formulating their strategies.

If CI is to deliver its contribution to the process of strategy formulation, a proactive mode of intelligence gathering seems most appropriate (Ellis, 1993; Hannon, 1997; Tessun, 1997). In this mode, intelligence practitio-

ners try to anticipate environmental developments that may have a strategic impact and assess their consequences. Proactive intelligence requires, in our view, a deep insight into the organization in its environment. For instance, directing the search for information requires an insight into strategic problems the organization in focus has to cope with, and environmental factors having an impact on these problems. To direct the search for data, CI professionals need to construct models of these strategic problems and environmental factors. Analyzing collected information and transforming it into intelligence builds on these constructed models and requires an insight into possible effects of a multitude of states of affairs and events in the environment of the organization, on parties relevant to and the organization in focus itself.

Not only do CI practitioners need a model of the organization in its environment, it is also important that this model is shared among the different parties involved in the intelligence process. The model should be shared among CI professionals so that they have a common orientation toward performing their CI activities. Moreover, it should be shared among CI professionals and strategic decision makers for several reasons. Among these are (a) improving the understanding amongst CI professionals of strategic problems, (b) grounding the model in the strategic orientation of the organization, (c) facilitating the dissemination of the intelligence, (d) ensuring commitment of strategic decision makers to using the intelligence, and (e) improving the process of monitoring and maintaining the model itself.

Sharing the model among the relevant parties in the organization requires high-quality communication (both regarding content and process) between these parties. In this overview, we examine the potential of (ICT-enabled) simulation games to improve this communication process. As Geurts, Caluwé, and Stoppelenburg (2000) assert, simulation games may be a valuable tool contributing to improving the quality of the communication. Simulation games are organized procedures (involving all kinds of paraphernalia) allowing participants to improve communication about complex problems by providing a safe and controlled environment to experiment with different interventions under varying circumstances by means of models representing these complex problems. The element of simulation requires participants to interactively model the

organization in its environment, systematically analyzing relevant variables, parties, processes, and their relations. The element of gaming allows participants to interactively experiment with the model in a relatively safe environment. Together, the simulation and the gaming elements can improve both the content and the process of communication required for proactive competitive intelligence. Although the use of games in supporting intelligence

activities has been reported (e.g., Allgaier & Powell, 1998; Clark, 1998; Fuld, 1998), the link between simulation games and CI has not been treated thoroughly. In this overview, we examine this link.

To deliver its contribution to the intelligence process, simulation games may be supported by ICT in various ways (e.g., by groupware of various Web-based

Table 1. CI stages and required knowledge

	Description	Required knowledge
Directing	Determine strategic information requirements	Model of organization in its environment; how to use the model to derive required information
Collecting	Identify sources and retrieve data from them	How to select sources; how to approach sources
Analysis	Transform data into intelligence	Model of organization in its environment; how to use the model to assess the impact of specific constellations of environmental variables
Dissemination	Forward intelligence to strategic decision makers	Selection of what users get: what intelligence in what format

Table 2. Contribution of gaming and simulation to improving the quality of communication

		Increasing awareness and motivation	Training skills	Increasing knowledge and insight	Improving communication and cooperation	Integration of learning experiences	
Building the simulation game	Model building	Model building may increase awareness of the importance of knowledge and communication.	Training in structuring complex problems in terms of simulations	Increasing knowledge about the problem under consideration (What is the problem? Why is it a problem?)	If participative methods for model building, transformation, and scenario definition are used, chances are created to improve communication and cooperation between parties dealing with the simulated problem.	Participative building allows for pooling knowledge and creating a shared language, improving discussions between parties dealing with the simulated problem.	
	Transforming model into game		Training in making understandable complex models and making them transferable to other people	Increasing knowledge about relevant variables, parameters, events, and relations related to the problem			
	Scenario definition						
Using the simulation game	Preparation	Awareness of differences between points of departure, differences between events, differences between lines of interventions and their effects  Motivation providing a sense of control and security needed to deal with problems  Focus is on habituation and tacit knowledge	Quickly picking up relevant aspects of a complex problem situation	Knowledge and insight in (constellations of related) variables causing certain effects given certain starting conditions, events, and interventions	Teams of players playing against or with each other need to cooperate, communicate, and get feedback on communication and cooperation and the results.	Shared understanding and awareness of the dynamics of the complex problem given different conditions, events, and interactions	
	Introduction		Operationally dealing with complex problems in different circumstances  Dealing with unexpected events and interventions	Focus is on analysis and explicit knowledge			
	Playing the simulation game						
	Analysis and feedback						

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