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## OPERATIONALIZING STRATEGY WITH PARTICIPANT-MODIFIABLE PARAMETERS

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### ABSTRACT

A simulation comprises variables, parameters, and attributes. Policy can be operationalized as a set of decisions involving variables; and strategy, as a set of decisions involving parameters.

### INTRODUCTION

Although business simulations are widely used in courses on business strategy (Faria, 1987; Keys & Wolfe, 1990), simulation designers have not explicitly incorporated the concept of strategy into their designs. This omission may be because no generally accepted definition of the concept exists. As Shirley (1982: 262) has observed, "there are almost as many definitions of strategy as there are writers about the subject."

Despite the absence of a single definition, Bracker (1980) notes that resources and environment are commonly mentioned in definitions of strategy. Considering that a simulation comprises variables (factors participants can modify directly), parameters (factors instructors can modify directly), and attributes (factors designers can modify directly), perhaps resources are variables, environment is a collective term for parameters and attributes, and strategy decisions are decisions involving parameters.

This definition of strategy, as a set of decisions involving parameters, passes Shirley's (1982: 264) first test of strategic decisions for it is "directed toward defining the organization's relationship to its environment." Furthermore, the definition gives the concept a decision focus and limits its scope, characteristics Shirley found lacking in traditional definitions of strategy.

If decisions involving parameters are strategy decisions, then decisions involving variables should be policy decisions. A simulation that operationalizes strategy should have a mechanism for executing strategy decisions that is different from the mechanism for executing policy decisions. In particular, strategy decisions should be permitted only occasionally. Furthermore, a zero-sum constraint should be effected such that more change to one parameter must be accompanied by less change to another, thereby recognizing the reality of a strategy-maker's limited time.

### IMPLEMENTATION

CEO (Thavikulwat, 1991) is a total enterprise simulation that operationalizes strategy. In CEO, participants advance through five ages, each age comprising 12 decision periods. Policy decisions are directly executed by participants, and are allowed in every decision period. Strategy decisions must be requested by participants and executed by the instructor, and are allowed only in the beginning period of the last two ages. The strategy decisions change the parameters, and thus affect each firm's environment in all later periods.

### LIMITATIONS AND POSSIBILITIES

This operationalization of the concept treats strategy at the business level ("How should we compete in this business?"), rather than at the corporate level ("What business should we be in?") (Summer et al., 1990). At the corporate level, strategy would be operationalized as decisions involving attributes. Changing attributes, however, requires changing the program code. Because no feasible way exists for instructors to change the program code quickly and safely, Operationalizing strategy at the corporate level has not been attempted.

This implementation of strategy does not lend itself to applying most of the common approaches to business strategy (Mitroff & Mason, 1982), such as the experience curve, the business portfolio matrix, and the competitive strategy technique. Accordingly, it cannot substitute for exercises and cases that illustrate those approaches. But this implementation does lend itself to applying Ohmae's (1982) key factors for success (KFS).

Ohmae, describing KFS, stated that "when the company has in effect no more management resources than its competitors in the same business or trade, it can often achieve resounding competitive success if it is effective in bringing those resources to bear on the one crucial point" (p. 39). Ohmae's approach applies precisely to business simulations, because all companies in the typical simulation begin with identical or equivalent resources and all compete in the same business or trade. Furthermore, the large number of parameters involved in many total enterprise simulations designed for business strategy courses (Keys, 1987; Wolfe & Teach, 1987) assure that participants will not be able to examine all items in detail. They will find it sensible to search for key factors.

In CEO, for example, as many as 76 parameters can be involved, many of which are part of complex mathematical functions. Participants who seek key factors will realize that only a few of the parameters can make a major competitive difference, and therefore, the remaining parameters are unworthy of examination.

### DISCUSSION

Hambrick (1980) observed that the concept of strategy has been operationalized in four ways: by textual descriptions, by measurement of parts, by multivariate measurement, and by typologies. Strategy, as a set of decisions involving parameters, operationalizes the concept in a fifth way: by simulation.

Conventionally, simulations have been considered as mere products of theory (Stanislaw, 1986). Perhaps the time has come for business simulations to help develop theory. Theory building in business strategy has been hindered by confusing terminology (Leontiades, 1982). Operationalization by simulation can lessen the confusion.

(References are available on request.)