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USING BEHAVIORAL SIMULATIONS IN TEACHING STRATEGIC MANAGEMENT PROCESSES

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There is *no* accepted body of knowledge which clearly defines either the practices of strategic management or how these practices should be taught. Not surprisingly, the subject is taught in a variety of ways. For example, the Harvard case study approach emphasizes the firm's perspective and the need to develop strategies based on a match among opportunities and threats and the firm's strengths and weaknesses (e.g., Guth, 1976; Learned, Christensen, Andrews, & Guth, 1965). In contrast, approaches based on theories of industrial organization emphasize the importance of environment and industry structures — they analyze which factors determine the nature and intensity of the competition within an industry (e.g., Porter, 1980). Contingency approaches to management strategy relate firm attributes and environmental developments in order to consider how, as organization-environment relations change, the emphasis on one or another strategy may be more or less appropriate (Harrigan, 1980; Miles & Snow, 1978).

These alternative approaches to the practice of strategic management are all directed towards determining what factors should be taken into account and what analytical techniques should be used when a firm is deciding a strategy to pursue. However, firms must not only analyze but also act on their strategic choices. There is a strong bias in management education to focus on analytical questions and to ignore the associated behavioral processes involved in problem finding, agenda building, influencing others, and coalition formation (Porter & McKibbin, 1988). Yet knowledge about the behavioral processes that lead to results is at least as important as knowledge about analytical techniques that can help one to make strategic choices (Bower & Doz, 1979; Nutt, 1984; Frederickson, 1985; Stumpf, 1988b). As large-scale behavioral simulations offer participants opportunities to experience the behavioral processes involved in strategic management, their use may reduce some of these current biases in management education (Porter & McKibbin, 1988). Knowledge about alternative ways

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for analyzing choices should be complemented by more awareness of the behavioral processes involved in implementing strategies (e.g., Dutton & Jackson, 1987).

Currently, seven behavioral simulations are available, each inductively designed based on organizational events, which can facilitate participants' awareness of the behavioral processes involved in strategic management. We describe and contrast these behavioral simulations in order to highlight the different environmental and organizational contexts that effect the awareness and learning which each facilitates (Pettigrew, 1973; Meyer, 1982) and to suggest how different behavioral simulations can be used to teach strategy implementation. Because our experience with behavioral simulations is extensive (we have observed over 80 uses of the seven simulations discussed with students, managers, and executives), we draw on it to analyze the attributes and benefits of the various simulations. We have attempted to do this in an unbiased and objective manner — in the same way observational data are often collected in social research. Nevertheless, others who are familiar with behavioral simulations may not agree with all of our analysis.

What is a Behavioral Simulation?

A behavioral simulation is an experience of approximately 1 to 3 days duration where the informational content and roles presented to participants are designed to reflect what people encounter in a particular, real-world environment. Participants are expected to behave and react as if they were role-holders in a real-world setting. Since such time-limited settings are simulated rather than institutionalized, participants must be convinced that they should become involved and take their role assignments seriously (Zelditch & Hopkins, 1966). In order to gain awareness of how they manage strategically, participants must be free to exhibit behaviors that typify their normal interaction in organizational settings.

Behavioral simulations stand apart from computer simulations in that they attempt to reproduce individual and collective behaviors including some degree of political, cultural, and conflict activity that would normally be observed in a managerial work environment (McCall & Lombardo, 1982; Stumpf, 1988a). The types of behavioral simulations we discuss here are ones that attempt to mirror all of the top management roles of a company. Stumpf (1988a) refers to this type of business simulation as a large-scale behavioral simulation to distinguish it from computer simulations and other experience-based activities such as role-plays, experiential exercises, assessment center exercises, small group activities, and individual in-basket exercises.

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The reality of the organizational setting in a behavioral simulation is created through the use of extensive background information and in-baskets for each simulated role that are interconnected to reflect organizational realities. This creates the possibility of dynamic interactions among participants over the duration of the simulation. The content of in-baskets as well as the whole design for the organization are based on actual data and events collected from ongoing organizations.

Alternative Behavioral Simulations

In each simulation, participants are given a choice of several roles that vary in terms of hierarchical position, product or functional responsibility, issues to be addressed, and status. These roles create the organizational structure. For example, in the Foodcorp simulation there are 13 roles which include the president, senior vice president (SVP) finance, chief operating officer, SVP dry goods group, and so on (see Figure 1). Seven behavioral simulations are described below — key attributes are then summarized in the Tables that follow.
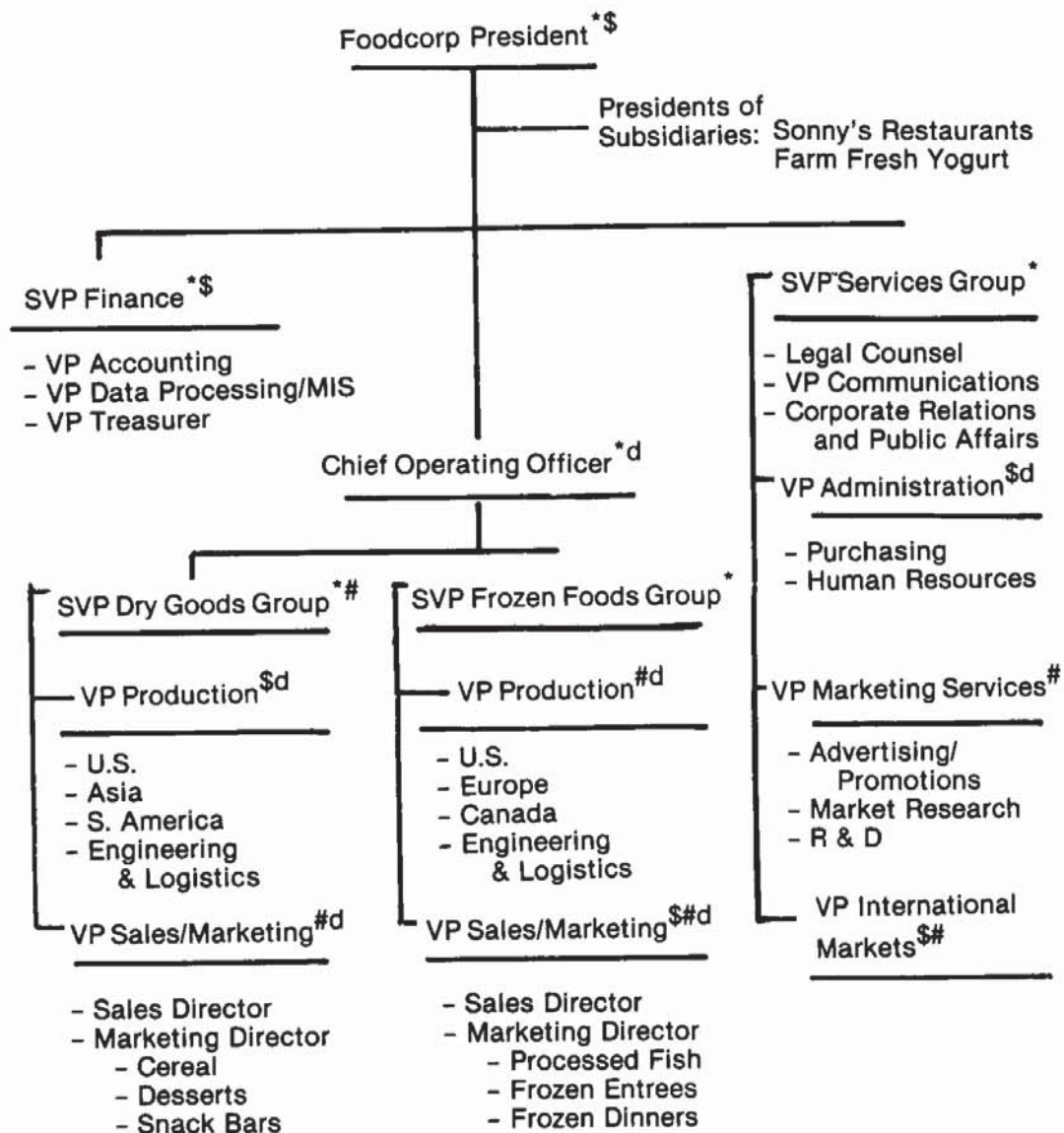
Foodcorp International. Foodcorp International, a food manufacturing organization, simulates 13 senior management roles, three levels of hierarchy, two product groups, and two subsidiaries (Sonny's Restaurants and Farm Fresh Yogurt). Foodcorp's products (dry goods and frozen foods) are sold to distributors and retail supermarkets throughout the U.S. and in 60 other countries through 30 manufacturing plants, 15 marketing affiliates, 7 licenses, and 6 regional export sales organizations. Foodcorp is a fairly large firm within its industry with 25,000 employees and $2.7 billion in sales.

Foodcorp uses a matrix organizational structure and has several committees to augment this structure (see Figure 1). New product development activity, internal corporate venturing, joint ventures, international licensing agreements, and diversification/consolidation activities are integral to Foodcorp and the food processing industry. Consumer marketing (including brand development and advertising) and production quality are key issues domestically and internationally.

Looking Glass, Inc. (LGI). LGI is a glass manufacturing company that simulates 20 senior management roles, four levels of hierarchy, and three product divisions. Its eight product lines extend from conventional lightbulb casings to high-tech optical fibers. All products are manufactured by LGI and sold to other organizations, not individual consumers or distributors. LGI is a mid-sized, national firm with 4,000 employees and $200 million in sales.

The three product divisions of LGI (commercial glass, industrial glass, and advanced products) experience substantially different market environments (stable, moderately uncertain, and uncertain). Although several issues and capital expansion proposals require collaboration among the

FIGURE 1
Organizational Chart

Foodcorp President*$

Presidents of Subsidiaries: Sonny's Restaurants Farm Fresh Yogurt

SVP Finance*$
- VP Accounting
- VP Data Processing/MIS
- VP Treasurer

Chief Operating Officer*d

SVP Services Group*
- Legal Counsel
- VP Communications
- Corporate Relations and Public Affairs

VP Administration$d
- Purchasing
- Human Resources

SVP Dry Goods Group*#

VP Production$d
- U.S.
- Asia
- S. America
- Engineering & Logistics

VP Sales/Marketing#d
- Sales Director
- Marketing Director
    - Cereal
    - Desserts
    - Snack Bars

SVP Frozen Foods Group*

VP Production#d
- U.S.
- Europe
- Canada
- Engineering & Logistics

VP Sales/Marketing$#d
- Sales Director
- Marketing Director
    - Processed Fish
    - Frozen Entrees
    - Frozen Dinners

VP Marketing Services#
- Advertising/ Promotions
- Market Research
- R & D

VP International Markets$#

*Executive Committee

$Acquisitions Committee

#New Business Development Committee

dDistribution Systems Task Force

Note: Developed by Ahern, Dunbar, McBride, Miguel, Mullen, Nachman, Brown-O'Gorman, Stumpf, and Ulrich, © Stumpf and Mullen, 1988. All rights reserved.

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divisions, each division functions separately. Key issues relate to interdivision rivalry, hierarchical relationships, and the management of a diversified portfolio of products.

Globalcorp. Globalcorp is a diversified international conglomerate of $27 billion in assets. Each of its 13 senior management roles has corporate strategy development and business portfolio management responsibilities. The banking services sector is comprised of a consumer banking group, business and personal group, and consumer credit group. The advisory services sector includes a management consulting group and a travel services group. The investment services sector is comprised of an insurance group, broker/dealer group, and capital markets group. Each group has two or three lines of business that offer a full array of products or services and has profit-center responsibility.

Unlike the autonomous divisional activity common to LGI, Globalcorp involves active coordination and competition across lines of business. The three levels of Globalcorp hierarchy are augmented by a committee structure that encourages cross-sector and cross-business discussion of new business ventures, acquisitions, mergers, divestitures, and strategic direction.

Metrobank. Metrobank is one of three simulated companies in the financial services industry (see Investcorp and Landmark Insurance Company below). These simulations each have 12 or 13 senior management positions across three levels of hierarchy and two major product-service areas (individual and corporate/institutional services). These financial service firms can be used separately, in multiples, and in various combinations. Several key issues in each simulation are linked to the other two simulations. For example, the data processing problems in Metrobank might be resolved by subcontracting them with Investcorp.

Metrobank is part of Metrobank Holding Company, which includes a regional bank with $1.5 billion in assets and a medium-sized regional finance company, Leading Finance, offering mortgages and installment loans. Business activities include savings and loan products for consumers, commercial lending, and corporate banking.

Given Metrobank's size, defining a strategic position is critical in order for the company to compete effectively in a rapidly intensifying competitive environment. Key issues include merger and acquisition activity (which is common within the industry), as well as rapid technological improvements in operations, data processing, and delivery systems. Questions of customer service, cross-selling products to customers, responding to changing competitive pressures, target marketing, and the consistency of business goals and participant actions are particularly salient.

Investcorp. Investcorp is part of Investcorp Holding Company, which includes a large securities firm with $108 million in capital and a regional life insurance company, Rolley Insurance. Services offered range from investment banking to retail and institutional sales of stocks, bonds, options, and

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the like, to specialized customer services. The three selling entities of Investcorp (capital markets, institutional sales, retail sales) experience different customers, markets, and competitors — yet, they need to collaborate extensively on a day-by-day basis to reduce financial risk.

The securities industry is highly time and transaction oriented. Minutes in the trading area can mean thousands of dollars in profits or losses. Participants must ensure that Investcorp is organized and operationally ready for this challenge. Key issues include the level of support for new product introductions, maintaining a rapid and flexible response to the marketplace, effective internal coordination and control, and taking business actions consistent with the firm's goals.

Landmark Insurance Company. Landmark is among the top 20 mutual life insurance companies in the United States. Operated for the benefit of its more than 1 million policyholders, Landmark has assets of over $15 billion, life insurance in force of over $69 billion, and paid dividends and benefits of over $2.17 billion last year. The services offered range from individual insurance and investment products to group life and health insurance to group pension plans. Landmark affiliated companies include a realty management company, a securities firm, and a research services firm.

As a mutual life insurance company, Landmark's goals may differ from companies owned by stockholders because Landmark's responsibilities are to its policyholders. Long-term stability in a rapidly changing environment is essential for insurance companies. This raises issues of how to effectively respond to changes within the industry that seem to demand new products and services, more diversification in business activity, and new channels of distribution. Landmark has a matrixed committee structure within its formal hierarchical structure to address these issues directly.

Northwood Arts Center. The Northwood Arts Center (NAC) is a not-for-profit arts organization composed of three units: The Crandall Museum, the New Horizons Theater, and the NAC staff and support services. NAC's expenses last year exceeded $3 million, leaving a shortfall of $31,000. NAC is managed by seven directors. The Crandall Museum has over 2,500 members and 100,000 visitors each year. New Horizons has about 14,000 subscribers and 116,000 customers annually.

As with most not-for-profits, NAC has many constituencies that it must satisfy — each placing different demands on what NAC does. On the funding side, the state, local, and federal government grants, as well as charitable contributions, often have strings attached. For earned income, different consumers want different types of performances and different art forms displayed. Community groups want to influence NAC's activities to support their concerns. Board members often have their own views of what performances should be done — and the Board members are often art donors and financial supporters of NAC. Key issues involve accommodating diverse constituencies, establishing a viable programming policy,

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profit goals for a not-for-profit organization, and organizational culture and values.

Attributes of Behavioral Simulations

Some of the attributes of each of the above simulations that make it more "life-like" than other pedagogies for teaching strategic management are the presence of a formal hierarchy, the division of labor, and realistic information contained in a hefty in-basket. Several other characteristics that enhance the real-life quality of the simulation include: the existence of various standing committees; prescheduled committee meetings that can be attended, rescheduled, or ignored by participants; and the in-coming and out-going mail, throughout the simulation, which is created by the participants as they attend to or ignore various issues. The large number of issues contained in a behavioral simulation (typically 15 or more major issues and 30 or more minor ones, with each role confronting 6 or more major issues and 10 or so minor ones) make it a rich environment and context in which to manage. Depending on their experience, participants may attend to more or fewer issues than they might want to if they were given unlimited time to participate in the simulation. As in real life, issues that arise in conjunction with managing people will emerge independent of participants' backgrounds, and will tend to challenge even the most experienced participants.

The materials in the simulation mirror real organizational experiences. Prior to the simulation experience, participants are assigned an organizational title, an associated salary, and role responsibilities. They are given a corporate annual report, an organizational chart, and information describing the functions performed by other role holders, including their superiors and subordinates. From 2 to 10 hours are devoted to having participants read and analyze this background material. While much of this effort is performed individually, small group meetings and presentations are frequently conducted to thoroughly familiarize each participant with his/her role and key company attributes.

Upon arriving at the simulation room, participants are provided with individual office space, desks, a conference room, phones, in-baskets, and writing materials. As an initial structure to their work day, they receive schedules of meetings, agendas of issues, budget reports, and memos containing information about current and unsolved problems as well as various opportunities. In addition, mail pick-ups and deliveries are scheduled throughout the day. All of these organizational trappings are designed to encourage a belief in the simulation as a real and valid experience.

The simulations begin with a complex and ambiguous task. Simulation participants are asked to run the organization as they see fit. The simulation typically concludes at a specified time 6 or more hours later with an address

by the president to the other employees. What issues are explored or ignored, who gets involved in decision making, how formal and personal power are used, what climate is created and how it affects the participants, and the actions to be taken or not taken emerge from the participants within the context of the simulation. Although an organizational structure exists and some meetings are preplanned, participants are free to manage the organization as they choose. The fact that each role is initially constrained by the content of the information in it (e.g., data in memos, annual reports, and job descriptions) does not constrain how individuals interact to get additional information or how information is interpreted, shared, or used. Since most participants do not fully comprehend all the issues faced by all units within a particular firm even after presimulation strategic planning sessions, strategy implementation must rely on the joint efforts of the participants. They must keep one another informed on possible actions on key issues; collect relevant information and summarize its implications; and formulate, become advocates for, and convince relevant others to accept new policy proposals.

As simulation participants become involved in strategy-making activities, they are confronted with the time pressures, uncertainties, and dependencies associated with bounded rationality constraints (March & Simon, 1958). As participants experience and then become more aware of their limited capacities to comprehend, they may feel threatened which in turn, may reduce their adaptive capacities. The rigidities noted by Staw, Sandelands, and Dutton (1981) are frequently observed. Participants may restrict their information processing, narrow their fields of attention, overlook details, and reduce contact with other organization members in order to cope with the demands of a senior management position. Decision-making power often becomes centralized, and policies become dependent on the overall vision and comprehension of those occupying roles at the top of the simulated organization's hierarchy. Subordinates can get isolated and even become alienated. The importance of influence and interpersonal skills that enable the relevant participants to be included in decision making becomes evident to most.

In order to maintain an understanding of activities with strategy implications, the top management group depends increasingly on the inputs of participants occupying roles lower in the hierarchy, even as these participants may be focusing their attention on local matters and cutting themsevles off from a more global perspectives. In the 5 to 10 hours of feedback and analysis sessions that take place after the simulation experience, participants become more aware of these dynamic interdependencies, how their interdependencies evolved over time, and the behavioral roles that they and others enacted in this policy-making process.

Participant response to a behavioral simulation training experience has been uniformly positive. No one has dismissed the experience as unrealistic

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or unrepresentative. In fact, the feedback process encourages participants to discount those aspects of the experience that are unrealistic or unrepresentative to them. Post-feedback session evaluations of the program have highlighted a tremendous amount of relevant learning that participants think and feel they obtained. Follow-up research has confirmed these evaluations — participants remember the experience and the lessons they learned several years later. Eighty-six percent have asked if they could attend another simulation to further their insights and development.

Comparisons Among Behavioral Simulations

Structural Attributes

Although behavioral simulations have much in common as a pedagogical technique, what one learns as a result of participation is partly determined by the specific simulation used. Several structural attributes of the different simulations discussed above are noted in Table 1. Reflected in the simulations are differences in business focus (including international versus domestic, manufacturing versus service, profit versus not-for-profit, and the types of products offered within an industry), organizational structure (number of product and staff groups, number of committees and roles), and levels of hierarchy (from 2 to 4). For naive participants, the learnings about strategy implementation may be greatest when one participates in a simulation closest to one's current work situation or intended career area (Mintzberg, 1978). For experienced participants, the challenge of managing in a different work environment may lead to more useful insights about how questions of strategy implementation look different from different standpoints; experienced managers are likely to become aware of alternative perspectives on the strategic management process (Quinn, 1980).

Contextual Attributes

The context within which one manages often affects one's behavior. For example, individual search activity is a function of the individual's cognitive complexity as moderated by the contextual attributes of the situation. When rich, extensive information is provided, people are more likely to attempt to analyze the information for insights into appropriate future actions. When little information is available, extensive search activity is more likely to take place, followed by analysis if the search is productive or plans for obtaining the desired data if the search was not productive. When individuals are dealing with a known or knowable context (e.g., an historical time period or a stable, predictable future), the search for the "right" answer that is supported by data and analyses intensifies. When the context is not knowable or predictable, more intuitive decisions that rely on familiar associations consistent with past experiences are likely to be made.

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TABLE 1

Structural Attributes of Different Behavioral Simulations

Simulation	Business Focus	Organizational Structure	Levels of Hierarchy
Foodcorp International	international marketing and manufacturing	2 product groups 1 staff group 4 committees 13 roles	3
Looking Glass, Inc. (LGI)	industrial manufacturing and sales	3 product divisions functionally organized, 20 roles	4
Globalcorp	international financial and advisory services	3 business sectors 3 committees 13 roles	3
Metrobank	consumer and corporate banking	2 product groups 1 staff group 2 committees 12 roles	3
Investcorp	securities-brokerage and investment banking	2 product groups 1 staff group 2 committees 13 roles	3
Landmark Insurance Company	group and individual life/health insurance (mutual)	2 product groups 3 staff groups 3 committees 13 roles	3
Northwood Arts Center (NAC)	visual and performing arts	2 artistic units 1 staff group 7 roles	2

Note: Information on each of the behavioral simulations is available from the authors and from Thomas Mullen, Director, MSP Institute, c/o NYU Stern School of Business, Undergraduate College, 40 West 4th Street, Room 611, N.Y., N.Y. 10012. 212-998-4118. Some of the simulations can also be obtained through the Center for Creative Leadership, P.O. Box P-1, Greensboro, N.C. 27402; 919-288-7210.

Table 2 summarizes four attributes that vary across the different behavioral simulations: depth/extent of information available, environmental context in time, whether or not a corporate vision and goals have been articulated as part of the simulation materials, and the percentage of corporate level issues built into the simulation compared to group or individual level issues. Contexts that place heavy demands on participants' information processing capabilities, where the future is not easy to forecast accurately and no current vision or goals are provided in the simulation written materials, result in more efforts by participants to define their strategic situation and their firm's place within its changing environment (McHugh, 1968; Dutton & Webster, 1988). Metrobank, Investcorp, and Globalcorp typify this scenario. Foodcorp, LGI, and Landmark tend to

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TABLE 2

Contextual Attributes of Different Behavioral Simulations

Simulation	Depth/Extent of Information[a]	Environmental Context (Years)	Corporate Vision/Goals Articulated	Percent Corporate Level Issues
Foodcorp International	Moderate to Heavy	Late 1980's	Yes	40%
Looking Glass, Inc. (LGI)	Moderate to Light	1980's	No	25%
Globalcorp	Very Heavy	1990's	Optional	70%
Metrobank	Heavy	1980's	No	33%
Investcorp	Moderate to Heavy	1980's	No	33%
Landmark	Moderate to Heavy	1980's	Optional	40%
Northwood Arts Center (NAC)	Moderate to Light	Timeless	Optional	50%

[a]Some role-playing exercises have been referred to as behavioral or organizational simulations. One major difference between role-plays and the behavioral simulations discussed herein is the depth and extent of information provided. Role-plays might involve 2 or 3 pages of background material along with a couple of pages of role-related material. In contrast, each of the behavioral simulations discussed above have 40 or more pages of background material and typically twice that amount of role-specific material. The most extensive behavioral simulation developed to date is Globalcorp with over 100 pages of background, and nearly 200 pages of role-specific memos for each role. Because of the extensiveness of information provided, Globalcorp is typically conducted over 3 or more days.

generate an alternative scenario whereby participants are inclined to accept the status quo. Rarely is the firm's strategic direction discussed or altered.

The greater the percentage of corporate level issues raised, the more participants attempt to address questions of strategic direction. Their learnings as a result of participation are more likley to be around the importance of examining environmental factors, creating a corporate vision, setting business goals, and influencing others to accept and support the strategic direction proposed. When the percent of corporate level issues is low, participants tend to focus their attention on local concerns. This can be personally frustrating if the organization does not have a corporate vision. This situation has become evident in the LGI, Metrobank, and Investcorp simulations whereby participants experience the need to balance short-term and long-term concerns.

Process Attributes

Several of the structural and contextual factors summarized in Tables 1 and 2 result in identifiable patterns of behavior that are distinguishable

across the different simulations. Although research on strategic management processes is still in its early stages (Dutton, 1983; Hickson, Butler, Cray, Mallory, & Wilson, 1986; Mintzberg, Raisinghini, & Theoret, 1976), we have been able to identify several process attributes through observations of managers running the simulated companies as shown in Table 3.

TABLE 3

Process Attributes of Different Behavioral Simulations

Simulation	Information Processing	Discussion Focus	Networking	Type of Decision Evaluation Emphasized
Foodcorp International	sense-making, application	wide-ranging, long and short term positioning	extensive	agreement on directions and actions
Looking Glass, Inc. (LGI)	searching, application	constrained to finding best choice, optimizing	moderate	profitable choices
Globalcorp	sense-making, envisioning	wide-ranging, mid to long-term	extensive	agreement on direction
Metrobank	sense-making, application	wide-ranging, long and short term positioning	moderate	agreement on directions and needed actions
Investcorp	sense-making, application	wide-ranging, long and short term positioning	moderate	agreement on directions and needed actions
Landmark	sense-making, application	wide-ranging, mid to long-term positioning	moderate	agreement on directions and needed actions
Northwood Arts Center (NAC)	sense-making, envisioning	wide-ranging, long and short term	moderate	agreement on direction and actions

Many behavioral simulations initially overwhelm participants with a vast amount of information. In each of the simulations, work starts off with a sense-making process. In Foodcorp, Metrobank, Investcorp, Landmark, and Northwood, the need to conceptualize a current strategic position for the firm within its current environment quickly becomes apparent. Wide-ranging discussions, over the course of the simulation, are directed towards

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reaching agreement as to the most appropriate current position. As agreement is reached, there are important implications for both long- and short-term actions.

The direction of the information processing in LGI contrasts with the other simulations. LGI encourages participants to seek out information that will help them identify the most profitable, short-term allocation of resources across divisions. Increasingly, as the day progresses, the paramount importance of profit criteria and the minimal importance of other criteria become apparent to participants. Yet, as most groups are not able to pull all necessary information together to make optimum decisions, the simulation provides useful insights into the nature and effectiveness of information search behavior.

The range of issues likely to be emphasized, and the widest variety of performance criteria, are included in Foodcorp, Globalcorp, and NAC. In particular, they include a large number of ways of building alliances within the business as well as with other organizations. In order to move forward, participants need to develop a strategy concerning the type of alliance relationships they prefer. Discussions consider not only financial criteria but also what directions the firm should pursue and how. Participants' accomplishments are usually assessed by determining the agreement achieved around the directions the firm should take and the agreement achieved around the types of actions which will support these directions.

There are a few patterns of behavior with identifiable processes that are recreated across simulations or across multiple uses of each simulation. Each group of participants does create its own social system and take actions consistent with its collective views of the simulated company. The strongest patterns observed are: (a) students take more actions and more risks than seasoned managers and (b) participants from the same work organization going through a simulation together tend to recreate the culture and climate of their real-time employer. Research is underway that explores these and other possible patterns.

Organizational Performance Indices

The use of organizational performance indices to provide feedback to participants varies across the simulations as shown in Table 4. In many cases, the idea of financial performance information is simply to provide a general idea of "how well" participants did. Additional feedback can then focus on explaining either how good financial results were achieved or how bad financial results came about when seen in conjunction with the other goals pursued by the participants. LGI is an exception, however, for specific financial performance information is provided on 13 critical capital investment decisions, and these are presented as central to the success of the performances of LGI participants.

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TABLE 4

Organizational Performance Indices
Typically Used with Different Behavioral Simulations[a]

Simulation	Feedback is Provided On:			
	Financial Performance	Organizational Goals	Goals/ Actions Consistency	Internal and External Venturing
Foodcorp International	General	Yes	Yes, but limited	Yes, choices highlighted
Looking Glass, Inc. (LGI)	Specific for 13 capital actions	No	No	Limited
Globalcorp	General	Yes	Yes, but limited	Yes
Metrobank	General	Yes	Yes	Yes, but limited
Investcorp	General	Yes	Yes	Yes, but limited
Landmark Insurance Company	General	Yes	Yes	Yes
Northwood Arts Center (NAC)	General	Yes	Yes, but limited	No

[a]Each of the simulations requires the participants to complete a lengthy questionnaire that provides data on the number of actions taken "perceived effectiveness," and on organizational climate. The set of the most commonly taken actions have also been evaluated by industry and content experts to provide an "objective" index of effectiveness. Staff observers (generally one for every six participants) routinely collect collateral measures as a function of the learning goals sought by the sponsoring organization.

In the other simulations, there is variation in the breadth of goals and other development possibilities that decision makers can explore. The most extensive possibilities are provided in Foodcorp, where participants must not only decide a strategic position within an international arena, but also how to implement this position through internally generated projects, joint ventures, licensing agreements, or mergers. Globalcorp also emphasizes broad goals in the delineation of the directions it may explore and in how alliances should be built. Simulation designers make a trade-off in this matter, emphasizing either the breadth of issues and the different ways of organizing structurally to accomplish these objectives; or specific goals and specific consistent actions that will lead to the accomplishment of these goals. The latter emphasis is most evident in Metrobank, Investcorp, and Landmark.

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Individual Effectiveness Measures

As suggested in Table 5, behavioral simulations are ideal vehicles for generating feedback about participants' individual skills and effectiveness. This information tends to be of two sorts: assessments by the individual and assessments by other participants. One assessment captured in five of the seven simulations is each participant's view of the key functional area priorities facing the firm. Participants may not see the firm's priorities in the same relative order as the company views them as a whole. How does this affect their effectiveness? A second area of individual effectiveness relates to how participants perceive each others' contributions. Were individuals involved in and making meaningful contributions to the resolution of various issues?

Stumpf (1988b) identifies a third area of individual effectiveness through a set of skills that facilitate efforts to define and enact a strategic position. These skills are: knowing the business and markets, managing subunit rivalry, finding and overcoming problems, staying on strategy, being an entrepreneurial force, and accommodating adversity. The assessment of these skills is most relevant in simulations where strategic positioning is a priority, as with Foodcorp and Globalcorp. After the simulation, participants provide information on the extent to which they had knowledge of and understood the issues faced in the simulation, so that this information can be related to their perceptions of the contributions made and overall individual effectiveness.

The Metrobank, Investcorp, and Landmark simulations employ questionnaires that ask all participants to assess individual contributions to the different areas where it is possible to formulate organizational strategies. Such information provides insights into how people with individual responsibilities may have influenced the overall directions of the firm. Overall self- and other-assessments of individual effectiveness are collected in LGI, Metrobank, Investcorp, and Landmark that enable a comparison to be made concerning how different judgments are reached.

Measures of Effectiveness of Organizational Processes

Behavioral simulations are also useful vehicles for generating feedback about the organizing processes involved in generating strategy. The aim, when studying data about the organizational process, is to gain insights as to how a leader and subordinate managers collectively formulate and become committed to particular strategic positions. As leaders play an important role in organizing the development of strategy, information on how the process of strategic positioning evolves tends to be of two sorts: assessments made from the standpoint of the leader and assessments made by different participants working at different organizational levels.

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TABLE 5
Individual Effectiveness Measures Typically Used in Different Behavioral Simulations[a]

Simulation	Perceived Organizational Priorities	Perceived Contributions Made by Others	Strategic Management Skills Assessed[b]	Peer & Self Assessment of Overall Effectiveness	Participant Knowledge of Business & Markets
Foodcorp International	No	No	Yes	No	Yes
Looking Glass, Inc. (LGI)	Yes	No	No	Yes	Yes
Globalcorp	No	No	Yes	No	Yes
Metrobank	Yes	Yes	No	Yes	Yes, but limited
Investcorp	Yes	Yes	No	Yes	Yes, but limited
Landmark	Yes	Yes	No	Yes	Yes, but limited
Northwood Arts Center (NAC)	Yes	No	Yes	No	No

[a]Each simulation incorporates a measure of peer perceptions of each other's powers and influence skills.

[b]A set of six strategic management skills identified by Stumpf (1988b) are incorporated into the questionnaires of select simulations.

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The strategic focus of each simulation is noted in Table 6 along with four indices of the effectiveness of organizational processes. Strategic focus reflects the basic structure and context of each simulated organization. Foodcorp and Globalcorp have a broad, corporate focus; Metrobank and Investcorp focus on business level strategy; NAC's focus is equally balanced between strategic issues and operation; and LGI's focus is mostly on coordinating divisional operations.

At a general, organization-wide level, participants are intrigued with their climate assessments and want to know how the climate they created compares with that of other groups. The consensus among group members seems to be that if the climate assessment is below a comparison peer group, something must have been wrong. Participants are often prepared to devote considerable effort in trying to identify what may have led to less favorable climate assessments. A general assumption is that an organization's climate is a joint creation of all participants, not just the leader's.

At a more specific level, the leader's role in facilitating the development of strategy is critical, but not well understood. Yet, the leader rather than the group as a whole is typically considered responsible for strategy formulation by participants. If strategic positioning is to be perceived to be effective, it depends not only on what the leader may do but also on how these efforts are accepted by subordinates. These efforts are usually assessed as leader power. In Foodcorp and Globalcorp, where strategic positioning is central, data on subordinate managers' perceptions of the leader and his or her managerial style is also gathered from feedback at different hierarchical levels. How leaders' efforts and subordinates' assessments of these efforts relate to contributions and sources of strategic ideas is also assessed.

Implications for Selecting and Using a
Behavioral Simulation to Teach Strategy Implementation

Although all seven behavioral simulations immerse participants in a realistic context to explore strategic management, there are unique benefits to each that reflect their different structures, contexts, and process dynamics. There are also differences in the standardized performance indices used with each simulation to assess organizational performance, individual effectiveness, and the effectiveness of the organizational processes enacted. Our own direct experience and familiarity with several hundred uses of behavioral simulations through working with several dozen trainers has been that a successful application requires that one first identify the primary aspects of strategic management that are to be learned. Then one can assess the pros and cons of each simulation against specific learning goals and choose a simulation that is most likely to have participants reach these desired goals.

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TABLE 6

Measures of the Effectiveness of Organizational Processes Typically Used in Different Behavioral Simulations

Simulation	Strategic Focus	Organizational Climate	Leader Power	Subordinates' Assessment of Leader Influence	Sources of Contribution to Strategy
Foodcorp International	corporate strategy in an international area	Yes	Yes	Yes	Yes
Looking Glass, Inc. (LGI)	coordinating divisional operations	Yes, but limited	Yes	Yes, but limited	No
Globalcorp	corporate strategy in an international arena	Yes	Yes	Yes	Yes
Metrobank	business strategy and tactics	Yes	Yes	Yes, but limited	Yes
Investcorp	business strategy and tactics	Yes	Yes	Yes, but limited	Yes
Landmark	business strategy	Yes	Yes	Yes, but limited	Yes
Northwood Arts Center (NAC)	strategy and operations	Yes, but limited	Yes, but limited	No	No

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Implicit in the above recommendation is that one wants to use a behavioral simulation to begin with. This is not a cost-free choice. The primary disadvantage of behavioral simulations is that they involve incremental resources over other pedagogical techniques including: materials (about $75/participant), space (a simulation room with 50 square feet for each participant), a computer access staff person, one trainer for each 6 to 12 participants depending on the simulation, and out-of-pocket costs for office supplies, snacks, and lunches (the simulations typically run an entire day with a working lunch).

Clearly, we believe there are important benefits derived from the use of behavioral simulations. All impress and remind participants of the opportunities they have to influence the type of organizational life they experience and the decisions their organizations make. All encourage self-reflection, and the insights gained are often humbling even as they provide a clearer picture of organizational reality. The process of going through a simulation opens up new ways to behave at the individual level and provides suggestive clues for how organizations might be changed. The impact of such an experience is typically intense, and so the insights gained are easily and often fondly remembered.

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