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INFORMATION TECHNOLOGY AND THE COMPETITIVE ADVANTAGE PARADOX

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PANEL 18

INFORMATION TECHNOLOGY AND THE COMPETITIVE ADVANTAGE PARADOX

Panel Chair: **Sidney E. Harris**, The Claremont Graduate School, USA

Panelists: **William H. Starbuck**, New York University, USA
Eric K. Clemons, University of Pennsylvania, USA

The study of strategic and competitive applications of information technology has emerged as an important area of MIS research. Why, then, are there so few examples where information technology has been used as a source of competitive advantage? Is it because the few firms that have been successful were simply lucky? Or is it because rationalistic approaches to strategizing are a two edged sword? That is, are they as likely to reduce profits as to raise them? There are no easy and simple answers to these questions as the arguments presented by the panelists in this session will confirm.

Professor William Starbuck will lead off the presentations in his comments entitled "Strategizing in the Real World." He summarizes his position as follows: Strategies generally add nothing to profits, because fundamental barriers block gains from forecasting and strategizing. The challenge for designers of management information systems is to get around these barriers.

HOW SUCCESSFUL IS FORMAL STRATEGIZING?

Everyone strategizes informally and strategizing yields benefits on occasion. The practical issue is, is it better to strategize formally?

The best study of formal strategizing found that profitable firms are about as likely to strategize informally as formally, and the same is true of unprofitable firms. Profits also correlate meaninglessly with the degrees of agreement among senior executives. These findings make sense.

There is no reason strategizing should generally improve profits. First, most firms compete against skilled competitors who have much the same information. These competitors can anticipate strategic moves or react to them promptly. Second, formal strategizing often focuses on long-run issues and the long run never unfolds as expected. Third, and most importantly, strategizing is as likely to reduce profits as to raise them. When plans reflect accurate forecasts and assessments, everyone works together to achieve difficult but feasible goals. This is the best of both worlds. But plans based on unrealistic forecasts or assessments produce the worst of all possible worlds because everyone works together to achieve the wrong goals.

Studies show that nearly all managers seriously misjudge both their organizations and their market environments, and MISs often make these judgments worse. MISs mislead by oversimplifying, by emphasizing to financial and numerical data, by highlighting processes and rationalizing failures, and by crediting good results to superiors. Further, although many people can make accurate short-range forecasts, no one can predict accurately beyond a few months ahead. Even the fanciest models offer no advantages. In fact, random forecasting methods work better than complex ones, which tend to mistake random fluctuations for important events.

HOW CAN MISs FIT THIS REALITY?

First, MISs might generate proprietary information, analyze it with proprietary techniques, and encourage its use. But proprietary information and information-processing techniques are rare and the competitors can react to the actual behavior rather than to theories about it. Few firms have made profitable first moves repeatedly.

Second, MISs might educate managers about the actual properties of organizations and market environments, but managers grow less willing to accept information the more it deviates from their perceptions.

Third, MISs can foster informational variety and informal communication. More profitable firms make greater use of informal communication and use diverse kinds of information.

Fourth, MISs can make managers aware of contingencies, broaden their horizons, foster trust among colleagues, and expose top managers to inputs from lower levels.

Fifth, MISs can make it easier to revise strategies. However, a highly responsive firm may waste energy and resources responding to false signals of change.

After Professor Starbuck, Professor Eric Clemons will then present his position. His remarks are entitled "Strategic Systems Debate."

Disagreement and misunderstanding of the nature of strategic systems continue to plague MIS research. Can systems be strategic? When? And, if systems are strategic, when can they be a source of competitive advantage?

Systems are strategic when they are essential to executing a firm's or business unit's competitive strategy. MIS may of course be strategic; consumer packaged goods companies such as Procter and Gamble, Frito Lay, and many others are justly famous for the reliance they place on decision support systems, executive information systems, and marketing analysis for support of brand management. Other systems that are essential to managing supplier or customer relations, or to executing some other aspect of a firm's strategy, are just as likely to be strategic. Here, McKesson Drug, American Hospital Supply Company, and, more recently, Procter and Gamble's work with Wal-Mart have received considerable attention. Thus, it is a mistake to confuse the totality of systems with MIS, or to assume that all strategic systems involve management reports essential to implementing strategy; McKesson's Economost and AMSCo's ASAP were not primarily MIS. It is likewise a mistake to assume that strategic systems must confer sustainable competitive advantage. We have coined the term *strategic necessity* to refer to systems that, while strategic, confer no advantage; getting such systems right merely preserves parity, while getting them wrong may yield permanent competitive disadvantage. While MIS can become a strategic necessity, so can systems that directly affect the implementation or delivery of competitive strategies; ATMs in banking generally have been seen as strategic necessities.

Systems *can* produce strategic discontinuities. Systems, under the correct set of circumstances, can provide sustainable competitive advantage. Systems almost never yield competitive advantage by themselves. Technology is readily acquired and expertise is readily duplicated. Rather, strategic systems have been shown to provide competitive advantage when they exploit or leverage significant differences among the resource endowments of competing firms. The most effective examples of such systems studied by Clemons are interorganizational systems, affecting relationships among suppliers, customers, or partners in international cooperative efforts. Rosenbluth Travel developed systems that enabled them to exploit a discontinuity: deregulation of air travel in the US. Now Rosenbluth has grown so that it accounts for half of the air travel booked out of Philadelphia; consequently, its cost accounting systems have been shown to be strategic and the source of sustainable competitive advantage under appropriate conditions. Asea Brown Boveri's ABACUS cost accounting system is an MIS application that is essential to running a transnational corporation with profits greatly superior to industry norms, including acquired subsidiaries that have historically been unprofitable prior to acquisition.

After the panelists have presented their positions, the audience will be asked to participate in a discussion of the issues.