Matching Business-Level Strategic Controls to Strategy: Impact on Control System Effectiveness

Dr. Mark K. Fiegener, Management, Oregon State University

Abstract

This study explores the contingent relationships between strategic control, business-level strategy, and the perceived effectiveness of the strategic control system. The findings suggest that: (1) firms demonstrating Cost-leader tendencies have more effective strategic control systems when their controls are "tighter" (i.e., greater degree of formalization, upper management supervision, and role specialization); and (2) firms demonstrating Differentiator tendencies have more effective strategic control systems when their controls are "looser."

Introduction

In general, early research of control systems was focused at the operating levels of the organization, in that control was conceptualized either as the amount of influence *by* employees over the design of their jobs, or as the influence *of* employees by managers to improve task performance (Tannenbaum, 1968). Recent studies have begun to explore the control processes which function at the upper management levels of corporations and business units. At the corporate level, these so-called *strategic controls* refer to the mechanisms by which corporate executives influence the strategic direction and level of achievement of their firm's multiple business units. Business-level strategic controls are the processes by which business unit managers adjust their strategies over time in order to pursue the larger corporate objectives, and involve "formal target-setting, monitoring, evaluation, and feedback systems that provide management with information about whether the organization's strategy and structure are meeting strategic organizational objectives" (Hill & Jones, 1989, p. 258).

Although research of corporate-level strategic control boasts a growing portfolio of empirical studies (e.g., Gupta, 1987; Govindarajan, 1986, 1988; Govindarajan & Gupta, 1985; Hoskisson & Hitt, 1988; Golden, 1992), the output of business-level strategic control research is quite modest. Schreyogg and Steinmann (1987) blame the absence of a comprehensive strategic control framework for the empirical and conceptual under-development of the topic. The framework these authors proposed, which describes strategic control in terms of

three complementary control tasks, has been adopted by the authors of a number of strategic management texts and is fast becoming the standard treatment of the subject. Still, Schreyogg and Steinmann did not discuss in much detail how the three types of strategic control tasks should be designed and managed, and empirical researchers have not yet addressed this issue. Consequently, practicing managers are provided few guidelines by which to design and manage their strategic controls.

This paper reports an exploratory application of the Schreyogg and Steinmann strategic control framework. Strategic Management theory argues that a firm's performance is partly determined by how well its administrative processes, such as control systems, fit and reinforce its strategies (Miles & Snow, 1978; Porter, 1980). Consistent with this tradition, this research examines whether the effectiveness of strategic controls is enhanced when managers align strategic control processes to match their strategies. Stated in their most general form, the research questions driving this study are as follows: (1) Are "tight" strategic controls *universally* more effective than "loose" strategic controls, or are tighter controls more effective in some strategic contexts and looser controls more effective in others? (2) If there is a contingent relationship between strategic control design, strategy, and control system effectiveness, does the same relationship hold in each of Schreyogg and Steinmann's three types of strategic control?

Conceptual and Theoretical Background

Some authors warn that the "monitoring, evaluation, and feedback systems" are not sufficient for strategic control, and that additional forms of control are needed (Lorange, 1980; Lorange, Scott Morton, & Ghoshal, 1986). Schreyogg and Steinmann (1987) presented a more comprehensive framework in which feedback processes (which they call Implementation Control) are complemented by two other strategic control tasks: Premise Control and Strategic Surveillance. This section outlines the three types of strategic control tasks, and then briefly reviews the research literature concerning the relationship between strategy and control systems.

Types of Strategic Control

The Implementation Control task requires re-assessing the firm's current strategic direction in light of its recent performance results. Implementation Controls usually involve some form of milestone review process in which intermediate results of a strategic program are compared with previously defined short-term indicators of the program's eventual long-term success or failure (Schreyogg & Steinmann, 1987). These controls can be used to make mid-course adjustments to strategy, to decide the appropriate level of resource support, or to determine whether or not the strategic program should be terminated (Lorange, 1980). Other forms of Implementation Control processes include the continuous monitoring of the programs or projects that are critical for the eventual success of a strategy, and the comprehensive review of strategy after the occurrence of a major unexpected event or crisis (Pearce & Robinson, 1991).

The Premise Control task involves the continuous evaluation of the premises underlying strategy. Premise identification techniques such as Strategic Assumption Surfacing (Mason & Mitroff, 1981) help managers uncover and understand the premises on which their strategies depend. When incorporated within an ongoing monitoring process which periodically checks and updates the premises, these techniques become particularly useful for indicating when major reconceptualizations of strategy are needed (Lorange et al., 1986). Another form of Premise Control, strategy acceptance processes, attempt to screen out conceptually flawed or inconsistent strategies prior to implementation. For example, several normative checklists in the strategic management literature detail the desirable specifications "good strategy" should have, such as consistency with objectives and policies, consonance with the environmental assessment, feasibility of implementation with respect to the firm's resources, acceptability of its risk characteristics, and fit with product life cycle situation, among other criteria (e.g., see Rumelt, 1980). Other benchmarks of good strategy drawn from case studies,

normative strategy frameworks (MacMillan, 1982), and the PIMS database (Buzzell & Gale, 1987) have also been recommended as standards against which a proposed strategy can be validated. By comparing a strategic program to specifications or benchmarks, managers can validate the program's viability and can pinpoint those strategic elements which need to be changed.

The Strategic Surveillance task involves scanning the firm's internal and external environments to identify emerging issues and trends which could eventually disrupt the effectiveness of existing strategies (Schreyogg & Steinmann, 1987). Strategic Surveillance processes try to anticipate the need to change strategy, so that action can be taken before the window of opportunity for effective response closes. Strategic Issue Management (Ansoff, 1984) is a representative example of a formal process designed to improve the firm's ability to pick up "weak signals," or symptoms of future problems.

Strategy and Control Systems

Environments of greater task uncertainty place increased information processing demands on firms to manage, the uncertainty; firms respond by elaborating administrative processes, such as planning and control systems, which extend their information processing capacity (Galbraith, 1973). Thus, firms which tailor their administrative mechanisms to the level of their task uncertainty will be more effective than those which do not, and, in particular, tailoring control systems to task uncertainty enhances organizational effectiveness (Hayes, 1977). The extent of task uncertainty faced by a firm is related to its "strategic orientation." For example, greater environmental uncertainty is said to be associated with Prospector rather than Defender strategies[1] (Miles & Snow, 1978), with Build rather than Harvest strategies[2] (Govindarajan, 1986), and with Differentiator rather than Cost-leader strategies (Miller, 1988). Thus, fitting control systems to strategy should be associated with greater effectiveness, as it matches the information processing capabilities of control systems to the task uncertainty demands of strategy (Gupta, 1987; Govindarajan, 1988).

Porter (1980) argued that tight cost control, frequent and detailed control reports, structured responsibilities, and strict quantitative targets are characteristic of the control systems of firms pursuing the Cost-leader generic strategy, while firms with the Differentiator generic strategy employ looser and more subjective control systems. Similarly, Miles and Snow (1978) claimed that Defender firms focus on tight, formal cost controls while Prospector firms rely upon more informal controls. However, empirical support for these assertions is limited. Simons (1987) used Miles and Snow's typology to show that the manner in which *accounting*

control systems are centralized and tailored to local needs may vary between Prospector and Defender firms. In their studies of *corporate-level* strategic control processes, Govindarajan and Gupta investigated the connections between SBU effectiveness and corporate-SBU relations during strategy implementation, using the SBUs strategic context as a moderating variable (Govindarajan, 1986, 1988; Gupta, 1987; Govindarajan & Gupta, 1985). In these studies, strategic context was conceptualized in terms of either: (1) a Differentiator-Cost-leader continuum; or (2) a Harvest--Build continuum. The results of these studies suggest that looser, informal, and flexible corporate-SBU arrangements contribute more to SBU effectiveness in Differentiator and Build contexts than in Cost-leader and Harvest contexts, and that tighter, centralized, and programmed arrangements are associated with greater SBU effectiveness in Cost-leader and Harvest strategic contexts. Golden (1992) studied corporate-SBU control in terms of the degree of centralization of interdependent activities, such as strategic planning and environmental monitoring. His results suggest that the degree of centralization, when appropriately matched to SBU strategy, is associated with superior performance.

Unfortunately, the literature specific to *business-level strategic control* has not yet addressed the strategy-control system relationship in a systematic fashion. Schreyogg and Steinmann (1987) proposed that, because of the different data acquisition and handling requirements of the three types of strategic control, Implementation Control should be more formalized and centralized than Premise Control, which, in turn, should be more formalized than Strategic Surveillance. However, the authors did not relate these propositions to differences in strategy. Pearce and Robinson (1991) suggested that Implementation Control would be related to strategy and that Premise Control and Strategic Surveillance would not, but they failed to describe the form of the relationship. Roughly half of the respondents in Lorange and Murphy's (1984) study claimed to tailor their strategic controls to strategy (i.e., the type and maturity of the business unit), but the details of the tailoring were not examined.

Research Hypotheses

Perhaps the best known typology of strategy is that of Porter (1980), which identified two generic strategies for achieving competitive advantage. Firms pursuing Differentiator strategies attempt to create something perceived to be unique in the industry; they tend to be more outward oriented, with broader product lines and less stable product offerings than Cost-leader firms. The dominant focus of firms pursuing Cost-leader strategies is to achieve cost advantages over competitors in one or more areas of the business; these firms tend to be more inward oriented, and strive to routinize their task

environment in order to a produce standard, undifferentiated product at lowest cost. Porter's typology was chosen to represent the strategic orientation of firms in this study because of its conceptual simplicity, its support in empirical studies of strategy (Dess & Davis, 1984), and its use in related strategy-control system research (Gupta, 1987; Govindarajan, 1988).

A generic control process can be described in terms of four sub-processes: standard setting, administrative actions, outcome measurement, and evaluation-reward (Flamholtz, Das, & Tsui, 1985). This paper focuses on the second sub-process of strategic controls -- the administrative actions necessary to perform Premise Control, Implementation Control, and Strategic Surveillance. The central research questions concern whether firms pursuing different competitive strategies organize the three strategic control tasks differently. Three dimensions are relevant for describing the administrative design of strategic control processes: (1) formalization -- the rules and procedures which prescribe the desired control activities; (2) supervision -- the degree of upper management involvement (i.e., leadership or guidance) in the control activities; and (3) specialization -- the assignment of responsibility for some control activities to individuals in specialist or staff roles. Controls are said to be "tight" when roles and procedures are specified in detail, superiors participate frequently in subordinate decision making, and detailed results are monitored closely; "loose" controls involve broader role descriptions, little if any involvement by superiors in subordinate decision making, and the monitoring and recording of general, overall results (Merchant, 1982). Tight control is also effected by the more frequent use of controls, and by the use of a greater number of control mechanisms. In this study, the organizational processes which administer Premise Control, Implementation Control, and Strategic Surveillance tasks are described in terms of three measures of *tightness*, one for each type of strategic control. Each tightness measure incorporates the degree of formalization, supervision, and specialization of the respective control process.

The research propositions can now be outlined in terms of the constructs for strategy (Differentiator and Cost-leader) and control system (tightness). Looser strategic controls will be more effective in firms pursuing Differentiator strategies, as the greater task uncertainty associated with the strategy demands more information processing capacity. Upper management in these firms will tend to delegate more responsibility for the management of strategic controls to line managers rather than staff specialists, allow them more discretion in administering the control procedures, and will themselves be less involved in the strategic control tasks. Conversely, tighter strategic controls will be more effective in firms pursuing Cost-leader strategies, as these strategies place less information processing demands on the firm.

Upper management in these firms will tend toward a more centralized approach to managing their strategic controls, characterized by more formal control procedures and by greater involvement by upper management and staff specialists in the control tasks. These propositions are formalized in two hypotheses:

Hypothesis 1 (weak form): Tighter Premise Control, Implementation Control, and Strategic Surveillance will have a stronger positive impact on the perceived effectiveness of the Strategic Control System (SCS) in firms demonstrating a Cost-leader strategic orientation than in firms demonstrating a Differentiator strategic orientation.

Hypothesis 2 (strong form): Tighter (looser) Premise Control, Implementation Control, and Strategic Surveillance will have a positive (negative) impact on the perceived effectiveness of the SCS in firms demonstrating a Cost-leader strategic orientation, and a negative (positive) impact on perceived effectiveness in firms demonstrating a Differentiator strategic orientation.

Methods and Measures

Sample

The objective of this exploratory study is to take an initial small-sample look at an under-researched topic in order to clarify future research issues. To ensure sufficient variation in the independent (strategic control design) variables in spite of the sample size, the sample was drawn from two industries -- computer software and life insurance -- whose firms are believed to differ with respect to these variables, based upon the author's prior experience with firms in these industries. The additional effects of the industry differences would then be controlled statistically by including an industry indicator variable in the analysis. The sample consisted of 64 life insurance and 66 computer software companies, all among the largest one-hundred U.S. firms in their respective industry. Data were collected from the person organizationally responsible for the firm's strategic planning function, as these individuals are in the best position to evaluate all three types of strategic control. Examples of the job titles of respondents include Vice President, Director, or Manager of: Strategic Planning, Corporate Planning, Corporate Development, and Business Planning and Development. Completed questionnaires were received from eighteen (28%) life insurance and fifteen (23%) software companies, for a total sample size of thirty-three.

Measures

Strategic Control System (SCS) Effectiveness. It is difficult to find objective measures of performance by which the effectiveness of administrative systems can be

meaningfully evaluated. The problem is even more acute for the assessment of systems, such as strategic planning and strategic control, whose organizational impacts are pervasive, long-term, and difficult to separate from intervening variables. Consistent with Steiner (1982) and O'Connor (1982), who developed assessment frameworks for strategic planning systems based upon the perceptions of management users, the "effectiveness of the strategic control system as perceived by respondents" was chosen as the dependent measure. Data were collected on 8 dimensions pertaining to the performance of the Premise Control, Implementation Control, and Strategic Surveillance processes. On each dimension, respondents were asked to assess strategic control effectiveness using a 7-point Likert type scale ranging from "ineffective" to "highly effective." System-wide effectiveness was measured by averaging the scores on the 8 dimensions.

Strategic Orientation. Using a scale adapted from Govindarajan (1988), respondents were asked to position their firm relative to their competitors (ranging from "significantly higher" to "significantly lower") along five competitive domains: product selling price, R&D as a percentage of sales, marketing expense as a percentage of sales, product quality, and product features. Strategic orientation was assessed by averaging the scores on the 5 items, thereby placing each firm along a continuum anchored by Porter's (1980) Differentiator (high score) and Cost-leader (low score) generic strategies.

Strategic Control Tightness. The tightness of each type of strategic control was assessed by averaging a 13-item scale (for Premise Control) or 7-item scales (for Implementation Control and Strategic Surveillance) of 7-point Likert-type items. Individual items concerned the frequency, explicitness, detail, and comprehensiveness of the different control activities, the degree of upper management involvement in these activities, and the degree of line versus staff involvement. A higher score indicates that the strategic control process is being managed more tightly. Descriptive statistics for the dependent and independent measures are shown in Table 1. Reliability coefficients (Cronbach alpha, along the diagonal) for all scales are above the level considered acceptable (.50 to .60) for exploratory studies (Nunnally, 1967), although the strategic orientation scale (alpha = .50) lies at the lower boundary.

Data Analysis

To examine the contingency relationships between SCS effectiveness, strategic orientation, and strategic control tightness, the study followed the approach taken by Gupta (1987) and Govindarajan (1988) in their research of corporate-level strategic control by estimating a regression equation with a multiplicative interaction term. The research hypotheses take the following

Table 1
Summary Statistics and Pearson Correlations

Measures:	mean	s.d.	1.	2.	3.	4.	5.
1. SCS Effectiveness	4.55	.91	(.80)				
2. Premise Control	5.03	.77	.34†	(.84)			
3. Strat. Surveillance	4.86	.94	.43*	.64*	(.73)		
4. Implement. Control	5.19	.78	.26	.73*	.65*	(.65)	
5. Strat. Orientation	4.67	.70	.25	-.06	.05	-.16	(.50)

n = 33;   Cronbach alpha along the diagonal

† p<.10
* p<.05

form in this model: the positive impact of strategic control tightness on control system effectiveness will be stronger when the strategic orientation scale is lower (indicating Cost-leader strategic orientation); when the strategic orientation scale is greater (indicating Differentiator strategic orientation), the impact of strategic control tightness on control system effectiveness will be either less strongly positive (Hypothesis 1) or negative (Hypothesis 2). Southwood (1978) argues that the appropriate analysis to test such hypotheses is to estimate the following two regression equations:

(1) $EFF = c_1 + a_1 IND + a_2 PREM + a_3 IMPL + a_4 SS + a_5 STRAT$

(2) $EFF = c_2 + b_1 IND + b_2 PREM + b_3 IMPL + b_4 SS + b_5 STRAT + b_{6-8} INTER$

EFF = perceived effectiveness of the SCS
IND = industry (indicator variable: 0=insurance, 1=software)
PREM = tightness of Premise Control
IMPL = tightness of Implementation Control
SS = tightness of Strategic Surveillance
STRAT = strategic orientation
INTER = interaction of STRAT with PREM, IMPL, or SS i.e., $b_6 STRAT*PREM$, $b_7 STAT*IMPL$, $b_8 STRAT*SS$

All three types of strategic controls are present in Equations (1) and (2) because we wish to study the impact of the overall *system* of strategic controls on SCS effectiveness. Equation (2) is run three times, once for each interaction (PREM, IMPL, SS) with the STRAT variable (i.e., one interaction term per equation). The industry indicator variable serves as a proxy for other aspects of organizational context which vary by industry. Southwood (1978) demonstrates that if the points of origin for interval scale variables (such as PREM, SS, IMPL, and STRAT) are changed, the standardized and unstandardized regression coefficients, standard errors,

and significance levels for some of these variables would also change. However, the following are invariant given a shift in point of origin: the unstandardized regression coefficient for the INTER term, its standard error, its level of significance, and the R^2 and F-ratio for Equation 2 as a whole. Thus, the value of Equation (2) lies in learning about the nature of the INTER terms (in unstandardized form); the terms are *not* added to increase the explanatory power of the model, but to test the hypotheses.

If the unstandardized coefficients b_6, b_7, and b_8 in Equation (2) are negative and significant, then the positive impact of control tightness on control system effectiveness is stronger when STRAT is lower (Cost-leader strategic orientation) than when STRAT is higher (Differentiator strategic orientation), and Hypothesis 1 will be supported. Such results could imply that tighter strategic controls are more effective for all levels of STRAT, i.e., that tighter controls improve SCS effectiveness in both Cost-leaders and Differentiators, but the former more than the latter. Then again, it is also possible that SCS effectiveness increases as strategic controls become tighter for Cost-leaders, but that SCS effectiveness is diminished as strategic controls become tighter for Differentiators. To test this possibility (Hypothesis 2), we need to assess whether there exists a point along the STRAT dimension at which increasing control tightness adds to the perceived SCS effectiveness for firms on the Cost-leader side of the inflection point, but reduces SCS effectiveness for firms on the Differentiator side. To discover whether such a point exists, the partial derivative of Equation (2) with respect to PREM, SS, and IMPL must be analyzed. The relationship between SCS effectiveness and the tightness of a strategic control function is *monotonic* if the value of the relevant partial derivative is positive or negative over the entire range of STRAT; if the partial derivative changes sign at some value of STRAT, then the relationship is *nonmonotonic*. The test of Hypothesis 2 requires demonstrating that unstandardized coefficients b_6, b_7,

and b_8 are negative and significant, and also that a nonmonotonic relationship exists.

Results

Tests of Hypotheses

Table 2 presents the results of the regression analysis relating overall SCS effectiveness to strategic control tightness and strategic orientation. Regression 1 reports the results of Equation (1) which, by excluding an interaction term, assesses the direct impact of strategic control tightness and strategic orientation on the effectiveness of the strategic control system. Regressions 2A, 2B, and 2C add cross-product terms reflecting the interaction of strategic orientation (STRAT) with the tightness of Premise Control (PREM), Strategic Surveillance (SS), and Implementation Control (IMPL), respectively.

Analysis of regressions 2A, 2B, and 2C reveals that the independent variables are contingently related to control system effectiveness. The unstandardized regression coefficients for the interaction of strategic orientation with Premise Control tightness (Regression 2A), Strategic Surveillance tightness (Regression 2B), and Implementation Control tightness (Regression 2C) are each negative and significant. Additionally, the introduction of the interaction term results in a significant increase in R^2, the variance of strategic control system effectiveness explained, in regressions 2A and 2B. This provides support for Hypothesis 1, that tighter strategic controls (of all three types) have a stronger positive impact on the perceived SCS effectiveness for firms demonstrating Cost-leader tendencies than for firms leaning toward Differentiator strategic tendencies.

Tests of Monotonicity

The observed range of the strategic orientation (STRAT) variable, from Table 1, is between 1.80 to 6.20 with a mean of 4.67. To explore how the effects of strategic control tightness on SCS effectiveness vary over the range of the STRAT variable, the partial derivatives of regression equations 2A, 2B, and 2C with respect to PREM, SS, and IMPL are calculated:

Table 2
Results of Regression Analyses
on Strategic Control Effectiveness

Variables under Consideration[a]:	Regression Equations			
	1	2A	2B	2C
Constant	.63	-12.32*	-7.65*	-7.47†
Industry (indicator)	.24	.31	.22	.10
PREM	.15	2.87**	.27	.27
SS	.33†	.37*	2.14*	.33†
IMPL	-.00	.00	-.09	1.59
STRAT	.32†	3.01**	2.08*	2.03*
STRAT * PREM		-.58**		
STRAT * SS			-.39*	
STRAT * IMPL				-.36†
R^2	.27	.41	.37	.34
F	1.98	3.03*	2.57*	2.20†
(df)	(5,27)	(6,26)	(6,26)	(6,26)
∇R^2		.14	.10	.07
F for ∇R^2		6.37*	4.31*	2.71
(df)		(1,26)	(1,26)	(1,26)

n = 33.   Unstandardized regression coefficients are reported.

† p<.10
* p<.05
** p<.01

a   PREM = tightness of Premise Control;
    IMPL = tightness of Implementation Control;
    SS   = tightness of Strategic Surveillance;
    STRAT = strategic orientation.

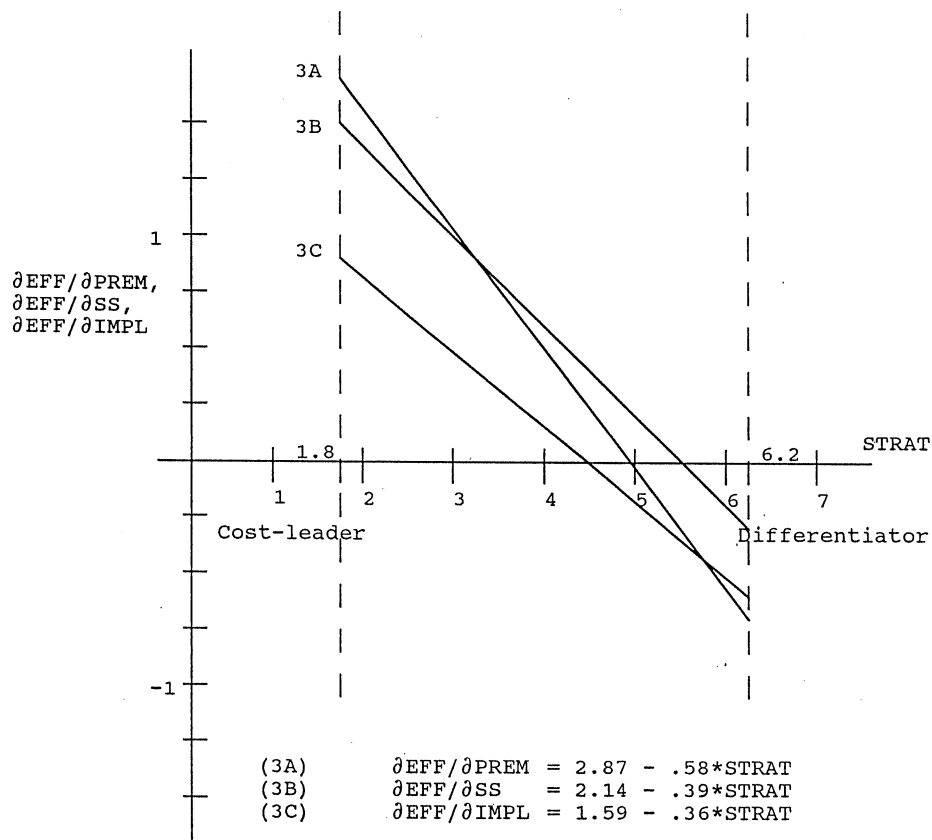| (3A)	$\partial EFF/\partial PREM$	=	$2.87 - .58*STRAT$
(3B)	$\partial EFF/\partial SS$	=	$2.14 - .39*STRAT$
(3C)	$\partial EFF/\partial IMPL$	=	$1.59 - .36*STRAT$

By setting each of these equations to zero, we can determine the points along the strategic orientation dimension at which the effects of increased control tightness on SCS effectiveness switch from positive to negative. Performing these calculations, we find that these points are within the observed range of STRAT (see Figure 1), which implies that the equations are indeed nonmonotonic: $\partial EFF/\partial PREM$ is positive for STRAT < 4.95 and negative for STRAT > 4.95; $\partial EFF/\partial SS$ is positive for STRAT < 5.49 and negative for STRAT > 5.49; $\partial EFF/\partial IMPL$ is positive for STRAT < 4.42 and negative for STRAT > 4.42. This analysis lends support for Hypothesis 2, that tighter strategic controls enhance SCS effectiveness for firms with Cost-leader tendencies and hinder it for firms with Differentiator tendencies, while the reverse is true for loose strategic controls.

Discussion

Top managers must be able to formulate effective strategies, anticipate the need to adapt strategies to changing environments, and quickly amend their strategies in light of interim results if they are to lead their organizations toward long-term strategic objectives. Clearly, strategic controls can play an essential part in helping organizations become fast-learning and adaptive, and the design of effective strategic control systems should be near the top of any top manager's agenda. However, given the absence of descriptive research concerning the nature of strategic controls, it is prudent for researchers to describe the conditions under which different designs occur in practice before addressing the prescriptive question of how SCSs *should* be designed and managed. The purpose of this study was to examine how the design of strategic controls are related to a key contingency: the strategic orientation of the firm.

Figure 1

Effect of STRAT on relationship between
Strategic Control Tightness and SCS Effectiveness

(3A)	$\partial EFF/\partial PREM$	=	2.87	-	$.58*STRAT$
(3B)	$\partial EFF/\partial SS$	=	2.14	-	$.39*STRAT$
(3C)	$\partial EFF/\partial IMPL$	=	1.59	-	$.36*STRAT$

The results suggest that firms which are able to achieve some measure of fit between their strategic control systems and their business strategy have more effective strategic control systems. The positive association between strategic control tightness and SCS effectiveness was greater for Cost-leader oriented firms than for Differentiators (Hypothesis 1). In fact, the strong-form Hypothesis 2 was also upheld. Increased strategic control tightness not only increases SCS effectiveness more for Cost-leaders than for Differentiators, it actually hinders SCS effectiveness for Differentiators. It is important to note how this non-monotonic relationship varies for the different types of strategic control. Figure 1 shows that merely tightening or loosening all three types of strategic control in concert may not be optimal, and that it might be more beneficial to tighten some strategic controls and loosen others, depending upon the firm's strategic orientation. The findings have implications for the practice and research of strategic control.

Implications for Practice. The results provide the following three preliminary guidelines concerning the design of effective SCSs in different strategic contexts. First, for firms demonstrating a strong Cost-leader strategic orientation (defined here as firms in the sample having a STRAT score less than 4.42), Premise Control, Implementation Control, and Strategic Surveillance tasks will all be more effective if: (i) the control procedures are more explicit, detailed, and comprehensive; (ii) the controls are employed them more frequently; (iii) greater responsibility for performing the strategic controls is given to staff specialists rather than line managers; and, (iv) upper management is involved in the control tasks to a greater extent. Second, firms with a strong Differentiator strategic orientation (i.e., firms in the sample with STRAT scores greater than 5.49) will have more effective SCSs if they manage the Premise Control, Implementation Control, and Strategic Surveillance tasks in the following manner: (i) decentralizing these control tasks to line managers rather than staff specialists; and (ii) granting managers the discretion to administer the strategic controls in an informal, less prescribed manner. Finally, for those firms that are not strongly oriented toward either the Cost-leader or Differentiator (i.e., firms in the sample with STRAT scores between 4.95 and 5.49), the message is more complex. Implementation Control tasks are more effective for these firms when managed loosely, and Strategic Surveillance tasks are more effective when managed tightly.

Implications for Research. This study empirically tests previous assertions regarding the relationship between strategy and business-level strategic controls. The data support the finding of Lorange and Murphy (1984), that many firms attempt to fit their strategic controls to their strategy. More importantly, the results begin to establish the form such tailoring may take:

firms tailor their SCS by tightening or loosening the administrative mechanisms (control procedures, upper management involvement, line/staff involvement) which manage the strategic control processes. Schreyogg and Steinmann (1987) argued that the Implementation Control should be more centralized and formalized than Premise Control, which should be more formalized than Strategic Surveillance. The findings suggest, instead, that the degree of centralization and formalization are contingent upon the strategic orientation of the firm: more centralized and formalized strategic controls are appropriate to Cost-leaders, but strong Differentiators are more effective with decentralized and less formal controls. Also, whereas Schreyogg and Steinmann implied that Implementation Control should be tighter than Premise Control and Strategic Surveillance, Figure 1 suggests the reverse. The Implementation Control line (3C) in Figure 1 crosses the STRAT axis at a point to the left of the other two strategic control equations, which means that loose Implementation Controls are "better" (i.e., positive association with SCS effectiveness) for a greater number of the firms in the sample. That is, 17 of the 33 firms have STRAT scores greater than 4.42, while only 9 firms have STRAT scores exceeding 4.95 (where looser Premise Controls become positively associated with SCS effectiveness), and only 5 have scores over 5.49 (where looser Strategic Surveillance becomes positively associated with SCS effectiveness).

These preliminary findings raise an interesting research issue. In those firms pursuing a moderate Differentiator strategy (STRAT score between 4.95 and 5.49), SCS effectiveness appears to be enhanced by simultaneously tightening some controls (Strategic Surveillance) and loosening others (Premise Control and Implementation Control). Perhaps, then, the appropriate unit of analysis for future studies of strategic control systems should be the "configuration" of the three strategic control types. It might be that managers respond to environmental and organizational contingencies by substituting tighter strategic controls of one type for looser controls of another. If so, SCS effectiveness may be better explained by examining the common patterns of tightness-looseness (across all three types of strategic control) which occur in a sample of firms rather than the impact of each type of strategic control individually.

Suggestions For Future Research

Several limitations of the study must be noted. First, the reliance on self-report measures for all constructs is problematic. Future studies should employ multi-method, multi-rater measures to enhance the validity/reliability of the constructs, particularly the strategic orientation and SCS effectiveness constructs. Second, strategies are quite complex phenomena; multi-dimensional measures of strategic orientation should be

developed in order to discriminate among more than just two "generic" strategies. Similarly, more elaborate measures of strategic control design variables are needed to capture the complexity of the administrative arrangements for managing strategic controls.   In particular, measures of the informational as well as the administrative characteristics of the strategic control processes must be developed.   Third, future studies should extend the sample to a broader array of industries and a larger sample size. Finally, objective measures of SCS effectiveness are needed to complement the subjective assessments of individuals involved in strategic control activities.   Given these measures, longitudinal studies should be utilized to assess the immediate and lagged impacts on effectiveness of the fit (or misfit) of the SCS with strategy.   ✸❧

✲✲✲Notes✲✲✲

1. In the Miles and Snow (1978) typology, Prospectors are firms which have an externally oriented strategy and are continually searching for new market opportunities, and Defenders are firms which focus internally on improving the efficiency of existing operations.
2. In Govindarajan (1986), Harvest strategies support a "maximizing short-term earnings and cash flow" mission; Build strategies support an "increase market share" mission.

✲✲✲References✲✲✲

1. Ansoff, H. I., *Implanting Strategic Management,* Prentice-Hall, Englewood Cliffs, NJ, 1984.
2. Buzzell, R. and B. Gale, *The PIMS Principles: Linking Strategy to Performance,* The Free Press, New York, 1987.
3. Dess, G. & P. Davis, "Porter's (1980) Generic Strategies as Determinants of Strategic Group Membership and Organizational Performance," *Academy of Management Journal,* Vol. 27, pp. 467-468, 1984.
4. Flamholtz, E., T. Das, and A. Tsui, "Toward an Integrative Framework of Organizational Control," *Accounting, Organizations and Society,* Vol. 10, pp. 35-50, 1985.
5. Galbraith, J., *Designing Complex Organizations,* Addison-Wesley, Reading, MA, 1973.
6. Golden, B., "SBU Strategy and Performance: The Moderating Effects of the Corporate-SBU Relationships," *Strategic Management Journal,* Vol. 13, pp. 145-158, 1992.
7. Govindarajan, V., "Decentralization, Strategy, and Effectiveness of Strategic Business Units in Multi-Business Organizations," *Academy of Management Review,* Vol. 11, pp. 844-856, 1986.
8. Govindarajan, V., "A Contingency Approach to Strategy Implementation at the Business-Unit Level:

9. Govindarajan, V. and A. Gupta, "Linking Control Systems to Business Unit Strategy: Impact on Performance,"*Accounting, Organizations and Society,* Vol. 10, pp. 51-66, 1985.
10. Gupta, A., "SBU Strategies, Corporate-SBU Relations, and SBU Effectiveness in Strategy Implementation," *Academy of Management Journal,* Vol. 30, pp. 477-500, 1987.
11. Hayes, D., "The Contingency Theory of Managerial Accounting,"*Accounting Review,* Vol. 52, pp. 22-39, 1977.
12. Hill, C. W. and G. Jones, *Strategic Management Theory: An Integrated Approach,* Houghton Mifflin, Boston, 1989.
13. Hoskisson, R. and M. Hitt, "Strategic Control Systems and Relative R&D Investment in Large Multiproduct Firms," *Strategic Management Journal,* Vol. 9, pp. 605-621, 1988.
14. Lorange, P., *Corporate Planning: An Executive Viewpoint,* Prentice-Hall, Englewood Cliffs, NJ, 1980.
15. Lorange, P. and D. Murphy, "Considerations in Implementing Strategic Control," *Journal of Business Strategy,* Vol. 4, No. 4, pp. 27-35, 1984.
16. Lorange, P. M. Scott Morton, and S. Ghoshal, *Strategic Control Systems,* West Publishing, St. Paul, MN, 1986.
17. MacMillan, I., "Seizing Competitive Initiative," *Journal of Business Strategy,* Vol. 2, No. 4, pp. 43-57, 1982.
18. Mason, R. and I. Mitroff, *Challenging Strategic Planning Assumptions,* Wiley, New York, 1981.
19. Merchant, K., "The Control Function of Management," *Sloan Management Review,* Summer, pp. 43-55, 1982.
20. Miles, R. and C. Snow, *Organizational Strategy, Structure, and Process,* McGraw-Hill, New York, 1978.
21. Miller, D., "Relating Porter's Business Strategies to Environment and Structure: Analysis and Performance Implications.   *Academy of Management Journal,* Vol. 31, pp. 280-308, 1988.
22. Nunnally, J.. *Psychometric Methods,* McGraw-Hill, New York, 1967.
23. O'Connor, R., "Evaluating the Company Planning System and the Corporate Planner." *The Conference Board Report No. 817,* The Conference Board, Inc, New York, 1982.
24. Pearce, J. and R. Robinson, Jr., *Formulation, Implementation, and Control of Competitive Strategy (4th ed.),* Irwin, Homewood, IL, 1991.
25. Porter, M., *Competitive Strategy.* Free Press New York, 1980.
26. Rumelt, R., "The Evaluation of Business Strategy," in W. Glueck (ed.), *Business Policy and Strategic*

Management, McGraw-Hill, New York, 1980.

27. Schreyogg, G. and H. Steinmann, "Strategic Control: A New Perspective," *Academy of Management Review,* Vol. 12, pp. 91-103, 1987.

28. Simons, R., "Accounting Control Systems and Business Strategy: An Empirical Analysis," *Accounting, Organizations and Society,* Vol. 12, pp. 357-374, 1987.

29. Southwood, K., "Substantive Theory and Statistical Interaction: Five Models," *American Journal of Sociology,* Vol. 83, pp. 1154-1203, 1978.

30. Steiner, G., "Evaluating Your Strategic Planning System," in P. Lorange (ed.), *Implementation of Strategic Planning,* Prentice-Hall, Englewood Cliffs, NJ, 1982.

31. Tannenbaum, A., *Control in Organizations,* McGraw-Hill, New York, 1968.