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**The Use of Organizational Controls
and Their Effects On Data
Manipulation and Management Myopia:
A U.S. VS. Japan Comparison**

**CEO Publication
G 93- 7 (227)**

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April 1993

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Abstract

Two prior papers by Merchant (1985b, 1990) have discussed the use of perhaps the five most important types of management controls used at profit center organization levels (net income targets, expense targets, headcount constraints, procedural controls, and directives given by higher management) and the behavioral effects of these controls. This study describes a cross-cultural extension of Merchant's study. The sample consisted of the 54 U.S.-based, first-line profit center managers from Merchant's study and 28 profit center managers from Toshiba -- a Japanese manufacturer matched on size and industry to Merchant's (anonymous) U.S. firm.

Using Hofstede's (1980) taxonomy of national culture, four predictions were made about systematic differences between the use and effects of management controls in Japanese and U.S. firms. The first hypothesis was that, relative to their U.S. counterparts, Japanese profit center managers are subject to looser organizationally-imposed controls because Japanese nationals are much higher, on average, in collectivism than are U.S. nationals. Collectivism provides assurance to employers that employees will place the collective interest of their firm ahead of their personal interests. The second and third hypotheses stemmed from data showing that Japanese nationals are significantly higher in uncertainty avoidance and power distance than U.S. nationals. These data led to hypotheses that Japanese managers are subject to tighter (a) procedural controls and (b) controls via directives given at meetings. The fourth hypothesis, directly addressing the control-related behavioral effects of national culture, predicted that, when faced with the same control tightness as their U.S. counterparts, the more collectivistic Japanese managers are less likely to engage in dysfunctional activities (manipulation of performance measures, excessively short-term focus).

The findings supported all the hypotheses except the first. Contrary to the hypothesis one prediction, the Japanese managers were subject to significantly tighter controls than were the U.S. managers. Much remains to be learned about the causes of these findings, but these data showing that control systems and their effects vary significantly across cultures suggest that this is a fruitful area for further research.

The Use of Organizational Controls and their Effects on Data Manipulation and Management Myopia: A U.S. vs. Japan Comparison

In the current era of increasing globalization of business, the transferability of management practices across national boundaries is an issue of significant concern. Much evidence has been reported on how national cultures differ and how people of different national origins have different views of, and reactions to, management practices (e.g., Itami, 1991; Bartlett and Ghoshal, 1989; Steers, 1989; Birnberg and Snodgrass, 1988; Yang, 1984; Child, 1981; Pascale and Athos, 1981; Hofstede, 1980). These studies have shown that the transferability of management practices often depends on the presence or absence of a set of particular cultural conditions.

One important area to explore the potential for transferability of management practices is that of control system design. The control systems used at managerial levels in many U.S. corporations have been subjected to much criticism because the systems allegedly make U.S. managers excessively short-term oriented and prone to manipulate performance data (e.g., Business Week, 1992; Council on Competitiveness, 1992; Jacobs, 1991). Many of the critics point to the great success of Japanese corporations and suggest that managers of U.S. firms can learn from their Japanese counterparts (e.g., Gibney, 1992; Thurow, 1991; Dore, 1987; Hasegawa, 1986; Lawrence and Dyer, 1983; Vogel, 1979; Cole, 1979; Yang, 1977).

This study was designed to provide evidence that is useful for addressing descriptive and evaluative questions about control systems at the critical profit center organization level,

which is where a firm's competitive advantage is usually won or lost (Porter, 1980). To a large extent, this research was exploratory because little evidence has been collected about the features of Japanese firms' control systems at managerial levels of the organizations. Considerable research (e.g., Young, 1992; Sakurai, 1990; Cusumano, 1985) has focused on Japanese control innovations at the shop floor level of the organization (e.g., just-in-time systems, *kanban* systems, total quality control), and a few studies (Bailes and Asada, 1991; Shields, et al., 1991; Tai, 1990; Anyane-Ntow, 1987; Snodgrass and Grant, 1986; Daley et al., 1985; Pucik and Hatvany, 1983) have specifically compared Japanese and U.S. firms' practices in strategic planning, budgeting, performance evaluation, and cost accounting systems. However, we are aware of no research that has addressed the transferability of management controls placed on profit center managers at the level of specificity of the current study.

This study involved the collection of data from samples of profit centers in two matched firms, one U.S. firm (which must go unnamed) and one Japanese firm (Toshiba), which were selected because both are prominent within their countries and representative of the local management practices. The paper documents similarities and differences between what can be called the firms' "control strategies": the types of control tools used and the importance placed on each type (Merchant, 1985a).

The findings show, somewhat surprisingly, that as compared to U.S. managers, overall Japanese managers are subject to **tighter** controls. Not so surprisingly, the Japanese managers are less likely to manipulate performance measures and to have their good investment ideas discouraged by the company's control system.

The remainder of the paper is organized as follows. The next section discusses the notion of national culture and its potential effects on the functioning of alternate controls. This discussion is used as the basis for deriving four hypotheses regarding differences between the use and effects of controls in U.S. vs. Japanese firms. Then the data collection procedures are discussed and the results are presented. The final section provides a discussion and concluding comments.

Culture and Profit Center-Level Control Systems

A control system can be defined to include all devices that help ensure the proper behaviors of people in the organization (Merchant, 1985a). Using a combination of unstructured interviews and a questionnaire survey of 54 profit center managers from a large, diversified U.S. manufacturer, Merchant (1985b, 1990) studied the uses and effects of controls on profit center managers' critical discretionary program expenditures. Discretionary program expenditures, for example for new product development, employee development, and basic research, are important to study because they are exactly the types of expenditures said to be adversely affected by systems that cause managers to be excessively short-term oriented (myopic).¹ The expenditures are investments in the future; they produce little or no profits in the current measurement period (quarter or year).

In his U.S. study, Merchant found that profit center managers' discretionary program spending decisions are affected by a broad set of controls, the most important of which can be classified into five categories: net income targets, expense targets, headcount constraints, procedural controls (requirements for approvals), and directives given by higher management typically in formal meetings. He also found that the various types of controls tended to be

used to reinforce each other, so the measures of the impacts of each of the types of controls could be added together to provide an indication of overall control system "tightness."

An obvious follow-on question to Merchant's findings is: Should we expect the control systems used in Japanese firms, and their effects, to be different from those used in U.S. firms? There is no direct evidence. Snodgrass and Grant (1986) hypothesized that individuals in Japanese organizations experience less explicit (formal) control than do their U.S. counterparts, but their empirical results failed to support their hypothesis.

There is, however, accumulating evidence that a link between national cultural variables and profit center-level control system choices probably does exist. A number of authors have concluded that people from different nations have diverse work-related cultures (Adler, et al., 1986; Laurent, 1983; Hofstede, 1980, 1991), as well as different attitudes towards, or reactions to, the same set of controls (Chow, et al., 1991; Kreder and Zeller, 1988; Birnberg and Snodgrass, 1988; Lincoln, et al., 1981; Horovitz, 1980). These findings, combined with knowledge about the significantly different histories and cultures of the U.S. and Japan (e.g., McMillan, 1984), suggest that U.S. and Japanese managers' control system choices should not necessarily be identical, or even similar. Controls that are effective in one national setting might not be effective, and might even be dysfunctional, in another, significantly different setting.

Numerous approaches to the study of national culture have been proposed (e.g., Adler et al., 1986; Schein, 1985; Frost et al., 1985; Triandis, 1984; Brislin, 1983; Child, 1981; Hofstede, 1980). We organize our discussion around Hofstede's (1980) cultural taxonomy because it is well supported empirically and it is the most widely cited and employed in

business and accounting research (e.g., Gudykunst and Ting-Toomey, 1988; Jaeger, 1984; Kreacic and Marsh, 1986; Ronen and Shenkar, 1985; Soeters and Schreuder, 1988; Triandis, 1984).

Using a major survey, of some 80,000 workers from over 70 countries, Hofstede (1980) identified four important dimensions of work-related national culture and suggested (1983, 1984, 1991) that specific relationships exist between these cultural dimensions and individuals' preferences and actions in an employment setting. Hofstede's four cultural dimensions are as follows:

1. Individualism vs. Collectivism relates to people's self-concept: "I" or "we". Hofstede suggested that people from a collectivistic culture are motivated by group interests and emphasize the maintenance of interpersonal harmony, while people from an individualistic culture tend to place their self-interests ahead of those of the group.
2. Large vs. Small Power Distance relates to people's acceptance that power in institutions and organizations is distributed unequally. Hofstede suggested that individuals high on power distance prefer, or at least have greater acceptance of, centralization of decision making authority.
3. High vs. Low Uncertainty Avoidance refers to the degree to which the members of a society feel comfortable with uncertainty and ambiguity. Hofstede suggested that people high in uncertainty avoidance prefer to reduce uncertainty or ambiguity by relying on written or unwritten rules of behavior, formalization of organizational structure, and standardization of procedures.

4. Masculinity vs. Femininity reflects preferences for achievement and material success as opposed to emphases on relationships and the quality of life. Hofstede suggested that people high on masculinity tend to prefer to base rewards on performance, whereas those low on this dimension (i.e., high on femininity) prefer to base reward allocations more highly on needs.

In Hofstede's (1980) study, workers from Japan, the U.S., and other countries had the following scores on the four cultural dimensions:

| | Mean for: | | |
|-----------------------|--------------|-------------|------------------|
| | | | 39 |
| | <u>Japan</u> | <u>U.S.</u> | <u>countries</u> |
| Individualism | 46 | 91 | 51 |
| Power Distance | 54 | 40 | 51 |
| Uncertainty Avoidance | 92 | 46 | 64 |
| Masculinity | 95 | 62 | 51 |

Thus, Hofstede's results suggest sharp differences between the U.S. and Japanese cultures. The U.S. culture is much more individualistic than that of the Japanese, but the Japanese culture is higher on the other three cultural dimensions, especially uncertainty avoidance.

The Japan-U.S. cultural differences identified by Hofstede provide the basis for predicting systematic differences in the use and effects of controls in these countries. Hofstede and other researchers (e.g., Harris and Moran, 1987; Locke and Latham, 1984; Mitchell, 1974; Sampson, 1977; Spence, 1985) have isolated individualism as a predominant trait of U.S. nationals and the self-interest motive as being the cornerstone of American worldview and management theories. On the other hand, students of Japanese culture have noted the Japanese tendency to place the interests of the collective over those of the self

(Befu, 1980; Kamata, 1982; Morsbach, 1980; Ouchi, 1981; Reischauer, 1977; Smith, 1983).

These conclusions were supported by the findings of a recent study by Wolff et al. (1992) that found employee identification with company values significantly higher in Japan than the U.S. Measured on a scale of 100, Japanese workers scored 85, 66% higher than the U.S. workers' score of 56. The Japanese score, which the authors (p. 147) called "astounding," was the highest rating in the 33 industrial countries surveyed; the U.S. was in the middle of the pack.

To the extent that U.S. nationals are more likely to emphasize their individual interests over those of the firm, a firm with predominantly U.S. rather than Japanese employees should be less able to rely on employees' self control. These firms should have more to gain from instituting an effective, tight management control system (i.e., using more numerous and/or more stringent controls). Thus we predict that, overall, U.S. profit center managers are subject to tighter controls than are their Japanese counterparts:

H1: Overall, the controls imposed on U.S. profit center managers are tighter than those imposed on their Japanese counterparts.

While this holistic hypothesis is consistent with the divergence between Japanese and U.S. cultures on the (perhaps dominant) individualism dimension, the other cultural dimensions identified by Hofstede also have implications for the use of controls. Since the current study does not examine the use of incentive awards, the masculinity dimension of culture will be ignored because its control-system implications relate primarily to preferences regarding rewards. Of the remaining two dimensions, Hofstede suggested a positive relationship between uncertainty avoidance and preferences/tolerances for rules and

standardized procedures. Since the Japanese are much higher in uncertainty avoidance, they can be expected to rely more heavily on procedural controls because such controls would be perceived as being more desirable (or at least less undesirable) by those whose behaviors are being controlled. The higher power distance of the Japanese, on the other hand, implies that they are more open to receiving directives from their superiors. These two predictions are summarized in the following two hypotheses:

- H2: Procedural controls are more important in the mix of controls used in Japanese firms than in U.S. firms.
- H3: Directives given by superiors are more important in the mix of controls used in Japanese firms than in U.S. firms.

An issue raised by the preceding analysis is: How can one reconcile the predictions that Japanese profit center managers would be subject to looser controls overall, yet also face tighter controls through procedures and meetings? Reconciling this apparent inconsistency requires recognition that different types of controls function as a package. Controls can serve as complements or substitutes for one another, and they may also differ in magnitude as well as area of impact.² While the overall tightness of a set of controls can be assessed through a summation of the effects of each form of control, it is important to recognize that different mixes of controls can provide the same overall tightness (level of behavioral assurance). Thus it is possible that overall control tightness can be higher for one national group at the same time that some individual controls have the opposite directional relationship. This would be so if different controls have unequal constraining or motivating effects on behavior (e.g., one control may have many times the effect of another),

and each national group emphasizes those controls that are most desirable or acceptable to its members.

Beyond these control tightness issues, the Japan-U.S. cultural divergence also has implications for the effects of controls. Merchant (1990) found that the pressure to meet these financial targets significantly increased the U.S. managers' tendencies to engage in two types of dysfunctional activities -- manipulation of performance measures and overemphasis on projects with short-term payoffs. The other cultural dimensions are silent on this issue, but the lower individualism (i.e., higher collectivism) of the Japanese suggests that when faced with the same degree of control tightness, Japanese profit center managers are less likely to engage in dysfunctional activities, such as excessively short-term oriented behavior or manipulation of performance measures, than their U.S. counterparts. This prediction is based on Hofstede's (1980) suggestion, and the findings of empirical research (e.g., Bond, et al., 1982; Leung and Bond, 1984; Triandis, 1986) that people higher in collectivism are more willing to subjugate their personal interests to those of the collective. Thus:

H4: The incidence of dysfunctional side-effects is lower in Japanese firms than in U.S. firms, even controlling for the degree of control tightness.

Method

Sample

Data from the U.S. firm came from Merchant's (1985b, 1990) sample of 54 first-level profit center managers. Toshiba was selected as the best Japanese match, in terms of size and industry to Merchant's firm. Both firms are among the 50 largest industrial firms in the world; both firms have many profit centers; the core businesses of both firms are electronics-

related, but both firms are somewhat diversified; both firms are considered to be well managed and leaders in their industries; the firms' management styles are considered to be representative of those predominating in their country; and neither firm was involved in any unusual activities at the time of the study, such as the restructuring that has been taking place at Matsushita (Ono and Williams, 1992). The Japanese researcher on the team approached Toshiba, and the firm's managers agreed to participate in the study.

To ensure comparability between the two samples, the Toshiba sample, like the U.S. sample, was limited to: (1) the lowest level of profit center manager (i.e., the managers had functional, not profit center, managers, reporting to them); (2) profit centers which included both manufacturing and marketing functions (i.e., no "pseudo" profit centers were included); and (3) profit centers run by managers based in the corporation's home country, so as not to dilute the effects of national culture. Following Merchant's (1985b, 1990) procedure, the survey was distributed with a cover letter from corporate management. Both strict confidentiality and anonymity were guaranteed, and the survey included a pre-stamped return envelope addressed to the Japanese member of the research team. Surveys were distributed to all 37 of Toshiba's division managers, and all responded, making the Japanese sample response rate 100%, as compared to 95% for the U.S. sample. However, nine Japanese manager responses were omitted from the analysis because the managers reported that some of their direct reports were profit center managers, so only 28 responses were included in the analysis.

Descriptive data suggested the samples were comparable on some key characteristics. The profit centers in both firms were large; the mean (standard deviation) employees for

the Japanese profit centers was 1,570 (1,729), as compared to 2,001 (1,743) for the U.S. sample. These two means were not significantly different ($t = 1.05$, $p = 0.30$).³ And both the Japanese and U.S. managers had worked for their current firm for an extended period (Japanese mean = 30.29 years; U.S. mean = 22.37 years).

Measures

All of the data were obtained using Merchant's (1985b, 1990) questionnaire which was administered to the Toshiba managers in Japanese. (Both the English and Japanese versions of the questionnaire are shown in the Appendix.) Following the suggestions of Brislin (1980), the Japanese version was first translated from the English version, and then back-translated into English to ensure equivalence.

In this questionnaire, control tightness was measured by a question which asked about the extent to which each of 14 control devices "... has affected the decisions your company made in the past year for expenditures on discretionary programs in your profit center." The 5-point response scale was anchored by 1 = "no effect", 3 = "some effect", and 5 = "great effect." As done by Merchant (1985b), the controls were organized into five categories, each with several subparts (the number of which is shown in parentheses): headcount controls (2), net income targets (3), discretionary program expense targets (2), procedural controls (3), and directives from top management (which are typically given at meetings) (4). Overall control system tightness was measured by summing the scores for each of these 14 questions.

The incidence of dysfunctional effects of controls was measured through two questions. The first asked the extent to which the controls had discouraged the generation of new ideas for expenditures in each of eight areas (e.g., new product development, basic

research). The variable was measured on a scale from 1 (great encouragement) to 5 (great discouragement). The second question asked how frequently in the past year the respondent or someone within his/her profit center had manipulated performance measures (e.g., shifted funds between accounts to avoid budget overruns). The four-point response scale was anchored as follows: 1 = "never", 2 = "rarely", 3 = "occasionally", and 4 = "frequently."

Results

Descriptive Statistics

Table 1 presents the means and standard deviations of the Japanese and U.S. managers' responses to each control tightness and dysfunctional effects question. Some large differences are apparent both between items and between the two national samples. Almost all of the mean responses reflecting control tightness are lower for the U.S. managers than for the Japanese managers (Panel A) while the dysfunctional effects (short-term emphasis and data manipulation) scores for the U.S. managers are consistently higher (Panel B). These data were subjected to formal statistical analyses in the hypotheses tests described below.

[Please place Table 1 about here]

Hypothesis One

H1 predicted that U.S. profit center managers would be subject to tighter controls overall than their Japanese counterparts. The overall control system tightness scores were computed by summing the responses to all 14 control-question subparts. The means (standard deviations) of this total tightness score for the Japanese and U.S. samples were

50.50 (9.25) and 42.74 (7.27), respectively. The difference between these means was highly significant ($t = 3.02$, $p = 0.003$), but its direction was contrary to that predicted.

As a second test, each manager's vector of responses to the 14 control system subparts was used as the dependent variable in a multivariate analysis of variance (MANOVA), with national origin as the between-subjects factor. The main effect due to national origin was highly significant ($F = 7.89$, $p = 0.0001$).

These results are directly contrary to our H1 prediction: The picture that emerges from these tests and the Table 1 (Panel A) data is one of **greater** control tightness in the Japanese firm. Out of the 14 control system subparts, only strict headcount targets has a lower mean score for the Japanese managers (2.96 vs. 3.57 for the U.S.), while the means for hiring freezes and annual net income targets are about the same for both national samples. All 11 remaining means are higher for the Japanese. The absence of total uniformity in the direction of Japan-U.S. differences suggests that response set bias is not a major concern, but the predominant pattern of differences between the Japanese and U.S. managers' vectors is contrary to the H1 prediction.

Hypotheses Two and Three

H2 and H3 predicted that Japanese profit center managers would be subject to relatively tight procedural controls and directives given at meetings. To test these hypotheses, the control impact scores were aggregated according to Merchant's (1985b) five *a priori* categories. Table 2 provides the means (standard deviations) and Cronbach alphas for these aggregate scales. All five scales had Cronbach alpha scores exceeding 0.6, which signifies acceptable reliability (Price and Mueller, 1986; Nunnally, 1967).

[Please place Table 2 about here]

The vector of five aggregate control scores was used as the dependent variable in a MANOVA with national origin as the between-subjects factor. As was discussed above, this factor was highly significant, indicating that the tightness of controls is significantly different between the U.S. and Japanese managers. Table 3 shows the results of separate Japan vs. U.S. t-tests for each control type. Consistent with the predictions stated in H2 and H3, both procedural controls and controls through directives given at meetings were significantly tighter for the Japanese managers. For the other categories of controls: net income targets and discretionary program expense targets were somewhat tighter in the Japanese firm, and headcount controls had slightly more impact in the U.S. firm.

[Please place Table 3 about here]

As a test of the separability of Merchant's five *a priori* control categories, the impact scores of the 14 control subparts were factor analyzed using a Varimax rotation. As is shown in Table 4, five orthogonal factors were identified with eigenvalues greater than one. Together these factors explained 72.3% of the total variance. The factor structure was pure; using a loading criterion of 0.60 or greater, each subpart loaded on only one factor.

[Please place Table 4 about here]

Two of the five factors exactly matched Merchant's *a priori* categories -- Factor 2 (directives given at meetings), and Factor 3 (headcount controls). The departures from Merchant's structure were (1) that "total program expense targets" loaded with the net income target items on Factor 1, which we label "Summary Financial Controls"; (2) Factor 4, which we label "Line-Item Controls," consisted of two items -- "individual program expense targets" and "spending discretionary program money already in the budget," and (3) Factor 5, which we label "Exception/Capital Controls," consisted of two procedural control items -- "approvals required for spending discretionary program money in excess of budgeted levels" and "approvals required for making capital expenditures."

The statistics for testing H1, H2 and H3 were recomputed using factor scores rather than summed scales. These results are shown in Table 5. Panel A presents the result of a MANOVA using the vector of five factor scores as the dependent variable, and national origin as the between-subjects factor, and Panel B shows the results of separate t-tests for each factor (Panel B). Consistent with the H1 findings based on Merchant's *a priori* categories, the main effect due to national origin was highly significant (Panel A). Consistent with H2 and H3, Factor 2 (directives given at meetings) and the two factors (4 and 5) that had procedural control variables loaded on them were significantly higher (i.e., tighter) for the Japanese managers. Neither of the other two factor scores was significantly different between the two samples.

[Please place Table 5 about here]

Hypothesis Four

H4 predicted that for a given tightness of controls, the level of dysfunctional effects would be lower among Japanese than among U.S. profit center managers. To test this hypothesis, an aggregated score was formed for each of the two dysfunctional effects. The means, standard deviations, and Cronbach alphas for both aggregate scores are reported in Table 6. All of the Cronbach alphas are in the acceptable range.

[Please place Table 6 about here]

An inspection of Table 6 clearly reveals that both the short-term emphasis (discouragement of new ideas) and manipulation of performance measures are lower for the Japanese sample. While these patterns are consistent with H4, recall that the tests of H1, H2 and H3 revealed that most of the controls were applied more tightly on the Japanese managers, and dysfunctional effects and control tightness are significantly positively correlated. Accordingly, to isolate the effects of national origin/culture, it was necessary to control for the effects of control tightness.

It might seem that H4 can be tested with a regression using control tightness and a dichotomous national origin variable as independent variables, but this approach is limited to the cases where control tightness and national origin are not significantly correlated. In the case of overall control tightness, for example, the significant correlation between this variable and national origin would cause both variables' coefficients to be biased.⁴ To overcome this collinearity problem, H4 was tested by first matching Japanese and U.S.

managers on the tightness of their controls, and then comparing the matched samples' dysfunctional effects scores. Three sets of matched samples were generated, one each for the overall tightness score, the vector of Merchant's five *a priori* control categories, and the vector of five factor scores. (Matching on all 14 control subparts was infeasible.) Table 7 reports the matched samples' mean scores for each matching variable. This table also presents t-test results which indicate that the matching was successful.

[Please place Table 7 about here]

Table 8 presents the results of comparing short-term emphasis and manipulation of performance measures for each matched sample. For all three matched samples, both dysfunctional effects scores were significantly lower for the Japanese managers. Thus, H4 was supported: Japanese managers who faced the same levels of control tightness as their U.S. counterparts did not engage in dysfunctional activities to the same extent as the latter.

[Please place Table 8 about here]

Summary and Discussion

Given the current trend towards globalization of business, the transferability of management practices across national boundaries has become an issue causing increased concern. This study sought to shed light on this issue by means of a cross-cultural comparison. The use and effects of organizational controls were compared between profit

center managers from a Japanese and a U.S. manufacturing firm matched on both size and industry. The taxonomy of national culture developed by Hofstede (1980), supplemented by knowledge of other studies on Japanese and U.S. culture, provided the basis for predicting systematic differences between the two national samples.

We predicted (H1) that, relative to their U.S. counterparts, Japanese managers would be subject to looser controls overall. This prediction was based on the premise that Japanese nationals are much higher in collectivism, which in turn provides greater assurance to their employers that they would place the collective interest of their firm ahead of their personal interests. Our findings, however, were contrary to this prediction. Our data suggest that Japanese managers are subject to significantly tighter controls than are U.S. managers.

We also predicted that because Japanese culture is higher in uncertainty avoidance and power distance, Japanese managers would be subject both to tighter procedural controls and controls through directives, typically given in meetings with superiors (H2 and H3). Both of these predictions were supported. Since H2 and H3 were predicated on managers adjusting their controls to the work-related attributes of their employees, support for them is an indirect indication of the behavioral effects of national culture.

The contrary finding of the use of relatively tight controls in a culture high in collectivism seems interesting and important, but we do not yet have a complete understanding of its causes and implications. This finding might be related to a similar apparent contradiction described by McCraw (1986) who noted that the high emphasis on "consensual" decision making in Japan would seem to imply high decision making participation, yet data suggest that "the Japanese system of relationships and hierarchies

tends to channel vital decisions into a few hands" (p. 375). McCraw speculated that the Japanese tendency toward centralization may be derived by the Tokugawa period in Japan with its systematic stifling of dissent.

Our overall control-tightness finding, which was contrary to our expectations, may have a similar historical cause as that noted by McCraw, or it may be due to any of many possible unmeasured variables, such as the ease with which these forms of controls can be used in Japan. For example, high use of directives from upper management and procedural controls may be linked to the Japanese firms' lifetime employment policies which may limit the employees' abilities to leave their firm even when faced with these relatively stifling forms of controls.

Our final hypothesis addressed the interaction between controls and national culture in producing dysfunctional behavioral effects. We predicted that when faced with the same control tightness as their U.S. counterparts, the more collectivistic Japanese managers would not be as short-term oriented or as prone to manipulate performance measures as the U.S. managers. This prediction was supported.

One surprising piece of the dysfunctional-effect finding is that while the Japanese managers are subjected to tighter controls than their U.S. counterparts, they are **encouraged** to make all of the types of discretionary investments we listed, while the U.S. managers are **discouraged** from making all of these investments except short-term cost reductions (see Table 1, Panel B). Culture almost certainly has to play a role in the explanation of this finding. In the near future, we plan to conduct some follow-up discussions with Toshiba

managers to learn more about this and our other findings, particularly those which were contrary to our expectations.

As a whole, our results support the contention that differences in national culture do affect individuals' preferences for and reactions to controls. For purposes of designing controls in a cross-national setting, these findings support the idea that it is important to identify both the key dimensions on which national cultures differ and how these cultural differences influence individuals' reactions to controls. In the specific case of transferring control systems between Japan and the U.S., our findings suggest that both the composition and tightness of the system may need to be modified to fit the other nation's culture better.

It must be emphasized, however, that this study, like all cross-cultural studies, was subject to several significant limitations. First, our data were collected from only one firm from each country, and these findings certainly require validation by other studies of other firms and larger sample sizes. Firms tend to have their own corporate cultures (e.g., Hofstede, 1991; Schein, 1985), so no firm provides a perfect representation of central national cultural tendencies, and the findings of the current study may have been confounded by this omitted variable. Furthermore, the data collection efforts were conducted several years apart, although the effects of this separation were probably minimized because both sets of data were collected during similar recessionary periods in each country.

Second, the measures of controls used in this study were limited in that they did not capture all the aspects and attributes of the companies' control systems. While the list of controls was broad, there are other aspects of the control system (e.g., the nature and size of performance-based incentives, the degree of difficulty and extent of participation allowed

in setting performance targets) that may vary and play significant roles in motivating employees and constraining their behaviors. Inclusion of these additional variables, and perhaps others that might be discovered in a control measure-development study conducted in Japan (or another country), rather than the U.S., could sharpen the findings.

Third, the current study has only examined two potential effects of controls, and both were dysfunctional (discouragement of new ideas, manipulation of performance measures). Controls can be expected to have other behavioral consequences that have major implications for the organization's short-term and long-term success, such as job effort, cooperativeness, truthfulness of communications with colleagues, job tension, and turnover. Expanding the set of dependent variables to include other consequences could provide additional insights.

And fourth, further work on cultural concepts and measures of controls and their impacts would provide sharper predictions and tests. For example, Hofstede (1991) acknowledged that his ideas may be biased due to their being based on Western conceptions of culture. The risk of bias may be small because, for example, the Chinese Cultural Connection (1987) found a high degree of empirical similarity between Hofstede's cultural dimensions with and dimensions identified with a "Chinese Value Survey" (CVS) instrument based on Chinese cultural concepts. Hofstede's dimensions of power distance, individualism and masculinity were all highly correlated with cultural dimensions identified by the CVS. The Chinese study, however, identified a fifth dimension, labelled Confucian Dynamism. Hofstede (1991) suggests that this additional dimension and his uncertainty avoidance dimension are perhaps less universal than the other three of his dimensions. We did not

extend our discussion to include the Confucian Dynamism concept because of the lack of clearcut implications for control systems, but tests of potential relationships might provide interesting findings.

Studies of cultural effects are complex undertakings in poorly charted waters. As is apparent from our findings regarding overall control tightness that were contrary to our predictions, we still have much to learn about the relationships between national culture and controls. The relationships are probably more complex than that implied by our univariate approach. Just as the parts of a control system operate as a package, each individual simultaneously embodies all the dimensions of national culture.

Furthermore, just as controls have the potential to complement or substitute for one another, multiple cultural dimensions may affect individuals' preferences for, and/or reactions to a given control in interactive ways. For example, in an uncertain environment, one way to insulate individual managers' measured performance from the effects of noncontrollable factors is to evaluate managers relative to one another (i.e., relative performance evaluation) (Chow and Haddad, 1991; Maher, 1987). Because of their higher uncertainty avoidance, the Japanese can be expected to have a higher preference for this evaluation approach. Yet relative performance evaluation also entails explicit interpersonal comparisons and overt competition, and this would be inconsistent with the preference of high collectivism individuals to avoid interpersonal conflict and to preserve interpersonal harmony. Thus, the net preference for and reactions to relative performance evaluation will depend on the relative strengths of the effects of each of these cultural dimensions.

While our findings about procedural controls and controls through directives suggest that univariate approaches can provide insights into some relationships, it is almost certain that more complex relationships exist. This fundamental question is still left unanswered: How do the various cultural dimensions interactively affect individuals' preferences for and reactions to various forms of controls, the uses of which, in turn, may be related to their functions?

NOTES

1. In a third study conducted at the profit center level of analysis, Merchant (1989) focused on the design and use of incentive compensation contracts. Using interviews with (coincidentally) 54 profit center managers from 12 diverse, unrelated corporations, he identified some important trade-offs in the design of incentive contracts for profit center managers, including those between short- and long-run incentives, implicit and explicit promises, and monetary and non-monetary rewards. While the use of incentive contracts is of interest, the scope of this study was limited only to the set of controls examined in Merchant (1985b, 1990). It should be noted, however, that all firms link all of the controls studied here to one or more forms of rewards and punishments.
2. Analogous to looser overall controls coupled with greater tightness for some subparts is a garment that has a loose fit overall, but is tight in some areas (e.g., the waist). The view that the various parts of a control system should be approached as an interrelated package is not new. Many writers (e.g., Flamholtz, et al., 1985; Hayes, 1977; Khandwalla, 1972; Otley, 1980; Waterhouse and Tiessen, 1978) have expressed a similar position. However, extant research still is predominately focused on small subsets of controls in isolation from the rest of the control system.
3. In all cases where t-tests were conducted, nonparametric Wilcoxon rank sum tests also were performed. Only the t-test results are reported because both sets of tests yielded exactly the same levels of significance.
4. The issue is one of collinearity in the case of overall control tightness. It is one of multicollinearity in the case of the five control categories because more than one such category is significantly correlated with national origin. In the case of Merchant's five *a priori* controls, there was the additional complication of correlations among the control types. (The five factors were independent of each other by construction.)

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TABLE 1

Means (Standard Deviations) of Japanese and U.S.
Profit Center Managers' Responses

Panel A

Tightness of Controls

Question*: A number of control devices are listed below. Please indicate the extent to which each has affected the decisions your company made in the past year for expenditures on discretionary programs in your profit center.

| | Japanese managers | U.S. managers |
|--|----------------------|------------------|
| A. HEADCOUNT CONTROLS | | |
| a. Hiring freezes..... | 2.25 (1.16) | 2.24 (1.45) |
| b. Strict headcount targets..... | 2.96 (1.23) | 3.57 (1.33) |
| B. FINANCIAL CONTROLS | | |
| Net Income Targets: | | |
| a. annual..... | 4.32 (0.72) | 4.28 (0.88) |
| b. quarterly..... | 3.84 (1.25) | 3.33 (1.24) |
| c. monthly..... | 3.75 (1.24) | 2.98 (1.51) |
| Discretionary Program Expense Targets: | | |
| a. total program expenditures... | 3.84 (0.75) | 3.76 (1.06) |
| b. individual program expenditures..... | 3.52 (0.92) | 2.81 (1.13) |
| C. PROCEDURAL CONTROLS | | |
| Approvals required for: | | |
| a. hiring new employees..... | 3.67 (1.20) | 2.37 (1.20) |
| b. spending discretionary program money already in the budget..... | 2.86 (1.24) | 2.15 (0.90) |

| | | |
|---|----------------|----------------|
| c. spending discretionary program money in excess of budgeted levels..... | 3.69 (0.97) | 3.15 (1.09) |
| d. making capital expenditures..... | 4.16 (1.03) | 2.81 (1.07) |

D. DIRECTIVES GIVEN AT MEETINGS

| | | |
|--|----------------|----------------|
| a. Formal reviews of your profit center's performance.. | 4.07 (1.02) | 3.37 (1.03) |
| b. Formal group- or sector- level committee meetings..... | 4.21 (1.07) | 2.78 (1.14) |
| c. Informal contacts with higher-level managers..... | 3.36 (1.06) | 3.13 (0.97) |

* Responses scale: 1 = "no effect"
3 = "some effect"
5 = "great effect"

Table 1

Panel B

Dysfunctional Effects of ControlsShort-Term Emphasis

Question**: In your profit center, have the controls encouraged or discouraged the generation of new ideas for expenditures on the following?

| | Japanese managers | U.S. managers |
|---|----------------------|------------------|
| a. New product development..... | 2.41 (1.45) | 3.31 (0.99) |
| b. Product engineering (improvement of existing products)..... | 2.56 (1.34) | 3.09 (0.90) |
| c. Manufacturing process engineering (cost reductions)..... | 2.33 (1.27) | 2.72 (1.04) |
| d. Basic research..... | 2.60 (0.87) | 3.43 (0.92) |
| e. Capacity expansion..... | 2.70 (1.14) | 3.20 (0.79) |
| f. Advertising and sales promotion.. | 2.86 (1.04) | 3.39 (0.86) |
| g. Employee development..... | 2.79 (0.69) | 3.22 (0.86) |
| h. Information systems..... | 2.61 (0.83) | 3.15 (0.81) |

** Response scale: 1 = "great encouragement"
 2 = "some encouragement"
 3 = "no effect"
 4 = "some discouragement"
 5 = "great discouragement"

Table 1
Panel B (cont.)

Manipulation of Performance Measures

Question***: In the past year, how frequently have you (or someone within your profit center) engaged in each of the following behaviors in order to comply with the controls?

| | Japanese managers | U.S. managers |
|---|----------------------|------------------|
| a. Bought equipment from outside so that the design portion of the expenditure could be capitalized, even though the job could have been done as well within..... | 1.39 (0.57) | 1.48 (0.69) |
| b. Shifted funds between accounts to avoid budget overruns..... | 1.18 (0.39) | 1.74 (0.87) |
| c. Pulled profits from future periods into the current period by: | | |
| i. deferring a needed expenditure..... | 1.21 (0.50) | 2.89 (0.92) |
| ii. accelerating a sale..... | 1.14 (0.45) | 2.69 (0.99) |

*** Response scale: 1 = "never"
2 = "rarely"
3 = "occasionally"
4 = "frequently"

Means (Standard Deviations) and Cronbach's Alphas
for Merchant's (1985) Five A Priori Control Categories

| <u>Control Category</u> | Japanese Sample | | U. S. Sample | | Combined | |
|---|--------------------|-------|-----------------|-------|-----------------|-------|
| | Mean (s. d.) | Alpha | Mean (s. d.) | Alpha | Mean (s. d.) | Alpha |
| Net Income Targets | 11.96 (2.95) | 0.893 | 10.59 (3.13) | 0.577 | 11.03 (3.12) | 0.813 |
| Discretionary Program Expense Targets | 7.36 (1.55) | 0.856 | 6.57 (1.84) | 0.795 | 6.83 (1.78) | 0.625 |
| Headcount Controls | 5.05 (2.35) | 0.837 | 5.81 (2.33) | 0.571 | 5.61 (2.35) | 0.648 |
| Procedural Controls | 14.71 (3.50) | 0.768 | 10.48 (2.72) | 0.512 | 11.67 (3.51) | 0.713 |
| Directives Given at Meetings | 11.64 (2.68) | 0.813 | 9.28 (2.53) | 0.720 | 10.09 (2.80) | 0.763 |

TABLE 3

Japan vs. U.S. Control
ComparisonsSeparate t-tests

| <u>Control Category</u> | <u>Japanese Sample Mean</u> | <u>U. S. Sample Mean</u> | <u>t</u> | <u>p</u> |
|--|---------------------------------|------------------------------|----------|----------|
| Net Income Targets | 11.96 | 10.59 | 1.83 | 0.070 |
| Discretionary Program Expense Targets | 7.36 | 6.57 | 1.85 | 0.068 |
| Headcount Controls | 5.05 | 5.81 | -1.25 | 0.215 |
| Procedural Controls | 14.71 | 10.48 | 5.56 | 0.000 |
| Directives Given at Meetings | 11.64 | 9.28 | 3.93 | 0.000 |

Factors Identified Using Varimax Rotation

| Variables (from questionnaire) | I | II | III | IV | V |
|--|----------------|----------------|----------------|----------------|----------------|
| A. HEADCOUNT CONTROLS | | | | | |
| a. Hiring freezes | -0.02148 | 0.08260 | 0.79906 | 0.26585 | -0.10212 |
| b. Strict headcount targets | 0.04667 | 0.03657 | 0.77337 | -0.26432 | 0.07907 |
| B. FINANCIAL CONTROLS | | | | | |
| Net Income Targets: | | | | | |
| a. annual | 0.80939 | 0.07890 | -0.10543 | 0.10542 | 0.12617 |
| b. quarterly | 0.78429 | 0.20469 | 0.40299 | 0.11626 | -0.14178 |
| c. monthly | 0.65167 | 0.21935 | 0.51240 | 0.11576 | -0.08292 |
| Expense Targets: | | | | | |
| a. total program expenditures | 0.72268 | -0.18038 | -0.08589 | 0.30900 | 0.17322 |
| b. individual program expenditures | 0.34623 | 0.02727 | -0.04916 | 0.67760 | -0.01411 |
| C. PROCEDURAL CONTROLS | | | | | |
| Approval required for: | | | | | |
| a. hiring new employees | 0.15671 | -0.10320 | 0.50570 | 0.46008 | 0.39122 |
| b. spending discretionary program money already in the budget | 0.10271 | 0.10872 | 0.09326 | 0.82257 | 0.19882 |
| c. spending discretionary program money in excess of budgeted levels | -0.04408 | -0.00581 | -0.05523 | -0.01872 | 0.88330 |
| d. making capital expenditures | 0.15189 | 0.17728 | 0.06549 | 0.29513 | 0.73625 |
| D. MEETINGS | | | | | |
| a. formal reviews of your profit center's performance | 0.25232 | 0.78048 | -0.00668 | -0.19215 | 0.24286 |
| b. formal group- or sector level committee meetings | 0.14166 | 0.76696 | 0.22710 | 0.26020 | 0.18532 |
| c. informal contacts with higher-level managers | -0.15187 | 0.81504 | -0.01774 | 0.07329 | -0.18628 |
| Eigenvalue | 3.90244 | 1.91748 | 1.72942 | 1.47939 | 1.08816 |
| % Variance Explained | 27.87 | 13.70 | 12.35 | 10.57 | 7.77 |
| | | | | (total 72.26%) | |

| Factor Label | Summary Financial Controls | Directives Given at Meetings | Headcount Controls | Line-item Controls | Exception/ Capital Controls |
|--------------|----------------------------|------------------------------|--------------------|--------------------|-----------------------------|
|--------------|----------------------------|------------------------------|--------------------|--------------------|-----------------------------|

* Variables identified with each factor are in bold.

TABLE 5

Japan vs. U.S. Control System Comparisons Using Factor Scores

Panel A

MANOVA on Vector of Control Factor ScoresNational Origin Main Effect: $F_{5,76 \text{ df}} = 5.21, p = 0.0001$

Panel B

Separate t-tests

| <u>Factor</u> | <u>Mean Factor Score</u> | | <u>t</u> | <u>p</u> |
|------------------------------------|--------------------------|-------------|----------|----------|
| | <u>Japan</u> | <u>U.S.</u> | | |
| 1: Summary financial controls | 3.895 | 3.646 | 0.728 | 0.469 |
| 2: Directives given at meetings | 3.437 | 2.836 | 1.779 | 0.080 |
| 3: Headcount controls | 2.489 | 2.121 | 0.873 | 0.386 |
| 4. Line-item controls | 2.133 | 0.884 | 3.851 | 0.000 |
| 5. Exception/capital controls | 3.448 | 2.848 | 1.711 | 0.092 |

TABLE 6

Means (Standard Deviations) and Cronbach's Alphas
for the Two Dysfunctional Effects Measures

| <u>Dysfunctional</u> <u>Effect</u> | Japanese Sample | | U.S. Sample | | Combined | |
|---|--------------------|-------|-----------------|-------|-----------------|-------|
| | Mean (s.d.) | Alpha | Mean (s.d.) | Alpha | Mean (s.d.) | Alpha |
| Short-term Emphasis | 21.16 (6.46) | 0.862 | 25.52 (4.18) | 0.716 | 24.14 (5.37) | 0.831 |
| Manipulation of Performance Measures | 4.92 (1.39) | 0.672 | 8.80 (2.33) | 0.572 | 7.48 (2.76) | 0.708 |

TABLE 7

Tests of Equality in the Matching Variables

Panel A

Matching Variable = Overall Control Tightness

| | Means (Standard Deviations) | | t | p |
|--|-----------------------------|-----------------------|--------|-------|
| | Japanese Sample (N=25) | U.S. Sample (N=25) | | |
| | 17.300 (3.065) | 17.080 (2.499) | -0.278 | 0.782 |

Panel B

Matching Variables = Vector of Tightness of Merchant's
(1985) Five A Priori Control Categories

| Control Category | Means (Standard Deviations) | | t | p |
|---|-----------------------------|-----------------------|--------|-------|
| | Japanese Sample (N=22) | U.S. Sample (N=22) | | |
| Net Income Targets | 3.833 (0.947) | 3.682 (1.219) | -0.460 | 0.648 |
| Discretionary Program Expense Targets | 3.340 (1.028) | 3.363 (0.847) | 0.080 | 0.937 |
| Headcount Controls | 2.477 (0.919) | 2.909 (1.324) | 1.257 | 0.216 |
| Procedural Controls | 3.284 (0.995) | 2.931 (0.752) | -1.324 | 0.193 |
| Directives Given at Meetings | 3.864 (0.912) | 3.576 (0.729) | -1.156 | 0.254 |

Panel C

Matching Variables = Vector of Five Factor Scores

| Factor (Label) | Means (Standard Deviations) | | t | p |
|---|-----------------------------|-----------------------|--------|-------|
| | Japanese Sample (N=23) | U.S. Sample (N=23) | | |
| Factor 1: (Net Income Targets) | 3.238 (1.328) | 3.062 (1.643) | -0.400 | 0.691 |
| Factor 5: (Discretionary Program Expense Controls) | 0.525 (1.041) | 0.844 (1.419) | 0.868 | 0.390 |
| Factor 4: (Headcount Controls) | 2.961 (1.114) | 2.978 (0.932) | 0.056 | 0.956 |
| Factor 3: (Procedural Controls) | 3.158 (0.999) | 2.780 (0.909) | -1.344 | 0.186 |
| Factor 2: (Directives Given at Meetings) | 3.426 (1.268) | 2.881 (1.207) | -1.493 | 0.143 |

TABLE 8

Comparisons of Dysfunctional Effects Scores Between Matched
Japanese and U.S. Profit Center Managers

Panel A

Matching Variable = Overall Control Tightness

| <u>Dysfunctional Effect</u> | Means (Standard Deviations) | | t | p |
|---|-----------------------------|----------------------|-------|-------|
| | Japanese | U.S. | | |
| | <u>Sample (N=25)</u> | <u>Sample (N=25)</u> | | |
| Short-term Emphasis | 21.160 (6.459) | 25.880 (4.447) | 3.009 | 0.004 |
| Manipulation of Performance Measures | 4.960 (1.428) | 8.680 (2.268) | 6.940 | 0.000 |

Panel B

Matching Variables = Vector of Tightness of Merchant's
(1985) Five A Priori Control Categories

| <u>Dysfunctional Effect</u> | Means (Standard Deviations) | | t | p |
|---|-----------------------------|----------------------|-------|-------|
| | Japanese | U.S. | | |
| | <u>Sample (N=22)</u> | <u>Sample (N=22)</u> | | |
| Short-term Emphasis | 21.864 (6.534) | 25.409 (4.885) | 2.038 | 0.048 |
| Manipulation of Performance Measures | 4.773 (1.193) | 8.773 (2.617) | 6.523 | 0.000 |

Panel C

Matching Variables = Vector of Five Factor Scores

| <u>Dysfunctional Effect</u> | Means (Standard Deviations) | | t | p |
|---|-----------------------------|----------------------|-------|-------|
| | Japanese | U.S. | | |
| | <u>Sample (N=23)</u> | <u>Sample (N=23)</u> | | |
| Short-term Emphasis | 21.522 (6.591) | 25.304 (4.800) | 2.225 | 0.032 |
| Manipulation of Performance Measures | 4.739 (1.176) | 8.739 (2.562) | 6.804 | 0.000 |

Appendix

STUDY OF THE EFFECTS OF ORGANIZATIONAL CONTROLS ON DECISION MAKING

General Instructions:

1. This questionnaire should be filled out only by the profit center manager to whom the cover letter was addressed.
2. There are no correct or incorrect answers, and this is not a test of consistency. Although some items may appear similar, they express differences that are important to this study.
3. Answers to all questions will be kept strictly confidential. Only summary statistics will be reported -- no data will be presented which might point toward a particular respondent.
4. Please answer all questions as accurately as you can.
5. Summary reports of the findings of the study will be sent to all participants.
6. Your cooperation in this study is greatly appreciated.

1. How many full-time employees are in your profit center?

2. A number of control devices are listed below. Please indicate the extent to which each has affected the decisions your company made in the past year for expenditures on discretionary programs in your profit center. (Circle one number in each row.)

No Some Great
Effect Effect Effect

A. HEADCOUNT CONTROLS

| | | | | | |
|----------------------------------|---|---|---|---|---|
| a. Hiring freezes..... | 1 | 2 | 3 | 4 | 5 |
| b. Strict headcount targets..... | 1 | 2 | 3 | 4 | 5 |

B. FINANCIAL CONTROLS

Net income targets:

| | | | | | |
|-------------------|---|---|---|---|---|
| a. annual..... | 1 | 2 | 3 | 4 | 5 |
| b. quarterly..... | 1 | 2 | 3 | 4 | 5 |
| c. monthly..... | 1 | 2 | 3 | 4 | 5 |

Budgeted targets for:

| | | | | | |
|---|---|---|---|---|---|
| a. total program expenditures... | 1 | 2 | 3 | 4 | 5 |
| b. individual program expenditures..... | 1 | 2 | 3 | 4 | 5 |

C. PROCEDURAL CONTROLS

Approvals required for:

| | | | | | |
|---|---|---|---|---|---|
| a. hiring new employees..... | 1 | 2 | 3 | 4 | 5 |
| b. spending discretionary program money already in the budget..... | 1 | 2 | 3 | 4 | 5 |
| c. spending discretionary program money in excess of budgeted levels..... | 1 | 2 | 3 | 4 | 5 |
| d. making capital expenditures..... | 1 | 2 | 3 | 4 | 5 |

D. MEETINGS

| | | | | | |
|--|---|---|---|---|---|
| a. Formal reviews of your profit center's performance.. | 1 | 2 | 3 | 4 | 5 |
| b. Formal group- or sector-level committee meetings..... | 1 | 2 | 3 | 4 | 5 |
| c. Informal contacts with higher-level managers..... | 1 | 2 | 3 | 4 | 5 |

4. In your profit center, have the controls encouraged or discouraged the generation of new ideas for expenditures on the following? (Circle one number in each row using the scale below.)

1. Great encouragement
2. Some encouragement
3. No effect
4. Some discouragement
5. Great discouragement

| | | | | | |
|---|---|---|---|---|---|
| a. New product development..... | 1 | 2 | 3 | 4 | 5 |
| b. Product engineering (improvement of existing products)..... | 1 | 2 | 3 | 4 | 5 |
| c. Manufacturing process engineering (cost reductions)..... | 1 | 2 | 3 | 4 | 5 |
| d. Basic research..... | 1 | 2 | 3 | 4 | 5 |
| e. Capacity expansion..... | 1 | 2 | 3 | 4 | 5 |
| f. Advertising and sales promotion.... | 1 | 2 | 3 | 4 | 5 |
| g. Employee development..... | 1 | 2 | 3 | 4 | 5 |
| h. Information systems..... | 1 | 2 | 3 | 4 | 5 |

5. In the past year, how frequently have you (or someone within your profit center) engaged in each of the following behaviors in order to comply with the controls? (Circle one number in each row using the scale below.)

1. Never
2. Rarely
3. Occasionally
4. Frequently

| | | | | |
|---|---|---|---|---|
| a. Bought equipment from outside so that the design portion of the expenditure could be capitalized, even though the job could have been done as well within..... | 1 | 2 | 3 | 4 |
| b. Shifted funds between accounts to avoid budget overruns..... | 1 | 2 | 3 | 4 |
| c. Pulled profits from future periods into the current period by: | | | | |
| i. deferring a needed expenditure... | 1 | 2 | 3 | 4 |
| ii. accelerating a sale..... | 1 | 2 | 3 | 4 |

6. How long have you worked for your company?

_____ years

意思決定への組織コントロールの作用に関する研究

記入上の注意事項

1. この質問票は、宛名人のプロフィット・センター管理者が個人で記入するものとします。プロフィット・センター管理者としては、事業（本）部長（プロフィット・センター長）と事業部長（セカンド・プロフィット・センター長）を想定しています。
2. 質問には、正解も誤答もありません。また、回答が一貫しているかどうかを調べるものでもありません。いくつかの質問項目は類似しているようにみえますが、この差は本研究にとって重要です。
3. すべての質問に対する回答は、完全に匿名扱いにします。集計結果だけを報告します。回答者を推定させるデータは公表しません。
4. すべての質問に対してできるかぎり正確にご回答ください。
5. 本研究に関する集計報告書は、参加者全員に送付いたします。
6. 本研究に対してご協力いただき、心からお礼申し上げます。

1. あなたのプロフィット・センター（事業（本）部 プロフィット・センターを指します。以下同様です。）の人員数（一時雇用者は除く）は何人ですか。

_____人
人員数

2. あなたのプロフィット・センターの管理可能費に関する昨年度の意思決定について、下記のコントロール手段・手法がどの程度影響しましたか。
（各行について、一つだけ○をつけてください）

1. まったく影響を受けなかった
2. ほとんど影響を受けなかった
3. いくらか影響を受けた
4. かなり影響を受けた
5. 大きな影響を受けた

A. 社員数によるコントロール

| | | | | | |
|----------------|---|---|---|---|---|
| 採用凍結 | 1 | 2 | 3 | 4 | 5 |
| 厳格な社員数目標 | 1 | 2 | 3 | 4 | 5 |

B. 予算コントロール

 予算利益目標：

| | | | | | |
|--------------|---|---|---|---|---|
| a. 年間 | 1 | 2 | 3 | 4 | 5 |
| b. 四半期 | 1 | 2 | 3 | 4 | 5 |
| c. 月次 | 1 | 2 | 3 | 4 | 5 |

 割当予算額：

| | | | | | |
|--------------------|---|---|---|---|---|
| a. プロジェクトの総支出額 ... | 1 | 2 | 3 | 4 | 5 |
| b. 個別のプロジェクト支出額.. | 1 | 2 | 3 | 4 | 5 |

C. 規則・手続きによるコントロール

| | | | | | |
|--|---|---|---|---|---|
| a. 新規採用に関する承認 | 1 | 2 | 3 | 4 | 5 |
| b. 予算に組み込まれている 管理可能費の支出に関する 承認 | 1 | 2 | 3 | 4 | 5 |
| c. 予算範囲外の管理可能費 の支出に関する承認 | 1 | 2 | 3 | 4 | 5 |
| d. 資本支出に関する承認 | 1 | 2 | 3 | 4 | 5 |

D. 会議に関するコントロール

| | | | | | |
|------------------------------------|---|---|---|---|---|
| a. プロフィット・センター の業績の公式的な検討 | 1 | 2 | 3 | 4 | 5 |
| b. 事業部あるいは事業本部 レベルの正式の会合 | 1 | 2 | 3 | 4 | 5 |
| c. 経営陣との非公式な接触 ... | 1 | 2 | 3 | 4 | 5 |

4. あなたのプロフィット・センターにおいて、下記の事項の支出についてのコントロールは、創造的事業活動の創出を促進していますか、それとも制限していますか。（下記の尺度を参考にして、各行について一つだけ○をつけてください）

1. かなり促進している
2. いくらか促進している
3. 影響はない
4. いくらか制限している
5. かなり制限している

| | | | | | |
|-----------------------|---|---|---|---|---|
| a. 新製品開発 | 1 | 2 | 3 | 4 | 5 |
| b. 製品技術（既存製品の改良）..... | 1 | 2 | 3 | 4 | 5 |
| c. 製造プロセスの改善（原価低減）.. | 1 | 2 | 3 | 4 | 5 |
| d. 基礎研究 | 1 | 2 | 3 | 4 | 5 |
| e. 設備拡張 | 1 | 2 | 3 | 4 | 5 |
| f. 広告宣伝・販売促進 | 1 | 2 | 3 | 4 | 5 |
| g. 従業員教育訓練 | 1 | 2 | 3 | 4 | 5 |
| h. 情報システム | 1 | 2 | 3 | 4 | 5 |

5. 昨年度、あなた（もしくはプロフィット・センターの中のだれか）は、本社によるコントロールを遵守するため、下記のそれぞれの行動をどの程度とりましたか。（下記の尺度を参考にして、各行について一つだけ○をつけてください）

1. 行っていない
2. まれに行った
3. ときおり行った
4. しばしば行った

| | | | | |
|---|---|---|---|---|
| a. 社員数コントロールの制限内にとどまりながら、必要な仕事を完了するために一時契約社員を採用した | 1 | 2 | 3 | 4 |
| b. 承認手続をスピードアップするために、支出後に承認を得た | 1 | 2 | 3 | 4 |
| c. 自社内で行える設計について、その支出を回避するために、外部から設備を購入した | 1 | 2 | 3 | 4 |
| d. 予算超過を回避するため、費目の流用（たとえば、会議費から交際費を支出した）を行った | 1 | 2 | 3 | 4 |
| e. 次期以降に実現するはずの利益を今期に実現するために、 | | | | |
| i 必要な支出を遅らせた | 1 | 2 | 3 | 4 |
| i 期末に押し込み販売を行った | 1 | 2 | 3 | 4 |

6. 東芝での勤続年数は？ _____年