Organizational Variation in Championship Behavior: The Case of Japanese Firms

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Abstract

This study examines differences in corporate culture between Japanese firms as expressed in championing behaviors. The results of a survey of 678 managers in 8 Japanese firms concerning their preferences regarding innovation championing styles are reported. These show that the emphasis in previous research on the similarities between Japanese firms should be abandoned. In addition, the present study lends important support to the assumption of independence of organizational culture from social environment.

Introduction

Much has been written about Japanese-style management and the nature of Japanese corporations over the past two decades. There is a broad consensus in the literature that there are certain important characteristics of Japanese firms that are different, and some would add superior, to their Western counterparts. The rapid rise in recent years of Japanese firms in an increasingly competitive international economic arena - according to Fortune, 119 of the top 500 manufacturing firms in the world in 1992 were Japanese - has led to literally thousands of articles in the academic and popular press describing, extolling, and criticizing "the Japanese."

Although most writers in the academic and popular press write about "the Japanese company," assuming that there is a high level of homogeneity among Japanese firms, there is little evidence to support this conclusion. It is interesting to note that while authors writing about Western firms warn against overgeneralizations and carefully point out differences based on industry, age, corporate culture, management philosophy, etc., most authors writing about Japanese firms continue to emphasize differences with Western organizations and similarities among Japanese firms. Even Lincoln's excellent 1989 study of satisfaction, commitment, and work organization in Japanese and U.S. firms focuses on the similarity among Japanese firms rather than the differences.

This divergence in treatment reflects a fundamental fact concerning the field of Japanese management studies: our attention to and understanding of Japanese firms lags behind that of American and European firms. Rather than exploring interesting differences, most authors are still at the stage of finding and describing similarities among Japanese firms. From the authors' own fieldwork and experience with Japanese organizations we believe that there are important differences among Japanese firms which have largely been overlooked in the work undertaken to date. Although a number of factors, including industry, management philosophy, etc. influence the structure and processes within Japanese firms, we focus here on differences in corporate culture between Japanese firms as it determines championing behavior.

Japanese firms are a particularly good venue for this study for two reasons: 1) because of a supposition that high social homogeneity will lead to little corporate culture variance; and 2) because innovation, and hence championing, are crucial to the future success of Japanese MNCs. Each of these aspects of the study will be discussed in turn.

Social versus Corporate Culture Variability

To date the majority of the research in the field of corporate culture has been carried out in the U.S. By studying an organizational phenomenon in another social context, it is possible to pinpoint additional variables that are important in the model, as well as specify limiting conditions (Boyacigiller and Alder, 1991). Moreover, as Boyacigiller and Adler (1991) point out, it is important to replicate research in cultures with very different orientations to

the U.S. In this regard, Japan represents an ideal setting for studying organizational cultures. Organizational cultures exist within and are partially formed by the local social context. American derived theories have assumed that organizational cultures can vary a great deal, and are highly malleable. Do Japanese corporate cultures vary a great deal as theory suggests they can? Some writers have suggested that there may in fact be little variability in Japanese corporate cultures. As the following quote regarding Japanese organizational structures illustrates, in other social contexts the model of organizational culture developed in the U.S. may not be as applicable, due to the strength of the social environment as expressed in local institutions.

....a case can be made that the adaptations of Japanese companies to technological and market environments at home and abroad have been heavily conditioned by an unusually strong set of institutional forces. Such pressures are arguably weaker or at least less uniform in the U.S., where extreme cultural heterogeneity, political decentralization, and geographic dispersion fragment the institutional environment to which U.S. organizations are constrained to adapt....Although we do not favor that point of view a priori, if cultural/institutional forces shape the structuring of Japanese organizations to a degree not common in the U.S., it could mean a correspondingly smaller role for technology and other task-related contingency variables. (Lincoln, Hanada and McBride, 1986: 340).

In short, another contribution of this research is to investigate the applicability of the U.S. derived model of organizational culture, with its emphasis on variation in corporate cultures, to other social contexts. Organizational culture will be looked at as it influences championing behaviors.

Innovation, Championing Behaviors, and Corporate Culture

Innovation is important to the development of new competitive advantages (Porter, 1991) since innovation allows for resources to be recombined in ways that differentiate the products and processes of one organization from that of another (Ghoshal, 1987). However, organizations are resistant to innovation since it threatens the existing power structure of the organization (Schon, 1963; Hannan and Freeman, 1977; Aldrich and Auster, 1986; Van de Ven, 1986) and disrupts organizational norms and routines that help the organization to overcome bounded rationality (March and Simon, 1958) and agency costs (Fama and Jensen, 1983; Jensen and Meckling, 1976). Innovation requires decisions under uncertainty about expectations concerning markets and technologies that do not yet exist (Venkataraman et al., 1992). As such, it often demands that decisions about the use of resources such as labor and capital and the design of organizational approaches and technologies to the exploitation of these resources be made in ways different from those for which organizational plans, rules and routines were designed (Quinn, 1985; Kanter, 1988).

Despite the demand for new approaches imposed by innovation, individuals in organizations have strong incentives to adhere to existing routines. While the development of new approaches may enhance the development of new competitive advantages by the firm, it also increases the employment risk faced by the individual organization member. Deviating from prescribed organizational behavior increases the probability of a loss of one's employment if the deviations do no result in recognized benefit to

the organization (Venkataraman et al., 1992). Since individuals cannot diversify this risk by taking on more than one job at a time, they are resistant to violating prescribed organizational behavior.

The resistance of organizational members to violating prescribed organizational behavior leads to a demand for innovation champions. Champions are individuals who overcome resistance to innovation in established organizations by taking actions that reduce the risk of innovative activity to other organization members (Burgelman, 1983). Innovation champions can use a spectrum of behaviors to overcome the obstacle of the authority structure. They may use their individual autonomy from the authority structure to bypass the hierarchy or they may use their relationships with people in the hierarchy to get the latter to change the direction of the organization. The champion might create a groundswell of support for the innovation among the firm's employees or he or she might seek support only of senior management. The champion can break the organization's rules overtly or adhere to them in putting the venture together.

The importance of innovation and flexibility in Japanese firms is supported by empirical research which has found that a key characteristic of successful Japanese companies is innovative and competition-oriented behavior (Kono, 1984). Sakuma (1983) has looked at the economic performance of Japanese companies in the U.S., UK, Malaysia and Singapore. He emphasizes the relationship between economic performance and the degree of information sharing among organizational members.

Japanese firms have been criticized for their lack of innovation as well as lauded for their innovation. For example, Nonaka (1991) has documented the innovative behavior of a number of Japanese firms. On the other hand, Bartlett and Yoshihara (1988) assert that many Japanese firms are ill-suited to meet the competitive demands of the international economic arena:

"Coupled with a continually accelerating product life cycle, the need for more flexible and differentiated products and systems gives an important competitive edge to companies that are closest to their markets. Those with sensitive, flexible, and responsive product development and manufacturing capabilities close to the consumer, often have an advantage over those relying on globally standardized products from distant and inflexible global scale plants." (Bartlett and Yoshihara, 1988: 23)

Bartlett and Yoshihara (1988) state that one of the barriers to the future competitiveness of Japanese international firms is due to management's resistance to the need to change products, strategies or organizational approaches to accommodate diverse and changing international demands. In short, a key contribution of this research is to investigate a crucial competitive aspect of Japanese firms - championing - and its variance across organizations.

In the following pages, the empirical literature on Japanese corporate culture will be reviewed. This will be followed by a description of the research methodology and results. In the final section, the major implications and conclusions from this study will be discussed.

Literature Review

The major focus of the literature review for this study was conducted on the role of Japanese corporate culture in the operations of Japanese firms. While there are literally thousands of articles and books which could be included in such a review, we limited ourselves to those which presented empirical evidence, qualitative and/or quantitative, to support the authors' conclusions.

Corporate culture is defined as "...basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic 'taken-for-granted' fashion an organizations view of itself and its environment (Schein, 1985: 6). Interestingly, while the differences in corporate culture among U.S. firms has received considerable attention during the last decade (e.g. Kilman, 1984; Schein, 1985; Deal and Kennedy, 1982) there has been little work on differences in corporate culture in firms of non-American origin or in companies operating outside the boundaries of the United States.

With regard to Japanese firms, quantitative empirical research is quite sparse and there is no consistency to the aspects of corporate culture which have been studied. Kono (1990) found in a study of 265 of 88 firms that differences in corporate culture among Japanese firms do exist. The organizational level of the respondents was not indicated. Corporate culture was defined as the pattern of decision making within the firm. There were five types of corporate culture found. The majority of the firms fell into either the vitalized corporate culture category (34) or the bureaucratic (32). While differing in research focus, Shibata, Tse, Vertinsky and Wehrung

(1991) in a study of 349 Japanese publicly held companies, also found support for differences in corporate culture among Japanese firms. The study looked at the normative systems concerning management of five senior executives of the Japanese firms sampled, and found that they fell into three categories: the rational, the organizational process, and the organizational-learning paradigms. The authors conclude that no coherent Japanese management theory exists, but rather that the choice of management normative system is tied to the firm's history and environment. A third study, however, provides contradictory evidence to the findings of the first two. Wakabayashi, Graen, and Uhl-Bien (1990) found in a study of 1075 line managers in five Japanese organizations that the hidden investment hypothesis regarding career progress was generalizable across the firms in their study. While their focus is on a Japanese management practice rather than on corporate culture per se, it indicates that the surrounding corporate environment needed to support this management practice may be similar between the firms. Moreover, their sample of a large number of organizational members rather than top executives is similar to the present study's approach to studying differences in organizational normative behavior. In short, past quantitative empirical research has revealed some support for differences in corporate culture among Japanese firms, but it is not consistent. Moreover, only one study has examined a large number of organizational members, and none has examined championing behaviors.

Considerable qualitative evidence exists for strong differences in corporate culture among Japanese firms. Some researchers have

focused on describing differences in corporate cultures among Japanese firms (Pascale and Athos, 1978?; Johnson, 1988: "Japanese on Wall Street", 1988). Other researchers simply imply that strong differences in corporate culture exist within the context of discussion of other issues such as changes in Japanese firms trying to become more innovative (Nonaka, 1991), how corporate culture is promulgated in Japanese firms (Picken, 1987; Rohlen, 1974; Dore, 1973; Morita, 1986; Matsushita), how national differences lead to differences in corporate culture (Silk, 1989), and the influence of corporate culture on the cross-national strategic alliance of a Japanese firm with an American firm (Business Week, 1987).

Two conclusions can be drawn from a review of the literature on Japanese corporate culture. First, while there is a much qualitative data that strong differences in corporate culture exist between Japanese firms, there are few empirical studies to substantiated this view, and there conflicting results among those few. Second, there have been very few studies of differences in corporate culture as they affect organizational behavior at the individual organizational behavior level, such as in norms concerning the choice of championing behaviors. Because of the paucity of research in this area, and based on the supposition, as illustrated by the quote above from Lincoln, Hanada and McBride (1986) that the uniformity of Japanese social culture will result in low variance in corporate culture among Japanese firms, the null hypothesis that no differences in corporate cultures between Japanese firms as expressed by preference for champion behaviors would be found was used to guide this research.

Methodology

The results of this study are based on responses to a survey about innovation championing sent to 1500 managers in 8 large Japanese organizations in the first quarter of 1992. These organizations include:, Uniden, Canon, Mitsui Petrochemicals, Hanshin Railroad, Kanto Auto, Mitsui Toatsu, and Kawasaki Steel. The survey was completed by a total of 678 managers, providing a response rate of 45.2%.

In addition to background information about the age, gender, education, functional area, and work experience of the managers, the survey asked twenty-four questions about the managers' preferences for how innovation championing should occur in their organizations. These items were drawn from the established literature on innovation championing. Responses to these twentyfour questions were factor analyzed to reduce them to six dimensions of championing behavior. The factors generated all had eigen values greater than one, acceptable reliabilities, item loadings of 0.50 or greater, and cross-loading of less than 0.40. The factor analysis revealed six championing dimensions: the preference of violating organization hierarchy in the innovation championing process (Hierarchy; the preference for violating organizational norms, rules and procedures in the innovation championing process (Rules); the preference for treating all organization members as equals in the innovation championing process (Equality); the preference for using formalized mechanisms to persuade others to support the innovation effort (Formalize); the preference for close monitoring of innovators

(Monitoring); and the preference for seeking cross-functional support for the innovation (Cross-functional).

Results

The factor scores for the six championing dimensions were used to examine the relative similarity of the organizational cultures of the eight Japanese organizations included in the study. Company mean scores and standard deviations for the six championing dimensions are shown in Table 1.

The null hypothesis that all Japanese organizations have the same philosophies toward innovation championing would suggest that there would be no significant differences between the eight organizations across the championing dimensions. In order to test this hypothesis, it is important to note that for eight organizations, there are 28 possible two-company comparisons. Across six dimensions, the total number of two-company comparisons totals 168. In order to show that the Japanese companies do not share the same approach to innovation championing at the p<.05 level, nine or more of the 168 paired comparisons would have to be significantly different at the p<.05 level. Moreover, to show that the Japanese companies do not share the same approach to any one of the six innovation championing dimensions, two or more of the 28 paired comparisons should be significantly different at the p<.05 level.

Tables 2 through 7 show the t-values for tests of significant differences between pairs of Japanese corporations across the six dimensions. The table indicate that for each dimension of championing, at least seven of the paired comparisons are significantly different at the p< .05 level. Overall, 71 of the 168

comparisons are significantly different. These results clearly rule out the null hypothesis that the norms for preferred championing behavior are the same in all of the Japanese corporations included in this study.

Discussion and Conclusions

While prior research on Japanese firms has largely assumed a homogeneity in the management of Japanese firms, the present research indicates that the corporate cultures of Japanese firms differ significantly with regard to the championing behaviors that are encouraged among employees. The results reported above, based on the responses of a large sample from eight Japanese firms, gives concrete evidence that there is no consistency between firms in the type of championing behaviors that are sanctioned in Japanese firms.

These results are significant for at least three reasons. First, research on Japanese management in the future must as clearly recognize the sources of differences between firms as research on Western firms routinely does. This may have important implications in that, by focusing on variables other than national origin of the firm, the similarities in management approach between Japanese and non-Japanese firms will become clearer. Taking Lincoln's (1989) study as an example, further investigation of the 106 Japanese and American firms in his sample may show that there are factors other than national origin of the firm that significantly influence the degree of satisfaction and commitment of employees, as well as the design management approaches of the firms. In short, regardless of the management issues that is being studied, in the future researchers must become increasingly cautious about assuming a

clear similarity in behavior across Japanese firms, particularly when comparing their behavior with foreign counterparts.

The second important result of this research is that the corporate culture of individual Japanese firms differs in significant ways from each other, a finding which confirms prior anecdotal evidence and helps to fill the gap in empirical research on Japanese corporate culture. This finding is particularly significant given the prior quoted statement from Lincoln et al. (1986) to the effect that the greater social homogeneity of Japanese can be expected to result in greater corporate culture homogeneity. Clearly, this is not the case. For organizational culture theorists, this result is highly significant as it indicates that corporate culture may in fact be much less affected by social environment than previously assumed. For example, the work of Hofstede (1980) lent strong support for the effect of national social environment on work organizations over the effect of corporate culture. Clearly, this idea must be revisited in light of the results reported in this paper.

Finally, the results of this study has important implications for the innovative behavior of Japanese firms. As argued previously, innovation is a key component of the future economic viability of Japanese firms. To the degree that innovative behavior can be encouraged and established organizational routines broken, Japanese firms will be able to continue to compete on world markets. This study found a wide disparity in the championing behavior norms favored by different Japanese firms. This suggests that different Japanese firms are able to foster different norms regarding innovation. This may have important consequences for firm success

in world markets. While some Japanese firms will, for whatever reason, have a set of championing norms that is appropriate for its competitive mission, others will not. In short, some Japanese firms will be winners and some will not in part because their organizational cultures with regard to innovation differ widely. This makes the discussions concerning the extent to which "Japanese firms" are hampered by their lack of innovative ability much more complex.

Future research must concentrate on a number of areas suggested by the results as well as the limits of this study. The firms in this study were drawn from a number of industries. Does industry matter with regard to differences in corporate culture? Are there greater similarities between Japanese firms in a certain industry than in others? The limited number of firms in the present study precludes an answer to that question. Future research should certainly address this gap.

In addition, firm performance was not measured in the present study. The preference for certain sets of championing behaviors by firms may have important consequences for Japanese firm performance as it does for U.S. firms (Denison, 1990), which future research should determine. Future research should look at whether there are important relationships between corporate culture as expressed in championing and firm performance, and whether the same relationships hold up for non-Japanese firms as well. Such research would add immeasurably to our understanding of the effect of corporate culture on firm performance.

In conclusion, the results of this study contribute significantly to breaking the stereotype of the existence of a "Japanese firm", and to our understanding of innovative behavior within Japanese firms.

References

Aldrich, H., and Auster, E. 1986. Even dwarfs started small: Liabilities of age and size and their strategic implications. In L. Cummings and B. Staw (Eds.), <u>Research in Organizational Behavior</u>, 8: 165-198. San Francisco: JAI Press.

Boyacigiller, N. and N. Adler. 1991. "The Parochial Dynosaur: Organizational Science in a Global Context". *Academy of Management Review*, 16 (2), 262-290.

Burgelman, R. 1983. A process model of internal corporate venturing in the major diversified firm. *Administrative Science Quarterly*, 28: 223-244.

Deal, T. and Kennedy, A. 1982. <u>Corporate Cultures</u>. Reading, Mass.: Addison-Wesley.

Denison, Daniel R. 1990. <u>Corporate Culture and Organizational Effectiveness</u>. New York: John Wiley and Sons.

Dore, R. 1973. <u>British Factory: Japanese Factory: The Origins of National Diversity in Industrial Relations</u>. Berkeley: University of California Press.

Fama, E., and Jensen, M. 1983. Separation of ownership and control. *Journal of Law and Economics*, 26: 301-325.

"GM is Spreading the Gospel According to Toyota". 1987. *Business Week*, May 25, 120-122F.

Ghoshal, S. 1987. Global strategy: An organizing framework. *Strategic Management Journal*, 8: 425-440.

Hannan, M. and Freeman, J. 1977. The population ecology of organizations, *American Journal of Sociology*, 82: 929-964.

Hofstede, Geert. 1980. Culture's Consequences. Newbury Park: Sage.

"Japanese on Wall Street", 1988. Euromoney, April, 21-30.

Jensen, M., and Meckling, W. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3: 305-360.

Johnson, C. 1988. "Japanese-Style Management in America". *California Management Review*, Summer, 35-45.

Kanter, R. 1988. When a thousand flower bloom: Structural, collective and social conditions for innovation in organization. In L. Cummings and B. Staw (Eds.), <u>Research in Organizational Behavior</u>, 10. Greenwich, CT: JAI Press.

Kilman, R. 1984. Beyond the Quick Fix. San Francisco: Joseey-Bass.

Kono, T. 1984. <u>Strategy and Structure of Japanese Enterprises.</u> London: MacMillan.

Kono, T. 1990. Corporate Culture and Long-Range Planning. *Long-Range Planning*. 23 (4), 9-19.

March, J. and Simon, H. 1958. Organizations. New York: Wiley.

Matsushita. 1988. Harvard Business School case 388-144.

Morita, A. 1986. Made in Japan. Reading, England: Fontana/Collins.

Pascale, R. and A. Athos. 1981. <u>The Art of Japanese Management</u>. New York: Warner Books.

Picken, S. 1987. "Values and Value Related Strategies in Japanese Corporate Culture". *Journal of Business Ethics*, 6, 137-143.

Quinn, J. 1985. Managing innovation: Controlled chaos. *Harvard Business Review*, 63 (3): 73-84.

Rohlen, T. 1974. <u>For Harmony and Strength</u>. Berkeley and Los Angeles: University of California Press.

Sakuma, M. 1983. <u>Nihonteki Keiei no Kokusaisei</u> (Internationalism of Japanese Management). Tokyo: Yuhikaku.

Schein, E. 1985. <u>Organizational Culture and Leadership</u>. San Francisco: Joseey-Bass.

Schon, D. 1963. Champions for radical new inventions. *Harvard Business Review*, 41: 77-86.

Silk, L. 1989. "Marrying Two Company Cultures is not Easy". *Business Month*, July.

Trevor, Malcolm. <u>Japan's Reluctant Multinationals: Japanese Management at Home and Abroad</u>. New York: St. Martin's Press, 1983.

Trevor, Malcolm, Jochen Schendel, and Bernhard Wilpert. <u>The Japanese Management Development System: Generalists and Specialists in Japanese Companies Abroad</u>. London: Frances Pinter Publishers, 1986.

Van de Ven, A. 1986. Central problems in the management of innovation. *Management Science*, 32 (5): 590-607.

Venkataraman, S., I. MacMillan, and R. McGrath. 1992. Progress in research on corporate venturing. In D. Sexton (Ed.), <u>State of the Art in Entrepreneurship</u>. New York: Kent Publishing Company.

Table 1. Means and Standard Deviations for the factor scores on the championing dimensions.

	N	HIER	RULE	EQUA	FORM	MON	CROSS
Kao	36	-0.31 (0.81)	0.20 (0.83)	-0.31 (1.00)	-0.24 (0.69)	-0.73 (0.85)	0.07 (0.88)
Uniden	38	-0.11 (0.93)	-0.49 (1.11)	0.33 (1.06)	-0.51 (1.06)	-0.14 (0.83)	0.10 (0.78)
Canon	142	-0.30 (0.90)	-0.16 (1.11)	-0.41) (1.02)	0.09 (0.83)	0.74 (0.57)	-0.69 (0.96)
Mitsui Petro- Chemicals	244	-0.11 (0.94)	-0.23 (0.93)	-0.35 (0.98)	0.04 (0.88)	0.74 (0.59)	-0.58 (0.86)
Hanshin Railroad	63	-0.70 (0.90)	-0.07 (1.13)	-0.11 (0.93)	-0.05 (0.96)	0.54 (0.61)	-0.26 (0.89)
Kanto Auto	26	-0.19 (1.06)	-0.03 (0.98)	-0.54 (1.32)	0.08 (0.94)	0.88 (0.50)	-0.48 (0.80)
Mitsui Toatsu	63	0.07 (0.85)	-0.55 (1.05)	-0.37 (1.05)	-0.20 (1.01)	0.79 (0.67)	-0.56 (0.77)
Kawasaki Steel	62	-0.36 (0.91)	0.01 (0.99)	-0.33 (0.90)	0.24 (0.89)	0.48 (0.71)	-0.46 (0.80)
Cronbach's Alpha		0.69	0.73	0.69	0.59	0.83	0.53

Key: Facto

Factor score

(Standard Deviation)

HIER=Preference for violating organizational hierarchy in the innovation championing process.

RULE=Preference for violating organizational norms rules and procedures in the innovation championing process.

EQUA=Preference for treating all organization members as equals in the innovation championing process.

FORM=Preference for using formalized mechanisms to persuade others to support the innovation effort.

MON=Preference for close monitoring of innovators.

CROSS=Preference for seeking cross-functional support for the innovation.

Table 2. T-values for tests of significant differences between pairs of Japanese organizations on the preference for violating organizational hierarchy in championing innovation.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		-1.02	-0.07	-1.25	2.14	0.24	-2.20	-0.50
Un			1.18	0.01	3.17	1.33	-0.98	0.35
Ca				-1.99	2.94	0.41	-2.78	-0.54
Mpc					4.50	1.88	-1.36	0.44
Hr						-2.13	-4.95	-2.30
Kan							-2.73	-0.73
Mt								1.24
Ks								

Table 3. T-values for tests of significant differences between pairs of Japanese organizations on the preference for violating organizational rules, procedures and norms in championing innovation.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		-3.02	-0.32	1.86	2.64	1.29	3.69	1.03
Un			-1.61	-1.55	-1.78	-2.30	0.29	-1.68
Ca				0.63	-0.51	-1.02	2.36	-0.55
Мрс					-1.12	1.74	2.38	-1.01
Hr						-0.42	2.44	-0.16
Kan							-3.03	-0.17
Mt								2.15
Ks								

Table 4. T-values for tests of significant differences between pairs of Japanese organizations on the preference for treating all organization members as equals in championing innovation.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		-2.68	0.54	0.23	-1.02	0.14	-0.53	0.77
Un			3.97	3.95	2.18	3.37	3.24	2.91
Ca				-0.59	-2.03	-0.50	-0.27	-0.55
Mpc					-1.77	-0.10	-0.14	0.89
Hr						1.40	1.48	1.71
Kan							0.19	0.83
Mt								-0.64
Ks								

Table 5. T-values for tests of significant differences between pairs of Japanese organizations on the preference for using formalized methods to persuade others to support the innovation.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		1.26	-2.20	-1.82	-1.00	-2.82	-0.23	-1.58
Un			-3.69	-3.44	-2.17	-3.79	-1.46	-2.28
Ca				0.53	1.11	-1.21	2.13	0.20
Mpc					0.77	-1.62	1.84	-0.25
Hr						-1.82	0.79	-0.64
Kan							-2.59	-0.75
Mt								-1.22
Ks								

Table 6. T-values for tests of significant differences between pairs of Japanese organizations on the preference for monitoring the innovation process.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		3.01	-12.36	-13.05	-8.63	-7.58	-9.79	-8.61
Un			-7.62	-8.05	-4.77	-4.01	-6.15	-5.60
Ca				0.01	2.22	2.73	-0.49	-1.13
Mpc					2.34	2.92	-0.52	-1.12
Hr						0.50	-2.12	-2.46
Kan							-2.54	-2.56
Mt								-0.62
Ks								

Table 7. T-values for tests of significant differences between pairs of Japanese organizations on the preference for appealing for cross-functional support for the innovation.

	Kao (Kao)	Uniden (Un)	Canon (Ca)	Mitsui Petro Chemicals (Mpc)	Hanshin Railroad (Hr)	Kanto Auto (Kan)	Mitsui Toatsu (Mt)	Kawasaki Steel (Ks)
Kao		-0.17	4.30	4.19	1.75	3.03	3.69	2.49
Un			4.68	4.57	2.04	3.42	4.14	2.86
Ca				-1.19	-3.05	-1.66	0.95	-1.07
Mpc					-2.62	-0.98	-0.15	-0.57
Hr						1.34	2.05	1.09
Kan							-0.72	0.09
Mt								-0.46
Ks								