Powerful and Free: Intraorganizational Power and the Dynamics of Corporate Strategy

Hitoshi Mitsuhashi and Henrich R. Greve

Strategic Organization 2004 2: 107
DOI: 10.1177/1476127004042841

STRATEGIC ORGANIZATION Vol 2(2): 107–132
DOI: 10.1177/1476127004042841

www.sagepublications.com

ARTICLES

Powerful and free: intraorganizational power and the dynamics of corporate strategy

Hitoshi Mitsuhashi University of Tsukuba, Japan

Henrich R. Greve Norwegian School of Management, Sandvika, Norway

Abstract

The questions of how shifts occur between inertia and change and why only some organizations make strategic changes have received significant attention from scholars in strategy and organization theory. Here the horizontal and vertical dimensions of organizational power structures' influence on the dynamics of corporate strategy are examined. The horizontal dimension of institutionalization of subunit power causes inertia, while the vertical dimension of power differences in the top management team causes strategic change. These effects hold for the simple magnitude of strategic changes, changes that break organizational momentum and changes following performance decline. Analysis of changes in the diversification of Japanese shipbuilding and robotics firms supports the theory.

Key words • adaptation • diversification • momentum • organizational power • top management teams

Introduction

Stability versus change is one of the central tensions in organizational strategy. Many have noted that organizations often fail to implement strategic changes necessary to keep pace with environmental changes (Gersick, 1994; Haveman, 1992; Rajagopalan and Spreitzer, 1997). The question of why only some organizations engage in major organizational changes has received significant attention from scholars in strategy and organization theory (Hambrick and Finkelstein, 1987; Haveman et al., 2001; Weick and Quinn, 1999). Much work on this topic has assumed that decisions reflect the preferences and choices of the most powerful actors in an organization (Hickson et al., 1971; Pfeffer, 1981).

The strategic decisions that initiate strategic change involve political struggles, so organizational power distributions may help predict changes in corporate strategy.

There are two gaps in the research about the relationship between organizational power and strategic change. First, one can discern two primary dimensions of power structures in top management teams, which might be termed the horizontal and vertical dimensions (Bacharach and Lawler, 1980; Blau, 1977; Etzioni, 1961). The horizontal dimension captures power distributions across subunits (e.g. functional departments) in organizations, while the vertical dimension highlights internal rankings resulting from personal power differences between executives in top management teams. Previous research has focused on either one or the other of these dimensions. One branch of research has examined how power distributions among subunits influence the dynamics of corporate strategy (Finkelstein, 1992; Goodstein and Boeker, 1991). Another has examined the power held by chief executive officers (CEOs) over other executives or board members (Boeker, 1997; Daily and Johnson, 1997; Ocasio, 1994; Zajac and Westphal, 1996). The separation of these literatures has led to a scarcity of work studying the effects of vertical and horizontal power distributions simultaneously.

Second, researchers have often not predicted strategic change per se, but rather examined how power held by managers influences organizational performance (Eisenhardt, 1989; Haleblian and Finkelstein, 1993). The relationship between power and performance is certainly worth looking at, but the findings can only be attributed to the actions of powerful managers if one also investigates how power structures affect strategic change.

These gaps will be filled here by analyzing how the horizontal and vertical dimensions of organizational power influence change in corporate diversification. To explore the horizontal dimension of power, we examine how stable and concentrated subunit representation in the top management team leads to the institutionalization of power. To explore the vertical dimension of power, tenure inequality in the top management group leading to instability of power is considered. The hypotheses are tested using longitudinal data on shipbuilding and robotics firms in Japan.

Theory

Power is 'the ability to get things done the way one wants them to be done' (Salancik and Pfeffer, 1977: 14). Power structures are durable horizontal and vertical distributions of power within organizations, and affect behaviors because actors who are powerful relative to other actors are able to impose their will on the decision-making. Power is horizontally distributed because subgroups in organizations seek to form coalitions to impose their own preferences in decisions (Cyert and March, 1963). Subgroups are particularly active in

ambiguous decisions, as problems are prone to be socially constructed and framed through negotiations when goals are unclear or means–ends relations are uncertain (Cyert and March, 1963). Subunit power, and thus influence on decisions, depends on control of critical contingencies of the organization, and may change when the environment changes (Salancik and Pfeffer, 1977). To prevent this, powerful subunits will attempt to institutionalize their power by embedding it into the organizational decision-making structure and procedures (Boeker, 1989). Successful institutionalization stabilizes the strategy because strategic change would introduce new contingencies into the organization that give weaker subunits opportunities to increase power.

However, the vertical dimension of power in top management teams stems from the internal ranking. By design, organizations are hierarchical social systems in which managerial authority over subordinates is normatively legitimated and prescribed by organizational rules (Michels, 1949). Although all organizations are hierarchies, power differences still vary appreciably across organizations, which is at least in part due to the accumulation of personal power by managers. As a result, some organizations have decision-making processes that are dependent on the preferences of a small number of powerful individuals. Freed from the requirements of negotiation and agreement seen in egalitarian management teams, such individuals have greater capability for implementing strategic changes.

In both horizontal and vertical power distributions, the same structural conditions that enable use of power also reward certain ways of using the power. Stable and concentrated distribution of subunit power enables powerful subunits to form stable coalitions to maintain the current strategy, or to change it. Incentives favor maintaining the strategy, because stability of strategy produces stability of organizational interdependencies, which forestalls attempts by less powerful subunits to overthrow the coalition. Similarly, large vertical power differences enable powerful managers to maintain the strategy, or to change it. Incentives favor changing the strategy, because changes display their personal power and give opportunities for rewarding allies and punishing enemies. Subunit power results in more conservative behaviors because it is a result of multilateral negotiation, and as such it is vulnerable to changes in the bargaining power of each unit (Cyert and March, 1963).

Power effects on organizational change

Power structures are thought to produce organizational inertia because organizational changes threaten actors currently in power (Hannan and Freeman, 1977). Below we make predictions of this sort, but also make additional predictions that stem from more nuanced analysis of the meaning of inertia. First, organizations may change in ways that extend the current strategy rather than alter it (Miller and Friesen, 1982; Kelly and Amburgey, 1991). Decisions may be repeated, as when an acquisition is followed by another, or strategic positions

may be extended, as when a foothold in a new industry is expanded (Amburgey and Miner, 1992). Such changes are evidence of organizational momentum, which is less threatening to powerful actors because it is consistent with a strategic direction that they have already set. Thus we also predict how organizational power structures produce and reduce organizational momentum.

Second, inertia is only surprising when the organization is in a situation that calls for strategic change. Inertia in an organization that is poorly adapted to its environment or in an environment undergoing dramatic change is surprising; inertia in a well-adapted organization is not. Accordingly, situations in which power is needed to explain inertia can be identified if one can specify how managers judge that the organization is poorly adapted to its environment (Cyert and March, 1963; Daft and Weick, 1984; Barr and Huff, 1997). Managers use comparisons of performance and aspiration levels to discover problems, which implies that performance decline indicates a need for change (Cyert and March, 1963; Bromiley, 1991; Lant et al., 1992; Romanelli and Tushman, 1994; Greve, 1998; Ketchen and Palmer, 1999). Thus, we also predict that the effect of organizational power on inertia is most apparent following performance decline. Convergence of findings across these three outcomes – inertia, momentum and inertia following performance decline – can be taken as strong evidence of the effects of power structures.

Institutionalization of subunit power

Strategic contingency theory and resource dependence theory specify that a subunit becomes powerful when it copes with critical problems and provides resources necessary for the survival of the organization (Boeker, 1989; Hickson et al., 1971; Hillman et al., 2000; Pfeffer and Salancik, 1974). Intraorganizational power reflects interorganizational dependencies and is adjusted, albeit in fits and starts, when environmental changes alter the pattern of interdependence (Pfeffer and Salancik, 1974). One example is how large US corporations changed the functional background of presidents as their most pressing problems shifted from manufacturing through marketing to finance (Fligstein, 1987). Such environmentally contingent circulation at the top has continued (Ocasio and Kim, 1999) and has also been seen in analyses of single industries undergoing change (Thornton and Ocasio, 1999). Shifts of power in organizations change values and vested interests and trigger reconsideration of existing strategy and resource allocation. Therefore, shifting power horizontally across subunits is an adaptation mechanism that aligns the organization with changes in the environment.

Institutionalization of power blocks this alignment process. It means that powerful managers erect barriers against changes in the power distribution by creating 'a device that legitimates one's own authority and diminishes the legitimacy of others' (Salancik and Pfeffer, 1977: 18). Such devices include positions or roles for organizational activities supporting the power structure, information

systems that centralize information around powerful actors, reward systems favoring powerful actors' goals, and the selection of sympathetic officers and executives (Salancik and Pfeffer, 1977). If these mechanisms work as intended, the organizational power structure becomes impervious to change attempts, including changes triggered by altered interdependencies.

Institutionalization of subunit power is done through multiple mechanisms, but is most easily observed by examining the representation of subunits in the top management team. Representation of subunits in the upper echelon of management is discretionary, as there is no requirement that all units be represented, and representation is both a symbolic conferral of prestige and a real opportunity to participate in decision-making (Hambrick and Mason, 1984). Institutionalization of power has occurred when representation of subunits has been stable for a relatively long time and has a concentrated distribution.

First, power structures are institutionalized when the representation of each subunit in an organization has been stable over time. Frequent changes of representation prevent subunits from cementing their hold on the decision-making processes by making stable coalitions with other subunits. The negotiation problem keeps changing, making changes in coalitions likely as well. Stability of representation allows for stable coalitions among subgroups represented in the upper echelon, enabling them to avoid changes in the organizational strategy that may give weak actors greater negotiating power. When change does occur in organizations with institutionalized power, it will most likely extend the current strategy, as this is the least threatening form of change. Thus, stability of representation makes the organization less likely to make momentum-breaking changes. Finally, institutionalization implies unwillingness to change the organization even when environmental signals suggest a need for such changes, so stability of representation makes the organization less likely to change when its performance is declining. Thus, the following hypotheses may be posited.

HYPOTHESIS 1A (H1A) An organization is less likely to engage in strategic change when the level of power held by each of the subunits has been more stable over time.

HYPOTHESIS 1B (H1B) An organization is less likely to engage in momentum-breaking strategic change when the level of power held by each of the subunits has been more stable over time.

HYPOTHESIS 1C (H1C) An organization is less likely to engage in strategic change and momentum-breaking strategic change in response to declining performance when the level of power held by each of the subunits has been more stable over time.

The second source of institutionalization of subunit power is concentrated representation in the top management team. Concentration of representation simplifies construction of a dominant coalition because the most highly represented

subgroup becomes a focal point for coalition building and needs fewer partners to build a coalition of sufficient size. Creating mechanisms to institutionalize power takes time, however, so the concentration needs to last long in order to result in institutionalization. Thus, concentration of subunit power over time results in strategic inertia, strategic momentum and strategic inertia following performance decline.

HYPOTHESIS 2A (H2A) An organization is less likely to engage in strategic change when the concentration of subunit power has been greater over time.

HYPOTHESIS 2B (H2B) An organization is less likely to engage in momentum-breaking strategic change when the concentration of subunit power has been greater over time.

HYPOTHESIS 2C (H2C) An organization is less likely to engage in strategic change and momentum-breaking strategic change in response to declining performance when the concentration of subunit power has been greater over time.

Vertical power in top management teams

Hierarchies and rules prescribe power differences in organizations, but the formal structures of hierarchies do not fully determine the level of actual influence exercised by actors even at the upper echelon (Pfeffer, 1981). Much of the residual difference in power is based on societal norms, personal characteristics and the social capital of members. Sometimes this results in an actual power structure that is more egalitarian than the formal structure, as when some CEOs lack discretion and influence (Hambrick and Finkelstein, 1987). For example, new CEOs are thought to engage in more organizational change, but the replacement of CEOs does not automatically trigger strategic reorientation because new CEOs may lack influence over other organizational members (Goodstein and Boeker, 1991; Lant et al., 1992; Shen and Cannella, 2002a). Conversely, some CEOs engage in organizational changes of such risk and magnitude that there appear to be few effective checks on their power (Hayward and Hambrick, 1997). The difference of formal and informal organizational structures is also seen in top management teams.

The high social capital afforded by long tenure in the organization is an important source of informal power (Barkema and Pennings, 1998; Shen and Cannella, 2002b). Managers have social capital to the extent that they hold a personal network of individuals obliged to act as allies (Coleman, 1988). Greater social capital and centrality in social networks increase managers' capabilities to gain access to information and resources that can be used to affect decisions through selective exchanges such as sharing of information and trading of favors (Burt, 1992). Repeated exercise of the resulting power creates a situation in

which a reputation for being powerful diminishes resistance because managers are reluctant to enter conflicts that they are likely to lose (March, 1966). Executives with longer tenure have more time and opportunities to develop such interpersonal relationships and create supportive social networks (Barkema and Pennings, 1998; Drazin and Rao, 1999), and are able to build up obligations by promoting others (Carpenter and Westphal, 2001).

Unequal power in a decision-making group reduces information exchange and debate (Ridgeway et al., 1994; Foddy and Smithson, 1996). Although members with little power may have important information and opinions, they are prone not to voice their concerns or to be ignored if they do, leading to domination by the powerful members (Whyte and Levi, 1994). As a result, top management teams with large power differences have less stable decision-making processes. Decisions in egalitarian groups function much like voting procedures, giving results near the center of the preference distribution of the group (Kameda and Davis, 1990; Davis, 1992). The center is stable when many members participate and are given equal weight in the decision, as the effect of a preference change or replacement of any single member is diluted by the lack of change in other members. For groups in which members have unequal power, the predicted decision is the center of the weighted preference distribution, with the power of each member giving the weight. In such a weighted preference distribution, preference change or replacement of a powerful actor can cause considerable shifts in the center, making groups with high inequality more likely to change decisions. Power difference thus results in potential instability in the decision-making process.

This would not matter if the powerful members were wedded to the current strategy of the firm, as managers representing powerful subunits are thought to be. An important feature of vertical power differences based on social capital is their foundation in informal personal power rather than formal power deriving from an organizational structure, however, so actors with vertical power cannot maintain their power by keeping the strategy constant. As group members do not fully understand the extent to which other members possess power, managers need to occasionally demonstrate that they are powerful. An effective way is through making changes (March, 1966), because change requires mobilization and a reallocation of resources that cannot be done without power. In addition, strategic changes give opportunities to reorganize, budget and promote in ways that reward allies and undermine rivals.[1] Because powerful individuals have both the ability and the incentive to make changes, they are likely to trigger strategic changes (Pfeffer, 1981; Hickson et al., 1986; Hambrick and Finkelstein, 1987; Denis et al., 1996; Hayward and Hambrick, 1997). Also, the linkage between performance decline and strategic change becomes stronger in decision-making groups with greater power difference in which a few powerful members can determine strategic changes.

Large tenure differences within an executive team give the senior members more social capital and better developed support networks than the junior ones,

leading to a power concentration that makes large strategic changes likely. We thus predict the following hypotheses.

HYPOTHESIS 3A (H3A) An organization is more likely to engage in strategic change when the tenure difference is greater among executives in the top management team.

HYPOTHESIS 3B (H3B) An organization is more likely to engage in momentum-breaking strategic change when the tenure difference is greater among executives in the top management team.

HYPOTHESIS 3C (H3C) An organization is more likely to engage in strategic change and momentum-breaking strategic change in response to declining performance when the tenure difference is greater among executives in the top management team.

Note that while traditional literature on organizational demography considers tenure difference to be a driver of heterogeneity in information and knowledge (Williams and O'Reilly, 1998), we view tenure difference as a source of difference in social capital and power. We therefore do not measure tenure difference with the Herfindahl index that is frequently used for measuring heterogeneity, but with the Gini index that Blau (1977) and Pffefer (1983) suggest as an appropriate measure of inequality in social units.

Research context

We test these hypotheses by examining changes in the diversification of Japanese shipbuilding and robotics firms. Entry into new business areas, exit from existing business areas and allocation of funds among existing business areas are decisions of corporate strategy (Boeker, 1997; Finkelstein, 1992; Pennings et al.,1994). They have long-term consequences for corporate returns and survival and high potential for conflict (Mayes and Allen, 1977). Managers of business areas have a clear self-interest when making proposals for their own funding and estimating the consequences of their proposals, and the weighting of the short- and long-term consequences of alternative diversification postures necessary for an optimal decision can only be done by the top management. Diversification is a decision that reveals the influence of the top management team.

We chose the shipbuilding and robotics industries in order to balance the advantages of an intensive industry study and a broader sample of firms. Having similar firms in the sample and a panel dataset allows stronger controls for unobserved heterogeneity than broad samples of firms, and gives clearer causality than cross-sectional designs. Single-industry studies are sometimes criticized for having low generalizability, however, so adding one industry provides a test of the generalizability of results across industries. The shipbuilding and robotics

industries in Japan are both world-leading in technology and market share, so it is natural to study Japanese firms when examining these industries.

All the Japanese shipbuilding and robotics firms were engaged in multiple businesses during the study period. The main businesses of shipbuilders outside shipbuilding were machinery, industrial plants and steel products. The main businesses of robotics firms outside robotics were computer and communications equipment and heavy machinery. The pattern of diversification suggests that the firms followed a strategy of leveraging their core competences in several industries. For shipbuilders, those competencies were in the engineering and manufacture of complex steel products using precision cutting and welding techniques. For robotics firms, they were in designing and manufacturing computing equipment and machinery, and in integrating the two.

Our observation period, 1983–99, contains both booming and stagnating economic conditions, and thus had a dynamic macroeconomic environment. The Japanese economy grew throughout the 1980s, but the Plaza agreement of 1985 inflated the exchange rate of the Japanese yen against the US dollar, posing problems for the export-dependent shipbuilding and robotics firms. Shipbuilding dropped from 9503 tons in 1985 to 4040 tons in 1988 (a 42 percent decrease). During the same period, export sales of robotics increased by 25 percent, even though the immediate impact of the Plaza agreement was a one-year drop of 4 percent.

The economic downturn following the collapse of the bubble economy in 1990 profoundly changed these firms' domestic economic environment as well. The index of the Tokyo Stock Exchange sharply dropped from its highest record, 2884.80, on 18 December 1989 to 1707.01 and 1636.50 on the same day in 1990 and 1999, respectively. In the same period, the unemployment rate doubled and the GDP growth fell from 4.9 percent to –0.7 percent. Both shipbuilding and robotics firms manufacture industrial investment goods and face sharply declining demand for their products when manufacturers scale back production. Despite this, the shipbuilders managed a 62 percent increase in built tonnage from 1990 to 1999, but the highly competitive global market crimped margins and forced adjustments that reduced the number of employees by 20 percent from 1990 to 1999. The domestic sales of the robotics industry dropped 45 percent from 1990 to 1999, increasing the exported proportion of the production from one-fifth to more than one-half. These figures strongly argue that both industries had tumultuous economic conditions during the study period.

Methods

Sample

We use data from 10 firms in the Japanese shipbuilding industry and nine firms in the Japanese robotics industry from 1977 to 1999. These constitute all firms

on the Tokyo and Osaka stock exchanges with shipbuilding or robotics as business areas. The listing requirement for these markets was capital greater than ¥1 billion, operating experience longer than five years and at least one year of profit over ¥4 million. This excludes privately held firms and public firms in the over-the-counter market, as such firms have limited disclosure of business areas. The analysis is from 1983 to 1999, as we use the data before 1983 only for measuring the independent variables on the institutionalization of subunit power. Our dataset for the regression analyses consists of 296 firm-year observations.

Variables

The first dependent variable, *change magnitude*, indicates the extent of a firm's changes in corporate diversification from time t–1 to time t. We coded the product line data from the annual *Nikkei Directory of Firms* and computed the entropy measure, the recommended index of corporate diversification, for each firm in each year, according to the following formula (Jacquemin and Berry, 1979):

$$E = \sum_{i=1}^{n} P_i \ln(1/P_i)$$

where P_i is the percentage of total firm sales in the *i*th business; *n* is the number of businesses a firm has.

Following Wiersema and Bantel (1992), we computed change ratios of the entropy measures from time t–1 to t, subtracted 1 from the ratio and then took its absolute value to obtain the percent (in either direction) change in diversification. The second dependent variable is *momentum-breaking change*, which is the absolute value of the difference of the three-year moving average change in diversification and the most recent change of diversification. Thus, one year of increased diversification after three years of increasing diversification counts as less change than one year of increased diversification after three years of reduced diversification.

Performance change

Our hypotheses claim that whether declining organizational performance triggers change and momentum-breaking change depends on intraorganizational power relations. We measure *performance change* with change in return on assets (ROA), which we enter as an average of the three past years to allow for delayed response. The main effect is entered in addition to the interactions with the power variables.

Stability of subunit power

We view the number of executive positions held by a subunit as a reflection of its organizational power when operationalizing power stability (H1) and concentration (H2) (Finkelstein, 1992; Romanelli and Tushman, 1994; Welbourne and Trevor, 2000). The annual *Nikkei Directory of Firms* reported names, func-

tional positions and ages of executives, and we coded the positions of all 9760 executive-years in our sample firms. They are executive vice-presidents (*fukushacho*), executive directors (*senmu*) or managing directors (*jyomu*), and are one, two and three levels down from CEOs, respectively. We identified 15 functional subunits in our sample, as follows:

1 research and development;
2 purchasing;
3 manufacturing;
4 plant managers;
5 quality control;
6 business unit or market area;
7 managers of regional offices;
8 international business and export;
9 general management;
10 corporate planning and development;
11 information systems;
12 public relations;
13 accounting;
14 finance;
15 human resources.

The shipbuilding and robotics industries are both capital-intensive, possess large manufacturing facilities, sell their products to industrial customers and operate complex technologies. Due to these similarities, the same coding scheme for functional data is used for both industries.

For H1, we defined stability of power structure as the negative of the cumulative change of representation in top management teams:

$$\textit{Subunit stability}_t = (-1)\cdot\sum_j\left(\sum_{i=0}^{4}\left|\frac{P_{j,t-(5-i)}}{P_{j,t-(6-i)}}-1\right|\cdot\frac{1+i}{15}\right)$$

where j is a functional subgroup in a firm, and p_j is the proportion of positions in the top management team held by subgroup j.

This measure captures the negative weighted change rates in the proportions of positions held by each subunit in top management teams from time t–5 to t–1. To calculate it, we first computed annual changes of proportions of positions in a top management team held by each of the functional subgroups for each panel from time t–5 to t–1 (a 10-year observation window yields similar results). Then we summed the changes with linearly increasing weights (1/15, 2/15 . . . 5/15) so that recent years have greater weight. The weights sum to one.

Concentration of power structures

To test H2, we created the variable subunit concentration equal to the weighted Herfindahl concentration ratios of the number of positions held by each of the subgroups in a top management team from time t–5 to t–1. The formula is:

$$Subunit\ concentration_t = \sum_{i=0}^{4}\left(\sum p_{j,t-(5-i)}^2\right)\cdot\frac{1+i}{15}$$

where p_j is the proportion of positions in the top management team held by subunit j. It captures the average concentration ratio over time, with linearly increasing weights.

Tenure difference in top management teams

H3 posits that tenure differences in top management teams increase the likelihood of organizational change. For measuring inequality in continuous variables, Blau (1977) recommended the Gini index. The Gini index equals the average gain in the parameter individuals could get if given the choice of trading places with a randomly drawn other individual, which yields the following formula:

$$I_G = \frac{(1/2n^2)\sum_{i=1}^{n}\sum_{j=1}^{n}\left|x_i - x_j\right|}{(1/n)\sum_{i=1}^{n}x_i}$$

Here x is organizational tenure, n is the number of executives in the top management team, and the expression simply averages the differences in tenure for all pairs of executives scaled by the average tenure. It is larger for greater inequality, and bounded by 0 and 1. Thus, *tenure difference* is the Gini index of the executives' organizational tenure, indicating power difference in top management teams.

Control variables

We control for alternative explanations of strategic change and momentum-breaking change by including variables describing competitive environments, top management teams and organizations. Except where noted, they are lagged by a year like the hypothesis-testing variables. First, we entered the average change in diversification of the other firms in the focal industry in the same year to control for business cycle effects on the diversification.

We also include a variable that indicates firms' market domain overlap, defined as similarity in markets (Baum and Singh, 1994). Similarity of market domains increases the potential for competition (Baum and Korn, 1996) and spurs strategic changes. Following Baum and Korn (1996: 271), we gauge market domain overlap for firm i at time t–1 with:

$$Market\ overlap_{\ it-1} = \sum_{j\neq i}\frac{\sum_m (I_{imt-1}\times I_{jmt-1})}{\sum_m I_{imt-1}}$$

where m is a given market in a set of potential markets, I_{imt-1} is an indicator variable of whether firm i is active in market m (coded as 1 if active and 0 otherwise), and I_{jmt} is an indicator variable of whether firm j is active in market m (coded as 1 if active and 0 otherwise). We calculate this index for each of the shipbuilding and robotics industries.

In addition, because diversification reduces financial risks at the market level (Michel and Hambrick, 1992), we control for changes in the market demand. *Market demand change* is measured as the annual change in global industry revenue using data from Lloyd's Register for shipbuilding firms and international sales statistics provided by the Japan Robot Association for robotic firms. As the time lag between changes in market demand and the corresponding organizational actions is uncertain, we enter one-, two- and three-year lagged values of this variable.

The second group of control variables measures top management team characteristics that are not stated in the formal hypotheses. *Top management team* size is the number of executives in the top management team. Also, in organizations with sequentially interdependent tasks like shipbuilding and robotics firms, staff units have less vested interests and weaker investment in the status quo than the units engaged in the production process (Dalton, 1950). We control for this effect by entering the number of *staff executives*, which is the number of executives in the staff functions including finance, accounting, information systems, corporate development, public relations and human resources.

We also enter the number of outside directors on the boards. Some have argued that they are less independent of the management in Japan than in the US. Prowse (1995) found that about half of the issued corporate shares are owned by commercial banks and other financial institutions, while the same proportion of shares is held by individuals in the US. Also, affiliated nonfinancial corporations own approximately 25 percent of the outstanding shares in Japan. These institutional shareholders in Japan are typically members of the affiliated corporation groups (*keiretsu*), so even financial shareholders tend not to send directors to boards of corporations unless the corporations face serious financial crises, as they can rely more on informal monitoring. The distinction between inside and outside board members is thus obscured in Japan because outside directors are not truly outsiders, but from affiliated corporations. However, it is still true that the institutionally defined role of outside directors in Japan is to monitor management on behalf of shareholders. We expect outside directors to facilitate strategic change because they have fewer vested interests than inside directors (Dalton et al., 1999).

We also included *CEO tenure*, measured with the logarithm of the number of years since a CEO's succession (Barker and Duhaime, 1997; Miller, 1991; Nystrom and Starbuck, 1984). CEO tenure may increase the likelihood of strategic change, as CEOs with longer tenure may have established strong power bases for mobilizing resources (Barker and Mone, 1998). Alternatively, CEO replacement may trigger unlearning processes that break down strategic

Table 1 Descriptive statistics

	Mean	SD	Min.	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 Change magnitude	.06	.12	.00	.90	1																		
2 Momentum-breaking change	.09	.17	.00	1.04	.77	1																	
3 Subunit stability	.00	.19	−1.08	.29	−.35	−.35	1																
4 Subunit concentration	.01	.18	−.29	1.06	.14	.14	−.57	1															
5 Tenure difference	−.03	.02	−.06	.05	.16	.29	−.20	−.05	1														
6 Performance change	1.32	3.87	−18.69	56.86	−.10	−.15	.05	−.08	−.03	1													
7 Change of other firms	.06	.06	.01	0.24	.23	.20	−.16	.36	−.08	−.06	1												
8 Market overlap	4.55	1.64	1.00	8.50	.39	.37	−.37	.37	.01	−.06	.38	1											
9 Market demand change (t–2 to t–1)	.07	.18	−.46	.46	−.13	−.13	.01	−.15	.06	−.02	−.35	−.23	1										
10 Market demand change (t–3 to t–2)	.09	.18	−.46	.46	−.12	−.12	.07	−.23	.07	.10	−.23	−.26	.33	1									
11 Market demand change (t–4 to t–3)	.12	.24	−.46	1.02	−.07	−.06	.06	−.23	.08	.19	−.20	.−.19	06	.43	1								
12 Top management team size	21.81	7.89	3.00	38.00	−.40	−.44	.69	−.38	−.37	.11	−.12	−.45	−.05	.00	−.04	1							
13 Staff executives	4.75	2.30	.00	16.00	−.09	−.10	.14	.04	−.14	.02	.11	−.04	−.14	−.21	−.20	.36	1						
14 Outside directors	3.36	1.98	.00	9.00	.07	.07	−.17	.32	.12	−.01	.03	−.07	−.10	−.17	−.07	−.14	.03	1					
15 CEO tenure	1.29	.72	.10	2.95	.13	.21	.04	−.11	.18	−.14	−.10	.00	−.05	−.06	−.02	−.06	.11	−.01	1				
16 Organizational age	4.34	.30	3.14	4.79	−.03	−.03	.13	.00	−.01	−.02	.32	.25	−.13	−.15	−.14	.20	.17	−.04	−.06	1			
17 Organizational size	12.79	1.55	9.29	15.00	−.40	−.43	.71	−.34	−.33	.15	−.07	−.37	−.02	.05	.03	.88	.23	−.11	−.12	.23	1		
18 Firm performance	.05	.04	−.12	.17	−.04	.01	.08	−.19	.29	.03	−.37	−.11	.10	.31	.41	−.01	−.25	.19	.09	−.20	.05	1	
19 Shipbuilding	.49	.50	.00	1.00	.27	.28	−.29	.48	−.06	−.02	.65	.67	−.21	−.26	21	−.26	.11	−.03	−.05	.51	−.26	−.29	1

Note
$N = 296$.

persistence, suggesting a negative impact of CEO tenure on organizational change (Lant et al., 1992).

The third group of control variables measures organizational characteristics. We enter organizational age (logged), organizational size (logged organizational assets), firm performance (average of ROA in the prior three years) and shipbuilding, a dummy variable set to 1 when a firm is a shipbuilding firm and 0 otherwise.

Statistical model

The data have a panel structure with multiple firms and a time series of years for each firm. Panel data can be analyzed by ordinary least squares (OLS), but OLS estimates will be biased when observations within subjects are not independent. We employ generalized estimating equations (GEE), which generalize quasi-likelihood to the panel context (Liang and Zeger, 1986). This method allows the specification of different structures of the within-group correlations for the panels. We chose the auto regressive with lag one correlation (AR1) structure because it is reasonable to assume that diversification changes in adjacent years are correlated most highly. We obtained similar results from random-effect regression models. We report test statistics based on robust estimates of standard errors to reduce problems associated with heteroskedasticity or misspecification of the error structure (White, 1982).

Some of our hypothesis testing relies on interaction effects formed by multiplying two variables, which can cause multicollinearity. We alleviate this by centering the performance change variable and the three power variables that were interacted with it (Aiken and West, 1991).

Results

Table 1 shows the descriptive statistics and correlations for the variables. Because the correlation table suggests moderate correlations between some of the independent variables, we obtained the variance inflation factor (VIF) statistics for the regression models presented below to ensure the reliability of our analysis. The highest VIF statistic was 4.65, which is below the critical point of 10 (Besley et al., 1980). Thus, no remedial action for multicollinearity is required in the analysis.

Tables 2 and 3 present the results of the regression analysis. Table 2 shows change magnitude and Table 3 momentum-breaking change. Each table shows results of models with and without interaction variables. Wald joint tests for the power variables are significant at the .001 level in all four models in Tables 2 and 3. Moreover, Wald statistics of the interaction terms are significant at the .001 level, demonstrating that they are important explanatory variables.

Table 2 Models of change magnitude

	I		II	
Subunit stability	–0.1326+	[0.0728]	–0.2233**	[0.0401]
Subunit concentration	–0.1755*	[0.0919]	–0.2680**	[0.0876]
Tenure difference	0.3428	[0.4644]	1.3792*	[0.6942]
Performance change	–0.0016	[0.0014]	–0.0155**	[0.0030]
Subunit stability × performance change			0.0722**	[0.0247]
Subunit concentration × performance change			0.0747**	[0.0258]
Tenure difference × performance change			–0.5447**	[0.1447]
Change of other firms	0.2843*	[0.1469]	0.2867*	[0.1379]
Market overlap	0.0184**	[0.0065]	0.0174**	[0.0062]
Market demand change (t–2 to t–1)	–0.0324	[0.0289]	–0.0384	[0.0295]
Market demand change (t–3 to t–2)	–0.0038	[0.0495]	–0.0127	[0.0480]
Market demand change (t–4 to t–3)	–0.0067	[0.0405]	0.0036	[0.0387]
Top management team size	–0.0005	[0.0018]	–0.0005	[0.0017]
Staff executives	–0.0018	[0.0019]	–0.001	[0.0016]
Outside directors	0.0070+	[0.0038]	0.0061	[0.0039]
CEO tenure	0.0159*	[0.0069]	0.0136*	[0.0066]
Organizational age	–0.0533*	[0.0266]	–0.0606*	[0.0253]
Organizational size	–0.0077	[0.0072]	–0.006	[0.0066]
Firm performance	–0.0711	[0.2239]	0.0231	[0.2030]
Shipbuilding	0.0241+	[0.0144]	0.0309**	[0.0109]
Constant	0.2687**	[0.1009]	0.3053**	[0.0949]
N	296		296	
Wald joint test of all power variables	18.19***		80.80***	
Wald joint test of interaction variables			50.00***	

Notes
+ Significant at 10%.
* Significant at 5%.
** Significant at 1%.
*** Significant at .1%.

Accordingly, we show the reduced models for reference only, and interpret the full models.

H1A–C predict that stability of subunit power reduces strategic change. In support of H1A, the coefficient of subunit stability in model II is negative and significant, showing less change when subunit power structures are stable. In support of H1B, the coefficient is negative and significant in model IV, showing less momentum-breaking change when subunit power structures are stable. The coefficient of the interaction term between subunit stability and performance change is positive and significant in model II and model IV. Thus, H1C about interaction effects of performance and change is supported for both simple change and momentum-breaking change. A plot of interaction effects between subunit stability and performance change on change magnitude (Figure 1) shows that a firm with an unstable subunit power structure responds to perfor-

Table 3 Models of momentum-breaking change

	III		IV	
Subunit stability	–0.1260+	[0.0773]	–0.2182***	[0.0497]
Subunit concentration	–0.1733*	[0.0786]	–0.2399**	[0.0866]
Tenure difference	1.1558*	[0.4160]	2.0456***	[0.6140]
Performance change	–0.0017	[0.0016]	–0.0131***	[0.0033]
Subunit stability × performance change			0.0720**	[0.0233]
Subunit concentration × performance change			0.0602*	[0.0258]
Tenure difference × performance change			–0.4170**	[0.1565]
Change of other firms	0.2292+	[0.1320]	0.2273+	[0.1261]
Market overlap	0.0172**	[0.0069]	0.0163**	[0.0066]
Market demand change (t–2 to t–1)	–0.0347	[0.0352]	–0.0433	[0.0364]
Market demand change (t–3 to t–2)	0.0066	[0.0318]	–0.0012	[0.0299]
Market demand change (t–4 to t–3)	–0.0116	[0.0319]	–0.0032	[0.0314]
Top management team size	0.0003	[0.0019]	0.0004	[0.0017]
Staff executives	–0.0019	[0.0025]	–0.0012	[0.0021]
Outside directors	0.0040	[0.0044]	0.0033	[0.0044]
CEO tenure	0.0172*	[0.0089]	0.0147+	[0.0085]
Organizational age	–0.0937**	[0.0323]	–0.1009***	[0.0284]
Organizational size	–0.0120	[0.0092]	–0.0101	[0.0082]
Firm performance	–0.1661	[0.2125]	–0.0765	[0.1777]
Shipbuilding	0.0426+	[0.0229]	0.0477**	[0.0189]
Constant	0.5340**	[0.1309]	0.5624***	[0.1238]
N	296		296	
Wald joint test of all power variables	18.72***		82.40***	
Wald joint test of interaction variables			32.31***	

Notes
+ Significant at 10%.
* Significant at 5%.
** Significant at 1%.
*** Significant at .1%.

mance decline by changing its diversification, while a firm with a stable subunit power structure makes less change overall and becomes rigid in the face of performance decline.

H2A–C predict that concentration of subunit power reduces strategic change. Model II in Table 2 and model IV in Table 3 support H2A and H2B, as subunit concentration has negative and significant coefficients in both models. Concentration of subunit power reduces the likelihood of strategic change and momentum-breaking change. The interaction term with performance change is significant in model II as well as model IV. A graph of the joint effect of these two variables and their interaction (available from the authors) was similar to Figure 1. A firm with concentrated subunit power is less likely to engage in strategic change when its performance is declining, and performance decline is likely to cause strategic change when the power is dispersed across subunits.

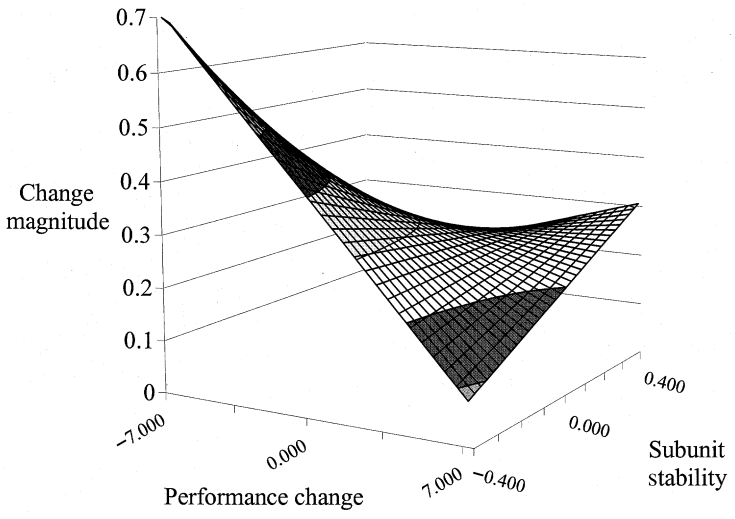

Figure 1 Interaction effects on change magnitude

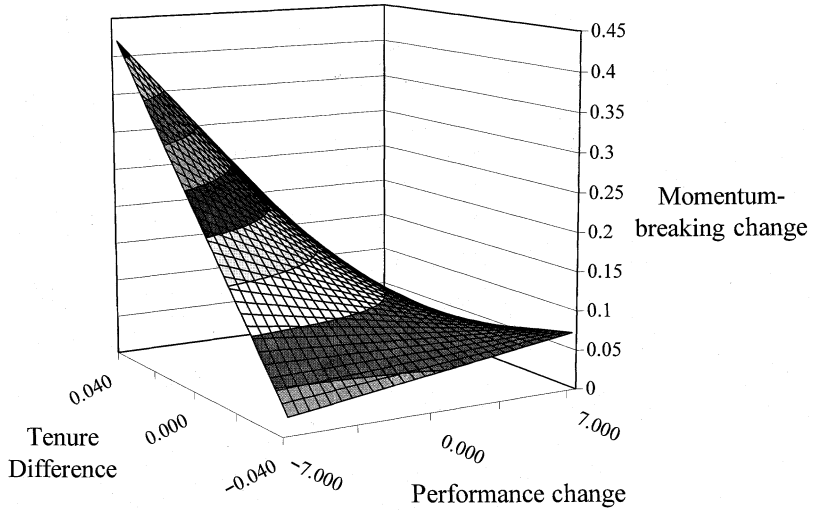

Figure 2 Interaction effects on momentum-breaking change

Overall, these results not only support our argument about the positive impact of institutionalization of subunit power in organizations on the likelihood of strategic change, but also highlight that this institutionalization effect weakens the linkages between performance decline and strategic change.

As predicted in H3A, high tenure difference among executives in top management teams increases the likelihood of strategic changes, as seen in the negative and significant coefficient of tenure difference in model II. It also increases momentum-breaking change significantly, as predicted in H3B and

shown in model IV. Consistent with H3C, the interaction of tenure difference and performance decline is negative and significant for both change and momentum-breaking change. Figure 2 shows how tenure difference affects the likelihood of momentum-breaking change as a response to performance decline. Performance decline is more likely to trigger momentum-breaking strategic change as the tenure difference increases, and organizations with small differences in executive tenures appear not to respond to organizational performance declines by adjusting the direction of strategic change.

The control variables provide additional insights about strategic change. First, consistent with organizational inertia (Hannan and Freeman, 1984), the coefficients of organizational age are negative and significant across the various models, so older organizations are less likely to engage in strategic change and momentum-breaking change. Second, Baum and Korn (1996) showed that firms with greater market domain overlap face greater competitive pressures and are more likely to alleviate them by engaging in strategic change. Consistent with this prediction, the coefficients of market overlap are positive and significant in model II and model IV. These findings on control variables show that our unique data from two industries in Japan give conventional results for variables that are used in other studies.

Discussion

This research has explored an expanded model of changes in corporate strategy that considers institutionalization of subunit power and power differences within the top management team. Theoretical arguments suggest that intraorganizational power structures are an essential ingredient of research on strategic change, and that power structures vary across two dimensions, horizontal and vertical (Bacharach and Lawler, 1980; Blau, 1977; Etzioni, 1961). Empirical studies on this theme have focused on either one or the other of these dimensions, and have made less progress on the vertical structure than on the horizontal. We contend that change in corporate strategy can be better understood by jointly examining these horizontal and vertical power structures in top management teams.

Our analysis of the shipbuilding and robotics firms in Japan gave clear results. We found that long-term stability and concentration of subunit power not only reduce magnitude of change in corporate diversification and the likelihood of momentum-breaking change, but also impair organizational change as a response to declining performance. We also found that top management teams with greater tenure differences among executives are more likely to engage in strategic change overall, and particularly in the face of performance decline. Accordingly, the institutionalization of subunit power results in rigid strategies, while power differences in top management teams result in fluid strategies.

This study makes three major contributions. First, as demonstrated before (Carpenter and Westphal, 2001; Eisenhardt and Bourgeois, 1988; Finkelstein, 1992; Goodstein and Boeker, 1991), disentangling power structures of organizations helps advance our knowledge about the role of power in strategic change. This research is distinctive from previous research, however, in that it simultaneously measures the institutionalization of subunit power and top management team power differences. Power relationships examined in previous studies have included the relation between CEOs and other executives (Eisenhardt and Bourgeois, 1988) and between CEOs and boards of directors (Carpenter and Westphal, 2001; Goodstein and Boeker, 1991). Closest to our approach is Finkelstein's (1992) use of multiple measures of power structures in top management teams to model the association between managers' backgrounds in finance and diversification posture and acquisition activity. This study, however, provides a unique contribution by explicating how the two dimensions of power structures cause strategic change and momentum-breaking change in corporate diversification.

Second, our empirical findings speak to the theoretical argument on the institutionalization of power structures (Pfeffer and Salancik, 1974). Earlier work on the historical imprinting of power and executive dismissals (Boeker, 1989, 1992) raised theoretical issues that deserve to be examined in the context of corporate diversification. Our evidence that the stabilization and concentration of subunit power impair the organizational reorientation of corporate strategy is consistent with the theory and should encourage additional work. The evidence is particularly important because it suggests a dilemma. While the dynamics of subunit power can operate in ways that help the organization adapt to its environment (Salancik and Pfeffer, 1977), long-term and dominant possession of power decreases the likelihood of strategic changes. Institutionalized power results in organizations that are vulnerable to the adverse effects of environmental change (Pfeffer, 1981; Salancik and Pfeffer, 1977).

This dilemma may provide an explanation of punctuated equilibrium patterns of change in organizations (Romanelli and Tushman, 1994). Stable and homogeneous environments facilitate the institutionalization of power because such environments do not present the organization with adaptation problems. This institutionalization, according to our findings, leaves the organization less capable of reacting to environmental changes when they occur. Our findings therefore explain the great increase in organizational mortality when organizations experience environmental change after a long period of stability.

The third contribution is the evidence on vertical power differences in management teams as drivers of change. Unequal distribution of power in the upper echelon tightens linkages between a few managers' intentions to change and the actual implementation of strategic change. This evidence is in contrast to the argument that organizational structures with little centralization adapt better to changing environments (Chakravarthy, 1982; Jennings and Seaman, 1994; Mintzberg, 1979). We cannot directly evaluate this claim because we measure

only how much and in which direction the organization changes, not how well it changes. The difference is important because organizational changes go awry when the transition costs are too high or the new strategy is a poor fit to the environment. It is possible to model the gross change in profitability subsequent to changes in corporate diversification, but it is very difficult to distinguish the performance changes resulting from the diversification changes from other influences on performance (Barnett and Carroll, 1995; March and Sutton, 1997). Our claim that power differences increase rates of change has a shorter causal chain and fewer methodological difficulties, and it may serve as a foundation for future work on how they affect organizational performance.

There are several limitations to this research. First, this study does not explore alternative ways of measuring subunit and executive power in organizations. For example, Finkelstein (1992) suggests that alternative measures of power are the number of shares that executives hold and the amount of executive salaries and bonuses, but firms in Japan are not required to disclose such information. Future research should develop additional measures of intraorganizational power that can be applied to non-US contexts.

Second, the generalizability of some of our findings may vary across social and cultural contexts in which organizations are embedded. Organizational tenure not only gives social capital, it also earns highly valued organization-specific skills and knowledge. This portion of the tenure effect may not be evaluated equally across contexts. US firms have a penchant for hiring CEOs outside the focal firm and even the focal industry that suggests a higher evaluation of generic management knowledge and lower evaluation of firm-specific knowledge than Japanese management teams have. Also, among various factors that provoke strategic change, our interaction hypotheses view organizational performance as a primary trigger. Not only poor performance (Lant et al., 1992) but also major environmental change such as technological development, deregulation and transformation of macroeconomic structures generate a demand for change (Tushman and Romanelli, 1985). Inclusion of alternative explanations of strategic change will enable tests of the scope of this theory.

Third, one advantage of this research context is that the functions and roles of top management teams and boards of directors are not clearly separated in Japan, so we did not have to include another power relation (i.e. executives compared with boards of directors) into our model, though we do control for the number of outside directors. However, this short cut decreases the generalizability of our findings to contexts where the separate role of the board introduces a second power relation (Westphal, 1998; Westphal and Fredrickson, 2001). Future research should shed light on how power relations within top management teams interact with those of boards of directors to set the pace and scale of strategic change.

Investigation of power relations in the top management team of the firm is an empirical enterprise that will continue to yield important findings. We believe that it is time for the literatures on horizontal and vertical power structures to

combine in order to investigate the joint operation of these structures. We also think that temporal aspects of power structures should see more investigation. We examined stability of subunit representation and concentration of representation over time because subunit power is gradually institutionalized. Similarly, we investigated tenure differences within the top management team because individual power is gradually built up. These two approaches were productive in our empirical work, and should be applied to other study settings as well.

Acknowledgements

The authors are grateful for comments from Joel Baum and three anonymous reviewers for *Strategic Organization*. Research support to the first author is provided by the Ministry of Education, Culture, Sports, Science, and Technology's Grant-in-Aid for Young Scientists (A) (15683003). Research support from Japan's Ministry of Education to the second author is also gratefully acknowledged. Toshihiro Kikuchi and Masahiro Koibuchi provided research assistance. The authors are also grateful for Shigeaki Yanai at the Japan Robot Association and Kiyoshi Oikawa at the Tokyo Stock Exchange for providing information.

Note

1 This is the classical form of power use as in Weber's analysis of the traditional patriarch and Machiavelli's advice to the prince.

References

Aiken, L. S. and West, S. G. (1991) *Multiple Regression: Testing and Interpreting Interaction*. Thousand Oaks, CA: Sage.

Amburgey, T. L. and Miner, A. S. (1992) 'Strategic Momentum: The Effect of Repetitive, Positional, and Contextual Momentum on Merger Activity', *Strategic Management Journal* 13: 335–48.

Bacharach, S. B. and Lawler, E. J. (1980) *Power and Politics in Organizations*. San Francisco, CA: Jossey-Bass.

Barkema, H. G. and Pennings, J. M. (1998) 'Top Management Pay: Impact of Overt and Covert Power', *Organization Studies* 19(6): 975–1003.

Barker, V. L. I. and Duhaime, I. (1997) 'Strategic Change in Turnaround Companies: Theory and Empirical Evidence', *Strategic Management Journal* 18: 18–25.

Barker, V. L. I. and Mone, M. A. (1998) 'The Mechanistic Structure Shift and Strategic Reorientation in Declining Firms Attempting Turnarounds', *Human Relations* 57: 1227–58.

Barnett, W. P. and Carroll, G. R. (1995) 'Modeling Internal Organizational Change', *Annual Review of Sociology* 21: 217–36.

Barr, P. S. and Huff, A. S. (1997) 'Seeing Isn't Believing: Understanding Diversity in the Timing of Strategic Response', *Journal of Management Studies* 34: 337–70.

Baum, J. A. C. and Korn, H. J. (1996) 'Competitive Dynamics of Interfirm Rivalry', *Academy of Management Journal* 39: 255–91.

Baum, J. A. C. and Singh, J. (1994) 'Organizational Niches and the Dynamics of Organizational Founding', *Organization Science* 5: 483–501.

Besley, D. A., Kuh, E. and Welsch, R. E. (1980) *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*. New York: John Wiley and Sons.

Blau, P. M. (1977) *Inequality and Heterogeneity*. New York: The Free Press.

Boeker, W. (1989) 'The Development and Institutionalization of Subunit Power in Organizations', *Administrative Science Quarterly* 34: 388–410.

Boeker, W. (1992) 'Power and Managerial Dismissal: Scapegoating at the Top', *Administrative Science Quarterly* 37: 400–21.

Boeker, W. (1997) 'Strategic Change: The Influence of Managerial Characteristics and Organizational Growth', *Academy of Management Journal* 40: 152–70.

Bromiley, P. (1991) 'Testing a Causal Model of Corporate Risk Taking and Performance', *Academy of Management Journal* 34: 37–59.

Burt, R. S. (1992) *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.

Carpenter, M. A. and Westphal, J. D. (2001) 'The Strategic Context of External Network Ties: Examining the Impact of Director Appointments on Board Involvement in Strategic Decision Making', *Academy of Management Journal* 44: 639–60.

Chakravarthy, B. S. (1982) 'Adaptation: A Promising Metaphor for Strategic Management', *Academy of Management Review* 7: 35–44.

Coleman, J. S. (1988) 'Social Capital in the Creation of Human Capital', *American Journal of Sociology* 96 (supplement): S95–S120.

Cyert, R. M. and March, J. G. (1963) *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall.

Daft, R. L. and Weick, K. E. (1984) 'Toward a Model of Organizations as Interpretation Systems', *Academy of Management Review* 9: 284–95.

Daily, C. M. and Johnson, J. L. (1997) 'Sources of CEO Power and Firm Financial Performance: A Longitudinal Assessment', *Journal of Management* 23: 97–117.

Dalton, D. R., Daily, C. M., Johnson, J. L. and Ellstrand, A. E. (1999) 'Number of Directors and Financial Performance: A Meta-analysis', *Academy of Management Journal* 42: 674–85.

Dalton, M. (1950) 'Conflicts Between Staff and Line Managerial Officers', *American Sociological Review* 15: 342–51.

Davis, J. H. (1992) 'Some Compelling Intuitions about Group Consensus Decisions, Theoretical and Empirical Research, and Interpersonal Aggregation Phenomena: Selected Examples, 1950–1990', *Organizational Behavior and Human Decision Processes* 52: 3–38.

Denis, J.-L., Langley, A. and Cazale, L. (1996) 'Leadership and Strategic Change under Ambiguity', *Organization Studies*, 17: 673–99.

Drazin, R. and Rao, H. (1999) 'Managerial Power and Succession: SBU Managers of Mutual Funds', *Organization Studies* 20: 167–96.

Eisenhardt, K. M. (1989) 'Making Fast Strategic Decisions in High-velocity Environments', *Academy of Management Journal* 32: 543–76.

Eisenhardt, K. M. and Bourgeois, L. J. I. (1988) 'Politics of Strategic Decision Making in High-velocity Environments: Toward a Midrange Theory', *Academy of Management Journal* 31: 737–70.

Etzioni, A. (1961) *A Comparative Analysis of Complex Organizations; on Power, Involvement, and Their Correlates*. New York: Free Press of Glencoe.

Finkelstein, S. (1992) 'Power in Top Management Teams: Dimensions, Measurement, and Validation', *Academy of Management Journal* 35: 505–38.

Fligstein, N. (1987) 'The Intraorganizational Power Struggle: Rise of Finance Personnel to Top Leadership in Large Corporations, 1919–1979', *American Journal of Sociology* 52: 44–58.

Foddy, M. and Smithson, M. (1996) 'Relative Ability, Paths of Relevance, and Influence in Task-oriented Groups', *Social Psychology Quarterly* 59: 140–53.

Gersick, C. J. G. (1994) 'Pacing Strategic Change: The Case of a New Venture', *Academy of Management Journal* 37: 9–45.

Goodstein, J. and Boeker, W. (1991) 'Turbulence at the Top: A New Perspective on Governance Structure Changes and Strategic Change', *Academy of Management Journal* 34: 306–30.

Greve, H. R. (1998) 'Performance, Aspirations, and Risky Organizational Change', *Administrative Science Quarterly* 44: 58–86.

Haleblian, J. and Finkelstein, S. (1993) 'Top Management Team Size, CEO Dominance, and Firm Performance: The Moderating Roles of Environmental Turbulence and Discretion', *Academy of Management Journal* 36: 844–63.

Hambrick, D. C. and Finkelstein, S. (1987) 'Managerial Discretion: A Bridge between Polar Views of Organizational Outcomes', *Research in Organizational Behavior* 9: 369–406.

Hambrick, D. C. and Mason, P. A. (1984) 'Upper Echelons: The Organization as a Reflection of Its Top Managers', *Academy of Management Review* 9: 193–206.

Hannan, M. T. and Freeman, J. (1977) 'The Population Ecology of Organizations', *American Journal of Sociology* 82: 929–64.

Hannan, M. T. and Freeman, J. (1984) 'Structural Inertia and Organizational Change', *American Sociological Review* 49: 149–64.

Haveman, H. A. (1992) 'Between a Rock and a Hard Place: Organizational Change and Performance under Conditions of Fundamental Environmental Transformation', *Administrative Science Quarterly* 37: 48–75.

Haveman, H. A., Russo, M. V. and Meyer, A. D. (2001) 'Organizational Environments in Flux: The Impact of Regulatory Punctuations on Organizational Domains, CEO Succession, and Performance', *Organization Science* 12: 253–73.

Hayward, M. L. A. and Hambrick, D. C. (1997) 'Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris', *Administrative Science Quarterly* 42: 103–28.

Hickson, D. J., Butler, R., Cray, D., Mallory, G. and Wilson, G. (1986) *Top Decisions: Strategic Decision Making in Organizations*. San Francisco, CA: Jossey-Bass.

Hickson, D. J., Hinings, C. R., Lee, C. A., Schneck, R. E. and Pennings, J. M. (1971) 'A Strategic Contingencies' Theory of Intraorganizational Power', *Administrative Science Quarterly* 16: 216–29.

Hillman, A. J., Cannella, A. A. and Paetzold, R. L. (2000) 'The Resource Dependence Role of Corporate Directors: Strategic Adaptation of Board Composition in Response to Environmental Change', *Journal of Management Studies* 37: 235–55.

Jacquemin, A. P. and Berry, C. H. (1979) 'Entropy Measure of Diversification and Corporate Growth', *Journal of Industrial Economics* 27: 359–69.

Jennings, D. F. and Seaman, S. L. (1994) 'High and Low Levels of Organizational Adaptation: An Empirical Analysis of Strategy, Structure, and Performance', *Strategic Management Journal* 15: 459–75.

Kameda, T. and Davis, J. H. (1990) 'The Function of the Reference Point in Individual and Group Risk Decision Making', *Organizational Behavior and Human Decision Processes* 46: 55–76.

Kelly, D. and Amburgey, T. L. (1991) 'Organizational Inertia and Momentum: A Dynamic Model of Strategic Change', *Academy of Management Journal* 34: 591–612.

Ketchen, D. J. and Palmer, T. B. (1999) 'Strategic Responses to Poor Organizational Performance: A Test of Competing Perspectives', *Journal of Management* 25: 683–706.

Lant, T. K., Milliken, F. J. and Batra, B. (1992) 'The Role of Managerial Learning and Interpretation in Strategic Persistence and Reorientation: An Empirical Exploration', *Strategic Management Journal* 13: 585–608.

Liang, K.-Y. and Zeger, S. L. (1986) 'Longitudinal Analysis Using Generalized Linear Models', *Biometrika* 73: 13–22.

March, J. G. (1966) 'The Power of Power', in D. Easton (ed.) *Varieties of Political Theory* pp. 39–70. New York: Prentice-Hall.

March, J. G. and Sutton, R. I. (1997) 'Organizational Performance as a Dependent Variable', *Organization Science* 8: 698–706.

Mayes, B. T. and Allen, R. W. (1977) 'Toward a Definition of Organizational Politics', *Academy of Management Review* 2: 672–78.

Michel, J. G. and Hambrick, D. C. (1992) 'Diversification Posture and Top Management Team Characteristics', *Academy of Management Journal* 35: 9–37.

Michels, R. (1949) *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. New York: The Free Press.

Miller, D. (1991) 'State in the Saddle: CEO Tenure and the Match between Organization and Environment', *Management Science* 37: 34–52.

Miller, D. and Friesen, P. H. (1982) 'Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum', *Strategic Management Journal* 3: 1–25.

Mintzberg, H. (1979) *The Structuring of Organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Nystrom, P. C. and Starbuck, W. H. (1984) 'To Avoid Organizational Crises – Unlearn', *Organizational Dynamics* 12: 53–65.

Ocasio, W. (1994) 'The Political Dynamics of Contestation and Control: The Circulation and Institutionalization of Chief Executive Officers in U.S. Industrial Corporations, 1960–1990', *Administrative Science Quarterly* 39: 285–312.

Ocasio, W. and Kim, H. (1999) 'The Circulation of Corporate Control: Selection of Functional Backgrounds of New CEOs in Large U.S. Manufacturing Firms, 1981–1992', *Administrative Science Quarterly* 44: 532–62.

Pennings, J. M., Barkema, H., and Douma, S. (1994) 'Organizational Learning and Diversification', *Academy of Management Journal* 37: 608–41.

Pfeffer, J. (1981) *Power in Organizations*. Marshfield, MA: Pitman.

Pfeffer, J. (1983) 'Organizational Demography', in L. L. Cummings and B. M. Staw (eds) *Research in Organizational Behavior,* Vol. 5, pp. 298–357. Greenwich, CT: JAI Press.

Pfeffer, J. and Salancik, G. R. (1974) 'Organizational Decision Making as a Political Process: The Case of a University Budget', *Administrative Science Quarterly* 19: 135–51.

Prowse, S. D. (1995) 'Corporate Governance in International Perspective: A Survey of Corporate Control Mechanisms Among Large Firms in the U.S., U.K., Japan, and Germany', *Financial Markets, Institutions and Instruments* 4: 1–62.

Rajagopalan, N. and Spreitzer, G. M. (1997) 'Toward a Theory of Strategic Change: A Multi-lens Perspective and Integrative Framework', *Academy of Management Review* 22: 48–79.

Ridgeway, C. L., Johnson, C. and Diekema, D. (1994) 'External Status, Legitimacy, and Compliance in Male and Female Groups', *Social Forces* 72: 1051–77.

Romanelli, E. and Tushman, M. L. (1994) 'Organizational Transformation as Punctuated Equilibrium: An Empirical Test', *Academy of Management Journal* 37: 1141–66.

Salancik, G. R. and Pfeffer, J. (1977) 'Who Gets Power and How They Hold on to It: A Strategic Contingency Model of Power', *Organizational Dynamics* 5: 3–21.

Shen, W. and Cannella, A. A. (2002a) 'Revisiting the Performance Consequences of CEO Succession: The Impacts of Successor Type, Postsuccession Senior Executive Turnover, and Departing CEO Tenure', *Academy of Management Journal* 45: 717–33.

Shen, W. and Cannella, A. A. (2002b) 'Power Dynamics Within Top Management and Their Impacts on CEO Dismissal Followed by Inside Succession', *Academy of Management Journal* 45: 1195–206.

Thornton, P. H. and Ocasio, W. (1999) 'Institutional Logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958–1990', *American Journal of Sociology* 105: 801–43.

Tushman, M. L. and Romanelli, E. (1985) 'Organizational Evolution: A Metamorphosis Model of Convergence and Reorientation', in L. L. Cummings and. B. M. Staw (eds) *Research in Organizational Behavior* Vol. 7, pp. 171–222. Greenwich, CT: JAI Press.

Weick, K. E. and Quinn, R. E. (1999) 'Organizational Change and Development', *Annual Review of Psychology* 50: 361–86.

Welbourne, T. M. and Trevor, C. O. (2000) 'The Roles of Departmental and Position Power in Job Evaluation', *Academy of Management Journal* 43: 761–71.

Westphal, J. D. (1998) 'Board Games: How CEOs Adapt to Increases in Structural Board Independence from Management', *Administrative Science Quarterly* 43: 511–37.

Westphal, J. D. and Fredrickson, J. W. (2001) 'Who Directs Strategic Change? Director Experience, the Selection of New CEOs, and Change in Corporate Strategy', *Strategic Management Journal* 22: 1113–37.

White, H. (1982) 'Maximum Likelihood Estimation of Misspecified Models', *Econometrica* 50: 1–25.

Whyte, G. and Levi, A. S. (1994) 'The Origins and Functions of the Reference Point in Risky Group Decision Making: The Case of the Cuban Missile Crisis', *Journal of Behavioral Decision Making* 7: 243–60.

Wiersema, M. F. and Bantel, K. A. (1992) 'Top Management Team Demography and Corporate Strategic Change', *Academy of Management Journal* 35: 91–121.

Williams, K. Y. and O'Reilly, C. A., III (1998) 'Demography and Diversity in Organizations: A Review of 40 Years of Research', in B. M. Staw and R. I. Sutton (eds) *Research in Organizational Behavior*, vol. 20, pp. 77–140. Greenwich, CT: JAI Press.

Zajac, E. J. and Westphal, J. D. (1996) 'Who Shall Succeed? How CEO Board Preferences and Power Affect the Choice of New CEOs', *Academy of Management Journal* 39: 64–90.

Hitoshi Mitsuhashi is an assistant professor of organization and management theory in the Institute of Policy and Planning Sciences, University of Tsukuba. His current research interests include interorganizational relations, strategic change, management of uncertainty and employment relations. His research has been published or is forthcoming in *Organization Studies*, *International Journal of Human Resource Management*, *Asian Perspectives* and *Scandinavian Journal of Management*. *Address*: Institute of Policy and Planning Sciences, University of Tsukuba, Tsukuba-shi, Ibaraki 305–8573, Japan. [e-mail: hitoshi@sk.tsukuba.ac.jp]

Henrich R. Greve is a professor of strategy at the Norwegian School of Management BI. His current research is on performance feedback effects on strategic change and institutionalization and competition in niche markets. He recently published *Organizational Learning from Performance Feedback: A Behavioral Perspective on Innovation and Change* (Cambridge, 2003), and he has published in journals such as *Academy of Management Journal*, *Administrative Science Quarterly*, *Organization Science* and *Strategic Management Journal*. *Address*: Department of Strategy, Norwegian School of Management BI, Elias Smiths vei 15, Box 580, 1302 Sandvika, Norway. [e-mail: henrich.greve@bi.no]
