



Environmental Turbulence and Organizational Change: Niche Expansion and Organizational Growth in the Population of Hospitals in Korea, 1980-2008*

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This paper combines structural inertia theory with various theoretical perspectives to explain the process of organizational change in the population of hospitals in Korea from 1980 to 2008: specifically, how environmental conditions facilitate a hospital's niche expansion defined as the addition of clinical service departments and how environmental conditions mediate the effects of niche expansion on the rates of organizational growth. The paper proposes that environmental turbulence caused by pivotal institutional transformations and changes in market competitiveness creates opportunities for organizations to cultivate new market niches by enabling them to overcome inertial pressures. It also proposes that because of the high level of uncertainty entailed in environmental turbulence, however, the organization that expands into new market niches under turbulent environments have more difficulty with further organizational growth than one that does under stable environmental conditions. Analyses of the rates of niche expansion and organizational growth in the hospital industry support such propositions. We discuss the implications of these findings, which indicate that renewed attention should be paid to structural inertia theory and organizational change research.

Keywords: structural inertia theory, organizational change, niche expansion, environmental turbulence, organizational growth, hospital industry

Structural inertia theory proposed by Hannan and Freeman (1977; 1984) depicts organizations as relatively inert entities for which adaptive change in core features is not only difficult and infrequent, but hazardous as well. When they do change, great risks are involved so that they

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are likely to end up with organizational failure. This argument is based upon the assumption that in order for an organization to survive it must mobilize resources for its routine tasks and maintain stable inflows of scarce resources. The theory also assumes that an organization with reliable performance and accountability for its actions stands on the concrete ground to mobilize human, material and even symbolic resources from the stakeholders who are concerned with 'returns on investment.' Consequently, organizations are under strong pressures for reliability and accountability, both of which require organizational structure to be highly reproducible and some core practices to be unchanging over time.

Furthermore, relating organizational change to the liability of newness argument (Stinchcombe 1965), organizational ecologists propose that attempting core change deprives organizations of survival values associated with reliability and accountability accumulated throughout the organizational history, thereby 'resets the clock' of liability of newness: it destroys established organizational routines and competencies, disrupts extant relations with important resource providers, threatens an organization's acquired legitimacy, and delivers confusing signs to the stakeholders both inside and outside. Since organizational stakeholders favor reliable and accountable organizations, attempting to change essential structural characteristics in order to promote survival chances often disturbs stable resource flows, and eventually results in great risks of organizational failure (Baum 1996).

By contrast, much empirical research has found that organizations actually do change their core features such as organizational goals (Selznick 1947), authority system or control mechanisms (Strang and Jung 2009), core technologies (Barley 1990; Barnett 1990), core strategies (Alexander et al. 1996; King 2008), exchange partners (Sorenson and Stuart 2008), and market positions or target niches (Baum and Singh 1996; Greve 2000; Haveman 1993). In many cases, those change efforts resulted in successful adaptation, thereby increased organizational performance and survival capabilities. These empirical findings have been modeled in a variety of theoretical perspectives including resource dependence theory (Burt 1992; Pfeffer and Salancik 1978), contingency theory (Lawrence and Lorsch 1967; Woodward 1965), institutional theory (DiMaggio and Powell 1983; Meyer and Rowan 1977), and strategic choice theory (Chandler 1977), all of which suggest that organizations commonly respond to environmental opportunities and constraints by altering organizational strategies and structures in ways to enhance performance and capabilities for survival.

Given the two contrasting perspectives that are both theoretically sound and empirically fruitful, striking is that relatively little attention has been paid to the following questions: under what conditions are organizations more likely to attempt for core organizational change and when do those attempts produce successful outcomes—i.e., increased performance, organizational growth, and lengthened operational lifetime? By answering these questions, this paper purports to shed fresh light on the nature and values of organizational change.

Building upon the complementarity of the two seemingly contradictory perspectives, this

paper explores the environmental conditions that facilitate a specific kind of organizational change, i.e., niche expansion, in the population of hospitals in Korea operating from 1980 to 2008. We define a hospital's organizational niche as a set of clinical service areas because this is the intersection of resource requirements such as volumes and characteristics of potential patients (for example, age groups, inpatients or outpatients, and kinds of diseases) and operational and technical capacities including required manpower, technology, medical equipments, administrative supports, and so on.¹ We measure a hospital's niche expansion as the addition of clinical service departments, which often necessitates the restructuring of medical and administrative routine tasks at the hospital level: the hospital is required to provide care services to novel kinds of patients, to purchase new clinical equipments, to hire additional medical specialists, to rearrange administrative staff, and sometimes to reconfigure complex relationships with other organizations such as National Health Insurance Corporation (NHIC) and private insurance companies.

We hypothesize that environmental turbulence (either radical institutional transformations or changes in competitive environments) creates opportunities for organizations to cultivate new market niches by enabling them to overcome inertia pressures that hamper the movements across market niches under relatively stable environments. Because of the high level of uncertainty entailed in environmental turbulence, however, the organization that expands market niche under turbulent environments arguably have more difficulty with further organizational growth than one that expands under stable conditions. Before advancing our theoretical arguments, we will briefly review the historical contexts of the population under study.

THE HOSPITAL INDUSTRY IN KOREA

During the past decades, the health care system in Korea has witnessed dramatic changes. Until the late 1970s, the Korean medical industry had been dominated by small private health care providers (clinics), which concentrated on the medical care of outpatients in general, and sometimes functioned as 'hospitals' equipped with beds and other facilities for inpatients. Although some clinics successfully grew into as large institutions as major hospitals employing several dozens of medical doctors and nurses, the low level of medical services demand and weak payment capability put great constraints on such possibility (Cho 1990).

In the mean time, the hospital sector made up only a small share of the medical services industry. By 1980, only 326 hospitals were in operation throughout the country, and their mean

¹ Although the niche is often defined at the population level, here we suppose that each organization has its own niche that the organization relies on for critical resources.

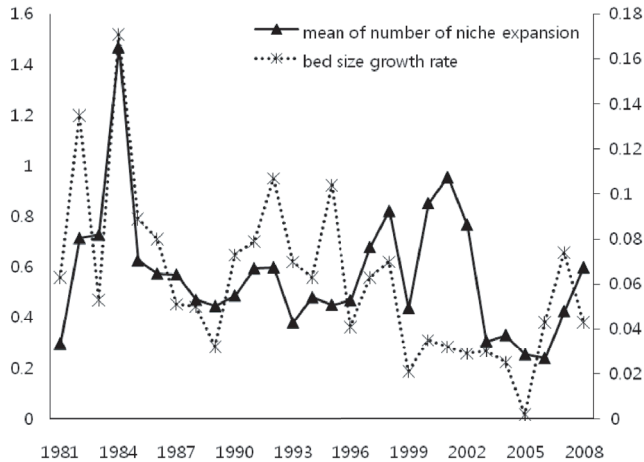
bed size was 116. Furthermore, since the major players in the hospital sector were public hospitals established during the Japanese rule, and corporate hospitals owned by religious institutions and medical schools, market force did not play a significant role in the evolution of the hospital sector: according to our data, 53 of the 326 hospitals (16%) in 1980 were public hospitals and their bed share was 209, equivalently, 29% relative to the total number of beds in the hospital sector (note that the percent of public hospitals and the bed share dramatically declined to 5.1% and 6.9% in 2008, respectively). To sum, until the 1970s, the medical services industry in Korea had experienced quite stable institutional and competitive environments, coupled with a sluggish increase in medical demand and the underdeveloped system of functional division between hospital and clinic sectors.

Following more than three decades of stability since the liberalization, the environment of the medical services industry began to undergo a fundamental transformation, which upset the institutional and ecological balance of the industry, necessitating rapid and extensive adaptation at the organization as well as industry level. First and foremost is the introduction of compulsory health insurance as a form of social insurance, which was enacted in 1976 and implemented in 1977 for public service personnel, soldiers, teachers, and employees working for the establishments with more than 500 employees. For many years afterward, the compulsory coverage requirement gradually expanded to include establishments with more than 300 employees in 1979, 100 employees in 1981, and finally establishments with at least 5 employees in 1988. In addition, a pilot program was started as a preparatory step to expand the compulsory insurance to the self-employed in rural and urban areas. Finally, in 1989, universal health insurance coverage was accomplished for all of citizens in Korea (NHIC 2001).

The stepwise introduction of the compulsory health insurance system shook the ground beneath the medical services industry, by augmenting the demand for medical services, which presented an opportunity for further growth of the medical market (Yang 1996). In addition, because the adopted medical fees payment system was the fee-for-service system in which pays for actual services were rendered on the basis of an itemized cost for every single medical service, hospitals were induced to practice several different medical services including nonessential and redundant services for a single disease. Thus, this payment system provided hospitals with the opportunity to raise revenue.

Hospitals, medical professionals, and related actors in the organizational field responded in two ways. The first was to establish new hospitals. Medical practitioners who had accumulated enough capital to start up a small or medium-sized hospital attempted to jump onto this opportunity, by equipping themselves with medical facilities to accommodate at least several scores of in-patients as well as to manage the increasing number of out-patients. External capital also began to permeate the industry, although even greater rush occurred after the mid 1990s. During the period between 1980 and 1989, the number of hospitals almost doubled, and the annual average number of foundings reached nearly about 40.

Figure 1. The Mean Number of Niche Expansion and the Bed Size Growth Rates in the Hospital Industry in Korea, 1980-2008



Second, extant hospitals responded to the growing demand by employing such strategies as up-sizing or structural change. Among the 221 hospitals existing throughout the period from 1980 to 1989, the average bed size increased dramatically from 89.3 to 211.8. These efforts were often accompanied by the reconfiguration of service areas. The most important was the niche expansion strategy, by which hospitals sought to exploit the growing opportunity produced by institutional changes, and thereby to enhance organizational performance. Hospitals attempted to flow into service areas that were marked with relatively high payment rates, partly because of itemization of services to the smallest detail. Our data suggest that the mean number of service departments per hospital rose from 6.1 in 1980 to 9.9 in 1989. As is seen in Figure 1, both the organizational growth rates and the mean numbers of service department additions were highest in this period.

After the 10 years of environmental turbulence caused by the introduction of compulsory health insurance system, the hospital industry began to be seen as a ‘market,’ instead of a ‘public sector.’ Following the short period of environmental stability, the industry encountered the second wave of disturbance. The wave began in the mid 1990s with the population dynamics, say, increasing number of organizational failures and organizational foundings, along with a series of entries of mega-hospitals, including so-called *chae-böl* hospitals (for example, Hyundai Asan medical center, Samsung medical center, and Ajou university medical center). With up-to-the-minute medical facilities, highly qualified specialists, and comfortable administrative supports, not only did these hospitals quickly gain the highest ranked reputation, but also they produced an unexpected by-product; the shared perception that the hospital industry had been transformed to a highly profitable market (Cho 1997). As a large number of

hospital foundings followed, the competition among hospitals got more intense, especially among low-end small and medium-sized hospitals catering to the geographically localized medical market. Together with the cumulative lagged effects of the first wave of organizational founding, the increased competition accelerated the failure rates dramatically in the late 1990s and thereafter.

In the meantime, another important institutional change took place; the policy of prescription-dispensary separation. Although the initial policy efforts date back to the 1960s, it was in the mid 1990s that the full-scale implementation of this policy was put on the table in a serious manner. The Kim Dae-Jung government promised to carry out extensive health care reform including prescription-dispensary separation. Because this policy proposal intended to transfer the dispensary function from hospitals and clinics to pharmacists, it quickly faced strong resistance from medical doctors and such associations as Korean Medical Association and Korean Hospital Association (Hwang 2005). This makes sense because the separation policy was in conflict with the interests of hospitals and doctors. Because of the government's strong regulation on the medical fees payment system, hospitals had relied on overtreatment of out-patients and excessive drug selling as well as high-priced uninsured medical care services (Jung 2008). The separation policy meant to deprive hospitals of those important income sources (drug selling to out-patients).

After the long-lasting debates and conflicts, the separation policy finally came into effect in 2000. As expected, the policy brought about a massive impact on the hospital industry. Much empirical research has consistently reported a variety of negative effects on management performance, for the most part, of large hospitals: the number of out-patients plummeted, financial performance deteriorated with the decrease of doctor's productivity and strong regulations on drug selling, and inpatient service revenues slightly dropped (Eun and Youn 2003; Jung et al. 2004; Oh, Lee and Min 2007).

However, the negative effects might be uneven across different service areas. We do not have concrete data, but a few empirical studies reported that the number of outpatients decreased more dramatically in some service departments such as pediatrics, dermatology, obstetrics, otorhinolaryngology and internal medicine than in others, especially in surgery, neurology, and family medicine (Cho et al. 2002). Some of the departments that rely heavily on medical services for outpatients and pharmaceutical treatments lost their share to small clinics and pharmacies. The restructuring of the medical market catalyzed by the institutional change not only intensified competition among hospitals for gradually dwindling resources, but also arguably forced hospitals to restructure themselves in accordance with environmental structure. According to Figure 1, the mean numbers of clinical department additions per hospital began to soar in 1997 and continued to increase until 2001, except for 1999.² Surprisingly enough,

² The drop during the period between 1998 and 1999 was probably because of economic crisis in Korea. Note that the bed size growth rate also declined dramatically.

however, the organizational growth rates gradually declined during this period. This substantiates that hospitals invested internal resources to reconfiguring the structure of service departments, instead of simply strengthening or enlarging current clinical service activities.

ENVIRONMENTAL TURBULENCE AND NICHE EXPANSION

The ecological argument about structural inertia predicts that an organization would not change its structure and core features, because stability in the structure and activities increases the reliability of its performance and the accountability associated with present and future actions (Hannan and Freeman 1984). However, there is abundant evidence of organizational change not only in peripheral features (for example, adoption of a new wage system and adoption of work-family balance programs), but also in technical and structural cores, even organizational identity (Fox-Wolfgramm et al. 1998; Rao et al. 2000). Then, the question is how the organization can overcome strong inertia pressures. Assuming that inertia pressures come mostly from outside, the structural inertia argument can be reinterpreted by taking the contingency point of view that argues for a close fit between organization's structure and its environment (Galbraith 1977; Kelly 1990; Lawrence and Lorsch 1967): as long as organizational environments are stable and predictable, the organization rarely changes its core features. Conversely, this perspective implies that environmental turbulence might provide the organization with incentives and ability to change, by shaking up current ground rules of game, by reordering environmental resource structure, and by weakening organization's inertia pressures (Barnett and Carroll 1995; Fligstein and Dauber 1989).

Along with changes in technological and competitive environments, institutional or policy change is one of the most important sources of environmental turbulence, pressing organizations to adapt to changing institutional demands, instead of 'holding new wine in an old bottle' (Davis et al. 1994; DiMaggio and Powell 1983; Dobbin and Dowd 1997; Hirsch 1986; Oliver 1991). Thus, we would argue that environmental turbulence triggered by institutional change weakens organizational inertia. A review of organizational theories and empirical research suggests that there are at least two inter-related, not mutually exclusive, research streams that support this point of view.

First, some institutional scholars argue that policy change resets the ground rules which regulate the organization's market behaviors, relationships with other organizations, ways of managing institutional demands, and internal structure and behaviors (Dobbin and Dowd 1997; Ingram and Rao 2004; Meyer and Rowan 1977). Since organizations embody such rules (often called an institutional logic), changes in rules are likely to lower inertia pressures individual organizations experience. When institutions change, in addition, organizational change such as niche expansion might be viewed as a legitimate response that otherwise could be considered

unreliable, unaccountable, and hence illegitimate (Tucker et al. 1990). Therefore, they might be able to respond to policy change by adjusting their organizational structure and practices to newly entrenched regulations. Many ecological studies have found that organizational vital rates are higher in the periods of punctuated institutional shift than in others (Simons and Ingram 1997; Swaminathan 1998). However, we would argue that individual organizations develop a variety of organizational change strategies such as niche expansion when institutional environments undergo punctuational change (Haveman 1992). In the case of the hospital industry, the introduction of compulsory health insurance and the implementation of dispensary-separation policy were two of the most important 'environmental shocks,' which might induce hospitals to change its niche strategies, because they provided hospitals with new rules of game.

The second stream forms among organizational ecologists who have attempted to revise structural inertia theory in ways to increase its applicability to organizational change research. Following Aldrich's (1979) formulation of variation-selection-retention process, some ecologists argue that sudden environmental changes create variation at the organization level. This argument is based on the proposition that environmental changes almost invariably cause structural redistribution and reordering of critical resources on the niche space, meaning that the current equilibrium across different sub-niches breaks down. Thus, profound policy transformation tends to make available to organizations the alternative pools of resources in the environment. Even though some organizations in a dwindling niche stop operation and entrepreneurs establish new organizations in a growing niche, we expect that due to lowered inertia pressures, existing organizations may be able to successfully move or expand to seemingly under-occupied niches (Alexander et al. 1996; Haveman 1993). We would argue that the two aforementioned pivotal policy changes in the Korean health care field increased the probability of hospital's niche change by redistributing environmental resources such as the volume of patients, the service fees per patient, and the expected return to investment. With the two research streams together, we expect that:

Hypothesis 1: The occurrence of both legislative periods (the introduction of compulsory insurance and dispensary-separation) was associated with an increase in the probability of niche expansion.

The hospital industry is segmented into geographically localized markets, so that environmental characteristics differ across locations (Jung 2008). One of the most important environmental characteristics at the local level that arguably influence organizational behaviors and strategies would be the degree of market competitiveness in the local market. However, we slightly change this view to propose that not only competitiveness itself but also the 'change' in competitiveness triggers organizational change, to the extent that the change transforms the

opportunity and constraint structure in the local market. We call such environmental change turbulence in competitive environments or turbulence in local market conditions.

There is some empirical evidence that the increase in competitiveness in the local market prompts organizations to engage in profound organizational change including change in a niche position. For example, Alexander and his colleagues (1996) found that the increased competition reduces organizational inertia, providing rural hospitals with a strong impetus for significant change rather than closure. Analyzing service domain changes in rural hospitals in the U.S., they argued that “rural hospitals facing competitive pressures from another hospital provider experienced both stronger incentives and less internal and community resistance to shift into favorable operating domains.” Similarly, Baum and Singh (1996) found the positive relationship between inter-organizational competition and the probability of organizational niche change. Day-care-centers in metropolitan Toronto made use of niche expansion and contraction as strategic tools to respond to the problems of increased competition: they diversified into new market segments to moderate the effects of competition, and withdrew from a market segment to avoid competition. A few other studies can be cited as well (Greve 2000; Jung 2006; Kelley and Amburgey 1991).

Even though most of these studies used as an explanatory variable the degree of competitiveness (a static term), but not the degree of change in competitiveness (a dynamic property), they hint out that the increased competition will force existing organizations to engage in organizational search of alternative operational domains, to set up new market strategies, and finally to expand into niches that are richer in resources (Greve and Taylor 2000).

However, little research has been carried out regarding the opposite situation: the effect of decreased competition on the probability of change. We expect that the decreased competition will also create impetus for structural rearrangement, by augmenting the volume of free resources in the local market. At least two reasons could be pointed out. First, while organizational inertia involves an efficiency consideration, an organization can do change without much efficiency loss when there are abundant resources to ensure, and especially when the organization attempts to expand into the resourceful niches. Second, the problems associated with reliability, accountability, and resistance from internal and external stakeholders may get weaker insofar as competitive pressures diminish. For example, if a competitor providing a specific medical service exits from the market, the focal hospital’s expansion into that service area will not provoke the loss in reliability and accountability, since the patients in the local market need an alternative avenue for that service.

All in all, both increase and decrease in competitiveness in the local medical market are expected to be associated with the probability of organizational change, by making existing organizational procedures unsatisfactory. To take into account dynamic rather than static aspects of environmental turbulence, we do not use density to measure the competitiveness.

Rather, we employ the number of total beds of all hospitals that has been established for the past four years, and the counterpart measure for disbanded hospitals, both of which are expected to be positively associated with the rates of niche expansion.

Hypothesis 2: Environmental turbulence associated with changing (both decreased and increased) competitiveness in the local market is positively related with the rates of a hospital to expand its service niche.

TURBULENCE, EXPANSION, AND ORGANIZATIONAL GROWTH

We begin with the ecological proposition relating organizational change to the high rates of organizational failure and the low level of performance. When an organization changes its core features, it has to rearrange role relationships and work procedures, remold coordination mechanisms, and install new business strategies and practices such as marketing strategy, compensation scheme, and organizational control system. During the period of restructuring or reorientation, therefore, the organization must redirect organizational resources from routine operations to such activities as coordination, problem-solving, pivotal decision-making, and rearrangement of organizational infrastructure. These activities might have a negative effect on organizational performance and efficiency. In addition, changes that ruffle the organization's external exchange relationships may cause questions about its legitimacy, making it hard to maintain stable resource acquisition.

Organizational ecologists have developed a systematic formulation of the moderating effects of organizational characteristics on the disruptive impact of organizational change and provided empirical evidence in a wide variety of settings (Amburgey et al. 1993; Baum and Singh 1996; Hannan and Freeman 1984; Hannan et al. 2007; Miller and Chen 1994). Those studies consistently found that the disruptive effect of organizational change increases with the age and size of the organization, because old and big organizations are under stronger inertial pressures than small and young organizations. However, little research has examined under what environmental conditions organizational change is more disruptive or alternatively more beneficial.

Haveman (1992) is exceptional. In her study of the savings and loan industry in California, she argued that organizational change under environmental turbulence would hurt an organization's survival chances and its performance. "If an output required of an organization changes frequently and by large amounts, if the inputs available (quantity, quality, or relative proportion) change, or if the processes used to transform inputs to outputs change, then that organization will be forced to adjust in order to achieve stable performance" (Haveman 1992: 52). If an organization does not adjust when its environment undergoes punctuational change,

its performance and survival chances will be hurt.

Although organizational change even under market turbulence involves some sort of risk of failure, that risk may be acceptable as long as the performance gains and consequent enhancement of survival probability are relatively high. If competitiveness in the local market declines, organizations can meet new environmental demands by expanding into resourceful niche domains. Niche expansion under increased market competition might be beneficial too: niche expansion could be a more feasible strategy to avoid the increasingly intensifying competition than no change. By contrast, if an organization attempts to expand under stable market conditions, the organization may have difficulty in overcoming inertia pressures. Organizational change efforts are likely to end up with no performance gains, but too much efficiency loss. To organizations that operate in the stable market conditions, as Miller and Chen (1994) suggest, no expansion may be the best strategy, since the organizations could “benefit from an economical repertoire of actions that presents customers with tried and true offerings and that avoids provoking rivals unnecessarily” (Miller and Chen 1994: 8).

However, the opposite expectation is also reasonable. Economic theories of organizations suggest that managers and decision makers in organizations possess bounded *rationality*, by which to assess the demands of the environments and to present an appropriate (even not optimal) solution to changing environmental conditions (Chandler 1977; Lawrence and Lorsch 1967; Thompson 1967; Williamson 1975). According to this view, organizational behaviors, strategies, and practices are built upon well-established repertoires of organizational routines that are relatively stable over time. Although Organizations sometimes attempt at adaptive change, such change efforts rarely deviate from routinized modes of behaviors in stable environmental conditions.

Under turbulent environmental conditions, however, managers may not be able to rely on routinized repertoires of action for decision making for following three reasons. First of all, environmental turbulence (market turbulence) is likely to increase uncertainty. While organizations develop uncertainty absorption mechanisms based on observation of stable market situations (codifying, forecasting, estimating, screening, and so on), such mechanisms may not work under turbulence. Managers and decision makers, as *bounded* rational actors, will be overloaded with a variety of information and have to deal with unexpected environmental demands. Following Cohen et al.’s term (1972), the organization may become a ‘garbage can,’ which prevents managers from making appropriate (rational) decisions.

Second, although “repertoires of problem solutions stored in the memories of organization members will be the principal source of solution proposals,” organizational memories get useless to the extent that organizational environments are rapidly changing and that environmental demands do not match conventional memories (March and Simon 1993: 211). Third, if organizations change to keep up with fast changing markets, technology, and competitors, they are likely to suffer from the collapse of internal coordination and increased

conflict, so that they must allocate a large amount of resources to recover inter-personal and inter-unit coordination mechanisms (March and Simon 1993). Thus, under turbulent market conditions where uncertainty is high, organizational devices to absorb uncertainty do not work, organizational memories are useless, and coordination mechanisms collapse, organizational change may be riskier than under stable market conditions.

With these two competing expectations, we do not take one instead of the other. Which expectation is more plausible might be an empirical issue. Here, we use as a dependent variable the rates at which hospitals grew, instead of survival rates or performance.³ Organizational scholars have assumed that organizational performance, survival values, and organizational growth are highly correlated.

Hypothesis 3a: Net of the effects of the prior expansion, the effect of niche expansion on the organizational growth rates is more positive under turbulent market conditions than under stable market conditions.

Hypothesis 3b: Net of the effects of the prior expansion, the effect of niche expansion on the organizational growth rates is more negative under turbulent market conditions than under stable market conditions.

DATA AND METHODS

Data Description

This paper analyzed the rates of niche expansion and organizational growth of hospitals in Korea that operated in any year between 1980 and 2008. *The Directory of Member Hospitals* published annually since 1980 by Korean Hospital Association constitutes the primary source of cross-sectional time series data for this population. We believe that the data source contains information on virtually all hospitals, since the number of hospitals listed on the annual Directory is very close to the number reported in other data sources, for example, *Annual Report on Health and Welfare*. The *Directory* includes a variety of information about hospitals, including name, address, contact number, permitted bed size, founding date, type of ownership, name of the director, name of the chairman of the board of directors, and most importantly, clinical service areas.

A few remarks about the data coding and data structure must receive attention. First, changes of name, ownership, director's name are a potential source of confusion in coding. If two hospitals in adjoining time periods differed in name, ownership, or director's name, but

³ Unfortunately we do not have performance data. Also, it is hardly defensible that niche expansion significantly affects organizational survival rates in a short period of time (here we used four-year-window to measure the independent variables).

had the same address or contact number *and* similar bed size, the hospital was coded as a name change rather than as a failure followed by a founding. Second, there are a few cases that disappear in a specific year but reappear in the next year in the *Directory*. If this is the case, and if all related information before and after (i.e. name, address, ownership, bed size etc.) is identical or almost identical, we consider it a simple reporting error, say, a mistaken drop. Third, although our observation period begins from 1980, there were already 323 hospitals in operation in that year: the oldest hospital in our records dates back to 1885 (Seoul National University Hospital and Severance Hospital). This is one of the common problems in longitudinal data analysis. Fortunately, since the *Directory* provides actual founding dates, we use them to minimize the potential effects of left-censoring. However, data on organizational histories before 1980 (i.e. prior events of niche expansion) are still missing, meaning that we have sample selection bias. In addition, the lack of information about prior organizational histories limits us in constructing some control variables associated with organizational propensity to change such as time since recent niche expansion or the number of events of niche expansion for the past 4 years, for example. Finally, our data are collected on annual basis, presenting us with another type of selection bias: organizations that lasted less than a year, if any, are systematically excluded from our data. Thus, caution should be employed when interpreting the results of our analysis. The data yield a total of 21803 annual spells (hospital-by-year observations), out of which 1461 spells belonging to the period between 1980 and 1983 are not used for analysis, because some covariates are constructed by using information on past four years before the current observation time point. We also exclude 3361 spells with missing information on at least one variable in the model.

Dependent Variables and Analytic Strategies

We model two events: niche expansion and organizational growth. For hospitals, niche is defined as a set of clinical service areas, and niche expansion as the addition of at least one clinical service area. Hospitals providing different clinical services differ on a variety of organizational dimensions and market domains. For a specific set of clinical services, not only must hospitals possess a particular configuration of human resources, clinical equipments, administrative supports, various kinds of protocols about patient-physician relationships, and shared norm about medical activities, but also they must allocate these configurations of resources to particular sorts of patients. Therefore, it seems safe that two hospitals with different sets of clinical services have different resource requirements, niche positions, and organizational structures. Based on the *Directory*, we identify 24 clinical service areas.⁴

Organizational niche expansion can be seen as a critical organizational change, since it requires new investments in human as well as material resources; in the case of hospitals,

⁴ The proportions of hospitals offering each of these services in selected years are presented in Appendix.

hiring new medical specialists and administrative staff, and purchasing additional diagnostic and prognostic equipments. Niche expansion also requires hospitals to reorganize existing structure, for example, to rearrange existing administrative functions, to tackle the increased structural complexity, to deal with greater human and material resource diversity, and oftentimes to deploy organizational practices and devices to alleviate increased group conflict. In addition, organizational niche expansion requires hospitals to cope with unfamiliar task and institutional environments; for example, to enter into competitive relations with local hospitals with a similar set of clinical services, to handle new types of patients or customers, to cultivate new market linkages, and to acquire additional knowledge of health care policy. Thus, niche expansion, measured by addition of new service areas, alters core features of hospitals, such as types of clients they target, services they have the capacity for, internal organizational structures, and linkages with external environments.

Niche expansion is measured by the number of clinical service areas added between two adjoining time points. On average, 27% of the hospitals experienced at least one event of niche expansion in a year, and the yearly mean number of niche expansion per hospital is about 0.5. Since the number of events is estimated, we use negative binomial regression with random-effect specification to model the rates of niche expansion. The coefficients in this specification can be interpreted like those in proportional hazard model: one unit increase in a given covariate promotes the $100(\exp(\text{coefficient}) - 1)$ percent change in the rates of niche expansion.

The second part of empirical analysis examines the relationship between organizational change and organizational growth. To measure the organizational growth rates, we use information about permitted bed size. We estimate growth models of the form: 1 , where ζ_t denotes the number of permitted bed at time t , X_t is a vector of covariates, and β is a vector of coefficients. Here it is assumed that the logged size at time t is dependent on the logged size at time $t - 1$ and the intrinsic growth rates, which are modeled with $X_t'\beta$ (Barron 1998). The log-linear format is used to constrain the growth rate to be positive. Random-effect GLS regression model is used. The average growth rate is about 6% during the observation period, and it ranges from 0.2% (2003-2004) to 17% (1982-1983).

Independent Variables

Turbulence in Institutional Environment

To test the hypothesis 1, we measure turbulence in institutional environments with two period-effect dummy variables, each of which refers to a specific period associated with change in health care policy. The environmental disturbance created by the introduction of compulsory health insurance and gradual expansion of coverage began around the year 1980 and lasted until 1989, when the national health insurance policy was fully instituted. The second period of institutional disturbance covers 1997 when drug prescription-dispensing separation policy

began to receive public attention, through 2000 when it was finally adopted. To accommodate the lagged effects of institutional changes, we extend each of those periods by 2 years forward: it often takes time for an individual organization to respond to institutional change, because the organization must collect information about the new policy regime, observe how other organizations react, mobilize necessary resources, and implement an appropriate strategy. Therefore, the first dummy variable takes a value of 1 for the period from the beginning of observation through 1991, and a value of 0 otherwise. The second dummy variable takes 1 for the period from 1997 through 2002, and 0 otherwise.

Turbulence in Market Competitiveness

To measure local market turbulence, we construct two variables; one for founding side and the other for failure side. The founding side measure is constructed as follows. We calculate the number of bed size of newly established hospitals in the local market each of four years before the current time period.⁵ To accommodate the diminishing effects of market conditions over time, we multiply each of four yearly measures by a specific time decay factor. Finally, we sum up the four yearly founding bed size measures weighted by the time decay factor. If big hospitals entered the local market recently, this variable takes high value. We construct the similar measure for failure side.

Two issues must be considered. First, what is an appropriate functional form of time decay? Having no empirical basis to evaluate the functional form of time decay in the population of hospitals, we simply assume that the effects of environmental turbulence decrease with an inverse function of time elapsed. Therefore, the two measures of competitive turbulence for a local market i in a given year t are expressed with the following form: $\sum_{k=1}^4 m_{i,(t-k)} (k^{-1})$, where m denotes each of the two un-weighted measures of turbulence for each year, and k refers to the time elapsed. How to define local is another issue. In the hospital industry, patients tend to come from geographically contiguous areas at a higher rate than from distant places, so that the market for medical services is arguably partitioned into numerous geographic segments. Although the geographic range of influence differs from hospital to hospital, we believe that the two-digit zip code may be an acceptable option, by which the whole national market is divided into 57 local market segments (for detailed justification, see Jung 2008: 93).

Niche Expansion in Turbulent Environment

Hypothesis 3a and hypothesis 3b state that niche expansion under turbulent market environments is associated with organizational growth, either positively or negatively. To test

⁵ We used the four-year time window. A one-year lag is hardly defensible in this particular case, because there must be cumulative effects of market turbulence and because it should be called a market condition only when the similar pattern lasts for a certain period of time. On the other hand, lengthening time-window causes a problem, too: the longer the time window, the more years we lose for estimation.

this set of hypotheses, we employ two variables. First, we calculate turbulence measures for each of the past four years, each of which is multiplied by a binary variable that takes the value of 1 if an organization expanded in that year, 0 otherwise. Then we sum up the measures over the past four years: $\sum_{k=1}^4 m_{i,(t-k)} (k^{-1}) \times E_{jt}$, where E_{jt} is the dummy variable of niche expansion, and j denotes the focal organization. This measure is analogous to the number of years that the organization expand its niches, but the difference is that each year of niche expansion is weighted by a time-decay-weighted market turbulence measure.⁶

Control Variables

Base-line models include several organization-level control variables: size, age, type of ownership, the number of clinical service areas, and momentum. To calculate age, we subtract the time of organizational founding from the time of observation. We measure organizational size by the number of permitted beds. Since the distribution of bed size is extremely skewed, with many small hospitals and a few giants, we took the natural logarithm. Type of ownership arguably has to do with the propensity for niche expansion and organizational growth. Although there are as many as 16 types of ownership in the Korean hospital industry, they can be grouped into three broad categories: (1) public hospitals including national university hospitals, national hospitals, municipal hospitals, and regional public hospitals; (2) hospitals owned by corporate body such as medical foundation, medical school, company, medical corporate, corporate aggregate, and social welfare foundation; (3) private hospitals owned and run by individuals. Prior research has revealed that the three types of hospitals are very different in terms of organizational structures, management orientation, growth strategies, and external linkages (Jung 2008), meaning that there might be differences in the rates of niche expansion and organizational growth. For example, one might expect that private hospitals are less likely to expand because their service activities are severally constrained by owners' specialty. However, the other way around might be a feasible expectation: they are more likely to expand because of simplicity of decision making procedures. This is an empirical issue.

Many organizational scholars argue that the niche width is an important predictor of organizational behaviors associated with strategic decision makings and, not to mention, of vital events of an organization (Dobrev et al. 2001; Freeman and Hannan 1983). Instead of using the conventional binary distinction between generalists and specialists, we measure the niche width with a count variable; the number of clinical service areas. To capture the momentum effects (effects of previous changes), we add as a control variable the number of occurrences of niche expansion for the past four years up to the present time: the more did an

⁶ Since we are comparing niche expansion under 'turbulent market conditions' and niche expansion 'under stable market conditions,' the effects of niche expansion itself must be controlled. To speak to this, we add a control variable of the number of previous niche expansions for the past four years. This will exclude confounding effects caused by no expansion.

organization expand previously, the more likely it is to expand currently (Kelly and Amburgey 1991). We also control for local population to take into account the demand side of the local market. Finally, following the well-established theory of density dependence, I control for density, which is measured as the total number of hospitals in existence in the local market in any given year. To allow for a nonmonotonic effect, density is modeled as a quadratic function by including both density and density squared.

RESULTS

Table 1 presents the results of the random-effect negative binomial regression analysis on the rates of niche expansion. To show a gradual refinement of the model, variables are entered in groups. Model 1 displays the effect of all control variables. Organizational size, age, and type of ownership have no effect on niche expansion. General hospitals are more likely to expand the scope of services than specialized hospitals, while hospitals that already provide a wide range of clinical services are less likely to expand. As expected, momentum appears to work. The number of prior niche expansions has significant and positive effects, understandably, since organizational change breaks down inertia pressures, promoting further organizational change efforts afterward. Population in the local market has positive and significant effects,

Table 1. Negative Binomial Regression Estimates of the Rate of Niche Expansion

Variable	Model 1	Model 2	Model 3
Logged bed size	.039 (.025)	.041 (.026)	.038 (.026)
Age / 10	.011 (.011)	.010 (.011)	.014 (.011)
Corporate owned hospital	-.063 (.069)	-.055 (.069)	-.047 (.069)
Personally owned hospital	-.123 (.073)	-.125 (.073)	-.114 (.073)
General hospital	.314 (.061) ***	.317 (.062) ***	.321 (.062) ***
Number of service areas	-.022 (.005) ***	-.025 (.006) ***	-.025 (.006) ***
Number of changes t-4~t-1	.021 (.008) **	.022 (.008) **	.019 (.008) *
Local Population (hundred thousand)	.165 (.032) ***	.017 (.038)	.035 (.038)
Density / 10	-.146 (.026) ***	-.041 (.029)	-.052 (.031)
Density squared / 1000	.764 (.156) ***	.420 (.167) *	.414 (.168) **
Period I: Insurance Policy (~ 1991)		.296 (.040) ***	.297 (.041) ***
Period II Post Insurance Policy (1992 ~ 1996)		.233 (.043) ***	.226 (.043) ***
Period III: Separation Policy (1997 ~ 2002)		.533 (.040) ***	.552 (.041) ***
Sum of founded hospital's bed sizes / 100			.013 (.005) *
Sum of failed hospital's bed sizes / 100			.032 (.010) **
Constant	-.842 (.130) ***	-1.131 (.139) ***	-1.146 (.139) ***
Log-Likelihood	-15526.03	-15438.87	-15432.58
Number of spells	16981	16981	16981

indicating that the local markets with rich resources provide favorable environments for organizations. Density has a U-shaped curvilinear effect on the rates of niche expansion, suggesting that both high competition and low competition in the local market induce hospitals to cultivate new market niches. This finding is consistent with the hypothesis 2, even though density does not take environmental turbulence seriously.

Model 2 includes three period variables to examine whether institutional turbulence affects the rates of niche expansion. All three periods compared to post-separation period have significant and positive coefficients, with the dramatic increase in model fit ($\chi^2 = 174.32$, $p < .001$). The introduction of compulsory health insurance and the implementation of prescription-dispensary separation policy appear to be associated with the increased rates of niche expansion, strongly supporting the hypothesis 1. Compared to the post-separation period, 34% and 70% more cases of niche expansion occurred during the period of the insurance policy change and the period of the drug dispensary policy change, respectively. It is worthwhile to note that the prescription-dispensary separation policy had a huge impact on the hospitals' reconfiguration of service activities. It is understandable, because the policy dramatically modified the structure of income sources, pressing hospitals to search for more profitable service areas.

In model 3, we add two more variables measuring turbulence in market conditions: sum of the bed sizes of hospitals established in the local market for the past four years and the equivalent measure for local failure. Including the two variables improves model fit significantly ($\chi^2 = 12.58$, $p < .01$). Net of the period effects, the two variables both have positive and significant effects, providing strong support for the hypothesis 2, which states that turbulence in competitive environments precipitates organizational niche expansion, relative to the alternative of no expansion. Hospitals, threatened by the establishment of big hospitals in the local market, may be willing to use a niche expansion strategy to pursue an alternative source of revenue. The very same strategy appears to be employed under the opposite situations. When big hospitals recently exit from the local market, the remaining hospitals make an inroad upon the once tightly-packed, but now seemingly loosened niches.

Table 2 shows the results of random-effect GLS regression estimates of factors affecting the rate at which the hospitals grew. Two models are shown. Model 1 contains all control variables, including period effects. The coefficient for age is significant and negative. Personally owned hospitals grew more slowly than public hospitals, while general hospitals did more rapidly than specialized hospitals. The more medical service areas, the faster they grew. These results are consistent with resource-based view of organizations: organizations that have easy access to necessary resources tend to grow faster, irrespective of the effects of environmental conditions. Two variables show somewhat surprising results. The number of previous niche expansions has a positive and significant effect on the growth rates, although the statistical significance disappears in model 2. This finding is in conflict with the

Table 2. GLS Regression Estimates of the Growth Rate

Variable	Model 1	Model 2
Logged bed size	.945 (.003) ***	.943 (.003) ***
Age / 10	-.003 (.001) *	-.003 (.001) *
Corporate owned hospital	-.001 (.009)	.001 (.008)
Personally owned hospital	-.028 (.009) **	-.028 (.009) **
General hospital	.005 (.007)	.004 (.007)
Number of service areas	.003 (.001) ***	.004 (.001) ***
Number of changes t-4~t-1	.012 (.005) *	.009 (.005)
Local Population (hundred thousand)	-.003 (.004)	-.004 (.004)
Density / 10	-.002 (.003)	-.003 (.003)
Density squared / 1000	.034 (.017) *	.037 (.017) *
Period I: Insurance Policy	.001 (.004)	-.001 (.004)
Period II Post Insurance Policy	.019 (.004) ***	.018 (.004) ***
Period III: Separation Policy	.015 (.004) ***	.013 (.004) **
Logged # of changes wgt. by local founding size		-.005 (.001) ***
Logged # of changes wgt. by local failure size		-.002 (.001) *
Constant	.282 (.015) ***	.284 (.015) ***
Number of Spells	16981	16981

organizational inertia argument. Density shows a U-shaped relationship with organizational growth, but only the squared term is statistically significant. This is inconsistent with density dependence argument in organizational ecology, which expects organizational growth to be high at the middle level of density (inverted U-shaped curve). All three period effects are positive, compared to the post-separation period. Controlling for other variables, the organizational growth rates are highest during the period between 1992 and 1996, consistent with Figure 1. Comparing niche expansion analysis and growth analysis substantiates our argument about the effects of policy changes. In the two periods of policy change (period 1 and period 3), the rates of niche expansion were very high, but the organizational growth rates were relatively low. This implies that hospitals responded to policy changes by reorganizing service activities, rather than by simply increasing their sizes.

To explore whether turbulence in local market had beneficial (or hazardous) effects on organizational growth of hospitals that expanded their niches, we add two variables measuring expansion efforts under increasing founding size and expansion efforts under increasing failure size in the local market. Including the two variables does not make any significant change in the coefficients of control variables. Statistical evidence supports the harmful effects of market turbulence on the hospitals that expanded into new market niches: the coefficients show negative and significant correlations with organizational growth. Since we control for the number of previous changes, the model excludes the possible confounding effects of previous

changes. Hence, these coefficients should be interpreted as the effects of market turbulence on the growth rates among the hospitals that adopted the same number of service departments. When big hospitals (or many small hospitals) recently enter the local market, the niche expansion strategy turns out to be detrimental to organizational growth. Also, big hospitals (or many small hospitals) exit from the local market, the very same strategy would have a harmful effect on organizational growth, too. Conversely, niche expansion under stable market conditions may ward off a harmful effects associated with a break-down of organizational inertia, contributing to the organization's further growth.

DISCUSSION AND CONCLUSION

This article was motivated by a desire to make a contribution to research on organizational change. In so doing, we attempted to revise organizational inertia theory that was proposed by Hannan and Freeman (1984) and have produced insightful debates on the possibility of organizational change and its consequences. In this research, we highlighted that environmental characteristics, specifically the extent to which institutional and competitive environments undergo a dramatic change, play an important role in organizational niche expansion in the population of hospitals of Korea during the period between 1980 and 2008. We found that environmental turbulence caused by institutional change such as the introduction of compulsory health insurance and the implementation of prescription-dispensary separation policy increased the rates of niche expansion in the population. In addition, changes in the local market competitiveness were another primary force driving niche expansion, both by breaking down organizational inertia pressures and by shattering the established opportunity structure in the local market. Contrary to the prior research by Miller and Chen (1994), furthermore, we found that turbulent market conditions had the negative effects on the growth of hospitals that expanded their niche scopes, suggesting that decision making theory might have a greater explanatory power than the traditional selection model (Greve 1999): market turbulence may impair managers' ability to use routinized decision making repertoires, deter appropriate functioning of established coordination mechanisms and standardized operating processes, and accordingly make it difficult to correctly assess market demands. The situation grows worse by the fact that many other organizations change their niche positions under turbulent conditions, which makes it more difficult for the focal organization to locate the right position in the fast changing competitive environments. When market competition increased or decreased to a large extent, therefore, managers or top decision makers of hospitals might have difficulty in locating organizational niches that were rich in resources and that would give rise to beneficial outcomes.

To our knowledge, this research is the very first attempt to investigate how environmental

turbulence affects the rates of organizational change and the rates of organizational growth simultaneously: some studies examined the former, others the latter, still others both but without paying serious attention to environmental turbulence. The lack of the simultaneous investigation was probably because scholars are stuck in the 'intellectual inertia' of theoretical scheme of structural inertia. A fundamental assumption underlying structural inertia theory is that the forces that impede organizational change will punish organizations when they actually do change: likewise, environmental forces that induce organizations to change will have beneficial effects on changing organizations. However, our results showed that such simple assumption was not applicable to the population of hospitals in Korea. While the turbulence in the institutional and competitive environments increased the rates of niche expansion, the very same conditions appeared to be harmful to the hospitals that expanded while environmental conditions were rapidly changing. Since we are not informed of similar studies of any other populations, we are unable to evaluate whether or not our results are generalizable to other populations or industries. Nevertheless, this research suggests that structural inertia theory may not be foolproof especially when environmental characteristics are taken seriously and that the theory should be reconsidered to be a much stronger theoretical entity.

It is worth noting some limitations of this research. There might be some measurement errors involved. We specified environmental turbulence as affecting niche expansion within the subsequent four years, but not in later years. Similarly, the relationship between organizational changes and the organizational growth rates was modeled with the same kind of four-year windows. Although we employed a time-decay factor to take into account the time dependent effects of independent variables, establishing the four-year-window and using a simple inverse function of time elapsed as a decay function were somewhat arbitrary. This is more problematic especially when long-term effects are taken into account. Given the data set, however, we were unable to examine long-term effects, because the more time points included in constructing independent variables, the more time points we lose for dependent variables, and the harder to investigate the effects of the compulsory health insurance policy.

A second limitation is in using bed size to measure organizational growth. While most organizational scholars are interested in performance consequences rather than organizational growth, unfortunately we do not have such data. Whether or not organizational growth is an equivalent measure for performance is an issue, but we do believe that the former could be a proxy measure for the latter. In the world of organizations, it is generally acceptable that organizations with high performance tend to grow, except for permanently failing organizations, maybe some public hospitals in our population (Meyer and Zucker 1989). Finally, it should be noted that the data analyzed in this study include only hospitals, not clinics. Since the clinic sector is disproportionately large in the Korean health care service field, organizational behaviors of hospitals might be severely affected by the nature of interdependency between the two sectors. Future research must tackle this issue.

The research associated with organizational inertia has been decreasing in popularity since the late 1990s, partly because this perspective is too deterministic to produce practical implications for organizational strategy. However, our results actually do have some practical values, in the sense that empirical analyses give an insightful lesson with regard to when to move and when to stay: it is when competitive environments are in slow transition that organizations must employ a niche expansion strategy. Thus, we believe that renewed attention should be paid to structural inertia theory to extend its applicability and practicality. We believe that when appropriately combined with strategic decision making theory or other adaptation perspectives, structural inertia theory might provide important organizational policy implications for practitioners as well as academic scholars.

Finally, this research will make contributions to a rich understanding of the hospital industry that receives growing attention from academic researchers as well as practitioners. As was described above, the Korean hospital industry has undergone a series of dramatic changes in both its institutional and competitive environments. Accordingly, individual organizations have made adaptive change efforts to keep up with changing environmental demands. Not only niche expansion, but also organizational restructuring, downsizing, adoption of such management programs as Total Quality Management and Business Process Reengineering, and technological innovations are some of the examples of change efforts that are widely observed in this industry. Each of these efforts has its unique features distinct from others, but we believe that all of them could be better understood by employing theoretical models and analytical strategies as were used in this research. How to overcome inertia pressures and when it is a viable strategy must be a critical issue in all matters of organizational change in this industry.

REFERENCES

- Aldrich, Howard E. 1979. *Organizations and Environments*. Englewood-Cliffs, N.J.: Prentice-Hall.
- Amburgey, Terry, Dawn Kelly and William Barnett. 1993. "Resetting the Clock: The Dynamics of Organizational Change and Failure." *Administrative Science Quarterly* 38: 51-73.
- Alexander, Jeffrey, Thomas D'Aunno and Melissa Succi. 1996. "Determinants of Profound Organizational Change: Choice of Conversion or Closure among Rural Hospitals." *Journal of Health and Social Behavior* 37: 238-51.
- Barley, Stephen. 1990. "The Alignment Technology and Structure through Roles and Networks." *Administrative Science Quarterly* 35: 61-103.
- Barnett, William P. 1990. "The Organizational Ecology of a Technological System." *Administrative Science Quarterly* 35: 31-60.
- Barnett, William and Glenn Carroll. 1995. "Modeling Internal Organizational Change." *Annual Review of Sociology* 21: 217-36.
- Barron, David. 1998. "Pathways to Legitimacy among Consumer Loan Providers in New York City, 1914-1934." *Organization Studies* 19(2): 207-33.
- Baum, Joel A. C. 1996. "Organizational Ecology." pp. 77-112 in S. R. Clegg, S. R. Hardy and W. R. Nord (eds.). *Handbook of Organization Studies*. London: Sage Publications.
- Baum, Joel A. C. and Jitendra V. Singh. 1996. "Dynamics of Organizational Responses to Competition." *Social Forces* 74(4): 1261-97.
- Burt, Ronald. 1992. *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.
- Chandler, Alfred. 1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Harvard University Press.
- Cho, Byung-Hee. 1990. "Hankuk üiryochegye üi kaldüng' kujo bunsök: üiryo konggüb chegye üi kyöngjaingsöng'e daihayö" (An Analysis of the Conflict Structure of the Korean Medical System). *Kyöng'yöng' kyöng'je* 23: 116-38.
- _____. 1997. "Chaeböl pyöngwön kwa üiryochegye üi pyönhwa" (Chaeböl Hospitals and the Change of Medical System). *Pogön kwa sahoi kwahak* 1(1): 65-84.
- Cho, Dong Yeong, Seung Hum Yu and Tae Yong Sohn. 2002. "üiyak punöb chön hu 3 cha jinryo kikwan oirai iyong' pyönhwa" (The Change in the Outpatient Visit to Tertiary Care Hospital after the Implementation of the Separation of Prescription and Drug Dispensing Policy). *Pyöngwön kyöng'yöng' hakhoije* 7(1): 19-40.
- Cohen, Michael, James March and Johan Olsen. 1972. "A Garbage Can Model of Organizational Choice." *Administrative Science Quarterly* 17: 1-25.
- Davis, Gerald F., Kristina A. Diekmann and Catherine A. Tinsely. 1994. "The Decline and Fall of the Conglomerate Firm in the 1980s: The Deinstitutionalization of an Organizational Form." *American Sociological Review* 59: 547-70.
- DiMaggio, Paul M. and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48: 147-60.
- Dobbin, Frank and Timothy Dowd. 1997. "How Policy Shapes Competition: Early Railroad Foundings in

- Massachusetts." *Administrative Science Quarterly* 42: 501-29.
- Dobrev, Stanislav, Tai-Young Kim and Michael Hannan. 2001. "Dynamics of Niche Width and Resource Partitioning." *American Journal of Sociology* 106(5): 1299-337.
- Eun, Jong Seong and Kyung Il Yoon. 2003. "üiyak punöb ihu taihak pyöngwön kyöng'yöng' suji pikyo punsök" (An Analysis of the Changes in the Financial Performance of Teaching Hospitals after the Implementation of the Separation Policy of Prescription and Drug Dispensing). *Pyöngwön kyöng'yöng' hakhoiji* 8(1): 64-80.
- Fligstein, Neil and Keneth Dauber. 1989. "Structural Change in Corporate Organization." *Annual Review of Sociology* 15: 73-96.
- Fox-Wolfgramm, Susan, Kimberly Boal and James Hunt. 1998. "Organizational Adaptation to Institutional Change: A Comparative Study of First-Order Change in Prospector and Defender Banks." *Administrative Science Quarterly* 43: 87-126.
- Freeman, John and Michael Hannan. 1983. "Niche Width and the Dynamics of Organizational Populations." *American Journal of Sociology* 88: 1116-45.
- Galbraith, Jay. 1977. *Organization Design*. Addison-Wesley: Reading, MA.
- Greve, Henrich. 1999. "The Effects of Core Change on Performance: Inertia and Regression toward the Mean." *Administrative Science Quarterly* 44: 590-614.
- Greve, Henrich. 2000. "Market Niche Entry Decisions: Competition, Learning, and Strategy in Tokyo Banking, 1894-1936." *The Academy of Management Journal* 43(5): 816-36.
- Greve, Henrich and Alva Taylor. 2000. "Innovations as Catalysts for Organizational Change: Shifts in Organizational Cognition and Search." *Administrative Science Quarterly* 45: 54-80.
- Hannan, Michael T. and John Freeman. 1977. "The Population Ecology of Organizations." *American Journal of Sociology* 82(5): 929-64.
- _____. 1984. "Structural Inertia and Organizational Change." *American Sociological Review* 49: 149-64.
- Hannan, Michael, Laszlo Polos and Glenn Carroll. 2007. *Logics of Organization Theory: Audiences, Codes, and Ecologies*. Princeton, NJ: Princeton Univeristy Press.
- Haveman, Heather. 1992. "Between a Rock and a Hard Place: Organizational Change and Performance under Conditions of Fundamental Environmental Transformation." *Administrative Science Quarterly* 37: 48-75.
- _____. 1993. "Follow the Leader: Mimetic Isomorphism and Entry into New Market." *Administrative Science Quarterly* 38: 593-627.
- Hirsh, Paul M. 1986. "From Ambushes to Golden Parachutes: Corporate Takeovers as an Instance of Cultural Framing and Institutional Integration." *American Journal of Sociology* 91(4): 800-37.
- Hwang, Hie-Shin. 2005. "Juin Tairiin iron üi chöng'chaik kwajöng' eüi sironjök jökyong'" (Principal-Agent Relations in the Policy Process: Reinterpreting the Formation of Process of the 'Drug Prescription & Dispensing Separation Policy'). *Hankuk jöng'chaik hakhoi bo* 14(4): 29-56.
- Ingram, Paul and Jayagreeva Rao. 2004. "Store Wars: The Enactment and Repeal of Anti-Chain-Store Legislation in America." *American Journal of Sociology* 110(2): 446-87.
- Jung, Dong-II. 2006. "Management Fasion üi sawhoi jök kusöng': mikuk consulting hoisa üi TQM sijang' toigö, 1992-2003" (The Social Construction of Management Fashion: Analysis of Exit from the TQM Consulting Market in the U.S., 1992-2003). *Hankuk Sahoehak* 40(6):187-225.
- _____. 2008. "Kujohwa doin sijang' kwa kusöng doin sijang: hankuk pyöngwön üi sölríp kwa dosan"

- (Structured Market and Constructed Market: A Study of Hospital Foundings and Failure in Korea, 1980-2005). *Hankuk Sahoehak* 42(7): 77-110.
- Jung, Kyu Eon, Bun Ju Jeong and Young Kyu Kim. 2004. "üiyak punöb chön hu pyöng'wön jaimu söng'kwa üi pyönhwa" (Hospital Financial Performances and Separation of Dispensary from Medical Practice). *Pyöngwön kyöng'yöng' hakhoji* 9(3): 49-70.
- Kelly, Maryellen. 1990. "New Process Technology, Job Design, and work Organization: A Contingency Model." *American Sociological Review* 55: 191-208.
- Kelley, Dawn and Terra Amburgey. 1991. "Organizational Inertia and Momentum: A Dynamic Model of Strategic Change." *Academy of Management Journal* 34(3): 591-619.
- King, Brayden. 2008. "A Political Mediation Model of Corporate Response to Social Movement Activism." *Administrative Science Quarterly* 53: 395-421.
- Lawrence, Paul. & Jay Lorsch. 1967. *Organization and Environment*. Boston, MA: Harvard University Press.
- March, James and Herbert Simon. 1993. *Organizations* (2nd edition). Cambridge, MA: Blackwell.
- Meyer, John W. and Brian Rowan. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony." *American Journal of Sociology* 83: 340-63.
- Meyer, Marshall and Lynne Zucker. 1989. *Permanently Failing Organizations*. Sage Publication
- Miller, Danny and Ming-Jer Chen. 1994. "Sources and Consequences of Competitive Inertia: A Study of the U.S. Airline Industry." *Administrative Science Quarterly* 39: 1-23.
- NHIC. 2001. *National Health Insurance Program in Korea 2001*. Official Pamphlet. <http://www.mohw.go.kr>
- Oh, Dae-Won, Jong-Hoon Lee and In-Sik Min. 2007. "üiyak punöb chön hu üi jibang' kong'sa üiryowön saing'sansöng' kwa hyo yulsöng' punsök: mosu jök pimosu jök chujöng' pang'böp ül iyongha yö" (Analysis of Efficiency and Productivity of Korean Regional Public Hospital between before and after the Separation of Dispensary from Medical Practice: using Parametric and Non-parametric Approaches). *Pokön kyöng'je wa jöng' chaik yöngu* 13(1): 173-98.
- Oliver, Christine. 1991. "Strategic Responses to Institutional Processes." *Academy of Management Review* 16(1): 145-79.
- Pfeffer, Jeffrey and Cerald Salancik. 1978. *The External Control of Organizations*. Stanford, CA: Stanford University Press.
- Rao, Hayagreeva, Gerald Davis and Andrew Ward. 2000. "Embeddedness, Social Identity and Mobility: Why Firms Leave the NASDAQ and join the New York Stock Exchange." *Administrative Science Quarterly* 45(2): 268-92.
- Selznick, Philip. 1949. *TVA and the Grass Roots*. Berkeley, CA: University of California Press.
- Simons, Tal and Paul Ingram. 1997. "Organization and Ideology: Kibbutzim and Hired Labor, 1951-1965." *Administrative Science Quarterly* 45(1): 25-53.
- Sorenson, Olav and Toby Stuart. 2008. "Bringing the Context Back In: Settings and Search for Syndicate Partners in Venture Capital Investment Networks." *Administrative Science Quarterly* 53: 266-94.
- Stinchcombe, Arthur. 1965. "Social Structure and Organizations." pp. 142-193 in James March (ed.). *Handbook of Organizations*. Chicago, IL: Mand McNally.
- Strang, David and Dong-Il Jung. 2009. "Participatory Improvement at a Global Bank: The Diffusion of Quality Teams and the Demise of a Six Sigma Initiatives." *Organization Studies* 30(1): 31-53.
- Swaminathan, Anand. 1998. "Entry into New Market Segments in Mature Industries: Endogenous and

Exogenous Segmentation in the U.S. Brewing Industry.” *Strategic Management Journal* 19(4): 389-404.

Thompson, James. 1967. *Organizations in Action*. New York: McGraw-Hill.

Tucker, David, Jitendra Singh and Agnes Meinhard. 1990. “Founding Characteristics, Imprinting, and Organizational Change.” pp. 182-200 in Jitendra Singh (ed.). *Organizational Evolution: New Directions*. Newbury Park: Sage Publication.

Williamson, Oliver. 1975. *Markets and Hierarchies*. New York: Free Press.

Woodward, Joan. 1965. *Industrial Organization: Theory and Practice*. Oxford: Oxford University Press.

Yang, Bong-Min. 1996. “The Role of Health Insurance in the Growth of the Private Health Sector in Korea.” *International Journal of Health Planning and Management* 11: 231-52.

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APPENDIX. The Proportions of Hospitals Offering Each of Clinical Services

Department	1980	1990	2000	2008
Internal Medicine	86.2	90.9	85.6	84.6
Pediatrics	68.7	76.8	61.3	53.0
Neuropsychiatry	15.6	32.3	38.3	29.4
Dermatology	19.6	26.2	23.0	24.4
Surgery	90.5	88.2	69.3	63.0
Breast and Endocrine Surgery	10.1	12.4	23.2	17.6
Orthopedic Surgery	60.1	79.3	69.9	65.0
Neurosurgery	32.8	55.4	54.7	49.7
Plastic Surgery	8.3	15.1	23.0	18.8
Obstetrics	78.2	80.3	47.8	39.5
Ophthalmology	21.5	28.1	21.1	17.8
Otorhinolaryngology	31.6	37.2	27.4	26.9
Urology	19.9	27.6	30.3	29.2
Tuberculosis	7.1	3.6	2.7	2.1
Rehabilitation Medicine	0.0	10.3	20.7	33.2
Anesthesiology	33.7	52.8	58.2	54.6
Radiology	44.2	57.5	62.2	36.6
Pathology	41.1	53.0	41.3	12.6
Family Medicine	0.0	6.4	30.7	42.2
Nuclear Medicine	0.0	0.0	4.9	5.0
First Aid	0.0	0.0	9.3	14.0
Industrial Medicine	0.0	0.0	5.3	7.0
Dentistry	29.8	45.3	30.0	23.6
Preventive Medicine	0.0	0.0	0.0	3.0

