

The Interaction of Production, Distribution and Rule-Making Systems in Industrial Relations

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Résumé de l'article

Le but de cet article est de présenter un cadre théorique général d'analyse des relations industrielles. Nous concevons les relations industrielles comme une synthèse des systèmes de production, de distribution et de réglementation (systèmes PDR) plutôt qu'une sommation de ces trois systèmes indépendants. Cette théorie du système PDR se concentre sur les choix stratégiques des acteurs pour ces sous-systèmes du système de relations industrielles et leurs mécanismes d'interaction. Les contenus et interactions des systèmes PDR déterminent les niveaux de performance de l'organisation, i.e. la productivité, la flexibilité, l'innovation et la satisfaction. Nous illustrons notre cadre général (voir figure 1 du texte anglais) en utilisant des données provenant de l'industrie coréenne de l'automobile, particulièrement intéressante pour notre propos parce qu'elle reflète différentes combinaisons de pratiques de PDR tout au long de son histoire.

Nous utilisons un modèle de PDR au niveau de l'atelier pour expliquer comment les relations industrielles influencent la qualité de vie des travailleurs et la compétitivité de firmes et de la nation. Nous tentons également de démontrer comment les valeurs culturelles héritées de Confucius interagissent avec d'autres forces dans l'environnement pour caractériser les relations industrielles en Corée. Un objectif important ici recherché est d'aider les gestionnaires à mieux comprendre les relations industrielles reliées aux stratégies et aux pratiques utilisées pour façonner la production et pour gérer et motiver la main-d'œuvre. Cette approche est particulièrement importante en Corée et dans d'autres sociétés asiatiques qui tendent à voir les relations industrielles simplement comme un conflit du travail et donc comme quelque chose ou à éviter ou à percevoir comme étranger à leurs expériences.

Cette étude de cas sur le développement des relations industrielles dans cette grande firme coréenne de l'automobile illustre le mélange difficile entre les valeurs traditionnelles confuciennes et la recherche croissante d'institutions et de processus démocratiques en milieu de travail. Cet héritage de Confucius implique que les hauts gestionnaires vont traiter leurs employés de façon paternaliste et ainsi recevoir en retour coopération, respect, loyauté et acceptation de l'autorité patronale (Kochan 1994: 679).

Gestionnaires et travailleurs devraient tenter d'harmoniser l'héritage de Confucius avec les réformes démocratiques en milieu de travail. Cette étude démontre également comment le processus traditionnel de négociation collective, surtout distributif, couplé avec une stratégie de gestion cherchant à introduire la production flexible sans participation significative des employés et sans partenariat aboutit à de hauts niveaux de conflit et à des périodes de coopération forcée ou semi-provoquée. Cela résulte en une confiance insuffisante et des pertes mutuelles plutôt que qualité, productivité et satisfaction qu'engendre un système de production flexible (MacDuffie 1995). Qu'est-ce que cela implique pour la théorie des relations industrielles ? Qu'est-ce que cela suggère pour l'avenir des pratiques en relations industrielles ? Pour reprendre Kaufman (1993), la pérennité de la distinction entre relations industrielles et la gestion des ressources humaines dans le monde scientifique ainsi que des conceptions étroites des relations industrielles peuvent très bien rétrécir ces deux champs. Nous concevons les relations industrielles comme incluant les questions de ressources humaines en tant que synthèse des systèmes de PDR vue dans une perspective communautaire. Cet article démontre que la théorie des relations industrielles doit distinguer les facteurs environnementaux primaires et secondaires ainsi que les choix stratégiques directs et indirects. Nous soutenons également que la théorie des relations industrielles doit incorporer un élément dynamique reliant les facteurs environnementaux et les relations industrielles ainsi que les interrelations entre les systèmes de production, de distribution et de réglementation. Ce modèle peut servir à analyser tant les milieux de travail non syndiqués que syndiqués en y voyant la négociation collective comme un sous-système du système de réglementation.

Vu que notre modèle insiste sur le système humain incluant le système de stimulation de l'esprit, de meilleures pratiques des futures relations industrielles peuvent être instaurées par la coopération spontanée exigeant un mélange de négociations syndicales et d'implication directe du travailleur. Telle combinaison peut éliminer tant les critiques que le conflit détruisant la possibilité de gains mutuels. Mais ce type de relations exige que le gouvernement reconnaisse le syndicalisme démocratique, l'autonomie dans les relations industrielles et voit cette activité comme un moyen valable pour devenir une économie compétitive.

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The Interaction of Production, Distribution, and Rule-Making Systems in Industrial Relations

HYO SOO LEE

This paper proposes to see industrial relations as a synthesis of production, distribution, and rule-making systems (PDR systems) rather than to regard these three systems as independent forces. This PDR system theory focuses on the actors' strategic choices for the PDR systems, that is, subsystems of industrial relations system, and their interaction mechanisms. The contents and interactions of the PDR systems determine the performance levels of the organization, i.e., productivity, flexibility, innovation, fairness, and satisfaction. This model can be used to analyze nonunion workplaces as well as unionized settings by embracing collective bargaining as a subsystem of the rule-making system. The general framework of the model is illustrated by using data from a Korean automobile company, which is particularly well suited for this purpose since it reflects different combinations of different PDR practices over its history. This model demonstrates that the best practice of future industrial relations will be established by the PDR systems in which the creative humanware is maximized and actors spontaneously cooperate.

To date most theorizing in industrial relations has been done by Western scholars (Webbs 1897; Commons 1916; Dunlop 1958; Somers 1969; Fox

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1974; Hyman 1975; 1994; Kochan, Katz and McKersie, 1986; Adams 1993). While efforts have been made to apply their works to employment relations in Asian workplaces, few have been successful. Western models, for example, have a difficult time explaining the successful development records of newly industrializing economies in Asia such as Korea, Hong Kong, Taiwan and Singapore which seem to lack Western style industrial relations institutions.

This paper takes a different approach in developing a theory of industrial relations for Asian economies (Kochan 1995). It proposes to study industrial relations as a synthesis of the production, distribution and rule-making systems in the workplace rather than as a treatment of these components as independent forces. It also attempts to incorporate an understanding of the role that Confucian values play in relationships within East Asian workplaces. The framework is then illustrated by using data from a Korean automobile company.

WHY AN ALTERNATIVE APPROACH IS NEEDED IN ASIA

Despite the recognized importance of human resources to Asian enterprises and successful economic development, industrial relations has never reached a high status in either academic or practitioner circles. One reason for this is that most Asian scholars and practitioners have negative images about Western models of industrial relations because they see these models as focusing too much and too narrowly on the role of conflict and its resolution through formal bargaining in the workplace. Likewise, labour-management relations and human resource policy are treated as separate domains in Korea (Kochan 1994: 666).

Most Western style industrial relations models grew out of the work of institutional economists, who were reacting to the view of labour as a commodity similar to other factors of production. While from Commons and the Webbs onward, industrial relations scholars rejected the view of labour as a commodity, their works continued to emphasize labour as a quantity in a market. Therefore, concern was only with the quantity of labour to be used (i.e., hours of work, number of workers employed, and job security) and the price of labour (wage rates, annual income, and labour's share of profits). Given this perspective, it was natural to further focus attention on the inherent conflicts of interest between workers and owners or managers, the agents of owners in modern enterprises. Only later, as organization theory evolved, did industrial relations scholars begin to embed their theories in an organizational or enterprise context or to consider how industrial relations relates to other enterprise functions.

This does not, however, imply that differing interests and conflict are not present in Asian workplaces. As the Korean example will demonstrate, overt and suppressed conflicts are both possible and real features in Asian workplaces as they are in Western societies. The point of the framework proposed here is to place conflict in a perspective that is more understandable to an Asian way of thinking.

A second reason Western models are not well received in Asian circles is that these models are not seen to take adequate account of the role of workers' minds, attitudes (spirit) or creative capacities. Because of the heritage of Confucianism and Buddhism, Asian workplaces place great emphasis on the attitudes of workers.¹ This heritage suggests that the attitudes, spirit, or features of the minds that workers bring to workplace relations are, perhaps, no less important than the physical skill or other aspects of the human capital workers possess. This heritage explains why Asians place a heavy emphasis on education and morale or spiritual training.

A third reason Asians have difficulty with Western models is that they do not have a concept of industrial relations which is compatible with the Asian metaphor for describing the role of the enterprise in society. Asian society is based on a concept of community which stresses harmonious relationships among human beings and between human beings and nature, whereas Western society is based on a concept of legal contract or common law which is based on individualism and Puritan rationalism.² The concepts of relationships in Confucian society are based on filial piety, loyalty, benevolence, faith and bravery. These relationships are invisible or intangible rather than concrete, but they have strong effects on individual behavior and rules in a community.

This paper takes a different approach to explaining industrial relations within Asian enterprises. An Asian model needs to redefine the concept of industrial relations to fit with the perspective of workplace as a community. The Asian approach should lead to a theoretical framework that involves aspects of spirit or mind and aspects of cooperation as well as conflict in industrial relations.

We define industrial relations at a firm level as the "socio-economic and legal relations between employers and workers over production and distribution in a unit operating within the context of a given environment

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1. Japanese and Korean companies tend to stress education for attitude of mind or spirit even more than skill training. This is a most important factor in managing human resources. Companies, therefore, have various morale education programs.
 2. According to Morishima (1982) citing Max Weber (1951), whereas Puritan rationalism has sought to exercise rational control over the world, Confucian rationalism is an attempt to accommodate oneself to the world in a rational manner.

and set of government policies.” This paper starts with a focus on how industrial relations is embedded in a set of other organizational activities, especially the role of production. In this way it builds on recent work linking production, organization and human resource activities to organizational outcomes (MacDuffie 1995). It also takes a perspective more consistent with the Asian tradition of viewing the enterprise less as a substitute for the market (Williamson 1975) and more as an extension of the community and the society and as influenced by the broader Confucian values that emphasize harmony, respect for authority and hard work. It is argued that these starting points provide a better way of understanding both the presence and absence of overt conflict and the different modes of handling conflict observed in Asian workplaces. To illustrate the use of this approach, this paper reviews the episodic history of workplace industrial relations in the Korean auto industry. The paper uses a framework to suggest ways to study Korean industrial relations and further improve the performance of workplace industrial relations in Korea.

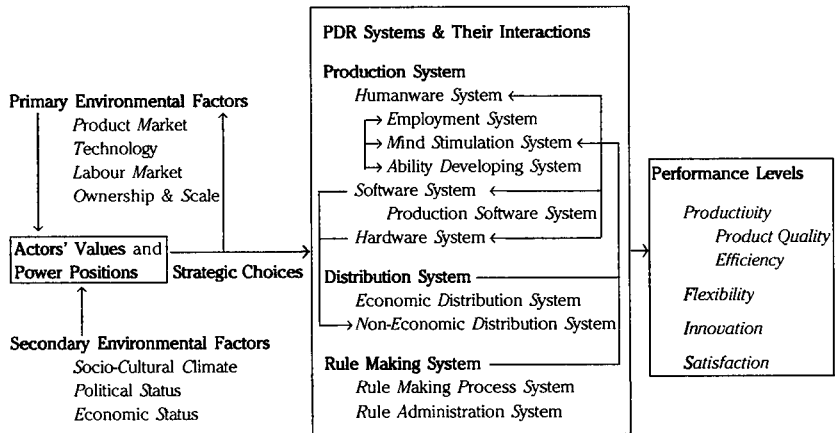
The essence of the framework presented here is to see industrial relations as a synthesis of a production, distribution, and governance or rule-making system in which labour is viewed as a creative resource as well as a quantity to be allocated efficiently. The governance system that sets the rules for distribution of the joint efforts of labour, capital, and management is likewise viewed as an interdependent part of the industrial relations system within the enterprise. Different combinations of the strategies used to link these sub-systems then determine not only the degree to which mutual gains are achieved in the enterprise but also the amount and nature of the conflict and cooperation that occurs.

THEORETICAL FRAMEWORK: THE PDR SYSTEMS

The framework of production system, distribution system and rule-making system (hereafter, PDR systems) developed here builds on previous industrial relations theories in a number of ways. Following Dunlop (1993: 47-8), it recognizes that enterprise industrial relations is embedded in a broader environment that shapes the power relations among the key actors – workers and their unions, employers, and government. For the study of enterprise industrial relations, workers, trade unions and employers are seen as the primary actors with government serving as a secondary party but one that influences the balance of power among the parties. The function and role of government in industrial relations are very important in Asian countries characterized by state-led capitalism. The PDR framework also builds on the strategic choice model of Kochan, Katz, and McKersie (1986) by stressing the decisions that shape production processes and their associated industrial relations practices.

The general theoretical framework of the PDR systems in industrial relations is illustrated in figure 1. As seen in the figure, the framework focuses on actors' strategic choices for individual component systems of the PDR systems, their matching mechanisms and actors' cooperation for the systems.³ The primary environmental factors consist of product market, technology, labour market, and ownership and scale. Since these factors are relatively selective for individual actors, they could be objects of actors' strategic choices. On the other hand, the secondary environmental factors consist of socio-cultural climate, political status and economic status. Since these factors are relatively common for all actors, they are not the objects of actors' strategic choices.

FIGURE 1
General Framework of the PDR Systems in Industrial Relations



The primary and secondary environmental factors influence actors' values and power positions. Actors' values determine the sphere of strategic choices which they may consider, while actors' power positions determine the range of the effective strategic choices. Actors make two kinds of strategic choices. One is for the primary environmental factors to enforce their power positions, while the other is for the PDR systems to form or alter the contents of the systems.

The production system consists of three subsystems: the humanware system, the software system and the hardware system. The humanware

3. Although these individual components systems are actually subsystems, we shall for simplicity call them systems.

system cultivates human resources. In a fundamental sense, this paper views human resources as containing intangible assets consisting of minds and abilities which are constantly changing. As such, human resources can be cultivated as creative resources. It is the humanware system that makes human resources function as creative resources⁴ which can continuously improve, and easily adapt themselves to the hardware and software.⁵ The humanware system consists of the employment system, the mind stimulation system, and the ability developing system. The contents of, and the degrees of matching among these systems determine the level of humanware.

The humanware system is linked to the hardware as well as the software which consists of production software and computer software. The production software acts as combining humanware, computer software, and hardware as in work organization and workplace practices. Workplace practices such as the team system, JIT, QC and suggestion activities have received considerable attention in recent empirical studies of the effects of industrial relations and organizational practices on economic performance in manufacturing firms (Cutcher-Gershenfeld 1991; MacDuffie 1995). The basic proposition emerging from these studies is that it is the match between human resource practices or rules and the nature of the production system which determines organizational performance. In particular, flexible production systems which are matched with appropriate human resource rules and practices encourage workers to use their minds and creative talents, and provide them with opportunities to learn continuously on the job through job rotation and other flexible work system arrangements.

The distribution system and the rule-making system are connected to the production system via the mind stimulation system which generates learning, creative and cooperative minds. The distribution system is dichotomized into the economic and non-economic systems. The value added by production activities is distributed into rent, interest, wages and profits. The wage determination mechanism is the heart of the economic distribution system in industrial relations. However, profit sharing, gainsharing and stock awards are other important modes of economic distribution. A wide variety of non-economic benefits that influence worker effort and productivity are also distributed in the workplace. The non-economic distribution consists mainly of political distribution, such as empowerment

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4. Shimada and MacDuffie (1986) labeled "humanware" as an interactive relationship between hardware and human resources. This concept is similar to our concept of production software system.
 5. The hardware (machines) just does what it is made to do and no more. The software that controls the hardware is also not innovative even though software is very diverse for a given production system.

or power-sharing practices, and social distribution, such as working conditions and information sharing.

The rule-making system consists of the rule-making process system (rule establishment system) and the rule administration system. All rules for the PDR systems are established by the rule establishment system and enforced by the rule administration system. While most rules are directly related to the actors' strategic choices, some rules may be related to the features of the hardware and computer software systems. The establishment and administration of the rules are made by each or all of the three actors: government, management and workers (Dunlop 1993: 51-3). Government may have the dominant role without substantial participation of primary actors. Management may have free hand uninhibited by the other two actors. Workers may have some role in the establishment of rules through workers' participation (works councils). Both of the primary actors in some relationships may set rules together in the form of collective bargaining or partnership without substantial participation of the secondary party. And all the three actors may play a consequential role in the establishment and the administration of the rules in the form of tripartism. Rules may be expressed in a variety of forms: laws, collective agreements, regulations, polices, decrees, orders or decisions. Finally, the rules may be written or take the form of customary practices.

The rule administration system consists of the application of rules to particular situations, the system of discipline or punishment, and the rules that provide procedures for settling disputes over the application of existing rules and/or the formulation of new rules. The rule-making system may take a variety of forms according to countries and firms because it depends on environmental factors, the actors' value and power position, and the hardware and computer software systems. The rule-making system affects the distribution system and the production system by prescribing the rules of production and distribution.

The working of the PDR systems depends on the interactions and balancing among the systems. As seen in figure 1, the software and hardware systems affect the distribution system through the non-economic distribution system such as power-sharing and working conditions. The distribution system together with the rule-making system affect, through the mind stimulation system, the production system. Within the production system, hardware and software systems are operated by human resources and the level of human resources is determined by the humanware system.

As implied in the above discussion, the subsystems of the PDR systems interact with one another. When the interactions or matching among the subsystems are made in such a way as to enhance the functioning of the PDR systems, the whole systems are said to be in balance. When the

whole systems are not in balance, the systems may malfunction. This concept of balance in the PDR systems is analogous to that of balance in human body systems. To discuss the concept of balance in more detail, consider a situation in which one is to introduce a new hardware to the systems which are already in balance. The introduction of the new hardware may destroy the existing balance in the PDR systems. As a result, the new hardware as well as other related subsystems such as software and humanware may malfunction. In order for the PDR systems to attain a new balance in such a situation, the humanware and software need to be developed in such a way that these two subsystems mesh with the new hardware.

Finally, the functioning of individual components of the PDR systems as well as the matching of these components determines the level of performance of an organization such as product quality and production efficiency, production and organization flexibility, innovation and internal technology, and workers' satisfaction.

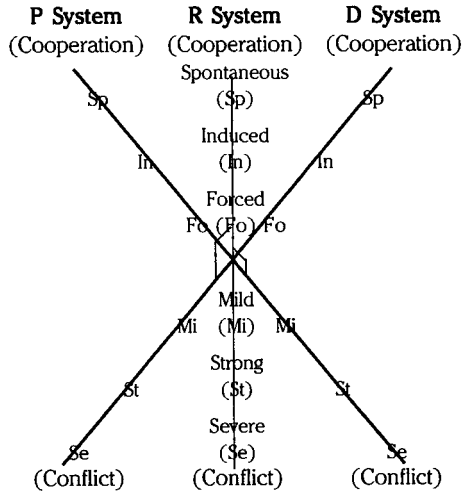
THE SPECTRUM OF ACTORS' COOPERATION FOR PDR SYSTEMS

It was noted earlier that the functioning of individual components of the PDR systems depends on the level of cooperation among actors as well as on the actors' strategic choices. The framework proposed here envisions a spectrum for each of the three dimensions that produce varying degrees of either conflict or cooperation. This is shown in figure 2. In the figure, the positive axes represent different levels of cooperation in the PDR systems while the negative axes represent different types of conflict. Cooperation can be spontaneous (or voluntary) based on mutual negotiations or high trust (Fox 1974). Cooperation can also be induced when one party makes the critical decisions and persuades the other to accept and understand them. On the other hand, cooperation can be forced by suppression of a weak party by one that is more powerful. Similarly, conflict can range from mild (as in the case where the parties negotiate and resolve their natural differences on a continuous basis) to strong (where hard, adversarial bargaining relations dominate) to severe (where conflict takes the form of protests that are neither anticipated nor legitimate within the industrial relations system).

One may consider another case in industrial relations, the combination of the PDR systems with different levels of cooperation and conflict. However, while this case may be possible in the short-term, it is impossible in the long-term because of the interaction of the PDR systems. If there is severe conflict in the distribution system or the rule-making system, it would be difficult to get spontaneous cooperation in the production system due to the potential malfunctioning of the mind stimulation system.

FIGURE 2

The Spectrum of Actors' Cooperation for the PDR Systems

**MACRO AND DYNAMIC ASPECTS OF THE PDR FRAMEWORK**

The contexts in which the PDR relationships occur are assumed to be given for an individual workplace at any point in time. However, the contents of the PDR systems are diffused across companies and industries by competitive forces, cooperation between contractors and subcontractors, the structures of conglomerates (or *jaebul*) and trade union strategies. These patterns of diffusion determine the performance levels of the PDR systems at the macro level.

The PDR systems at the macro level influence the productivity, innovation and flexibility of national economy as well as national income and income distribution. The diffusion and restructuring of the PDR systems therefore alter the demand structure of the labour market, the technology level, the product market structure and industrial organization in the next period. This means that the PDR systems at period t change the primary environmental factors at period $t+1$. The changes of primary environmental factors affect secondary environmental factors through changes of quality of life and consciousness of people. This gives the PDR framework a dynamic component and allows us to examine how current behaviour is influenced by prior actions and choices.

This dynamic mechanism is particularly important in developing economies as they move from being able to compete through import substitution to export oriented strategies and as their labour cost position shifts from providing them with a distinct competitive advantage in international markets to one where they must compete more directly on the basis of the quality of their products and the productivity of their labour force. Also, as economies develop and as the members of the domestic society and the international community demand greater democracy and quality of life, the ability to use workplace methods that emphasize suppression or that produce severe conflicts will become more problematic.

THE CASE OF THE KOREAN AUTO INDUSTRY

To illustrate the PDR framework, this paper uses data from several surveys (Lee 1993; KSSI 1991),⁶ the history of the largest Korean auto company written by the company (K Company 1992), and on-going research on the K company. The K company is particularly well suited to this purpose because it has moved through different historical phases which reflect different combinations of different PDR practices. These phases can be described as the forced cooperative period (1968-75), the semi-induced cooperative period (1976-June 1987), the strong conflict period (July 1987-1991), and the semi-strong conflict period (1992-present).

The Forced Cooperative Period (1968-75)

The cultural context of Korean industrial relations is heavily influenced by Korean Confucianism. During this first period, the influence of Confucian traditions was relatively stronger than in any other subsequent period. Korean Confucianism emphasizes *hyo* (filial piety) and *ue* (fraternity, brotherhood) in the family, *chung* (loyalty) to the nation, and *eui* (justice, faith, trust) in human relations. Confucianism emphasizes the importance of morality, personal cultivation and education. These concepts generate endurance, a self-sacrificing spirit, sincerity, trust, obedience to parents and teachers, and the order of *jang-ju-ju-seu* (the younger should give precedence to their elders). The K company tried to convert these kinds of cultural norms into work norms as other Korean companies have done. These norms make it seem natural for companies to structure the distribution and the

6. Lee's data (1993) was gathered from author's in-depth interviews with managers and workers at the K company from June to July 1993. Seventy-three persons were each interviewed for at least one hour. KSSI (1991) is questionnaire survey data with which the Korean Social Science Institute made an opinion survey of about 1,300 workers at the K company in July 1991.

rule sub-systems on the basis of education, gender and age. The typical results are a stratum-based seniority wage and promotion system.⁷

During this period, the labour intensive light industries were still a locomotive of export-led economic growth strategies, although rapid economic growth had been realized since the government launched a five-year economic development plan in 1962. The government adopted an import substitution strategy for developing the Korean auto industry in April 1962 and maintained this policy until 1972, even though it took an export oriented approach to its light industries. Political power was highly centralized with a strong military regime. Economic development was treated as an important domestic priority. The military ruler's view was symbolized by the slogan of "growth first, distribution later," saying that individual sacrifice was necessary to make a wealthy nation. The government intervened intensively in the private sector for the export-led economic growth.

The domestic auto market was small, reaching only 12,000 vehicles in 1968, and was shared by four domestic firms with no international competition allowed. Technology was transferred into Korea through the use of "knock down" (KD) assembly kits purchased from foreign firms. The labour market was stratified into four strata, and the labour supply was abundant in most of the strata. Most workers had the ability to acquire new knowledge and techniques quickly, because they had a good academic base and a desire to learn as a heritage of Confucian culture.

Under these environmental conditions, the government's power position was strong and employers were less strong, whereas the workers were weak. Most companies adopted a "low price by low wages" strategy, and the government supported it for its export-led economic growth policy.

The K company supplied the domestic market through the assembly of KD kits purchased under a contract with Ford during this period. The major production method was the handicraft production method. The production system consisted of tools, unit machines and chain conveyors for hardware, simple labour control, and unskilled or semi-skilled workers. This means that neither software nor humanware matching the hardware was developed. This mismatch produced significant problems since the handicraft production methods demanded skilled workers.

Company K lacked the ability developing system and the mind stimulation system as well as the production software system needed to produce

7. The Korean labour market is a stratified labour market with four strata. Qualifications of each stratum are determined by a combination of education level and gender. Wage level and promotion within the same stratum are basically determined by the length of service, although each stratum has a different wage system and promotion ladder. See Hyo Soo Lee (1984).

the match between the hardware and the humanware aspects of the production system. As a result, a shortage of skilled workers was experienced in spite of work force with high adaptability. Moreover, the distribution, rule-making and governance systems were focused on a simple objective, control through autocratic management methods. Workers' characteristics rather than job characteristics determined the organizational structure and compensation system (K Company 1992: 278-81; 296-7; 321-3; 398-401). The organization system consisted of seven grades. There were four ports of entry, one in each of the fourth, fifth, sixth and seventh grades. The entry requirement in the fourth grade was that the candidate be a college male graduate. His advancement to a higher position on the promotion ladder from the fourth grade to the first grade was based on his personnel evaluations and length of service. The fifth to seventh grades were for junior college graduates and the graduates of high school or less. These grades were not on the promotion ladder, but covered separate broad job groups. The fifth grade included all clerical jobs, and workers could be promoted automatically one pay step every year remaining within the same grade. All factory workers belonged to the sixth grade and all daily workers were in the seventh grade. Factory workers were neither on pay steps nor on the promotion ladder. The organization system also identified all workers' positions into staff (*sawon*) from the first grade to fourth grade, assistant staff (*junsawon*) for the fifth grade, and factory workers (*gongwon*) for the sixth grade. Thus, the difference between social positions meant more than the differences between grades. The factory workers had no voice in rule-making, but they were expected to obey the rules even though the rules were arbitrary.

The factory workers were also discriminated against in the distribution system. While the monthly pay for the staff was based on seniority, factory workers' were on an hourly pay system with a fixed base wage. The seniority norm for the factory workers was introduced only to insure that workers obeyed their senior members and foremen.

The only strategic choice for the workers was to quit the company if they perceived the system as unfair, since the government supported the employers' strong anti-union values. As a result, the quit rate was very high (K Company 1992: 297). To address the turnover problem, however, the company introduced an educational program that focused on work morale and attitudes, rather than improving the PDR systems (K Company 1992: 297-8).

The company had many serious quality problems due to this mismatch among the subsystems of the production system. The first crisis of the company⁸ came from exploding consumers' claim, and the freezing of the

8. The operating rate of the company was 49% in 1969, 27.3% in 1970, 22.2% in 1971, 25.8% in 1972 (K Company 1992: 140).

auto market due to the economic depression in 1970. Management reduced the number of workers,⁹ and alternated those who remained between the passenger car line and the bus line as needed. Workers' pay was sometimes delayed over a month. Management secured organizational flexibility by means of employment and wage adjustment, but did not secure production flexibility by improving its production system.

Industrial relations during this period resulted in low product quality, low efficiency, low production flexibility but high organizational flexibility, an unfair rule-making system, and a distribution system that left many workers dissatisfied. These outcomes were, in most cases, caused by the forced cooperation and the mismatch among the PDR systems. Yet, because the workers had no power to unionize or protest, conflict was suppressed.

The Semi-Induced Cooperative Period (1976-June 1987)

The most significant change in the environment during the 1976-1987 period was the change in government economic strategy. Until 1972, the government pursued an export-led development policy for light industry and an import substitution policy for heavy industry. This policy accelerated dependency on foreign intermediate goods which, at the beginning of the 1970s, revealed the limitation of Korean economic growth. President Park Chung Hee declared a loan freeze by an emergency presidential decree on August 3, 1972. He also announced the transformation of the economic growth policy, shifting the focus from light industries to heavy industries. This announcement indicated that the government would foster the development of the auto industry as one of the six major export-oriented heavy industries and would encourage the development of Korea's own car models.

The K company embarked on a new strategy in response to the change in government policy. The plan was to enter the export market with the company's own models and to build an all-around automobile factory with the help of a technical tie-up with Mitsubishi. This meant a transformation to a mass production system. The first half of the period (1976-81) saw the introduction of the mass production method, and the second half of the period (1982-87) saw mass production became more widely established and diffused throughout the industry.

The hardware aspects of the production system consisted of unit machines and conveyor belts. The software was a *jojang*-driven management system, and the humanware consisted of simple semi-skilled workers and a mind stimulation system depending on morale education. While the mass

9. The company had reduced 69.2% of factory workers from 2416 persons in January 1970 to 744 persons in January 1972 (K Company 1992: 346-47).

production system in the United States rested on Taylor's scientific management system,¹⁰ the modified mass production system in Korea is called the *jojang*-driven management system.¹¹ Under the scientific management system, job classification was rigorous and economic distribution was based on the job content and job evaluation. Under the *jojang*-driven management system, however, job classification was ambiguous and economic distribution was based on workers' characteristics and personnel evaluation.

A *jojang* is a line manager who controls 10 or 15 workers of his *jo* (team), and a *banjang* administers two *jos* (teams). *Jojang* authority was the heart of managerial control of the workplace, and this authority was absolute until 1987. It came from the *jojang's* right to conduct personnel evaluations of workers and his role as teacher of new employees. The personnel evaluation had a heavy influence on the determination of wages, bonuses, working conditions and promotion chances of workers. A *jojang* could act as a teacher because he had been nominated as someone who could do all jobs in his team. In Confucian society, everybody tends to respect his teacher. *Jojang* had broad power to control his team, although his ability was limited to solving the workers' grievances. He had strong power to control his members in the fields of job rotation within his team, disposition of men, job assignment, on the job training of his team members, the improvement of productivity and quality, manufacturing process improvement, cost reduction and disaster prevention (Lee 1993). The company introduced quality control (QC) circles in 1976 and suggestion systems in 1977 on the basis of this *jojang*-driven management system, and a mind stimulation system evolving from Confucian culture (K Company 1992:

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10. The production matching system of the mass production method consists of unit machines and conveyor belts in the hardware, Taylor's scientific management method in the "production software," and simple semi-skilled workers in the humanware. With the scientific management method, the conceptions and executions of a job are separated. Additionally, jobs are quite narrowly subdivided, as well as repeated on the principles of supervision, job design and motivation. The display of workers' latent creative ability is extremely limited in these kinds of jobs. Productivity depends on the hard work of workers, the machines and the speed of conveyor belts. Many managers are actually concerned about humanware using level rather than humanware level or humanware matching method. However, the rate of defects is increased if the humanware using level is not well matched with the speed of conveyor belts. Workers do not find any worth in their jobs because this simple repeated job deprives them of a desire for achievement, which weighs on workers both mentally and physically. This means that this system has limitations regarding worker satisfaction as well as productivity, quality, efficiency and flexibility because the system is not able to maximize workers' creative and latent abilities.
 11. *Jojang* system is to introduce *kumizo* system in Japan.

462-65; 1038).¹² *Jojang's* broad control powers was possible because the management system was not a job-evaluation oriented system but was personnel-evaluation oriented.

Management began to realize the necessity for the rational management of human resources as a result of the increased members, the experience of the crisis, and the change in the labour market environment to a limited labour supply in the middle stratum. It therefore established personnel regulations about hiring, promotion and job reassignment from 1976 to 1978 (K Company 1992: 465). It started to move closer to an induced cooperation policy from the previous forced cooperation policy. The revised personnel regulation in June 1974 classified blue collar workers into technical engineer staff and abolished the use of *gongwon* (factory worker), a somewhat derogatory term, to remove the feelings of class conflict. The regulation revised in September 1977 introduced a promotion ladder for blue collar workers although it was extremely limited. The company also made a regulation about the payment of tuition fees for employees' children in May 1978. The management started to realize the importance of education and training, including education records besides personnel evaluation, the length of service and promotion examination in the promotion evaluation. The company established a "labour-management council" at the end of 1980 in response to a new Labour-Management Council Law, which the government passed to try to maintain control over the labour force.¹³ The council could serve as a communication channel for induced cooperation, although it was initiated by management.

The company experienced super high growth averaging 69.7% per year from 1976 to 1979, owing to the success of its own model development, the improved PDR systems and the expansion of the domestic market because of the high growth of the national economy. Because of the depression of the national economy at the end of 1979, however, the company fell into a second crisis as it was still entirely dependent on the domestic market.

The company followed different strategies during the second crisis (K Company 1992: 500-9). They tried to avoid discharge of workers by abolishing the night shift, the use of phased long vacation,¹⁴ and transfer to other

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12. Japanese companies have developed the QC circles system, suggestion system and self-maintenance system in the process of revising the mass production method that was introduced by the United States. They have ultimately developed a lean production system by continuously revising the mass production system.
 13. The government amended the Labour Union Law in order to restrict autonomous trade union activities, and enacted the Labour-Management Council Law in 1980.
 14. Workers who were on vacation were paid 60% of their base payment.

companies in its corporate group.¹⁵ They strengthened QC circle and suggestion activities, and introduced an incentive wage system during this crisis period.

As a result of these efforts and the government's rationalization of the auto industry, which secured a monopolistic position for the K company in manufacturing passenger cars,¹⁶ the company's crisis eased by 1982. The company then established a mass production system by building a factory capable of manufacturing 0.3 million cars. Significant upgrading in hardware also occurred, including the introduction of CAD/CAM and the development of the ALC (Assembly Line Control) production software system.¹⁷ The upgrading also established a humanware system that was still partly controlled by an authoritative management, but produced a period of semi-induced cooperation. The company took several steps to reduce line managers' authoritative labour control, and to achieve greater cooperation. The company introduced the incentive system and expanded its work morale education program as a strategy for developing the minds and creative potential of workers. QC circle activities and a suggestion system began using award systems such as QC awards and suggestion awards, along with a top-down method of worker education and the assignment of the number of suggestions to workers.

During the second half of the period, the company experienced high growth by establishing the mass production system and by succeeding in expanding into the Canadian market in 1984 and the American market in 1986. However, they did not have any workers' participation system in the

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15. Despite these efforts, the number of employees declined from 12,938 in June 1979 to 8,838 at the end of 1981 due to the long depression (K Company 1992: 501).
 16. In February 1981, the government, with Decree 2.28, began to regulate the kinds of cars that each company could manufacture. Passenger cars were manufactured at companies K and D only, small and medium-size trucks at company B, jeeps at company C, and military cars at company E until the end of 1986.
 17. The CAD/CAM refers to computerizing the development of new car models, and the ALC refers to computerizing the production management and material control. The ALC was developed in June 1982 by a team for production management improvement to minimize inventory cost and prevent workers from overlooking parts. The main idea was to supply parts to the main line after making bulky or complicated parts at sub-assembly lines. These bulky parts had been made at the main line until the ALC was developed. The ALC system consists of a complete ordering system and a planned ordering system to synchronize parts supply and assembly. The former is a system for supplying bulky parts just on time for the relevant process of manufacture on the main assembly line, and the latter is a system for supplying small size parts at a small lot in advance. After suffering an increase in defects during the first year of implementing the ALC system, the company realized the necessity of workers' cooperation and spent 6 months persuading them (K Company 1992: 533-7; Lee 1993).

PDR system, and did not establish an effective system for developing the workers' abilities, creative capacities or motivation.

The Strong Conflict Period (July, 1987-1991)

The most important change in the environment occurred in June 1987, with a sudden shift in the political context that produced the collapse of dictatorship under the pressure of the democratization movement at the beginning of this period. This changed the actors' power positions dramatically. The government lost its power to intervene in industrial relations, and employers could no longer prevent unionization. Huge labour disputes exploded nationwide in July 1987 and continued for three years.¹⁸ Most Korean company unions consisted of workers in the middle stratum. They had suffered from low wage and bad working conditions in the distribution system, a lack of promotion opportunities in the employment system, and autocratic labour control and alienation in the production software system. Through these experiences, workers felt exploited by management and suffered labour suppression from the government and labour laws. These values ignited illegal radical strikes and the union's tactic of "strike first and negotiate later."

The government and management fought back to arrest the current of the great labour movement, using the public's rising concern about radical labour disputes, after two years of labour militancy. The government arrested unlawful strikers, and asked primary participants to adopt the principle of "no pay for no work," "one-digit wage guide line and performance wage system". This was done with the support of the Korean Employers' Federation (KEF). The government also introduced strategies to restrict union activities to business unionism, using the social climate and the Labour Union Law that prohibits multiunion (Article 3)¹⁹ and political activities of trade unions (Article 12).

18. The total number of labour disputes was 1979 cases from 1975 to 1986. The average had been 142 cases each year with the exception of 407 cases in 1980 as a result of the political vacuum that was created after the death of President Park. The number of labour disputes was 3,747 in 1987, 1,873 in 1988, and 1,616 in 1989. The number decreased to 322 in 1990 and 234 cases in 1991 (Ministry of Labour, 1990; 1992). This example shows that the change of political status affects industrial relations very seriously, which strongly supports our hypothesis.

19. A trade union must register its establishment with the government. If a trade union registered for a company, no one can form another trade union in the company. The Federation of Korean Trade Unions (FKTU) is the only officially recognized national federation. This conflicts with the "Freedom of Association" of ILO Conventions.

Workers in the K company joined a strong trade union with a union shop on July 24, 1987. This became the largest enterprise union in Korea and affiliated with *Chonnohyup* (Korea Trade Union Congress) and *Heunchongleun* (Association of K Group Labour Unions).²⁰ Many issues belonging to the distribution and the rule-making systems which, in the past, were decided by the management became objects of collective bargaining. Employers did not take appropriate strategies in response to these dramatic changes. There was serious competition among union leaders. The union members preferred an unyielding leader to a compromising leader. The trade union struck three times for union recognition and one time over wages for a total of 21 days in 1987.²¹ Twenty-six strike days were recorded in 1988, 17 days in 1989, 26 days in 1990, and 35 days in 1991 (Lee 1993).²²

20. The Korea Trade Union Congress (KTUC) is the "democratic" national federation of trade unions. The government does not recognize KTUC officially because of the prohibition against multiunionism in the Labour Union Law.

The K company belongs to the biggest *jaebul* (conglomerates) in Korea. *Heunchongleun* is an outgrowth of the organization strategy of trade unions of K *jaebul* and was organized in August 1987, which is not officially recognized by the government. The trade unions of the *jaebul* group needed to form their association because they believed that the president of each company had little power and that managerial power was instead held by the president of the *jaebul* (Lee 1993).

21. Management registered a sweetheart trade union in advance to prevent the establishment of an autonomous trade union, using the Article of multiunion prohibition of the Labour Union Law. Workers struck for the establishment of an autonomous trade union and got it (K Company 1992: 711).

The trade union demanded wage negotiation asking for a 30% increase of wages and a 300% bonus just after its establishment, because the wage agreement in the spring of 1987 was a sweetheart contract made by the labour-management council (K Company 1992: 711).

22. Just 15 days after the start of wage negotiation on May 13, 1988, the trade union went on strike. The management conducted a lock-out after only 3 days of strikes. The management reopened the factory after 18 days because they could not find a just cause after locking-out too impetuously. They reached collective agreement on June 23 (Lee 1993). This case is due to the lack of experience of primary participants about collective bargaining and the management's negative value to the trade union.

The trade union struggled from December 19, 1989 to January 6, 1990 for a year-end performance bonus that was a strategic choice to embrace hard-liners within the union. However, they failed the strike because they made an unreasonable demand of 350% without consideration of the changing social climate and the backlash strategy of government and management (Lee 1993). This case demonstrates that actors should consider environmental factors when they make strategies.

The company was not in normal operation over one month as a result of the sympathy struggle for an affiliated company and the struggle for higher pay in 1990. The 17 union members were charged with fighting the public power during the sympathy struggle, and the company dismissed them (Lee 1993).

The company and union have bargained over wages every year and over non-economic distribution and rule systems every two years. There was no collective bargaining over the production system, and the bargaining in this period mostly focused on wages. The trade union succeeded in raising wages rapidly through these struggles and improved the wage system slightly. The wage level of blue-collar workers with five years experience increased 86% in 1989, 110% in 1990, 157% in 1992, given the basic year of 1986 (Lee 1993). The wage differential between the middle stratum and upper stratum were reduced about 15% from 1986 to 1989.²³ However, the wage system is almost the same as the one carried over from earlier years except for the slight increase of base wage ratio, which is a "stratum-based complicated wage system." The stratum that an employee belongs to depends on his education level and gender. The wage is monthly pay that is based on seniority in the upper stratum, and hourly pay that is based on simple base wage in the middle stratum. This means that an individual's wage is determined by the workers' characteristics without considering job content.

The wage system is very complicated. A worker's average monthly wage consists of fixed pay, variable pay and a bonus. Fixed pay (*gojeunggub*), which is not related to variations in output, is composed of a base wage (*kibongub*) and various allowances (*sudang*).²⁴ Variable pay (*beundonggub*)

The 3rd executive of the union began to strike for a performance bonus on December 17, 1991, and struck in all workplaces on January 14, 1992. The company shut down the next day. The strikers who occupied the company broke up by themselves on the evening of January 21 under the threat of police action at daybreak of the next day. This dispute ended and the 3rd executives almost collapsed after about 40 union leaders and members were arrested. The company could be in normal operation at the end of February 1992, after the vacation of lunar new year (Lee 1993). This strong conflict brought both sides of the primary participants to a wretched defeat, which is a representative mutual loss case.

23. The wage of a male high-school graduate worker with 10 years' experience was 95.3% of the wage of a male college graduate worker with 5 years experience in 1989, whereas it was 79.8% in 1986 (Lee 1993).
24. Fixed allowances (*gojeungsudang*) consist of a long-service allowance (*geunsoksudang*), a family allowance (*kajoksudang*), *jojang* allowance (*jobanjangsudang*), qualification allowance (*jakeuksudang*), danger allowance (*yuhaesudang*), duty-shift allowance (*gyodaegeunmusudang*), a production bounty (*sengsanjangleugum*), and monthly attendance allowance (*yeunwolchasudang*). The first four allowances reflect worker's characteristics, and accounted for 9% of the average monthly wage in 1992. The second two allowances reflect job characteristics, which amounted to only 0.7%. The last two allowances are to encourage production and prevent absence and represented 1.7% and 3% respectively. However, production bounty fails to motivate employees because it is fixed. A worker gets one day pay as a monthly attendance allowance if he is not absent during the month (Lee 1993).

consists of overtime pay and night-duty allowance. In 1992, the average monthly wage for a blue collar worker with four years' experience was composed of base wage 42.6%, fixed allowances 13.4%, bonus 24.3%, variable pays 19.7%. The base wage ratio had increased slightly from 36.9% in 1986.

However, the trade union failed in its struggles to negotiate a performance-dependent bonus in 1989 and 1991. The two strong bonus strikes demonstrate that the bonus in Korea is not flexible in response to variations in performance²⁵, but is instead determined in advance and is downwardly rigid. The collective agreement of 1988 stipulated a bonus of $600\% + \alpha$, where α was a performance-dependent bonus. Although performance-dependent, α was initiated out of a tactic to break a deadlock of negotiation. However, in the collective agreement of 1990, after a severe conflict over the performance-dependent bonus, both sides agreed to delete α and include a fixed bonus of 600% a year. It was impossible for the two sides to agree to a performance bonus because the trade union did not trust any of the information that management offered. This suggests that information sharing is difficult without workers' participation in the PDR systems. Nevertheless, the new executive of the trade union led a strike demanding a performance bonus of 150%, in addition to the fixed bonus of 600% in 1991. The management insisted that it could not accept the concept of performance bonus, but would pay additionally the bonus of 50% to maintain harmonious labour-management relations and productivity (K Company 1992: 726).

The results of these struggles show how strong conflict and adversarial bargaining can sometimes produce losses for both parties. After a severe dispute that involved a factory shut down and a factory occupation by workers, the company suffered a loss of about \$65 million and workers had their salaries reduced by half in January 1992 because of management's adherence to the "no pay for no work" policy (K Company 1992: 726-7).

The major issues in the negotiations were the reduction of working hours, housing aid, rehiring the discharged workers related to strikes, the organization of personnel and discipline. No agreement was reached on the organization and disciplinary issue, although working hours were reduced from 46 to 44 hours in 1990, housing aid was extended and the fired workers rehired. This means that most collective agreements were limited to distribution problems and there was no agreement on workers' participation in the rule administration system.

25. Most wage negotiations in Korea do not reflect company performance. Both sides use macro economic data rather than a company's performance data. The trade union demands wage rates on the basis of living costs, and the management suggests the rates on the basis of the economic growth rate and inflation rate.

However, there were important reductions in the line managers' authority and personnel evaluation power. This means that management had lost some of its traditional methods of achieving efficiency through control over the labour process. As already discussed, the line managers' authority was the heart of management in the workplace until 1987. Although personnel evaluations are still used as a source of data for promotions, these evaluations are rarely significant because promotion chances are extremely limited for blue collar workers.

Unlike the trade union's interest in the distribution and rule-making systems, it was not interested in the production system, although the company made two kinds of important strategic choices for the production system that might affect workers' job security and the organization of the trade union. These were automation and the introduction of an internal subcontracting system. The trade union did not resist automation because most automated machines (robots) were introduced in the field of difficult, dirty and dangerous jobs, and no workers were discharged because demand was booming. The company also introduced an internal subcontracting system, similar to the external worker system in Toyota, which grew to about 3,000 workers by August 1991 (KSSI 1991). Workers did not resist the subcontracting system because they expected their job assignments to improve as the subcontracted workers concentrated on the difficult, dirty and dangerous jobs.

As already discussed, the PDR systems had been altered significantly by the dramatic changes of the actors' power positions and strategies during this period. The distribution and rule-making process subsystems changed from management's unilateral decision to collective bargaining. Collective negotiation depended on the actors' power position rather than rational data because the history of authoritarian labour control left no trust between the parties. The production system that had depended upon forced or induced cooperation strategies failed to function because of the collapse of authoritarian management control. The humanware-side of the production system had not developed well the ability, creative potential or trust to cope with the loss of *jojang's* authority. The wage system does not contain any mechanism to motivate workers to contribute continuously to quality improvement, even though large wage increases were made.

In sum, industrial relations had been unstable because of the actors' power struggles over efforts to change the PDR systems and the subsequent mismatch in the changing PDR systems. As a result, comparing with the end of the last period, productivity was not increased.

The Semi-Strong Conflict Period (1992-Present)

In the late 1980s, the emergence of the democratization movement, along with the advance of industrialization, weakened the effects of the

Confucian culture on work norms. The economic strategy for the country continued to change from a labour intensive to a capital and technology intensive industry stage. Because of the rapid increases in wages, the Korean economy was having difficulty competing on the basis of its labour cost advantages. The political strategy of the government vacillated between support for greater democracy and periodic crack-downs against strikers and democratic movement leaders.

The market shock of a sharp decline of exports to the U.S. during the three years beginning in 1989 made the company aware of the importance of world market developments and product quality. The company established the 'GT-10 project' (1991-2000) as its globalization strategy in 1990, with an emphasis on shifting from price competition to quality competition. The labour market had changed from a low wage to a high wage market with considerable labour disputes and labour shortages in the middle stratum, and internal labour market rules were put in place to govern compensation and the allocation and management of labour.

However, a backlash against the period of strikes has weakened workers' power position. Some managers and some labour leaders' values have also changed from antagonistic to a compromising attitude after experiencing market shock and mutual losses during the sharp conflicts of 1987-91. The trade union has tried to follow legal strategies and management also has tried to be more cooperative, although there is still no neutral institution for facilitating orderly collective bargaining and promoting industrial peace or cooperation. In the process of wage bargaining in 1993, the trade union tried to avoid an all-out strike and workers tried to improve productivity during working hours even during a partial strike from June 15 to July 22. Managers have tried to abandon authoritarianism and solve workers' demand in advance (Lee 1993).

K company has continued its drive to move from a mass production to a flexible production system to overcome the shocks engendered by the trade union and market as experienced since 1987. The company has installed flexible automation machines in the hardware,²⁶ and computer integrated manufacturing (CIM) and just-in-time (JIT) in the software. They have pursued two kinds of strategies to improve the humanware system (although the humanware system needed a well-trained, continuously learning, motivated work force that has opportunities to use their creative abilities is not yet in place). The company developed strategies, which were called the "one family, one mind movement" and "six great practices movement,"

26. The company had only introduced 68 robots up to 1986, but 884 robots from 1987 to 1990 (K Company 1992: 730).

to stimulate mind attitude and work attitude for coping with strong conflict and advancing productivity.

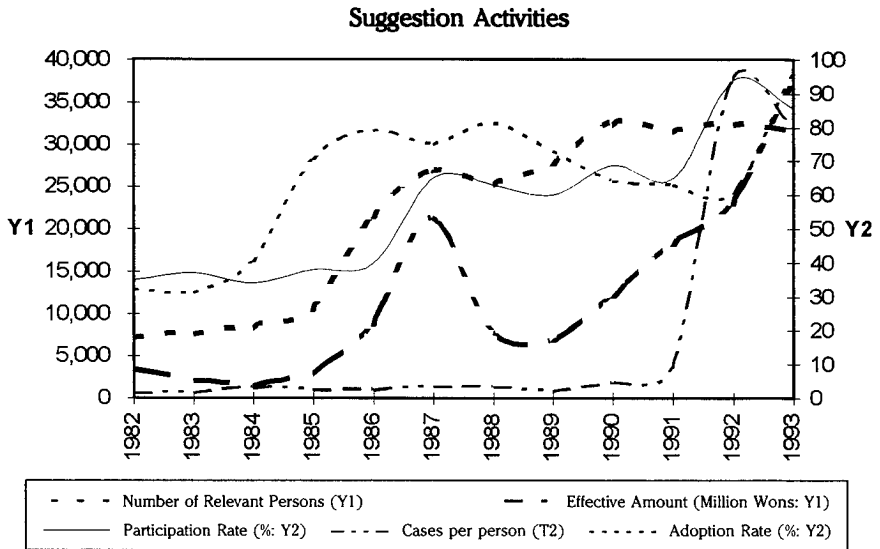
The on-going courses for the former had been held at an education center outside the company during 16 months from July 1990 to November 1991. It was a kind of spiritual training course for all members of the company including the top manager. According to K Company (1992: 722), the motivation of the meeting was to remove conflict settings of the previous four years and make a new springboard for its future. The purpose of the meeting was also to promote community consciousness and further build a world-class company by cultivating the harmony and solidarity among members, and mature values and owner consciousness of members. The cost of the meeting was about \$4 million which was much more than skill training cost. Fully 83.7 % of workers as well as management felt the need of such kind of spiritual training, even though the strong trade union carried out the survey (KSSI 1991). 38.1% of workers who felt the need thought that the training was helpful in establishing the right perspective on industrial relations, 27.6% for solidarity among workers and between managers and rank and file, 21.3% for the increase of love for their company, 5.7% for labour efficiency (KSSI, 1991). This is one typical Asian approach for industrial relations which is based on Confucian culture.

The company also developed "six great practice movements" during the same period, which consisted of "three *heun* movements," "five S movements," a "conversation corner," a "quality improvement movement," an "inventory minimization movement," and a "productivity improvement movement."²⁷ These practices are workplace rules to effectively carry out JIT and lean principles which were "production software systems" introduced from Japan since the 1980s. To accomplish these kinds of movements more effectively, the movements should be supported by the distribution and rule systems.

Along with these efforts, the company decentralized the management of quality control and suggestion activities in 1990, just after its 1989 failed decentralization of enhancement of QC and suggestion activities. The company reinforced an incentive system for suggestion activities with payments for all suggestions and increased the amount of suggestion awards in 1992.

27. The three *heuns* are *heunjang* (work site), *heunmul* (actual things), *heunsil* (actuality), as a kind of practical principle of workplace-oriented management, which means managing every issue on a *realistic* base after observation of *actual things* at the *work site*. The 5 S's are the initials of Japanese words which mean liquidation, proper arrangement, scrub-up, cleanness, and rule abiding attitude, which are all workplace rules. The company made a conversation corner at every *ban* (team) to make a bottom-up channel and reveal problems frankly.

FIGURE 3



NOTE: The number of relevant persons refers to the number of persons who were supposed to participate in suggestion activities among employees. The effective amount is the total amount that benefited from suggestion activities; the unit is million won. The participation rate is the ratio of the number of actual participants to the number of relevant persons. The cases per person are derived from the total number of suggestion cases divided by the number of relevant persons during a year. The adoption ratio is the ratio of the adopted cases to the suggestion cases.

SOURCE: Data from the K company for this research.

As a result, since then, all indexes of spontaneous participation (such as the participation rate and the cases per person) and of activity performance (such as the adoption rate and the effective amount) have increased enormously, although the number of relevant persons is almost constant since 1990 (see figure 3). With the exception of cases per person, the increases in the variables took place during the second semi-induced cooperative period (1982-June 1987) as well.

Despite the increases in the number of relevant persons, these indexes decreased during the strong conflict period (July 1987-91). These facts demonstrate that suggestion activities depending on creative minds were more successful in the cooperative climate than in the strong conflict climate. These suggestion activities by a method of bottom-up will generate incremental innovations or develop internal technologies.

The trend of performance levels is also similar to that of suggestion activities. The number of car units produced per blue-collar worker was

only 6.5 in 1974, when the mismatch of production subsystems was very serious and they were at a low level as already discussed. Owing to the incremental upgrading of production subsystems during the semi-induced cooperation period, the number increased to 32.5 in 1987, in spite of twenty-one strike days during the second half of the year. As the conflict deepened, the number decreased to 26.2 in 1989 and then to 26.3 in 1990, but increased to 33.5 in 1992, after the improvement of the distribution and the rule-making systems (Lee 1993). Defects per 100 vehicles, an index of product quality, decreased from 315 in 1987 to 230 even in the strong conflict period in 1990, then to 188 in 1992.²⁸ This indicates the importance of the distribution and the rule-making systems as well as the production system in improving the quality.

However, the company still does not effectively develop the abilities of its workers, compared to the workers' desire to learn. Only 25.2% of surveyed workers received technical education in 1990, despite the fact that 84% of that number thought that education was helpful for job execution in both the short and long runs; 59.6% of surveyed workers experienced job rotations, and only 10.8% of them felt that the training for the new job after job rotation was sufficient. These statistics indicate that employers do not realize the value of technical education for their workers. Of the workers who experienced job rotation, 55.3% stated that it was decided by the workers themselves, 35.1% by *jo-ban-jang* (line manager), and only 9.6% by company policy. Job rotation is not used to cultivate multi-skilled workers but to adjust the jobs and degree of difficulty of jobs among members of a *jo* or *ban* (team). Seventy-three percent of workers complained of limited chances to exercise their faculties, which was the most unsatisfactory factor next to the limited promotion chances among such factors as working hours, working conditions, work amount, wage level, and relationships among workers (KSSI 1991).

This means that the company has not developed its humanware system effectively, and the subsequent production software system is underdeveloped. As already discussed, the distribution and the rule-making systems also are not fitted to a flexible production system although the company tries to make the system flexible.

The company is trying to introduce an "ability qualification system" but is still negotiating compromises with the union in order to avoid labour strife. This system may be better matched to the requirements of a flexible production system. However, its success will depend on the objectivity of the workers' ability evaluation, and on its ability to develop fair rules for distributing the gains produced. This, in turn, will require greater information

28. J. D. Power, *New Car Initial Survey*, each year.

sharing and trust between labour and management. It also will require more direct worker participation. Only if these additional changes are made, will the PDR systems be capable of producing spontaneous cooperation and the mutual benefits of improved productivity, quality and satisfying jobs.

DISCUSSION

The paper proposes the use of a model of industrial relations focused around the production, distribution and rule-making systems at the workplace to explain how industrial relations affects the quality of workers' lives and the competitiveness of individual firms and nations. It also attempts to show how cultural values carried over from Confucianism interact with other forces in the environment to shape industrial relations in Korea. An important objective of this approach is to help managers better understand how industrial relations is related to the strategies and practices used to shape production and to manage and motivate the work force. This approach is especially important in Korea and other Asian societies that tend to see industrial relations as merely labour conflict and therefore as something to either avoid or to view as foreign to their experiences. The model proposed in this paper, along with the case discussed above, suggests that mutual gains are an increasing function of a cooperative relationship between managers and workers.

The case study of the development of industrial relations in a large Korean automobile firm illustrates the uneasy blending of traditional Confucian values with the growing demands for democratic processes and institutions at the workplace. The Confucian heritage implies that top executives are expected to treat their employees in a paternalistic fashion and in return to receive cooperation, respect, loyalty, and acceptance of managerial authority (Kochan 1994: 679). Management and workers should try to harmonize the Confucian heritage and democratic reforms in the workplace. The case study also shows how the traditional collective bargaining process that focuses mainly on distribution issues and a managerial strategy that seeks to introduce flexible production without significant employee participation and labour-management partnership ends up with high levels of conflict, periods of semi-induced or forced cooperation. They produce insufficient trust and mutual losses rather than the improved quality, productivity, and satisfaction that others have achieved with a flexible production system (MacDuffie 1995).

What does this imply for industrial relations theory? What does it suggest for the future of industrial relations practices? These questions are taken up below in the final section of this paper.

CONCLUSION

As Kaufman (1993) discussed, continued separation between industrial relations and human resource management in the academic field, along with narrow conceptions of industrial relations, might shrink both fields. This paper views industrial relations as including human resources issues as a synthesis of production, distribution and rule-making systems encompassed in a community perspective. The paper demonstrates that industrial relations theory needs to differentiate primary environmental factors and secondary environmental factors, and indirect strategic choices and direct strategic choices for industrial relations. It also argues that industrial relations theory should incorporate a dynamic element for linking environmental factors and industrial relations, and interactions among production, distribution and rule-making systems. The PDR systems model can also accommodate nonunion workplaces as well as unionized settings by embracing collective bargaining as a subsystem of the rule-making system.

The model demonstrates that, since it emphasizes the mind stimulation system, mutual gains in the future depend on the actors' spontaneous cooperation which will require a mix of both union negotiations and direct worker involvement. This combination can avoid the criticisms of a company union and the adversarial conflict that destroys the potential for mutual gains. But this type of relationship requires the government to accept the need for democratic unions and autonomy in industrial relations and to see such activity as a valuable means to becoming a competitive economy.

Further research is needed on many fronts. This framework needs more conceptual development and empirical testing. This model should be supported by empirical studies in macro-level and case studies about industrial relations of other countries.

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RÉSUMÉ

L'interaction des systèmes de production, de distribution et de réglementation dans les systèmes de relations professionnelles

Le but de cet article est de présenter un cadre théorique général d'analyse des relations industrielles. Nous concevons les relations industrielles comme une synthèse des systèmes de production, de distribution et de réglementation (systèmes PDR) plutôt qu'une sommation de ces trois systèmes

indépendants. Cette théorie du système PDR se concentre sur les choix stratégiques des acteurs pour ces sous-systèmes du système de relations industrielles et leurs mécanismes d'interaction. Les contenus et interactions des systèmes PDR déterminent les niveaux de performance de l'organisation, i.e. la productivité, la flexibilité, l'innovation et la satisfaction.

Nous illustrons notre cadre général (voir figure 1 du texte anglais) en utilisant des données provenant de l'industrie coréenne de l'automobile, particulièrement intéressante pour notre propos parce qu'elle reflète différentes combinaisons de pratiques de PDR tout au long de son histoire.

Nous utilisons un modèle de PDR au niveau de l'atelier pour expliquer comment les relations industrielles influencent la qualité de vie des travailleurs et la compétitivité de firmes et de la nation. Nous tentons également de démontrer comment les valeurs culturelles héritées de Confucius interagissent avec d'autres forces dans l'environnement pour caractériser les relations industrielles en Corée. Un objectif important ici recherché est d'aider les gestionnaires à mieux comprendre les relations industrielles reliées aux stratégies et aux pratiques utilisées pour façonner la production et pour gérer et motiver la main-d'oeuvre. Cette approche est particulièrement importante en Corée et dans d'autres sociétés asiatiques qui tendent à voir les relations industrielles simplement comme un conflit du travail et donc comme quelque chose ou à éviter ou à percevoir comme étranger à leurs expériences.

Cette étude de cas sur le développement des relations industrielles dans cette grande firme coréenne de l'automobile illustre le mélange difficile entre les valeurs traditionnelles confuciennes et la recherche croissante d'institutions et de processus démocratiques en milieu de travail. Cet héritage de Confucius implique que les hauts gestionnaires vont traiter leurs employés de façon paternaliste et ainsi recevoir en retour coopération, respect, loyauté et acceptation de l'autorité patronale (Kochan 1994 : 679). Gestionnaires et travailleurs devraient tenter d'harmoniser l'héritage de Confucius avec les réformes démocratiques en milieu de travail. Cette étude démontre également comment le processus traditionnel de négociation collective, surtout distributif, couplé avec une stratégie de gestion cherchant à introduire la production flexible sans participation significative des employés et sans partenariat aboutit à de hauts niveaux de conflit et à des périodes de coopération forcée ou semi-provoquée. Cela résulte en une confiance insuffisante et des pertes mutuelles plutôt que qualité, productivité et satisfaction qu'engendre un système de production flexible (MacDuffie 1995).

Qu'est-ce que cela implique pour la théorie des relations industrielles ? Qu'est-ce que cela suggère pour l'avenir des pratiques en relations industrielles ? Pour reprendre Kaufman (1993), la pérennité de la distinction entre relations industrielles et la gestion des ressources humaines dans le

monde scientifique ainsi que des conceptions étroites des relations industrielles peuvent très bien rétrécir ces deux champs. Nous concevons les relations industrielles comme incluant les questions de ressources humaines en tant que synthèse des systèmes de PDR vue dans une perspective communautaire. Cet article démontre que la théorie des relations industrielles doit distinguer les facteurs environnementaux primaires et secondaires ainsi que les choix stratégiques directs et indirects. Nous soutenons également que la théorie des relations industrielles doit incorporer un élément dynamique reliant les facteurs environnementaux et les relations industrielles ainsi que les interrelations entre les systèmes de production, de distribution et de réglementation. Ce modèle peut servir à analyser tant les milieux de travail non syndiqués que syndiqués en y voyant la négociation collective comme un sous-système du système de réglementation.

Vu que notre modèle insiste sur le système humain incluant le système de stimulation de l'esprit, de meilleures pratiques des futures relations industrielles peuvent être instaurées par la coopération spontanée exigeant un mélange de négociations syndicales et d'implication directe du travailleur. Telle combinaison peut éliminer tant les critiques que le conflit détruisant la possibilité de gains mutuels. Mais ce type de relations exige que le gouvernement reconnaisse le syndicalisme démocratique, l'autonomie dans les relations industrielles et voit cette activité comme un moyen valable pour devenir une économie compétitive.

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