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The Diffusion of Management Practices in the United States

Fumie Murase

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THE DIFFUSION OF MANAGEMENT PRACTICES
IN THE UNITED STATES

by

Fumie Murase

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Arts
Department of Sociology

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THE DIFFUSION OF JAPANESE MANAGEMENT PRACTICES
IN THE UNITED STATES

Fumie Murase, M.A.

Western Michigan University, 1992

The study of diffusion of Japanese management practices in the United States is required by growing Japanese investment in the United States and the need of United States manufacturing to become more efficient. This thesis is based on a qualitative analysis of five case studies of automobile assembly plants in the United States utilizing cultural diffusion theory.

Most of Japanese production practices and some of their labor management policies were originally transferred to Japan from the United States. After being modified in Japan some of these policies are coming back to the United States with the transplants. Other Japanese management practices turned out to be unacceptable, but these were either not essential to productivity or had functional substitutes.

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Fumie Murase

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CHAPTER I

INTRODUCTION

Statement of the Problem

Although a lot of studies have been done about the diffusion of Japanese manufacturing practices to the United States, growing Japanese investment in the United States and the need of the United States manufacturing to become more efficient, require the continual study of this subject. Japanese business investment in the United States has been growing because of the strength of the yen over the past several years, expected United States protectionism, and American efforts to draw Japanese investment into the United States (Aoto & Miki, 1989, p. 70). The number of Japanese plants which came to the United States from 1970 to 1974 was 223. This number increased to 330 from 1980 to 1984. During this ten year period, the number of Japanese plants in the United States increased by 150%. Moreover, about 55% of Americans favored Japanese investment in the United States because they believed that it would create more job opportunities (Aoto & Miki, 1989, p. 70). However, 37% of Americans expressed unfavorable opinions concerning this matter. Also, almost 80% of the 50 States made efforts to welcome Japanese companies (Aoto & Miki, 1989, p. 70).

This paper will examine the diffusion of Japanese manufacturing

practices within the United States in terms of the following issues:

1. The relative ease or difficulty of incorporating Japanese management practices and strategies.
2. Which of these practices appear to be essential to the overall success of transplanting Japanese business.
3. Whether some practices which may be essential in Japan might have structural substitutes in the United States once their basic function is understood.

This analysis will be based on general theories of cultural diffusion, and a number of case histories of such transfers.

CHAPTER II

REVIEW OF RELATED LITERATURE

The Diffusion of Culture

According to The International Encyclopedia of the Social Sciences (Sills, 1986), diffusion is defined as the spread of culture beyond the originating societies boundaries. Diffusion is different from acculturation in terms of the continuity and intensity of contact. Diffusion generally involves the transfer of some cultural ideal or symbols between societies, while acculturation focuses on what happens to people as they adopt new customs and tools.

Cultural elements selectively diffuse and change as they move from one society to another. This change can be in either form or function. Some cultural elements are chosen to be accepted from one culture to another when they can be integrated and used in the adopting culture. Therefore, diffusion may be reciprocal. For instance, the idea of quality control of products originated in the United States (but with limited utilization), was then diffused to Japan and more recently, via Japan, came back to the United States. This process of cultural interaction suggests that there are many possibilities for cultural diffusion in the future. Such diffusion, as it expands during the present period of continued industrialization,

may eventually lead to a unified or single world culture or economy.

The other side of the coin of cultural diffusion is rejection of alien traits. This phenomenon occurs because the traits are incompatible with the preexisting customs and social structures of the receiving culture. For example, some Japanese owned companies in the United States eliminated morning exercise programs. Such programs have been a very common practice in the majority of manufacturing plants in Japan. Exercising together, which requires everybody to move in unison, is not common in the United States except in the military. This Japanese custom is to practice group exercise not only in the work place, but also at school and even in the community (Buckley, 1988).

Prestige may play an important role in diffusion because people tend to accept things promoted by prestigious people in spite of the negative effects on them. For example, the prestige associated with wearing western style clothes has caused people in other areas and cultures, tropical countries for instance, to wear clothing inappropriate for comfort in their own climates. As Japanese auto manufacturers gained in prestige in the world, it became easier for Japanese automobiles and their manufacturing methods to be accepted in the United States.

When new elements are adopted by one's culture, it creates new problems since both the borrowed element and the receiving systems may be changed. Consequently, new ideas are needed to solve the problems thereby generated. Moreover, when some traits are adopted from another culture, it seems to become easier to accept additional

traits. As a result, the elements rejected at first may be accepted later because the social structure has been modified by the previously adopted traits. Therefore, diffusion seems to be an accelerating and a cumulative process.

Socio-Technical System

Organizations and their environments are closely connected according to organization theory and industrial sociology (Florida & Kenney, 1991a). Thus, studying the diffusion of Japanese manufacturing practices to the United States requires the understanding of the "socio-technical system." The socio-technical system is the linkage of social and cultural, human resource, and technical systems (Rehder, 1987, p. 55). When Japanese management builds "transplants" [transplanted manufacturing plants] in the United States, it tries to accommodate human resources from the United States with management practices from Japan. An integration of management technique with transplant culture is crucial for the success of these enterprises. Some Japanese firms simply invest in ongoing American companies. I am, however, only focussing on cases of deliberate change in managerial practices. The extent of difficulties associated with such integration derives from sociocultural differences between the United States and Japan.

As long as the organization is operated consistent with the environment in which the organization was generated, it is unlikely to produce a problem. However, a problem is likely to occur when a Japanese organization is incompatible with the environment of the

United States. The traditional Japanese management style developed for Japanese society may have to be more or less modified in order to fit in the United States socio-cultural background. Therefore, in order to determine which Japanese management practices are compatible with the United States' environment, it is necessary not only to identify Japanese management practices, but also to understand the Japanese values underlying these practices and American culture. In the next section, the general cultural differences between the United States and Japan will be briefly discussed.

The Cultural Differences

The United States has a very wide mixture of people by race, religion, and other cultural backgrounds, whereas Japan is said to be relatively very homogeneous. The United States' population in 1989 consists of 77% Caucasians, 11% African-Americans, 7% Hispanics, 2% Asians and Pacific Islanders, 0.7% American Indians and Alaska Natives, and many others (U.S. Department of Commerce, 1991). On the other hand, Japan's population contains less than 1% Korean, Chinese and other ethnic groups (Aoto & Miki, 1989). This homogeneity was strengthened in 1640 when Japan turned away from a potential involvement in world trade to close its doors until 1867 (Smith, 1992).

As a preponderantly homogeneous and "insular" country, Japan has been characterized by the group in contrast to the emphasis on individualism in the United States. "Groupism" (a journalistic term increasing in use) has been cultivated in Japan because people

have traditionally lived lives based on a closely knit cooperative social structure emanating from family and kinship relationships which in turn was based on labor-intensive farming on limited land resources. In general, since the Japanese people tend to place greater emphasis on an emotional bond among all of citizens than do their American counterparts, it is very difficult to separate oneself from the group to which one belongs (Aoto & Miki, 1989). Because this influence is based on emotional bonds, it is difficult to separate intellectually the individual self from one's group. Also, because this individual emotional identity is established as a group identity or process, separating from the group can seem like any injury to or the loss of the self. For example, Smith (1992) reports that Japanese sailing clubs teaching a philosophy of harmony, hierarchy, and duty are similar to Japanese companies. The Japanese sailors who emphasize group conformity over individuality could not win the recent American Cup yacht race since it requires each sailor to make sudden good judgments on their own.

Although Americans make many groups for various and specific activities, such as sports and volunteering, this type of group participation is based on individual free will for a limited goal, not so much on the feeling of unlimited obligation to the group or social expectation as in Japan (Aoto & Miki, 1989).

Individualism in the U.S. is said to originate to a great extent in the frontier spirit. Generations of Americans came to the land of America for freedom of religion and new opportunities. During the frontier period, Americans basically had to depend on

their own judgments and actions to survive, even though helping each other was also necessary (Aoto & Miki, 1989). Although the frontier has disappeared, the frontier spirit is still a part of the American people, who easily change jobs and residences for better opportunities (Aoto & Miki, 1989).

Another important cultural difference is in the pattern and basis of social communication. Americans communicate based on directness and explicitness, while Japanese communication is often ambiguous and indirect. For example, the Japanese may say "maybe," or "I will think about it," instead of saying "no" because they prefer to avoid direct conflict and refusal. This kind of prevarication results from a complete effort to keep harmony in human relations by avoiding direct conflict as much as possible. However, this Japanese ambiguity of expression is often perceived as insincerity or simply inscrutability (the mysterious orient) by Americans, who tend to prefer direct and candid expression (Aoto & Miki, 1989). These cultural differences are also shown by the number of law suits cases in the United States compared to Japan. For instance, the United States had 40 times more civil court cases than Japan in 1981 (Aoto & Miki, 1989). Japan has many fewer law suits due to the fact that it is perceived as shameful to make conflict public. Although conflicts exist in Japan, they are more likely to be dealt with in a private and informal way. Bringing the conflicts into the public shows incompetence on the part of the involved members in terms of the primary goal of maintaining harmony.

This Japanese effort to keep harmony in human relations is also

manifested in Japanese management practices, such as the consensus decision making process. The Japanese spend a long time building a sense of trust before making a decision or contract with others. However, this Japanese way is perceived as a waste of time for American people (Aoto & Miki, 1989). The Japanese rationale is that if everyone involved in carrying out the contract was also consulted and hence pre-committed, things would work out more smoothly once it is in operation. From this perspective, Japan seems like a less authoritarian society than the United States, at least in its business subculture. Americans could respond that much of this consultation in Japan is carried out in a very hierarchal society in which subordinates do not seriously challenge their superiors. Whatever the power structure is in reality, Japanese workers tend to feel that they participated in the decision making process. This seems to be rare in the United States, especially when difficult changes are being carried out (Whyte, 1983, p. 2).

Japanese Management in Japan and American Management in the United States

Although there are some differences in values between the United States and Japan as discussed above, there may be some Japanese values which can be adopted in the United States. Various Japanese management practices may be different from the United States' practices, but they still can function to achieve universal organizational goals, such as high quality and productivity from the efficient operation of manufacturing. The important value underlined in Japanese transplant practices is to treat workers with enough

respect for them to become fully involved and participate more effectively in their work. This is also accomplished by giving workers more responsibilities and helping them to have a long term perspective on their company's goal.

In this section, general Japanese management practices will be discussed, such as a high investment level, long term perspective, early retirement age, lean production, promotion based on recommendation, wage with bonuses, bottom-up management and consensus decision making, and the important role of engineers. This discussion is meant to clarify the function of each practice and the values behind it, while comparing it with general American management practices.

High Investment Level

The Japanese investment rate in new plant and equipment is the highest in the industrial world. Japanese capital investment per person is more than double that of the United States (McMillan, 1985; Slayton, 1990). This high investment level is supported by a high savings rate among the Japanese. The savings rate of Japanese households is about 30% as opposed to less than 5% for the average American (Cole, 1992).

Long Term Perspective

With the backing of a high investment rate, Japanese companies have long term and closely tied relationships with their suppliers as well as their own employees, while American companies tend to

have short term relationships inside and outside of the organizations (Tsurumi, 1978).

Japanese companies are said to have a longer term perspective than American companies. American management tends to focus on short term results because protecting profits of stock holders is the most important goal of management (Aoto & Miki, 1989, p. 78). On the other hand, most major Japanese manufacturing companies are owned by banks. These banks set up plants to build given products, not as financial entities to be sold off for short term gains ("How Japan," 1981, p. 57). If Japanese companies experience difficulties or problems, the banks can wait and continue to support the companies until the crisis is over. American companies tend to be forced to maintain high profit levels, or financial support can be quickly withdrawn. American firms are often sold as a tax credit for their losses to other companies in unrelated industries (Aoto & Miki, 1989, p. 78).

Early Retirement Age

The retirement age in Japan is generally from 55 to 60 while it is close to 65-70 in the United States (Aoto & Miki, 1989). Japanese companies generally offer retirement allowances, which, however, are not sufficient to fund needed pensions, while pension plans are more common in the United States. Therefore, a lot of retired people have to get jobs to supplement their pension, which, however, have wages less than their previous jobs.

Lean Production

Lean production is one important example illustrating the similarity between Japanese management practices and pre-New Deal American management strategy. Verne (1990) stated that the success of the Japanese auto industry was due to the use of "lean production," which meant elimination of as much waste as possible. He also said that Japanese lean production was as revolutionary as Henry Ford's assembly line. In spite of this revolutionary aspect, waste elimination had in fact been a popular topic in the United States during the 1920s, the era of Japanese study and adoption of this American manufacturing practice, according to Taira (1990). Moreover, the concept of Kaizen [continuous improvement] existed in the United States as the "Continuous Improvement Program," CIP, before World War II (Schroeder, 1991).

Promotion Based on Recommendation

There are three characteristics of the Japanese job promotion system:

1. Promotion is recommended by the chief and evaluated by personnel administration rather than being initiated by the person hoping for a promotion.
2. Promotion is based on evaluation within the company rather than the qualifications the person acquired outside the company.
3. The employees are eligible for promotion based on seniority (Aoto & Miki, 1989).

In other words, in Japan, no one applies for a promotion. Instead they wait for it to be considered based on seniority to determine their eligibility for evaluation.

Wage With Bonuses

The seniority wage system is the common practice in Japan, which accompanies lifetime employment and automatic promotion based on evaluation and seniority. Salaries are periodically increased. Every spring, unions negotiate with managers to increase the total personnel budget of the companies. This negotiation is called "Shunto," a spring labor offensive. The rate of the increase is also used as a standard for the companies without unions. Moreover, companies in Japan give bonuses which increase the base wages every summer and winter (Aoto & Miki, 1989). While bonuses are rare in the United States, about 20% to 30% of total compensation comes from bonuses in Japan. In spite of this difference, the proportion of total compensation for direct, indirect, and legally required insurance differed little in manufacturing industries between the United States and Japan (Hashimoto, 1990, p. 84).

Bottom-Up Management and Consensus Decision Making

Japanese management is said to operate, in general, from the "bottom-up" as opposed to the "top-down" American style (Aoto & Miki, 1989). One of the reasons for this may be attributed to Japanese consensus decision making based on cultural emphasis of social harmony. Contrary to American companies, Japanese companies practice

the belief that "(n)o matter what the group--from the smallest up-start enterprise to the largest multi-billion dollar multi-national--nothing gets done until all the people involved agree" (Byron, 1981, p. 57).

The ideal for the Japanese is to operate on the basis of consensus. However, a question has been raised as to how consensus is achieved in Japan. Since the Japanese people tend to emphasize the group and its harmony, it is possible that they achieve consensus by conforming to groups or authority that dominate groups. For example, Meryl Gordon (1992) said that "(s)ince harmony is considered such an important quality in Japan, people are often reluctant to speak up at meetings or say what they think" (p. 75). If this is the case, their consensus decision making may not be as democratic as it sounds.

Moreover, the drawback of consensus decision making is that it may not work when responding to acute situations (Alston, 1986). Consensus decision making may not necessarily encourage people to have unique ideas or to adjust to unexpected crises. If Japanese transplants enforce group consensus decision making, American workers may be frustrated by this method because American culture generally emphasizes individuality and creativity.

The role of middle management is very important in Japanese companies. Middle managers are expected to be active in planning, making suggestions, and sometimes persuading top management to accept their ideas (Aoto & Miki, 1989). While there are more middle managers in American companies than Japanese companies, an active role for middle management is not common in the United States. If

American middle management became active in planning, it would be perceived as revealing incompetency on the part of top management and would lead to the collapse of the whole system. The important role of middle managers in Japanese companies is related to the Japanese concept of job assignment which is different from Americans. This difference will be discussed in the next section in terms of a smaller number of job classifications.

The Important Role of Engineers

In the Japanese automobile industry, engineers play more important roles in management thinking than most Western countries (McMillan, 1985). In Japan, engineers are more directly involved in production process engineering in response to human resource and marketing needs. However, the prominent role of engineers in Japanese auto manufacturing plants is paralleled in the United States, but mainly in the aerospace industry (McMillan, 1985).

CHAPTER III

ANALYTICAL FRAMEWORK

The type of Japanese management practices transferred and the degree to which transfer duplicates actual Japanese homeland practice vary somewhat among the Japanese auto transplants in the United States. However, in general the overall Japanese system of work organization and inter-organizational relationship has been successfully transferred to the United States environment, according to a study by Florida and Kenney (1991). Also, Rehder (1987) states that automobiles built by the transplants are of comparable quality to their Japanese built counterparts, with lower production costs than those built by the Big Three (p. 61).

The success of transferring Japanese management practices did not automatically happen. Great efforts have been made to increase the participation of American workers in overall production improvement activities, such as Kaizen [continuous improvement] and quality circles. On the other hand, wage and labor relations at transplants have been modified from the standard Japanese way to include elements of the United States practices (Florida & Kenney, 1991). For example, bonuses are rare in the transplants unlike their counterpart plants in Japan. Moreover, Japanese auto companies "have taken great care to select and even to alter the environment to make it conducive to new organizational forms" (Florida & Kenney, 1991a, p. 391). The

environment in this case means the various elements to form corporate culture, such as selection of sites, and employees. For example, the transplants emphasize careful screening of employees who would be able to work as a team, and carry out intensive job training to increase the workers' participation and skills.

First, the specific Japanese management practices will be briefly reviewed, such as life-time employment, careful screening of employees, intensive training programs, a small number of job classification, leveling practices, total quality control, quality control circles with team work and rotation, the Just-in-Time system, the Kanban system, Jidoka, and company unions. Secondly, the origin of Japanese management practices will be discussed. Thirdly, examples of Japanese management practices in American companies will be reviewed.

Life-Time Employment as Opposed to Layoffs

Based on their long term perspective, major Japanese companies practice life-time employment, with both management and labor sharing the same fate. This life-time employment has been practiced in Japan mainly since World War II. There are two reasons accounting for why life-time employment became a common practice in Japan:

1. The companies efforts to secure workers due to the scarce work force during the era of high economic growth.
2. The pressure from unions to improve the status and stability of workers at actual production sites (Aoto & Miki, 1989). Moreover, Japanese culture tends to perceive frequently switching jobs

as unfavorable. In addition, life-time employment makes it cost effective to invest in employees by offering various training and educational programs within companies.

However, life-time employment as practiced in Japan does not benefit a large proportion of the work force. This is mainly for a certain number of men who work for large companies (Martin, 1989). Only 35% of the labor force benefit from life-time employment (Byron, 1989). The two thirds of Japanese work force is composed of part-time workers who do not get the benefits of full-time employees. In 1987, among the work force, one third of all women, over a half of women over age 65, and a third of men over 65 who were employed, were part-time workers (Martin, 1989). These temporary workers are the ones who would be cut off at the time of down turns in the economy. So, in Japan as in the United States, there are favored and unfavored sections of the work force. Nevertheless, for the secure worker in Japan, complete loyalty is always expected. Even for part-time employees without benefits, a loyal attitude is important and still expected, even if it is not reciprocated.

Layoffs are much more common in American companies than in Japanese companies for two reasons:

1. American companies recruit employees who have ability and experience anytime when it is necessary to do so.
2. During the period of prosperity, there are many chances to change a job for better conditions in the United States (Aoto & Miki, 1989).

However, these two conditions are not common in Japan where the

top one third of the privileged manufacturing sector practices periodic hiring of new graduates followed by life-time employment.

Although life-time employment is a characteristic practice in Japan in the privileged sector of relevance to our study, Japanese companies transferred to the United States do not always promise life-time employment, but do make efforts to avoid layoffs as much as possible. American workers could probably become as loyal as workers in Japan to the extent that they experienced a higher level of employment security than their neighbors working for American firms. The Japanese transplants' efforts to avoid layoffs will be described in later case studies in this paper.

Careful Screening

Japanese companies in Japan mainly emphasize hiring new graduates without experience, while American companies usually seek workers who already have some experience (Aoto & Miki, 1989). Trial hiring is apparently used in American companies to decide whether the person is competent for the position. Instead of using trial hiring, companies in Japan periodically hire new high school or college graduates in April every year through careful screening tests and interviews. Then, the companies are committed to providing their new employees with whatever on the job training is required (Aoto & Miki, 1989).

There are four reasons why periodic hiring became common in Japan:

1. A serious deficiency in work force numbers during the period

of the high Japanese economic growth.

2. The big demands for high school and college graduates to meet new labor requirements introduced with the mass production system.

3. The acquisition of a low cost work force.

4. The Japanese cultural emphasis on belonging to the companies, which is related to the life-time employment (Aoto & Miki, 1989).

Furthermore, four distinct characteristics of the Japanese hiring system are also important to the practice of periodic hiring:

1. A tendency to emphasize the moral character of recruits as against requiring prior training and job experience.

2. The number of employees is decided not only to fill up the vacant spots, but also to be incorporated into the company's long term plan.

3. The hiring of new graduates from school.

4. The authority to hire new employees is concentrated in the head plant which assigns workers to the branch plants (Aoto & Miki, 1989).

Although Japanese transplants in the United States do not always practice traditional Japanese ways of hiring, they still seem to be very careful in screening employees, as shown in the case studies later in this paper.

Intensive Training Program

Intensive training programs for employees are very important in Japanese companies. In Japan, it is not common to recruit qualified

persons from outside the company to fill the vacant spot. Companies prefer educating and training employees within their own organizations rather than hiring people from outside. Moreover, the purpose of training programs within the company is not only to teach the knowledge and technique required for the work, but also to develop a sense of unity among the employees (Aoto & Miki, 1989).

A Small Number of Job Classifications

Management in the United States makes a strict distinction in assigning tasks within the organization system. On the other hand, the task assignment in Japanese companies is more flexible than in companies of the United States. Japanese companies expect employees to be flexible in their work. This expectation of job flexibility is reflected in fewer job classifications in Japanese companies and fewer levels of administration. From a Japanese perspective, Americans reify tasks as jobs. If there are lathes to operate, there must be lathe operators who do nothing else. The future of manufacturing seems to lie in flexible systems which can restructure equipment for different product quickly. People must be equally flexible.

Total Quality Control

The concept of Quality Control originated with two Americans, W. Edwards Deming and J. M. Jurdan, who were experts in applied statistics. Deming and Jurdan went to Japan to lecture about the development of wartime industrial standards in the U.S. (McMillan, 1985). At the same time, Japanese industrialists came to the United

States to learn about quality control. The United States at that time practiced a type of quality control in which line managers and engineering staff had 85% of the responsibility and plant workers had only 15% (McMillan, 1985). Japanese industrialists modified American quality control by giving greater responsibility and information to the shop floor workers. In this way, the Japanese could prevent defects from entering the manufacturing process at an earlier stage of production, thereby, achieving a higher quality at lower cost than did American methods (McMillan, 1985).

Quality Control Circles With Team Work and Rotation

Quality Control Circles (QC circles) consist of groups of six to ten workers. These groups engage in activities, such as quality control, cost saving, safety improvement, pollution control, employee education, and energy saving (McMillan, 1985). The QC circles analyze and discuss problems raised by either workers or management and then make suggestions for actions. Each group is headed by a leader who coordinates the group's work. The QC leaders are usually rotated, and are often elected from among the group members. Variations in the use of quality circles exist among Japanese companies.

Leaders of Quality Circles play important roles for the mediation of ideas between workers and management (McMillan, 1985). The Quality Circle leaders take ideas generated by workers in quality control circles and present them to management. According to McMillan (1985), "through QC circles, Japanese companies build

bottom-up systems of experimentation, constant improvement, innovation, and above all, quality and pride" (p. 169).

The Just-in-Time System

The purpose of the Just-in-Time inventory system [an aspect of lean production] is to maintain the minimum amount of parts at the work site of the final assembly plant, while suppliers make deliveries at a precise time during the day. The delivery time has to be not too early or too late, but just in time. Buyers like Honda check not only the quality of the delivered parts, but also the supplier's delivery performance. Prior to the Just-in-Time system, an on-time system used to be practiced. However, "'on time' meant anything arriving up to 12 days ahead of the nominal schedule, and as late as six days" (Raia, 1990, p.65).

Practicing the Just-in-Time system is not only effective in reducing the inventory for the assembler, but also to produce better quality products. The Just-in-Time system made buyers reduce the number of their suppliers. For example, Ford "reduced its supplier base by more than 40%" (Raia, 1990, p. 65). There are four logical points behind the Just-in-Time system:

1. If suppliers are screened into a small number, then they must be better suppliers than the unselected ones.
2. If better suppliers, then fewer rejects, then better process controls.
3. If better process controls, then less inspection (Raia, 1990, p. 71).

4. Because supplied parts are immediately used, "faults are caught earlier and below-standard assemblers can be more easily spotted" (Alston, 1986, p. 56). The assemblers work very close to the small number of selected suppliers by providing necessary technology and information. In this way, cooperative, loyal, and long term relationships between assemblers and suppliers are created in order to achieve the Just-in-Time.

Due to the reduced inventory, small batches make it possible or necessary to have frequent job rotation. Then, the workers are expected to be flexible in their jobs. "The system can be successful only if workers are willing to learn a number of different operations" (Alston, 1986, p. 54). Working closely with the suppliers is also important to make the system successful because the system demands that the final assembler be able to rely on a smaller number of, but more reliable suppliers (Alston, 1986, p. 56).

The Kanban [A Part Specification Sheet] System

Kanban is an inventory control and production system. The word Kanban means a small plastic plate or paper which includes all relevant information on each part. This system is a combination of the Just-in-Time delivery and a rigid scheduling flow to reduce waste and inventory costs (McMillan, 1985). The idea of the Kanban system was brought to Japan by Tai-ichi Ohno, the Vice President at Toyota, who was inspired by American supermarkets (McMillan, 1985). American supermarkets today use bar codes at the cash register to inform the warehouse when to resupply. At the American supermarket which

inspired Ohno before the invention of bar codes system, the super-market staff used to replace products when the shelves had empty spaces or gaps. Toyota applied this information system to the flow of parts; the workers in the last stage of production dictate the flow of parts needed from the prior stage. The old system projected material requirements from the beginning stage of production to each subsequent stage. The Kanban system includes Just-in-Time and so permits the supply of parts just as they are needed. Any stock pile is perceived as waste in this system.

An interesting issue beyond the scope of this thesis is whether the suppliers are now the stock pilers or whether they can gear up to producing as well as delivering just-in-time. If they are not, this system represents the domination of the small suppliers by the large assembler in that the costs of warehousing have simply been shifted from the assembler to the supplier.

Jidoka [Bottom-Up Quality Control]

Jidoka can be literally translated as automation or advanced mechanization. However, Jidoka at the Japanese transplants means the harmony of people and technology. The production line stops by itself in case of abnormal conditions. Also, any assembly line workers can stop the line when they find some problems, such as bad quality, insufficient equipment, lack of parts, or a breakdown of machines. In this way, quality production is assured by people as well as machines. The important point is that the workers have autonomy over the machines without being controlled by the machines. The lowest

assembly operators in this system have more authority than in most American factories without this concept of Jidoka.

Leveling Practices

Japanese corporations attempt to minimize visual status differentials among employees by issuing the same uniforms, eliminating special parking spaces and lunch rooms for executives, and calling all employees associates. In my opinion, these Japanese practices are not necessarily the result of less hierarchy in Japanese companies in spite of various leveling practices. Japanese people seem to be very conscious of rank among the workers. This is a part of Japanese culture in which seniority and respect for elders is emphasized. For example, employees who have titles such as the chief of a section, the director of a department, and the chairman are called by their titles or last name with the titles, never by their first names in Japan. Calling people by position titles extends to social situations outside of the work place. In other words, Japanese people may rely more on terms of address to make status distinctions, while Americans rely more on visual symbols.

So it is not a question of which people are more status conscious, but how they express it. The transplants generally minimize both American and Japanese ways of expressing status distinctions, by having common cafeterias and calling the co-workers by first names. Thus, the status distinction is less at the transplants than in either Japanese home plants or American owned companies in the United States. What may have happened is that Japanese managers were

imitating what they understood to be a typical egalitarian United States practice whereas they were actually responding to a high American value which is more relevant to non-business organizations.

Company Unions

Japanese unions are said to foster a cooperative relationship between management and labor since white and blue collar employees are in the same union (Aoto & Miki, 1989). Japanese unions are organized per company in all locations, rather than being part of national federations, as opposed to unions in the United States. A major criticism is that the cooperative Japanese unions do not protect their workers as much as do American and European unions (Sethi, Nobuaki, & Swanson, 1984).

The Origins of Japanese Management Practices

Japanese management practices are based on a combination of traditional Japanese paternalism, a pre-New Deal American management plan from the 1920s, and the works council idea carried over from Europe, also pre-New Deal in origin (Taira, 1990). The "(c)haracteristics of the Japanese employment system which are touted as sources of labor efficiency and product quality are imported from America" (Taira, 1990, p. 473).

Japanese employers sent missions to the United States and Europe to study how Western countries dealt with labor, after labor arose in Japan due to a militant labor movement in the 1920s (Taira, 1990). One of the most important missions arrived in 1921. This mission

consisted of 24 top Japanese executives. The members of the mission were impressed by the National Association of Manufacturers of the United States and became inspired to consolidate the National Association of Industrial Associations in Japan. The 1921 Japanese mission influenced Japanese employers labor policy by taking the ideas of the pre-New Deal American plan, such as welfare capitalism, employee representation, and company unionism. Even after World War II, Japan continually learned production techniques and processes from the United States and modified them into the Japanese way. Some of these American practices adopted by Japan were not prevalent in the United States (Taira, 1990). For instance, the concept of quality control was more welcomed by Japan at that time than it had been by Japan's American counterparts.

In spite of the fact that Japan learned so much from the United States, it is said that "(t)he traditional mass-production system used by most United States and European automotive companies is vastly inferior to the production system at leading Japanese firms, such as Toyota and Honda" (Verrer, 1990, p. E3). The reason for this difference may be explained by Japanese faithful implementation of basic good management principles as opposed to the United States' loss of that concept (Sethi et al., 1984).

Japanese auto manufacturers make efforts to continually improve product quality and cost effectiveness. These improvements are achieved by human resource policy. No unusual or advanced technique or methods are generally used at Japanese transplants in the United States. Improved Japanese management methods which make products

with low cost and high quality are the result of an accumulation of small innovations over a long period of time which is sometimes referred to a process engineering (Monden, Shibakawa, Takayanagi, & Nagao, 1985).

In contrast, the United States management practices seem to lack some of the basic management principles concerning product quality, work force, and a long term perspective (Sethi et al., 1984). An apparent major weakness of United States management practices is a short run pragmatic approach. American manufacturers focus on analytic detachment rather than the insight that comes from "hands on" experience and emphasize short term cost reduction through layoffs of workers rather than long term development (Sethi et al., 1984).

McMillan (1985) also pointed out that United States corporations emphasize buying and selling companies to increase share price value gains in contrast to Japanese management practices of emphasizing development of more efficient production systems (p. 331). American owners tend to sell their companies easily when crises come because they treat manufacturing entities as financial assets rather than productive enterprises, even though selling the companies could be a bad idea for the long term effect on the company (Kusumoto, 1991).

Furthermore, scientific management methods used by United States companies during 1920s assumed that lower level workers are stupid and therefore must be taught to be submissive, as opposed to Japanese management methods which encourage workers' participation (Alston, 1986). In addition, McMillan (1985) stated that

the point is not that United States or European firms don't have good engineering--compare the technology and engineering emphasis of a French car company like Citroen, for example, or the fact that United States firms like General Motors and Ford were two of the biggest investors in R&D, just before the Japanese auto onslaught arrived in force--rather the point is the need to integrate across functions. (p. 332)

Cole (1981) found that there was no significant difference in work attitude between American and Japanese workers. The only difference between American and Japanese workers was found in commitment to the company: Japanese workers are more committed to their companies. Japanese workers' loyalty to their company is the result of human resource operation of the Japanese companies, such as job security and seniority wage system. Cole (1981), however, said that productivity derives not from workers' loyalty, but from Japanese institutional practices which encourage and reward workers for making these contributions.

Japanese Management Practices in American Companies

Although Japanese transplants implemented many of their management practices in the United States, the question is raised whether or not it is necessary to adopt the style of Japanese management practices used at the transplants in the United States in order to make American manufacturing more efficient. Since management methods used by the transplants are, for the most part, applications of fundamental, good management, as discussed above, it seems likely that other forms of fundamental management practice could achieve the same results for a given company, as long as the basic principles are implemented. For instance, Alston (1986) suggests that "each

American company has to adjust to the specific type of Q.C. circle which best fits into its own organizational structure" (p. 282).

"Many can use other forms of employee participation to achieve the same advantages" (Alston, 1986, p. 282).

Alston (1986) presented several examples of American companies whose management strategies are similar to those of Japanese management. For example, the American company, Hewlett-Packard, began to use suggestion boards after concluding that quality circles did not work effectively at their plant (Alston, 1986). Suggestion boards allow workers' ideas to be seen by everybody. The supervisor puts up responses to the suggestions on the same board within two days, after deciding to accept them for further study, to implement them, or to reject them. Moreover, Hewlett-Packard makes efforts to create an atmosphere which encourages informality and open discussion. For instance, all workers are called by their first name. Free coffee and snacks are offered by the company twice a day. The company owned recreational areas can be used by any employee at a low cost. Also, a policy of life-time employment has been implemented at the company (Alston, 1986).

G.M.'s Livonia (Michigan) plant encourages the workers to make suggestions. In 1982, the Livonia plant saved 1.2 million dollars and reduced the scrap rate 50% because of the workers' suggestions. The Livonia plant promotes de-emphasizing blue-white collar divisions by having the same cafeteria and no individual reserved parking (Alston, 1986). Texasgulf Inc. also deliberately promoted a family atmosphere among the employees by several practices. For example,

the company not only offers college scholarships to employee's children, but also encourages second-generation employment (Alston, 1986).

Apple Computer Inc. management practices walk arounds in order to increase management visibility for their employees. Through this practice, familiarity is created between the managers and the employees. A feeling of mutual involvement and togetherness is then encouraged to achieve the goals of the company. Because of the practice of morale building at Apple Computer Inc., the employee turnover rate is about 1% as compared to 5% in California's Silicon Valley as a whole (Alston, 1986).

These examples of management practices by American companies convey the idea that it is important for the company to bring all the employees together in order to achieve the goal of the organization. The means for achieving organizational goals are not necessarily the exact same form as in Japanese practices. Means can differ in form as long as the basics are followed. From this idea, the question whether or not it is necessary for Japanese transplants to use their management style in the United States may be pursued. It may not be necessary to practice exactly the same management form as long as the fundamental management concepts are implemented. In other words, structural substitutes serve the same function.

CHAPTER IV

CASE STUDIES

In this section, I will list the findings of five plant studies. They are also summarized more systematically in Table 1 in terms of the practices transplanted and the structural features of the plants' setting which could have affected their success.

Mazda

Mazda, a Japanese auto company, built its first transplant in Flat Rock, Michigan in 1984. The company emphasizes interpersonal relations as the key to productivity and competitiveness by practicing unusually careful selection of employees, heavy training, close-knit working relationship and work flexibility which requires all workers to be accustomed to being rotated among many different kinds of jobs. A case study of Mazda by Richard Child Hill, Michael Indegaard, and Kuniko Fujita (1991) will be reviewed in terms of this company's inner organizational practices, relations with its union, suppliers, government and community.

Mazda decided to build its plant in Flat Rock after the Ford Motor company closed its Michigan Casting Center. The relationship between Ford and Mazda is important. Mazda bought the land from Ford and sought Ford's advice about labor and suppliers in the region. Mazda buys parts from Ford, while Mazda helps to increase

Table 1
Summary of Case Studies

Elements	Mazda	Nissan	Honda	NUMMI	Toyota
Layoffs	No	Avoid	?	No	Avoid
Careful Screening	Yes	Yes	Yes	Yes	Yes
Intensive Training	Yes	Yes	Yes	Yes	Yes
The Number of Job Classification	2	4	3	4	3
Quality Circle	Yes	Yes	Yes	Yes	Yes
Rotation	Yes	Yes	Yes	Yes	Yes
Team Work	Yes	Yes	Yes	Yes	Yes
Just-in-Time	Yes	Yes	Yes	Yes	Yes
Jidoka harmony of machine and people leveling	Yes	Yes	Yes	Yes	Yes
Uniform	Yes	Yes	Yes	Yes	Yes
No Special Dining Room	Yes	Yes	Yes	Yes	Yes
No Special Parking	Yes	No	Yes	Yes	Yes
No Special Executive Office	Yes	No	Yes	Yes	Yes
Calling Employees	Team Member	Technician	Associates	Team Member	Team Member
<u>Structural Factors Affecting Diffusions</u>					
Manager	Japanese	Americana	Japanese	Japanese	Japanese
Union	Yes	No	No	Yes	No
When Started	1987	1983	1982	1984	1988
Site	Flat Rock MI	Smyrna TN	Marysville OH	Freemont CA	Georgetown KY

Ford's quality and productivity.

Hiring people at Mazda takes a five step evaluation over six months. The first step is two hours of written tests for mechanical comprehension, oral comprehension and numerical skills. The second step is an interview about previous work experience [a step not common in Japan as noted above]. During the interview, the applicants are evaluated to see if they can fit into the Mazda environment which emphasizes team work. The third step is a social assessment in which the applicants solve interpersonal problems in a given situation. The fourth step is a medical examination of applicants in which, among other things, substance abuse is checked. The last step is a physical assessment in which the applicants will perform given tasks. There were 40,000 applicants for 3,100 available jobs (Hill et al., 1989, pp. 75, 76).

After applicants are hired through such a careful screening, they go into a heavy training session which takes about three months. During this orientation, the employees learn about the "kaizen" philosophy which is translated as a process of continuous improvement. They are then assigned to a work site and evaluated for attitude, aptitude and dexterity. Before they are assigned to actual jobs, they must learn the basic nomenclature of tools, and how to carry out the work which means not one limited task but a wide range of jobs.

The workers are encouraged to participate in organizing their jobs. They have a five minute meeting before the line starts every day. A "diagonal slice" meeting is held with a cross section of 20 to 25 people. Jobs are also rotated among workers in the line.

There are few job classification at Mazda. Therefore, the workers are trained to be multi-skilled and flexible. Moreover, Mazda emphasizes a social relationship which should be harmonious, and egalitarian. All workers are called members and wear the same uniforms. However, this research report was unclear as to whether administrators are also called members by the workers or each other.

Mazda is the first Japanese owned automotive plant to have the UAW or any union. The UAW was selected by the employees and expects participation in hiring and management committees of Mazda. The wage of Mazda's hourly workers was also expected to rise up to that of Ford workers by 1990. The UAW expects to understand Japanese industrial relations from the insider's point of view, so that they will be able to use it to organize future Japanese transplants.

Mazda is pressured by the United States government to increase local content [parts made in the United States] because it uses a much lower United States content to produce automobiles than the Big Three. Mazda selected their suppliers by getting advice from Ford Motor Company in regard to prices and other related information. Mazda then talked with the managers of the suppliers and evaluated their quality control and productivity. Mazda expects to have a long-term relationship with its suppliers on the basis of mutual trust, and sharing of resources, whereas the United States' companies have a short-term perspective with their suppliers. The United States' auto parts suppliers are threatened by Japanese parts suppliers coming to the United States because the Big Three as well as Japanese transplants may outsource to non-unionized Japanese suppliers

rather than the unionized United States' suppliers.

The state provided approximately 120 million dollars to subsidize Mazda's location in Flat Rock. Although some people were concerned that the size of the subsidies might not benefit the state's population, Mazda added up 15,000 to 20,000 jobs to the community which had a fiscal crisis caused by the Ford pullout. Even though Mazda generally earned a favorable impression in the community, some problems occurred, such as friction between management and labor and between American and Japanese managers themselves, pressures to increase local content, employment of the minorities, product quality and complications with their highly automated technology.

The friction between management and labor and among managers is caused by the differences in work expectations and methods between Japanese and Americans. For example, while Americans view work as something to support their lives, the Japanese see it as the most important part of their lives. American workers consequently complain that Japanese supervisors demand too much and set unrealistic standards. American workers are also not accustomed to the Japanese team work style.

Equal employment opportunity is another issue on which the Japanese transplants are often criticized. Some argue that the Japanese locate their plants where the black population is small and hire a lower percent of minorities even though Mazda executives say that they would like to hire more blacks. However, Americans recall the statement by a Japanese foreign minister that the United States' work force is inferior because it has so many minorities.

In spite of the problems described above, Mazda's productivity is better than that of most United States' owned assembly plants. Moreover, the company is praised for its concern for safety and efforts to get the workers involved in the work organization.

In summary, Mazda transplant has two distinctive characteristics, compared to the other four transplants: (1) the close relationship with Ford, and (2) the presence of union workers as in the case of NUMMI which is also related to an American automaker, GM, while the other three transplants have no unions.

Nissan

Nissan, the second largest auto company in Japan, chose Smyrna, Tennessee to build its transplant in 1980. Nissan was the largest single foreign investment in Smyrna. Nissan's investment also brought other Japanese and American parts suppliers to Smyrna. The report done by Jerry Buckley (1988) will be summarized.

The hiring system of Nissan was also highly selective, slow and meticulous compared to the usual American firm's system or what would be necessary in Japan. However, Nissan's screening took only several days which was much less than Mazda's six months. Only one out of ten applicants was hired after several days of pre-employment screening in which the applicants' attitude toward work is checked. Nissan preferably hired people who had never worked in an auto company because the company did not want the employees to have preconceived notions about auto manufacturing or unionization. The reason why Mazda's screening was more careful than Nissan's may be that Mazda

had a lot of applications from former Ford auto workers and was located in Michigan, a pro-labor union influenced state. According to Sethi et al. (1984), Marvin T. Runyon, the president of American Nissan, stated that

(h)uman resource selection and use is critical in a participative management system. We're looking for people who are capable of a high degree of cooperation and team work. We're looking for workers who are motivated by group achievement as well as their own personal achievement. And we're looking for workers who share the company's commitment to building the best quality trucks on the Market. (p. 194)

Nissan's careful hiring system was followed by a large investment in employee education. Employees are expected to be loyal and willing to learn a new system. Three hundred and eighty-three employees were assigned to spend six weeks in a training session in Japan. In addition to nine million dollars from the state, the company spent fifty-four million dollars to train their new American employees.

As in the case of Mazda in Flat Rock, Nissan has few job classifications. The jobs for hourly workers at Nissan are classified into only four categories. All workers are responsible for quality control. Although product quality was a concern when Nissan first started its production, five years later it proved to be as good as in Japan.

Nissan hired an American manager to run its transplant in Tennessee. This is an exception because Japanese plants normally use only Japanese managers. He developed a new management style which has 55 involvement circles to discuss quality, safety and productivity. Every day, a ten minute group meeting is held throughout

the plant before starting the line, whereas only a five minute meeting is held at Mazda. During the meeting, the employees talk about their ideas and complaints. The American manager also decided not to have a morning warm-up exercise because he thought that it would be "a morale-depressing chore" in Tennessee. Moreover, he insisted on an American retirement plan at Nissan which begins at age 65. Employees who served for 30 years get half their base pay for the rest of their lives, whereas Japanese workers get a lump-sum payment at age 55. In Japan, these pensions are not normally sufficient, so most 55 year olds go back to work in smaller companies for lower wages, usually the parts suppliers.

Unlike Mazda in Flat Rock, Nissan is not unionized. A lot of workers at Nissan do not think that the UAW would bring any benefits to them. One of the Nissan's workers who expressed her opposition to the union stated, "(e)verything would be cut and dried according to the contract," and "there'd be more tension because people would work as individuals, not as a team" (Buckley, 1988, p. 54).

The relationship between Nissan and its parts suppliers is similar to that between Mazda and its suppliers. The relationship is based on a long term perspective. Nissan is likely to reject parts produced by the United States owned companies more often than parts from Japanese owned plants in the United States. However, Japanese companies in the United States are generally increasing the content of auto parts made in the United States because of the rising yen and political pressure from the United States government.

Site selection was a crucial issue for Japanese companies facing

racial conflicts in the United States. However, according to Nissan, Smyrna was chosen because of its central location, cheap land and low labor costs, not because of the proportion of minorities. Actually, 17% of the work force is black at Nissan, in spite of the fact that blacks are only 10% in the population of the area.

The Nissan transplant has some different characteristics from the other four transplants: (a) an American manager, and (b) some status distinction practices, such as American style closed office and separate parking spaces and no uniforms for top executives.

Honda

Honda built its transplant in the greenbelt community of Marysville in Ohio in 1982. Honda was the first Japanese automaker that started production in the United States, since Honda had already been producing motor cycles in the country before making automobiles. The site, Marysville, Ohio, was selected because there was little industry in that area and consequently the work force was fairly homogeneous and has no experience in assembly line work (Oka, 1983). Obviously, Honda preferred a non-unionized work force which would make it easier to train the employees in the Honda way.

Honda in the United States developed good manufacturing methods at an in-house technological development organization called Honda Engineering of America Inc. Their emphasis on continuous improvement may be seen in a quick and frequent change of die which is carried out at a rate of 2 and half per day (Vasilash, 1988) and takes only four to eight minutes (Moskal, 1990). Also, they have three types of

intensive quality control systems: Q1 to check parts quality, Q2 for testing every car before being shipped, and QCA for the road test. Quality control staff are attached to every manufacturing department. Therefore, "any defects are being caught before they leave the plant" (Senia, 1988, p. 51).

However, Honda seems to achieve high quality products not only through the technological improvement, but also through personnel management. Employees at Honda are treated as thinking as people, not to work mechanically as machines (Oka, 1983). Soichiro Honda, the founder of Honda, said that "(n)o matter how much progress and development is made in science and technology or social structure, it must not be forgotten that it is men who operate them" (Alston, 1986, p. 94). He also stated that "(d)on't be used by the machine, use the machine" (Alston, 1986, p. 94).

Their personnel management highly emphasizes participation and involvement by the employees by leveling and rewarding them. The leveling practices are such as calling the all employees associates, wearing the same white jumpsuits, and not having reserved parking spots for executives. However, promotion is not based upon seniority, which is a common practice in Japan, but rather based upon the leadership and initiative shown by the associates (Moskal, 1990).

A Voluntary Involvement Program called VIP is an example of encouraging employees participation. This program consists of four segments: quality circles, a suggestion system, quality awards, and safety awards. The employees are recognized and rewarded for their achievements through this program. In addition to that, associates

are also encouraged to work in small teams. Working in a small team enhances the sense of participation and responsibility.

Moreover, Honda built its Associate Development Center (ADC) six years after its the first year of production. The center offers four hundred courses to train and educate all of their employees. Their development training is designed to last 12 hours for production associates, 20 hours for team leaders, and 30 hours for team coordinators. There are four kinds of training programs: (1) general, (2) fundamental administrative, (3) technical, and (4) quality circles (Moskal, 1990). This general training has four purposes: (1) to address specific skill development, (2) to expand an associate's leadership and communication skills, (3) to teach project-management techniques, and (4) to develop step-by-step problem solving and decision making processes (Moskal, 1990). The fundamental administrative training is for team leaders, staff, coordinators, and administrators to teach how to appraise the performance and practices of the other employees. The technical training is complementary to the other job trainings on welding hydraulics, and electrical mechanical systems. Moreover, Quality Circles training aims at the team leaders so that they can coordinate and train the other associates. In Quality Circles at Honda, the tools and money are given to the associates to carry out process improvements on their own initiative.

In addition to technical improvement and employee participations, high quality seems to be achieved at Honda by working closely with their suppliers. Honda frequently makes informal visits to suppliers in order to improve their quality. Their suppliers'

performance, measured by parts per million (ppm), has been improved from 1800 ppm in 1986 and 500 ppm in 1989, to 250 ppm in 1990 (Raia, 1990). The final goal is a single digit. By improving the quality of their suppliers, inventory time at Honda is planned to be reduced from three hours to fifteen minutes (Raia, 1990).

The goal of Honda in the U.S. is to build a self-reliant manufacturing system in North America by the early 1990s (Raia, 1990). Actually, the domestic content of automobiles made by Honda in the United States has been increased from 20% in 1982 to 71% in 1990. Ironically, the automobiles produced by Honda in the United States contain more parts made in the United States than do many models made by the Big Three. The success of Honda in the United States will lead to more job opportunities for parts makers in the United States and may help to revitalize the United States' economy.

In summary, Honda has three distinctive characteristics which are different from the other transplants: (1) the first Japanese automaker starting its production in the United States, (2) a 100% of Kaizen (continuous improvement) implementation level, and (3) more emphasis on individual initiative involvement as opposed to Toyota's focus on team work.

NUMMI

The New United Motor Manufacturing Inc., a joint concern of General Motors and Toyota, started in Fremont, California, in February, 1983, a year after GM closed the Fremont plant. This joint concern gave GM an opportunity to try some Japanese management practices, and

Toyota to learn how to deal with the United States' makers and suppliers. Also, Toyota appreciated the opportunity to obtain access to the United States' market.

NUMMI has a lot of former GM workers and some of them were members of UAW. Toyota was the first Japanese auto-maker which had the UAW members in its work force. However, NUMMI seems to have few adaptation problems among its employees (Florida & Kenney, 1991a). The approximately 40 to 50% of Japanese Kaizen activities (continuous improvement) are applied to the plant operation (Florida & Kenney, 1991a). For example, a strict hiring system, a no-lay off policy, few job classification, work teams, a Kanban system, and Jidoka are typical Japanese practices used in NUMMI.

NUMMI reduced by 80% GM's number of job classifications (Florida & Kenney, 1991a). The current job classifications are four: team workers and three others for skilled trades workers. Not only are there four job classifications, the workers rotate their tasks every time when they have a break or change (Florida & Kenney, 1991). The small number of job classifications makes the workers learn different skills, and become more flexible at work. Eventually, this flexibility gives the worker greater job security.

The big difference between NUMMI and GM is labor relations. The first vice president of UAW, Gus Billy, said, "(i)n the old plant you had the union on one side and management on the other. We continually fought one another. At NUMMI, labor and management work together on the basis of trust" (Hashimoto, 1985, pp. 1, 2). The president of UAW also stated, "(c)ompared to other GM plants, there is hardly any

management here at all," and "(w)orkers are taking responsibility and making decisions that would fall to management at a typical GM plant" (Hashimoto, 1985, pp. 1, 2). The International Labor Organization reported the relationship between labor and management at NUMMI as one of the most harmonious (Rehder, 1988).

Actually, NUMMI encourages workers to get involved and become responsible through various practices. For example, each worker in a team is in charge of making a certain number of products and checking them out for defects so that he or she has to make better products (Hashimoto, 1985). However, responsibilities are given to workers not just as individuals, but as a part of a team. The work team of six to eight people is responsible for making good quality at a lower cost and the work site safe (Ulrich, 1986). The three teams are then headed by a group leader who motivates the teams. One of the former GM employees said "(t)he group leaders are now right there helping on the production floor," and "at GM, they couldn't do that or the union would get mad" (Kenney & Florida, 1991b, p. 26).

According to Alston (1986), the differences between American and Japanese management are described by Roscoe Dye, who spent 21 years as a maintenance line worker in American automobile plants, before being hired by NUMMI:

[In American management style,] upper management treated you as a lower grade of people. If you didn't have the education to communicate with those people, they wouldn't bring themselves to talk with you. [In Japanese management,] we found that the upper management is now willing to talk to a common working person like myself. I'm the bottom of the group. If I can have anything to say, and they'll listen to me, I'll feel like I'm being appreciated. (p. 93)

While working as a team is very important at NUMMI, socialization

among the workers is encouraged by giving each worker thirty dollars per year to party with colleagues (Hashimoto, 1985). Absenteeism at NUMMI is less than 5% (Ulrich, 1986).

Japanese practices seem to be working successfully at NUMMI, according to Florida and Kenney (1991a). One of the workers stated:

A lot of things have changed. But see, you hear people talk. You hear them saying once in a while, 'Oh, we're going back to the GM ways.' I hope not. That was rough.... I think to completely bring back the Japanese way, Japan would have to take over the plant completely and have nothing to do with General Motors. (p. 389)

Moreover, "NUMMI workers complain that American managers still operating in the GM style are a major obstacle to implementation of a full-blown Japanese system that they see as more favorable to workers than the old fordist system" (Florida & Kenney, 1991a, p. 389).

In summary, the distinctive characteristics of NUMMI arise from the special combination of American and Japanese ownership unlike the other four transplants, and the existence of a UAW union as in the case of Mazda. Compared to GM's former operation, NUMMI employees seem to be happier thanks to the transferred Japanese management practices.

Toyota

Toyota, the world's third largest motor corporation, built a transplant in Georgetown, Kentucky, in 1988, after four years of its NUMMI experience. Toyota has a technical center head quarters in Torrance, California, while keeping the largest design staff in the world which is twice as big as that of GM. Toyota, known as the conservative company in Japan, implemented 60% of its Japanese Kaizen

(continuous improvement) activities at its plant in the United States. Those Japanese practices include team work, quality control circles, frequent rotation of jobs, the Kaizen concept, the Kanban system, a well developed suggestion system, and close relationships with the suppliers and communities (Florida & Kenney, 1991a; Kruar, 1989; Moskal, 1991).

The workers at Toyota are called team members as are Mazda's workers. However, the work force at Toyota is not unionized as it is at Mazda. Toyota carries out a lot of activities to build morale among the workers. For example, a personal touch program is made to encourage the workers to socialize among themselves after work hour by subsidizing the expense (Kruar, 1989, p. 104).

While the workers are encouraged to be social, they are expected to get involved in their jobs by working as a team. A daily meeting is held to improve and redesign the work. Moreover, the "(t)eam actually designs standardized task descriptions for their work units and post them in the form of drawings and photographs with captions at their work stations" (Florida & Kenney, 1991a, p. 387). In addition to their involvement in their work, workers on the production lines may be recruited for middle level management positions in the factory and the front office (Florida & Kenney, 1991a).

Toyota has very close relationships with suppliers. Toyota set up the Bluegrass Automotive Manufactures Associations for the local suppliers in Kentucky (Florida & Kenney, 1991b). Toyota closely worked with Johnson Control's car seats supplier by implementing Toyota's production system in terms of Kanban, Quality-Control

Circles, Kaizen, etc. Johnson Control can now deliver car seats to Toyota in four hours (Kruar, 1989).

Toyota also developed a close tie to the community. Toyota stated that they "want to preserve the quality of life that attracted it to Georgetown" (Kruar, 1989, p. 99). For example, Toyota made a million dollar donation to build a community center. Moreover, Toyota is involved in re-designing the curriculum at the local schools so that the students could learn group-oriented behavior and problem solving (Florida & Kenney, 1991b). In addition to that, Toyota sponsors the trips to Japan for the mayor, county executives, school superintendent and other officials (Kruar, 1989).

The community, Georgetown, also made some change for Toyota's coming. They imposed a 1% tax on wages and salaries atop an identical county tax. By implementing the tax, the police force in the city was reinforced with more men and vehicles, and the city hall was renovated (Kruar, 1989).

In summary, the distinctive characteristics of the Toyota transplant are having previous working experiences with American auto workers at NUMMI, implementing more Japanese practices in its own plant than at NUMMI, and working closely with the local community.

CHAPTER V

ANALYSIS

In general, most of Japanese management practices are transferable to the United States, while Japanese labor management practices are more likely to be modified or not transferred, but structural substitutes are available. In this section, various Japanese management practices are going to be divided into three categories: (1) practices which could or should be transplanted, (2) practices needing transplantation but which, because they were unacceptable, have been replaced by structural substitutes, and (3) practices which are not essential for transplantation.

The Japanese practices which have been transferred to the United States over the past decade include, Just-in-Time, the Kanban system, Kaizen [i.e., continuous improvement], Quality Circles, Jidoka [i.e., harmony of people and machine], Team Work, rotation, and many process engineers at production sites. These transferred production practices encourage workers' participation and involvement by giving responsibilities and rewards so that the workers are motivated to do their jobs. These production practices are supported by some of the Japanese labor management practices including careful screening, intensive job training, and few job classifications. The aim of these transferred labor management practices is to make the various production practices possible by seeking cooperative attitudes from workers

as well as training them to be flexible. In addition to the practices of screening and training employees, some practices which eliminate visible status distinctions among executive and labor force employees were also transferred, such as a common uniform, no special parking or cafeteria areas, or separate office designations for top executives. The policy of not assigning separate offices to the executives makes it possible for both management and labor to interact with each other regularly. These practices aim at developing familiarity between executives and lower level employees. Concurrently, cooperative relationships between labor and management have been encouraged at Japanese transplants.

Life-time employment would have been appreciated by the workers in the United States for their job security. Although life-time employment is practiced in Japan, Japanese transplants do not always promise to keep their employees for the rest of their lives. Instead, Japanese transplants develop policies which are aimed at avoiding layoffs as much as possible. A policy of long-term employment makes it possible to invest in the employees by giving in-house training programs, which in turn creates an expectation of contributions of skilled labor from the trained workers to the company's goal.

The Japanese practices which are not apparently essential for transplantation include their retirement policy, and promotion based on seniority. In fact, they may not even be good for Japan. The Japanese retirement policy should not be transplanted because the current retirement age of 55 to 60 in Japan is being reconsidered. Because the population of aged people is growing, and because of the

decreasing population of younger working generations, the retirement age of 55 to 60 will need to be increased. Japan will most assuredly prolong the 53 retirement age so that the aged people can work with the full compensation. Also, the increase of a number of working older people would be a good solution for the expected lack of work force resulting from the low birth rate in Japan. Therefore, since new retirement policies are being developed in Japan, the current policies should not to be transferred to the United States.

Promotion eligibility based on seniority may not be essential to increase high productivity and quality, although it may help to avoid conflict among the workers. However, it does not directly encourage employees to become better skilled workers. If promotion were solely done by seniority which helps to reduce conflict, the workers might not be motivated to work hard. Moreover, promotion based on one's ability instead of seniority is becoming popular in Japan. For example, IBM in Japan is one of the most popular companies for which new college graduates wish to work because the company gives the positions based on their achievement at work without being in the company for years. In other words, Japanese workers, like Americans, would like to be rewarded for their hard work, even if the hard work takes place in a short period of time.

Another Japanese policy which is not essential for transplantation to the United States is consensus decision making, even though consensus is very essential in Japanese culture. There are two disadvantages in decision making by common consensus: (1) the policy takes a long time, and (2) it does not work for acute situations.

Moreover, while consensus decision making in Japanese companies is based on the group emphasis in Japanese culture, if this group emphasis is excessively imposed to workers, the workers may be discouraged from becoming creative which is a perceived weakness in the Japanese education system today.

While being multi-racial and multi-cultural produces many problems for decision making policies in United States corporations, such diversity also seems to be related positively to creativity, which Japan's homogeneous consensus oriented society lacks. Japan, with half of the population of the United States, has produced only one thirtieth the number of Nobel Prize winners as the United States (Read, 1990). Therefore, consensus decision making based on excessive conforming to a monotypical group should not be transferred to the United States, but should instead be reconsidered for its disadvantages in Japanese companies.

In addition to the Japanese companies' practices which should or could not be transferred to the United States, work attitudes of Japanese workers are incompatible with those of Americans. For example, Japanese businessmen very often go out to bars and restaurants after work in order to talk informally about issues related to their work. This socialization among Japanese workers is often considered as an expected part of work to create a harmonious atmosphere at the work place. However, this kind of socialization at bars is done by sacrificing the workers' own family life. Many of Japanese wives stay at home, being primary responsible for the children and households, in spite of their husbands' neglect of family life. However,

American family life is already very weak with a 50% divorce rate. Marrying one's employer in the case of the large number of two career families would further increase the divorce rate in the United States. Although American businessmen sometimes have business talks outside the work place, Americans do not sacrifice their family lives as readily as do Japanese. Therefore, practicing the Japanese form of professional socialization at the transplants in the United States may create a value-conflict between Japanese and American workers.

Stereotypical attitudes toward women and minorities are much stronger than those in the United States. Therefore, every effort should be made to be sure that the negative attitudes toward women and minorities in Japan not be transferred to the United States. In general, Japanese women are still expected to be subordinates at the work place. Some companies still require women workers to serve tea and clean the offices for male co-workers. Even though Japanese law, providing equal employment opportunities for men and women, was implemented six years ago in Japan, it will take a long time for Japan to fully practice equal treatment of men and women at the work place. Moreover, some minorities in Japan, [e.g., Koreans, the Ainu tribe, and Chinese] suffer from unequal job opportunities. Although the Japanese transplants in the United States have increased the number of minorities, due to political pressure, it is still an assumed reality that these companies actually do not practice equal job opportunities for the minorities in Japan.

This study of Japanese transplants in the United States demonstrated the cultural diffusion theory. The cultural diffusion theory

states that the elements compatible to the receiving culture are most welcome to be transferred from one culture to another, while the elements incompatible to the receiving culture are most likely to be rejected. Moreover, some elements are reciprocal from one to another culture. Most of Japanese production practices and some of their labor management policies were originally introduced to Japan by the United States. Now, after being modified in Japan, those policies are coming back to the United States with the transplants.

Reconsideration of traditional Japanese and American management practices may be raised by examination of the transplant studies. Transplants are branches of corporate entities in which two different cultures conflict, yet are meshed with each other. The struggle of the transplants may be used as an opportunity to reexamine both Japanese and American societies by studying the value systems used in each country, and considering what can be improved for each society.

CHAPTER VI

THE FUTURE OF JAPANESE TRANSPLANTS AND JAPANESE SOCIETY

The future of Japanese transplants in the United States cannot be easily predicted. The future trend of Japanese transplants is influenced by various factors, including acute trade friction between the United States and Japan, increased numbers of automobile manufacturers from other countries, specifically the heavy United States' loss of automotive employment to Mexico and the changing values in Japanese society.

Japanese society is urged to reconsider the values toward work organizations which sacrifice various sectors of its society. For example, stereotypical attitudes toward women and minorities strongly exist in Japan. In addition to the discrimination toward women and minorities, Japanese policies which pressure businessmen to overwork have become problems for the entire Japanese society. Some Japanese companies have sensed these criticisms, and have started promoting shorter work hours and full implementation of paid vacations for employees. Akio Morita, the chairman of Sony, suggested that "companies should build a more humane and fair society by, among other things, lowering working hours, paying higher salaries to workers, and increasing dividend payments to shareholders" (McWhirter, 1989, p. 46). In order to achieve a "humane and fair society" in Japan, labor management practices at Japanese companies may be forced to

be modified. In addition to the urge to change the corporate culture of Japanese companies, Japanese auto manufacturers face some difficulties in international trade. In 1992, the Japanese government decided to regulate the number of Japanese automobile exports to the United States from 2,300,000 to 1,650,000 per year. Meanwhile, the Japanese government has not yet found an effective solution for the trade frictions between the United States and Japan, especially in the automobile trade. Due to this regulation put on the Japanese automakers by their government, Japanese automakers are compelled to increase their transplants production in the United States. This will further reduce the share supplied by United States owned firms. Meanwhile, the other Asian countries are becoming more competitive, and the United States automakers have been expanding production facilities in Mexico due to a cheaper labor force. With increased competition in the auto industry, joint management may prove to be one of the most effective ways to cope with international competition.

CHAPTER VII

THE LIMITATIONS OF SECONDARY QUALITATIVE DATA

This thesis was based on a number of references about Japanese transplant practices in the United States, including five case studies. Ideally, this study would benefit by additional time and money to develop my own data gathering instrument and then carry out research on each of the five firms. I recommend that future research explore such issues as:

1. How does each firm decide which Japanese practices should or should not be transferred to the United States?
2. Who makes such decisions?
3. Which of the practices that have been implemented in the United States, have failed?
4. What practices have been developed within the transplants?
5. Whether or not the Japanese companies apply those practices developed by the transplants to the operations of their own home plants.

However, as it is I have had to apply an analytic framework which cannot assert that it covers all relevant practices nor do I have a clear definition of "success." Some plants which may have "succeeded" in producing good cars with happy workers may have lost money or earned very little, but still "succeeded" in establishing a "beach head" inside the United States for future expansion. There

are no data on the profitability of each plant separate from their home office in Japan. As a matter of fact, the whole issue of a short or long term perspective is one of the differences which Japanese firms have with American companies.

Some of the reports used in this thesis were very scholarly and critical, while other sources read more like public relations handouts. Finally, in order to facilitate this analysis, I have limited my focus to automobile manufacturing and assembly facilities so that plant comparisons would not be complicated by the differing demands of dissimilar types of operations.

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