TECHNOLOGY STRATEGY AND INDUSTRIAL RELATIONS: CASE STUDIES OF JAPANESE MULTINATIONALS IN THE UNITED STATES

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Abstract. Eight case studies of U.S. manufacturing subsidiaries of Japanese multinationals are analyzed in terms of variations in competitive strategies and industrial relations practices. Based on data collected in 1980 during on-site visits, each firm is reviewed in light of the technology contributions coming from the Japanese parent and is categorized as having product-, process-, and/or management-centered technology strategies. The industrial relations practices are also grouped according to similarities observed. These groupings are then compared and contrasted. The findings are consistent with hypotheses that firms with management-centered strategies are more likely not to be unionized and to oppose unionization, to prefer a less stratified workforce in terms of number of job classifications and specifically identified job assignments, to maintain flexibility in work-force management, to conduct considerable cross-training and to strive to avoid layoffs of production personnel. Conversely, the groupings indicated little relationship, if any, between technology strategy and compensation levels. The findings are interpreted in light of product-life-cycle and risk-aversion models of firm behavior. The question of whether technology strategy is a reasonably good predictor of industrial relations practices is also addressed.

INTRODUCTION

Japanese direct investment in manufacturing in the United States has grown considerably since 1973 when it stood at $319 million. In fact, during 1973 to 1980, it grew to nearly $725 million. At the end of 1980, there were 225 U.S. manufacturing subsidiaries owned by Japanese parent companies. This compares to 59 such subsidiaries at the end of 1973, and to only 12 prior to 1970. During the 1970s the U.S. activities of Japanese-owned manufacturers attracted considerable attention—mainly because of Japanese success in manufacturing high quality, price-competitive products that have displaced significant portions of U.S. production in both domestic and international markets. Questions also arose during this time about the ability of Japanese subsidiaries to operate successfully in the United States—that is, to transfer, maintain, and possibly even improve upon Japan-born technologies which have given the parent firms competitive advantages.

This paper discusses the experiences of 8 Japanese-owned, U.S.-based manufacturing subsidiaries in transferring and adapting technologies while building competitive operations, especially regarding the structuring of industrial relations to accommodate technology needs and the packaging and transferring of technology to suit the U.S. industrial relations environment. A perspective categorizing variations between technology strategy and industrial relations is also developed and presented. First, however, some questions are addressed: What is technology strategy? How does it relate to Japanese firms and to industrial relations, and what are the key variables?

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TECHNOLOGY STRATEGY

Technology, broadly defined, is product, process, and manager related. Consistent with the definition of technology by the National Academy of Science, Barans, stressing the interdependency of the elements constituting operational (industrial) technology, defines technology as “the package of product designs, production and processing techniques, and managerial systems that are used to manufacture particular industrial products.” Note that the definition includes management systems.

Technology relates to direct foreign investment in terms of technology transfers between parent and subsidiary. Technology strategy, then, in the context of multinational enterprise (MNE) can potentially embody both the transfer of existing technology from parent to subsidiary (which includes the successful implementation of the technology at the subsidiary) and the generation of new technology appropriate to the subsidiary or to operations at the parent or elsewhere in the MNE network. Technology strategy is considerate and deliberate. It involves decisions and actions by management in selecting and making technology transfers and investments that work. This, in turn, requires an analysis of environmental factors affecting technology transfers and investments, and the designing of policies that match business needs with supportive factors and that modify either technology or the environment in order to eliminate problems presented by the environment.

Technology strategy can be observed in the decisions and practices made by management in selecting and implementing technology transfers, and in developing, where appropriate, new technologies. This strategy begins with the direct investment decision itself. One might even contend it is synonymous with the very decision to invest. Technology strategy is observed further in the host of decisions made to secure and ensure the success of the firm—decisions regarding plant location, production, local procurement, markets to be served, financing, industrial relations, and so on—and how these decisions are implemented and made effective.

TECHNOLOGY STRATEGY AND INDUSTRIAL RELATIONS

Historically, the literature on the MNE has not emphasized the interplay between industrial relations and technology strategy. It is doubtful, however, that these can remain largely separate issues while emergent Japanese multinationals expand their direct investments in the United States. Effective industrial relations, which include both union-management relations and personnel practices, are seen by many observers to equate, in the Japanese case, with the Japanese style of management that has been so successful in achieving both high productivity and product quality. Indeed, Tokyo’s Nikko Research Center assesses Japanese management and technology in U.S. subsidiaries nearly exclusively in terms of comparing Japanese and American management techniques, including labor supervision.

When some Japanese enterprises which have been importing American technologies for many years reverse their roles by advancing into the U.S. market, their technological superiority does not mean superiority in design technology or production technology. In this narrow sense of the word, the U.S. is often more advanced. . . . Japanese strengths are shown in overall management, . . . in the budget controls, human relations.

In the sections that follow, experiences of 8 Japanese manufacturing firms in managing industrial relations in the United States are reviewed. The imposition, adaptation, or abandonment of industrial relations related, management-centered technologies, originally evident at the (Japanese) parent company level, is discussed and analyzed in light of the technology strategy evident at the subsidiary. Selected industrial relations variables are reviewed to see what consistencies can be identified between variations in (observed) technology strategies and (observed) industrial relations practices. Topics included are: unionization and company policies on unionization; job classification and compensation systems; compensa-