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GLOBALIZATION AND AMERICAN MANUFACTURING

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ABSTRACT: Globalization has had a profound effect on American manufacturing. The low cost goods such as textiles, apparel, radios and shoes are replacing American made products, resulting in the decline, and even disappearance, of American manufacturing. In order to remain competitive, American companies are lowering costs at all levels of production. Particularly significant has been the reduction in labor costs resulting in a drastic reduction of the labor force from the factory workers to the highest management levels. Manufacturing is no longer a major employer as the world's economy enters the Service Era.

Modern manufacturing, initiated by the Industrial Revolution about 250 years ago, was traditionally localized in a few nations facing the North Atlantic Ocean. For decades, changes in localization were gradual. However, within the last 25 years many new countries such as Taiwan, Singapore, China, Thailand, and Indonesia have become major centers of manufacturing. The globalization of manufacturing has had a profound effect on the structure of manufacturing in the United States. As a response to this new competition, the United States has had to adjust to new world economic conditions. This paper discusses some of the effects of globalization on American manufacturing.

GLOBALIZATION

It is a well-known fact that production costs are high in the well-established manufacturing nations. Labor costs have risen as workers have acquired skills and labor unions have striven to provide higher standards of living for their workers. Because of advanced technology in newer plants, resulting in high productivity, the newer countries can produce goods at low costs. For example, a steel worker in the United States gets from \$18 to \$22 per hour in contrast to a steel worker in Korea who gets about \$2 per hour. As a result, the new nations can not only increase production rapidly due to imported technology but can secure a world market.

As a response to differentials in costs of production between the old and new centers, imports to the United States have risen dramatically in recent years. As a consequence, total American industries have disappeared, such as radios and black and white television sets. In others, only a remnant remains such as textiles, apparel, leather products, and iron and steel. While the United States was once dominant in high tech industries, recent increases in the new countries place these industries in jeopardy. For example, America's share of chips production has declined from 85% in 1985 to 15% in 1990, and the production of semiconductors has dropped from 60 to 35% of the world's total.

GLOBALIZATION AND THE AMERICAN ECONOMY

AMERICA'S RESPONSE TO GLOBALIZATION

The question now is, how has the United States responded to the new world competition? It is evident that if manufacturing is to survive in the United States it must be competitive in the world market, by reducing production costs to the lowest possible level within the economic restraints imposed by the American system and at the same time maintain the highest quality products.

INTERNATIONAL COOPERATION AND ALLIANCES

It is now evident that American manufacturing must be interlinked with international economic systems. Most manufacturers now operate in a world market situation. This requires the development of an international organization. Thus, capital moves readily across national borders seeking the most favorable world location. In the period from 1987 to 1992, foreign investments in manufacturing in the United States more than doubled to a total of $692 billion. During the same period, the United States investments in foreign countries increased to $776 billion.

Two types of development illustrate the modern world system. The first type occurs when a company creates an alliance with foreign companies in order to secure a world market position. To illustrate, General Electric Lighting was an American firm from 1877 to 1990. To compete with similar companies on a world basis, GE in 1990 acquired the Hungarian Lighting Company, Tungeram, in 1991 the British Company, Thorn, and signed a joint agreement with the Japanese Company, Hitachi. As a response, GE's light bulb sales in foreign markets rose from 20 to 40% of its total production by 1993, with a goal of 50% by 1996.

A number of companies are searching the world to locate new facilities. The BMW German automobile producer sought such a new site. After investigating production conditions in 10 countries with a possibility of 250 sites, the company chose a site in South Carolina along the I-85 corridor for its new $400 million factory. South Carolina made a number of financial concessions to attract the BMW Company. The I-85 corridor, the leading transportation route in southeastern United States, has become a major new center of manufacturing for both domestic and foreign companies due to a favorable economic development.

The cooperation of companies from different countries requires a new management strategy from that of a company that is nationally oriented. Decisions are no longer dominated by national conditions but are based on international conditions. Different objectives must be reconciled, and the results are not always favorable to a particular country. For example, total production of a product may be stopped in a given country if economic conditions are not favorable so that it can no longer be competitive. It has proven to be extremely difficult, if not impossible, to transfer labor from one nation to another. In contrast, transfer of management is relatively easy and is now commonly practiced.

DOWNSIZING

Because labor costs are an important part of total production costs and because labor can frequently be replaced by machines, companies have recognized that this is one of the cost factors that can be reduced. Thus, essentially all companies have a goal to reduce employees at all levels from the factory worker to top management. While this has been a traditional goal since Henry Ford introduced the continuous belt concept of manufacturing in 1909, never has the reduction been so dramatic.

Between 1979 and 1993, the Fortune 500 Companies eliminated 4.4 million jobs. A survey in 1994 revealed that 44% of the companies planned further reductions. To emphasize the point, in Pennsylvania 500,000 manufactural jobs were lost between 1980 and 1994. General Electric illustrates the trend at the company level. Between 1980 and 1994, the number of jobs was reduced from 400,000 to about 230,000. During the same period, revenues at GE increased by more than 150%.

In the past, work reductions normally occurred at the production worker's level with management jobs being exempt. As a response, management level jobs grew at an amazing rate. In the early 1980s, a manager normally supervised 4 to 7 workers. By 1994, this number has risen to 9 to 22. In order to reduce costs, a lean management has become a primary objective. As John F. Welch, Jr., chairman of General Electric, remarks, "We need to cultivate a visceral hatred of bureaucracy."

As a response to decreased number of managers, greater responsibility has to be given to the factory worker. This has improved the working climate of the plant. Because a worker now feels he is a part of the total organization, productivity has improved. Many companies now pay for suggestions to improve productivity.

Because the number of management jobs has declined, the training in business colleges is in a state of change. Globalization requires a new type of training. The traditional method was to disperse knowledge in discrete segments -- finance, accounting and so on. The present day program develops a core of integrated courses. The goal is now to develop leadership and team skills so that managers can operate cross-functionally.

CHANGES IN COMPOSITION OF THE WORK FORCE

A number of fundamental changes in the composition of the work force are also occurring. Of these, the most significant is the development of the contingency work force and, particularly, at the managerial level for the first time.

Traditionally, a temporary work force was used for emergencies, such as sickness of an employee. Today, the temporary employee is assuming far greater importance. Most companies after downsizing are reluctant to add new permanent employees. Rather, if there is a demand for additional workers due to short-term increases in production, the temporary worker is increasingly used to fill these needs. A company has far fewer commitments to these workers, such as health insurance and paid vacations. Further, the wages of these workers are normally lower. Most temporary workers would prefer a permanent position, but are forced to accept the less desirable work because of lack of permanent positions. Further, to reduce both permanent and temporary employees, many companies are subcontracting work to reduce labor costs within the company.

RESEARCH AND DEVELOPMENT

Because there are rapid advances in manufacturing, a company to remain competitive must have a well-developed research and development program. This is particularly the situation in the high-tech industries. Since World War II, the United States has lagged in its capital investment in many high valued added industries. For many years, the profits went into pay raises at all levels, creating particularly a large management structure that did not produce goods. In the 1990s it is now recognized that this situation must be changed. In 1993, the Research and Development budget rose by 3.4% above 1992, and the 1994 research and development budget is projected to rise by 6.5%.

Because the United States does possess a highly complex industrial structure, the future success in manufacturing lies in maintaining the high value added high-tech industries. The country will continue to import the low value added products and these industries will continue to decline domestically.

The cost of research and development is immense so that the large companies with huge resources are most likely to succeed. The unsuccessful endeavors of General Motors in its robot program in the 1980s illustrates some basic problems. The company spent $40 billion dollars and productivity not only declined but quality of cars did also. Only a major company can absorb so great a financial loss.

CONCLUSIONS

A few conclusions are:

1 Globalization will continue to expand and the competition in the world market will increase.
2. International cooperation and alliances will increase in interlinked economies.
3. Costs must be reduced in the manufacturing process while at the same time there must be a rise in productivity and quality. The displacement of labor by the use of machines and computers is fundamental to success.
4. A company must remain at the world state-of-the-art if it is to survive.
5. Manufacturing is no longer a major employer of workers. As a consequence, tertiary activities must provide a high standard of living as the world enters the Service Era.