

In the past three centuries, the human-kind experienced three revolutions in productive forces caused by the development of knowledge; the source of ideas, reasoning ability and creativity from which all creative achievements come into being.

### 1. Industrial revolution 1700- 1880: the first revolution in productive forces

and tools were introduced and they helped increase the output although the manual labor still played an important role. In the 18<sup>th</sup> century the textile industry developed strongly in England while India and China have been famous for their silk since the 16<sup>th</sup> century. Trade in textile and silk in particular have allowed these countries to gain big profits and high growth rate for centuries. However, the industrial revolution didn't

The mechanization led to high profits and economic efficiency, and the building of factories all over Western Europe. Development of productive forces required more appropriate relations of production. That is why after the industrial revolution, capitalist revolutions broke out in many European countries (Holland, England, France, etc.)

The industrialization taking place in Western Europe in the 18<sup>th</sup> and 19<sup>th</sup>

Karl Marx who pointed out the irreconcilable contradictions between developing productive forces and capitalist relations of production that certainly led to class struggle.

Realizing social effects of the industrial revolution, the capitalist class tried to find out a solution to social inequality, or a way to adjust the capitalist system. The revolution in productivity came into being from this effort.

# THE REVOLUTION IN BUSINESS MANAGEMENT IN THE KNOWLEDGE ECONOMY

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This revolution started with the birth of the steam engine and the main result was the "mechanization" in which machines replaced manual labor. In fact, it took many centuries for this revolution to take place.

In the 15<sup>th</sup> century, new industrial methods

take place in the Chinese and Indian textile business which was based mainly on manual labor and simple looms, whereas the invention of new machines helped England become the greatest producer of textile and an economic power in the 18<sup>th</sup>.

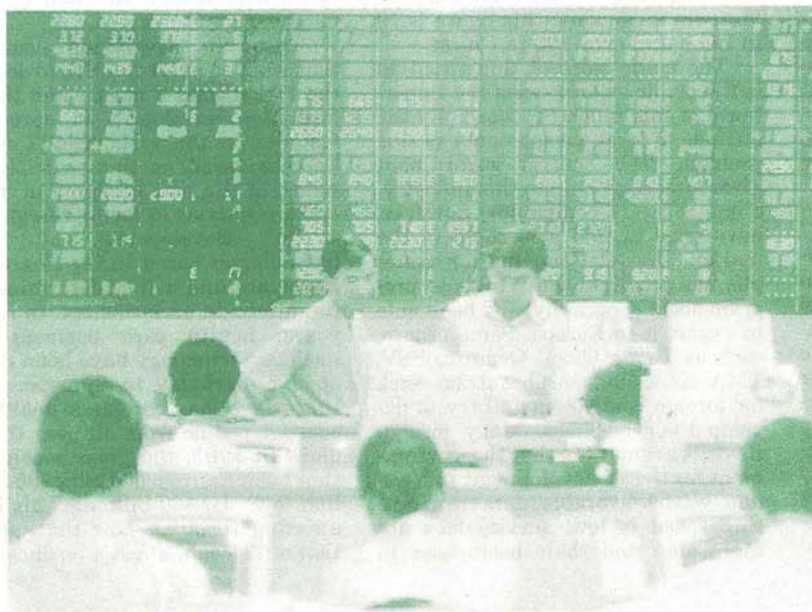
centuries led to higher economic growth than ever along with profound changes in societies and conflicts between classes. Although machines helped improve working conditions, the working class were exploited more badly and they feel disappointed with the capitalism. It was

### 2. Revolution in productivity (1881- 1945): the second revolution in productive forces

This revolution started when the assembly line method was applied by F. Taylor to the American auto industry in 1881. The Taylorism is considered as the first achievement when applying "knowledge" to production.

Taylor thought that the best way to increase workers' income was to help them produce more articles in an unit of time. By organizing workers into assembly lines, he succeeded in raising the labor productivity. Eighty years after the Taylorism was introduced, the productivity in industrialized countries increased by 50 times. Higher productivity and high income helped many poor persons enter the middle class.

A question arising from this advance is: Who, or what class, benefits most





from this increase in the labor productivity?

Besides social meanings, the revolution in organization of work place also affected the training of labor force. A century before Taylor, Adam Smith suggested that human beings had to accumulate experience for at least 50 years before they could produce goods of higher quality. Seventy years after the death of Adam Smith, August Borsig in Germany introduced a double training system in which learners took basic courses at schools and gained practical experience in factories. This training system is still a foundation for the German education service. However, it takes from three to five years to teach all theoretical and practical problems under this system.

The two World Wars made the demand for skilled labor more urgent, the Taylorism was applied to the American education system with a view to training skilled workers quicker, within several months. This model allowed the U.S. to gain high growth rate and surpassed Germany and Japan after the World War II. The new training method, however, could only be used for training manual labor and it

tended to force laborers to overwork.

The revolution in productivity and the mechanization reduced the number of blue-collar workers and the army of white-collar workers started to increase. The role of intellectual labor became more important.

### 3. Revolution in management (after 1945): the third revolution in productive forces

The landmark in the third revolution in productive forces is the birth of computer (1946) along with many technological advances, new products and professions that originated from knowledge and helped expand the human knowledge:

- New sciences: nuclear physics, electronics, cosmology, etc.

- New tools: computer, robot, automatic, etc.

- New energy: nuclear, solar, hydro, wind power, etc.

- New materials: plastic, composite, etc.

- New technology: biotechnology, green and white revolutions in agriculture, etc.

- New scientific achievement: DNA struc-

ture, genetic code, cloning, etc.

The revolution in management, within some 50 years, has helped produce great technological achievements never seen before. It is applied to all fields and activities: administration, economy, business, culture, education, health care, sports, national defense, etc., and affects all organizations and individuals.

In the first years of the management revolution (the 1950s), managers were defined as "persons who are responsible for performance of their subordinates". In the 1960s, managers were conceived as persons who "are responsible for performance of everybody". At present, the full and realistic definition of managers is as follows: "managers are persons who are responsible for the application of knowledge for performance purpose."

Changes in the definition of the manager show that at present time, knowledge is considered as the basic dynamic of all developments. Management has become a science and an objective demand for the application of knowledge.

### 4. Some arising problems

Classical economics considers land, capital, natural resources and labor as indispensable inputs. As the economy develops, natural resources are gradually exhausted. The knowledge economy that came into being after the World War II is based on human knowledge which seems inexhaustible. This new economy requires new economic theories because the old ones couldn't be used for explaining many problems arising from new economic developments.

Vietnam is in its stage of industrialization and modernization when the globalization is spreading fast. It could make use of past achievements and also face many challenges originated from its low starting point.

Vietnam's industrialization and modernization is linked with standards of the knowledge economy. In carrying out simultaneously three revolutions in the productive forces under the direction of the VCP and Government, Vietnam can succeed in industrializing the economy, entering the knowledge economy and building progressive relations of production in the 21<sup>st</sup> century. ■

