



## **A Comparative Analysis of Korean and American Management Education: A Knowledge-Based Odyssey**

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**Abstract.** The evolution of post-industrial society is resulting in a 'knowledge economy.' The changes involve 'knowledge workers' in contrast to 'manual workers' of the past industrial economy. The quantity and quality of knowledge workers will determine success in national borderless competition. Although the United State's recent prosperity and near perfect employment rate are exemplary, the technology leading to this success has been developed and shared by traditional industrial powers, i.e., Japan and France, and mid-tech powers such as South Korea.

This paper examines methods by which South Korea incorporates American applications of the knowledge economy into its system. The interdisciplinary approach includes sociological, linguistic, educational, and ethical elements. Suggested methods include double loop sharing, knowledge management with electronic support systems, professional journals, and professional international conferences. This paper offers a brief history and synopsis of current developments in knowledge-based systems, and suggests South Korean and American applications. Recommendations also include the emphasis on English as the primary language to improve Korean communication among government, industry, and academic entities.

**Keywords:** American management, comparative analysis, knowledge-based, Korean management, management education

### **1. The coming of knowledge-based economy**

How do we position Korean management education for the 21st Century knowledge-based economy? Although we do not have a perfect prediction for the coming century, we have considerable research on the 21st Century. Of late, these works have centered on knowledge-based economy, knowledge management, and knowledge industry. Some observers attribute the causes of the Japanese economic problem in the last nine years and the Asian economic crises since July, 1997 to the lack of preparation for the knowledge-based economy. Others believe that the powerful performance of the American economy since March, 1991, in contrast to the chronic high unemployment rate of the OECD (Organization of Economic Cooperation and Development)

nations, is a sign of the degree of U.S. adaptation to a knowledge-based economy. One of the leading economic newspapers in Korea, *Mail Economic Daily*, has proclaimed since 1997 that the only way out for the Korean economic predicament is knowledge management. Hal Varian (1998), a Berkeley economist and business professor, expressed the transformation to a knowledge-based economy in the U.S.A. when he observed that the driving force of the American economy consisted of ICE, namely: information, communication, and entertainment. He preferred the term information economy in place of knowledge-based economy. The phrase 'knowledge-based economy' is used in this paper because the terms 'knowledge-based economy,' 'knowledge economy,' and 'knowledge management,' are widely accepted. Many economists have documented the steady rise of knowledge workers in the United States since early in the 20th Century (Cortada, 1998).

In the industrial economy, service workers are rapidly increasing and reclassified as knowledge workers, information workers, and data workers by information economists (Na, 1998). The term knowledge encompasses wider meanings – such as data, information, general technology, information and communication technology (ICT), best business practices, and creativity – when and where they are employed to increase economic value, core competence, and the competitive edge of a firm. In the 21st Century world economy, knowledge will be considered the single most important factor of production, far dwarfing traditional production factors, such as capital, labor, raw material, and land.

The trend clearly points to a paradigm shift in the management field, economics, and subsequently other social sciences as well. Thomas Kuhn's paradigm theory states that in the history of natural science, when the existing core theory of science suffers anomaly continuously, a low paradigm state would occur since it is gradually replaced by a new paradigm, unifying the warring small paradigms, and thus a paradigm shift takes place.

The changing economic behavior in the knowledge economy would have a far-reaching impact on other social sciences as proposed by advocates of the post-industrial society such as sociologists Daniel Bell, Alvin Toffler, Yoneji Masuda, and Kyungdong Kim; political scientists Zvignew Brezinsky and Herman Kahn; communication scientist Marshall McLuhan; economists Fritz Machlup and Peter Drucker; to name a few. These scholars are often called futurists, but one striking aspect of their concerted effort is their diverse disciplines. The multi-faceted nature of the knowledge-based economy, society, and knowledge management requires an interdisciplinary approach (Neef, 1998).

### 1.1. *The impact of new technology*

According to Drucker, the transformation to a post-industrial society brings inherent changes in organizational structure. Authority should rely more on knowledge and competence, not on formal positions; and the shape of organizations should become more decentralized as knowledge and information expand.

Information technology leads to networked organizations in which groups of professionals interact electronically to accomplish specific tasks (e.g., designing a new automobile). Having completed a task, individuals join other task forces. Clerical support can be reduced because professionals maintain their own portable offices, i.e., laptop and palmtop personal computers connected to powerful global networks. Firms can operate as virtual organizations, where work is no longer tied to geographic location, as knowledge and information can be delivered anywhere at any time. In 1998, four million virtual workers were estimated to be working for America firms abroad (Neef et al., 1998).

Organizations can look more like the 'adhocracy' Mintzberg once described. Presently, American firms have 2–4 levels while Korean firms have 6–8 levels reduced from the traditional 14 levels.

### 1.2. *Traditional economic theories are challenged*

Many economists maintain that inadequate neoclassical economic theories have not been questioned in the last 250 years. These economists believe that the old theories no longer resonate with the contemporary knowledge economy in the U.S. The major portion of the commodities and services traded in the contemporary global market consist of knowledge and information intensive contents. These knowledge intensive goods and services are going through constant innovation under severe competition. In the knowledge economy, the traditional factors of production such as land, labor, capital, and even monetary policy are breaking down. Major concepts of perfect competition, Adam Smith's invisible hand in the free market, Shumpeter's storm of innovative destruction, as well as Marxian workers' dictatorship are not working (POSCO, 1998).

This market failure based on traditional economic theories is observed centering on the Phillip's curve and Alfred Marshall's theory of diminishing return. According to the Phillip's curve, the rise of employment would result in higher wage levels, eventual inflation, and economic downturn. Yet the U.S. economy, the first knowledge-based economy, has enjoyed uninterrupted growth since March, 1991. As of last April, the unemployment was near 4% and the wage increase ratio was 0.2%.

By Marshall's theory, any product or company that leads in the marketplace would eventually decline, so that an equilibrium of price and market share is reached. Stanford economist Brian Arthur concluded that Marshall's theory is almost valid in the bulk-processing and smoke stack economy. But it is not valid in the economy of information and knowledge processing today and tomorrow, where the law of increasing return is valid due to the learning effect. MIT economist Robert Thurow is bolder, stating that economic factors, such as investment, employment, income, expenditure, and stock price would constitute a perpetual motion economy.

Federal Reserve Board economist Laurence Mayer (1999) was a little cautious when he observed that the NAIRU (Non-Accelerating Inflation Rate of Unemployment) without a price rise was 5.5% in the past, but has dropped to 3% today. Some maintain that the low wage hike level is not reflecting the new compensation system of stock options. Others point to the bubble effect of the U.S. economy. FRB Vice Chairman Librin (1999) attributes the causes of lower wages to restructuring, innovative management, and ICT (information and communication technology) resulting in a labor productivity increase in the U.S. And MIT economist Paul Krugman proposed that the current long-run economic prosperity in the U.S. is a temporary phenomenon mainly caused by the sudden drop of the international commodity price index. If there is a slight drop in the unemployment rate, wage hikes and inflation will occur. Already we observe some adjustment of interest rates and the devaluation of the dollar in the U.S. Yet no economist would deny the fast transformation of the U.S. economy from being industrial to knowledge based.

Many economists and sociologists observe the rapid increase of knowledge workers (and resulting changes in job and economic structure) as well as the increasing unemployment rate in the transformation process from the industrial to the knowledge economy. Organizational scientists and management information specialists want to improve the productivity of the knowledge industry through transformation of traditional bureaucratic organizations into learning organizations, team management, business process reengineering, and many other new organizational practices (Bulgelman et al., 1996).

## 2. The impact of ICT on the socio-economic structure

According to the microeconomics theory of the production function, the amount of production equalizes on the indifference curve. Accordingly, we can increase the input of capital or labor depending on the relative cost of labor. Firms can easily alter output through the improvement of technology. The process of globalization and ICT allows the firms to globally allocate

production factors promoting productivity through the virtual integration of firms, thus drastically downsizing the conventional form and scope of organizations.

The transaction cost theory of microeconomics says that firms can substitute labor with overtime ICT, and also transform the production function inwardly so that the amounts of capital and labor required can be reduced. According to transaction cost theory, firms survive when their internal transaction is cheaper than their external transaction (Osborn et al., 1990). Traditionally, firms have increased in size to reduce internal transaction cost, but ICT enables them to reduce internal transaction cost without increasing size. A firm can reduce its size and still reduce transaction cost to maintain parity of output. The agency theory of economics views firms as a nexus of contracts among various self-interested actors, rather than a unified profit maximizing entity. As the size of the firm increases, agency cost would rise due to the increasing complexity of the organization. However, through the application of ICT, agency cost might also be lowered.

Although various economic theories attempt to explain the impact of ICT groups on firms in general, these theories are weak in describing and predicting the actual behavior of any specific firm. Behavioral theories drawing from sociology, psychology, and political science sometimes answer individual questions raised by managers of particular firms. According to research conducted by behavioral scientists, information systems will not automatically transform any organization.

Decision and control theory states that the function of an organization is to make decisions under conditions of uncertainty and risk. To that end, organizations centralize decision making and create a hierarchy of decision making to reduce uncertainty and to ensure organizational survival. A large number of middle managers are required to gather information, analyze it, and pass it up to the top managers. Traditionally, senior managers have expected middle managers to implement policies. However, the introduction of ICT makes it possible for firms to reduce the middle manager group and the number of unskilled employees. ICT enables firms to cut down the cost of information acquisition and distribution through networks, thus bypassing the rigid and prolonged hierarchy and middle management. As a result, organizational structure can be reshaped from the traditional pyramid shape to an inverted T shape. According to other studies, through the empowerment of middle management, firms can reduce the number of lower-level workers so that an organization can take the form of a diamond shape which looks more convincing today in view of the rapid increase of knowledge workers (Snow et al., 1997).

Sociologists are interested in research problems related to the power of people, growth of hierarchies, bureaucratic structures, and standard operating procedures to provide stable and efficient services. The inherent problem of any organization is its inability to alter routines when the environment changes. Managers sometimes reject ICT when it threatens existing routines and subunits. ICT does not help the survivability of all firms, and given extended time, most organizations fail. New organizations form around new technologies, and they incorporate the new technologies into their standard operating procedures. When these organizations become old, bureaucratic, and brittle, they too disappear (Meyers, 1998).

Organizations are subdivided into functional subgroups such as marketing, accounting, human resources, and production. These functional groups have different values and compete for scarce resources, resulting in competition and conflict. According to political theories, information systems are an outcome of political competition among organizational subgroups (Laudon, 1998).

Behavioral scientists are gathering under the banner of a post-industrial theory and knowledge economy. According to behavioral theories, the transformation to a post-industrial society brings with it inherent change in organizational and economic structures. Authority should rely more on knowledge and competence rather than upon formal position. The shape of an organization should flatten because professionals tend to be self-managed and decision making should become more decentralized as knowledge and information pervade an organization (Lee, 1999a).

Economists and sociologists are also concerned with changes in economic structure, work itself, and income distribution. Manufacturing and agricultural sectors are quickly being replaced by the growing service sector. In the service sector, traditional service or clerical workers are transformed to data workers, information workers, and knowledge workers, or else they face extinction in the turbulent global environment (witness the recent Asian economic debacle) (Lee, 1999b).

In the United States, management information systems are increasingly emphasizing an interdisciplinary approach for organizational information systems and the behavioral sciences in order to find solutions in the competitive global environment. This effort is evolving into a new era of knowledge management. Reflecting this trend, Laudon (1998) emphasized that the key areas for MIS are economics, management, and the behavioral sciences, in addition to information technology. However, such an organic view of the world is not as successful outside of the United States due to the dated impact of the machine model on traditional organizations of the old world (Zuboff, 1992).



The key areas within management information systems (MIS) are executive support systems, decision support systems, knowledge work information systems, office automation systems, and, transaction processing systems. These systems are functionally divided into traditional (1) sales/marketing, (2) manufacturing, (3) finance, (4) accounting, and (5) human resources. It is generally observed that the MIS in middle-level systems and lower-level systems are fairly well established in Korean firms, but the strategic and knowledge high-level systems are relatively weak compared to American firms, thus indicating a relative competitive disadvantage.

### 2.1. *ICT impact on job and labor structure*

It has been well documented that primary industry would employ some 90% of the national human resources in an agrarian economy. Secondary industry would employ over 33% of the active labor force in an industrial economy. Some predict that the majority of human resources will be working in the tertiary industry in an information and/or knowledge economy. Also, in 1985, the BLS and the U.S. Federal Government predicted that 1.6 million jobs would disappear, and that 1.7 million new jobs would be created centered around computers and communications technology, high-tech, and knowledge industries. Recent developments in the United States attest to the accuracy of this prediction. The unprecedented boom of the U.S. economy in the latter part of the 1990s clearly shows the preparedness of American academics, businessmen, workers, and governmental policy-makers. It is obvious from these statistics that the three major actors within the national economy, namely, government, business, and the household (labor force) must all make rapid transitions (Kang, 1997).

Only the United States and the English speaking countries (e.g., England, Finland, Norway, and Singapore) have made substantive adjustments among governments, enterprises, and workers. According to political economist Neef (1998), 75% of the total economically active population in the United States can be classified as knowledge workers; but Laudon (1998), employing more restrictive standards, classify 60% as knowledge workers. Both agree that knowledge workers accomplished 80% of GNP growth in the United States.

### 2.2. *Income gap*

Chronic and massive unemployment in some advanced industrial nations, such as Europe and Japan, represents a dark side in the transition from an industrial economy into a knowledge economy. The total number of unemployed in the OECD countries exceeded 35 million. In addition, 15 million

disappointed workers stopped seeking jobs. Similar numbers for the underemployed added up to a total of 60 million workers in 1995. But the unemployment rate improved to the 10–12% level of 19 million persons in 1998. In the United States, 42 million unemployed workers were hired, but more than 26.3 million workers were deployed in lower paying jobs between 1978 and 1992. As a result, there were 8.7 million unemployed, 6 million underemployed, and nearly 1 million disappointed workers who stopped seeking jobs in the United States. In the 1950s–1970s, most futurists had been optimistic about the employment problem, but many scholars have become pessimistic since the 1970s. Some are convinced that human physical labor will be taken over by robots. Post-industrial theorists and advocates of the knowledge economy outside of the United States are concerned with the widening income gap between knowledge workers and non-knowledge workers, as well as the gap between a first-rate knowledge worker region (i.e., the U.S.A.), and the second- (EC) or third-rate (developing economies) knowledge workers regions. The 20 : 80 formula originally submitted to the U.S. President during 1995 in the Presidential Commission Report and later adopted by OECD warns EC nations that chronic unemployment in EC countries in recent years is not temporal but structural. Hans-Peter Marin and Harold Schumann expanded the 20 : 80 formula maintaining that only 800 million of four billion workers in the free market economy will enjoy stable employment (Huh, 1994).

A new trend has been developing in the United States recently, according to a *Business Week* (24–31 August 1998) special double volume issue on the 21st Century Economy reporting on recent American economic booms. Harvard economist Claudia Goldin observed that there is a constant race between technology and education. At times, education is ahead, and sometimes, technology is out front. It is the excellence of the U.S. educational system as well as the attitude of working and middle-class Americans who reacted to the high-tech boom by getting trained that resulted in Yankee prosperity. For example, 49% of high school graduates went to college in 1979, but the numbers rose to 67% in recent years (Hyundae, 1999).

In other words, the United States has been enjoying an economic boom since March, 1991 and recently the United States recorded an astonishing near full employment figure of a 4.0% unemployment rate. America is an exception in the worldwide recession and to the financial/foreign exchange crises in Asia, Latin America, and Russia. There is no denying that the U.S.A. leads all developed countries in the knowledge economy, and has set a standard of policy direction in the new knowledge economy environment. It is obvious from the American case that problems of the worldwide income gap and chronic unemployment can be overcome in this age of a



knowledge economy which is centered on educational reform, change, and flexibility of all economic actors including government, enterprise, and labor. What lesson can we learn from the American educational system? And what direction should educational reform take in other parts of the world? We can deduce from American example that the key to knowledge economy success is to transform traditional service and manual workers into knowledge and data workers. This transformation may be the only way to increase labor productivity. There is no better way to survive.

### 3. Strength of American management education

William James and John Dewey are considered to be major architects of the American educational system. It is generally accepted that American universities did not measure up to their Western European counterparts prior to World War II. However, during World War II, American universities transformed themselves into world class in almost every discipline, not only in pure science, engineering, agriculture, and medicine, but also in the social sciences and their applications to management.

Early social psychology in America has been influenced by pre-World War II English and German sociology. It is a niche field between sociology and psychology requiring coordinated research between two separate disciplines. Together with its sister, educational psychology, social psychology has drastically incorporated methodologies of the natural sciences. Yet many European, Japanese, and Korean social scientists have resistance in appreciating the strength of the American social sciences (Huh et al., 1993).

#### 3.1. *Interdisciplinary nature of American social science education*

The interdisciplinary approach in social sciences started in the United States during World War II when both American scholars and German Jewish refugee scientists combined efforts and established a central theme summarized as the multidisciplinary character of human behavior. The influence of behavioral science is particularly strong in the fields of organizational studies, marketing, management, political science, mass communication, and education in America. The philosophy of behavioral science is rather simple. Many sub-disciplines of the social sciences are dealing with the same social phenomena, yet huge walls and gaps exist between and among disciplines that have developed different languages in their respective fields (Huh, 1996).

### 3.2. *Flexibility of American management education*

The influences of the interdisciplinary tradition and the pragmatism of American management education are found in the use of the case study approach in management. It is a common U.S. practice to appoint organizational-theory faculty members with degrees from non-management backgrounds. This is a very rare event in other parts of the world.

With the advent of ICT, American universities started MIS courses with faculty members fully versed in economics, management, psychology, sociology, political science, and ICT. In contrast, a similar academic department in Korea is isolated from other behavioral disciplines in most cases, and MIS courses reside largely within computer science programs.

Of late, one can find courses in entrepreneurship in American undergraduate business programs. Majors in entrepreneurship can also be located within American universities. It requires legal, marketing, and management, as well as technological knowledge, to start a new business. ICT requires coordination among colleges of business, engineering, arts and science, and law, as well as input from practical working experiences such as in-house business incubators which exist on many U.S. campuses. Faculty consulting experience, businessmen participating as case providers, and internships are also examples of practitioner inputs. Such pragmatism and interdisciplinary readiness make American business education flexible. Consequently, American workers and managers demonstrate high adaptability in the knowledge economy age.

### 3.3. *Interdisciplinary research in Korea*

The American interdisciplinary approach serves as a benchmark. There is no successful interdisciplinary research done under Korean academic leadership. Instead, examples of interdisciplinary research are found under governmental policy. But the outcome of Korean governmental initiative is insignificant when compared to cases found in the United States. Why is this so? In order to get an answer to this question, a sketch of Korean history is in order (Huh, 1993).

### 3.4. *Korean history*

The Confucian scholar/civil servant heritage has shaped the dominant culture and civilization of Korea for the last 800 years, emphasizing abstract humanities rather than practical science such as the social sciences and/or management. Despite the predominant influence of the Euro-American arts and sciences since the turn of the century, Confucian scholars taking the court

examination for becoming a civil servant have been sustained in a traditional manner. For example, the most desirable profession is still governmental and political positions in the mentality of the average Korean today. This phenomenon is contrasted to the Silicon Valley, high tech venture capitalist vision and aspiration in the United States. The metaphysical tradition of Korean intellectuals is detrimental to the natural evolution of interdisciplinary research projects.

Most major interdisciplinary Korean research projects have been sponsored by the government under different Presidents. President Park Chung Hee successfully mobilized both tangible and intangible resources to pull out the New Village Movement in the 1970s (Saemaul Project). President Chun Doo Hwan initiated out the 88 Seoul Olympic Games project, and with the campaign to redirect the Korean economic base from smokestack industries to an information technology orientation (Information Society Project). In the early 1990s, President Kim Young Sam was pursuing his two missions: the political modernization of Korea, and the globalization of Korea. Current President Kim Dae Jung is instituting a new interdisciplinary project titled 'new nation building.' Perhaps this project will bloom into the mature level of American interdisciplinary research. However, we still have to wait for the outcomes. To date, we have reasons to be cautious and not overly optimistic.

The authors have proposed that the dominant Korean culture is a power-oriented behavior. Scholarship is not a terminal value but an instrumental value in the Korean Confucian heritage. The content is emotionally and ethically fundamentalistic. By and large, Korean academia has not participated wholeheartedly in most of the government sponsored projects due to ethical and political reservations (Huh and Kim, 1998).

#### **4. American managers: Benchmarks for Korean management educational reform**

##### *4.1. Organic versus mechanistic knowledge workers*

American institutions are organic while many Oriental companies remain mechanistic. This is an important distinction separating American managers from administrators in Western Europe, Japan, and Korea. American managers are fully aware of the economic potentials of ICT and its organizational impact. Knowledge groups include internal and external politics and relevant technology. Companies can rapidly fuse the relevant body of knowledge in creative ways to cut cost and improve revenue drastically, examples are City-bank, CNN, Amazon, AOL, Microsoft, American Airline, Wal-Mart, FedEx, Levi Straus, Baxter, CISCO, IBM, and Disney.

American knowledge workers and knowledge managers are flexible inter-disciplinarians, the fittest of the 21st Century organic type organizations. On the other hand, Asian managers (including South Korea) are often inflexible specialists. If much needed 21st Century flexible knowledge workers mostly develop in the United States, the reason lies in the American university tradition, especially within graduate schools. Laudon (1998) emphasized that MIS experts should have a wider area of knowledge, including not only ICT, but also quantitative management, plus several behavioral science areas such as economics, psychology, sociology, and political science. The situation dictates that managers have a deep understanding of diametrically opposed areas that are critically in need of coordination. This is a nearly Herculean labor. In contrast, neither Korean firms nor Korean academia have a rich stock of accumulated knowledge on Korean organization theory. Instead, the inflexible single area specialists, such as Korean MIS technicians, who lack the much needed behavioral sciences and business/management, must tackle Korean firms' MIS single-mindedness, thereby dooming the process to costly failure.

#### 4.2. *Case history of educational reform for Korean universities*

A few large corporations in Korea operate their own MBA programs in cooperation with American universities, where Korean managers are getting a part of the program in their in-house educational facilities over a U.S. satellite university system. Samsung Electronics and many other firms are sponsoring joint MBA-MS-MIS degree courses at the Korean Advanced Institute of Science and Technology. So far, we hear about informal problems such as students feeling uncomfortable in the interdisciplinary program. While both faculty and trainees complain, no matter how many statistics courses they take, students are still lost as to application, because statistically focused faculty members are unfamiliar with the behavioral methods of research implementation (Park and Son, 1996).

Any attempt to foster competition as in the Anglo-American culture is likely to fail in Korean university culture, despite the fact that most faculty members are exposed to American university culture. Traditional organizational culture strongly opposes the incremental induction of rational culture with a few notable experiences. Brain Korea for the 21st Century (BK21) has faced such resistance and resentment from universities and forced modifications. This has led to a loss of direction in the humanities and social sciences.

Traditionally, the areas of humanities and social science are underutilized. The Korean educational system has been influenced by European/Japanese systems. The Korean version of the European/Japanese system is too conservative to change quickly on its own. During this developmental stage, the

social change rate has been slow within the industrial economy. To correct the problem, Korea must rewrite textbooks and retrain or replace many faculty members. Korean universities have adopted faculty evaluation program to facilitate change among resisting faculty members with an emphasis on both the quality and quantity of research. However, results have been merely nominal so far (Samsung, 1996).

## 5. A proposal for Korean management education reform

The reform of Korean university education centering on management education must set a clear goal of education to prepare for the knowledge economy. The knowledge-based economy requires flexibility of the government, university, firms, and household/workers. It should be spearheaded by university educational reform aimed at converting faculty members themselves into interdisciplinarians, flexible specialists, and knowledge workers. A heuristic model of an interdisciplinary approach is presented below.

Cultural anthropologists assert that ICT must fit into an organization's culture or else it is not likely to be adopted. That is, there must be a congruent values set for the smooth transition from an industrial economy to the knowledge economy. This theory provides a plausible explanation for the recent economic predicament of Korea. In Korean business organization, lower and middle management have heavily adopted information systems. However, unlike the United States, senior managers in Korean firms have not integrated ICT properly. As a result, a Boos Allen and Hamilton Report diagnosed Korean firms as lacking knowledge in their management (Ruggles, 1998).

### 5.1. *English language as a strategic asset*

A dramatic proposal has been made to transform some 50% of Korean business/economic and science/engineering education into the English language. English is the language of ICT, the very infrastructure of the knowledge-based economy. English is the language of world trade and globalization (Evans et al., 1997).

Some American social scientists claimed that Asian students are weak in theory but strong in technical or statistical methods. This discrepancy may be explained by the fact that Korean students are weak in English, so they attempt to compensate their weaknesses with math-related courses. Those who are relatively strong in language often are weak in math-related areas, and vice versa. Very few Korean students have a deep mastery of the theoretical and philosophical foundations of American academia (Klein, 1998).

Korean language has a relatively shorter history of exposure to the age of reason, science, and technology. It is rich in poetic, literary, and moralistic contents, as these have been the main text of royal court testing for the civil servants' examination for over nine hundred years. English speaking Koreans can adopt the English culture contained in American language in a relatively short time span (Shiotsugu and Ha, 1997).

An August, 1998 *Business Week* special edition on the 21st Century economy predicted forcefully that the U.S.A. and a few English speaking countries alone will prosper in the 21st Century. The Japanese language edition of *Newsweek* singled out six technology world city leaders of the 21st Century: Cambridge, Tel Aviv, Seattle, Singapore, Boston, and Bangalore. Most of the techno-valleys are English speaking cities, and there are already editorials in some Japanese newspapers to make English the official language of Japan.

## 6. Conclusion

The dawn of the post-industrial society of information society was heralded in 1946. The development of post-industrial society has intensified the pace of acceleration resulting in a knowledge economy. In the knowledge economy, the major economic participants are knowledge workers receiving graduate and post graduate education, in contrast to key players of the industrial economy who were manual workers receiving secondary school and technical training.

The quantity and quality of knowledge workers determine the competitive edge in the world of borderless national competition. In turn, the quality of knowledge workers is determined by the quality of university education. By contrast, the competitive edge in industrial society was determined by the quality of technical and high school training for manual workers. This simple fact has been amply demonstrated by the booming years of the industrial economies of Japan and Asian countries in the 1960s through the 1980s.

Now, the champions of the Pacific Rim spearheaded by Japan have dramatically yielded the championship to the former loser, the United States. The consequences are the nine-year recession in Japan, severe economic crises in Thailand, Indonesia, Malaysia, and South Korea, which in turn rapidly affected Russia, Latin America, and even parts of North America since early July, 1997.

Eight years of prosperity and a nearly perfect employment rate coupled with a low inflation figure in the United States are evidence of a successful transition from an industrial economy to a knowledge economy centering on ICT. One should note that information and communication technology



is not an American monopoly. Technology has been developed and shared by traditional industrial powers such as Japan, France, England, and Germany, including mid-technology powers such as South Korea. Japan remains one of the strongest powers in the industrial world economy.

A successful strategy to rapidly translate Korean firms into a knowledge-based economy must benchmark the best within the new economy. This strategy must include the training/retraining of Korean managers to achieve a new set of goals. Such processes will certainly require a form of Korean management educational programs and systems. To this end, the following suggestions are made.

The heart of the knowledge economy is education centering on ICT, high tech industry, behavioral science applications, management, and the English language. These are not to be viewed as separate elements, but instead should be envisioned as a coordinated, interdisciplinary whole.

Lifelong education and learning organizations are key phrases in the knowledge economy. The bulk of education occurs through a process of dynamic interaction among knowledge workers. An example is the Argyris and Schon (1996) 'double-loop learning' feature of a learning organization, including knowledge management with electronic support systems, professional journals, and professional international conferences. Lifelong education and a learning organization require an increased number of knowledge workers undertaking ongoing educational innovation and information value creation. Increasingly, the new channel for knowledge-worker lifelong education takes the form of frequent international conferences. In Korea, each college of business should be encouraged to run English discussion clubs to facilitate student work/career preparedness. Managerial bilingualism (including English) must be treated as a strategic priority.

Another solution is that Korean management education should be taught at least half via the English language. This should include teaching at least 1/3 of the program by foreign visiting faculty members in Korea from advanced countries, and an equal percentage of Korean faculty members visiting overseas American/English universities for joint research or teaching.

Korean updated knowledge must include research and development, organizational innovation, and business/economic contents based on both learning and creativity, aligned against a backdrop of governmental and political reform. An interdisciplinary approach to education and research are tools and methods for transforming the industrial economy into a knowledge-based economy. The uniqueness of the American educational system lies in its interdisciplinary and creative pragmatism. It is a benchmark throughout the world. Korean organizational scientists must initiate painstaking efforts to persuade interdisciplinary research works among ICT specialists

and top managers. Korean business, English language, science, and engineering departments can develop interdisciplinary programs to meet the needs of future-oriented knowledge workers. Business management departments can expand courses in managing tourism, multimedia/entertainment, fashion, small- and medium-size firms, and venture capitalism.

Analysis of the Silicon Valley success story reveals that it was not the physical infrastructure alone that has led to success. It was the free and adventurous spirit of the players. Sadly, Korean academy has been rife with an anti-establishment spirit and sentiment for the last four decades. We must vigorously rechannel this spirit of change toward the 21st Century knowledge industry for the Korean economic future to be bright and secure.

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