

Knowledge for Action

This report is the third in the series of the Vision Korea initiative led by Maeil Business Newspaper. Prior reports focused on diagnosing the current state of economic affairs and making some recommendations about how Korea and Korean firms might turn themselves around. This study starts by looking forward - by envisioning Korea's next era of sustained economic growth. The strategic actions that we have outlined here are holistic and organic, designed not just to address short-term issues, but to establish a long-term national agenda for economic development.

The first and most important finding of this study is the identification of an opportunity. In just a few decades, Korea has amassed substantial amounts of knowledge. Korean employees are already using some of the best capital equipment available and, in some industries, are using cutting-edge production techniques. Now is the time to integrate the knowledge that is available inside organizations and to use this knowledge to improve operations, create new products and identify new marketing opportunities.

The benefits of a wide-scale effort could be enormous. In the introduction, we discussed some of the characteristics of a knowledge-driven economy and how they have benefited nations such as the United States, currently the closest economy to being knowledge-driven. Of these, three stand out as particularly desirable for Korea:

- *Higher economic growth:* The United States has grown nearly twice as fast as other major industrialized countries over the last five years.¹
- *Lower macro-economic volatility:* By some measures, the U.S. economy has been about 20% less volatile than the global economy over the last ten years;²
- *More professional employment.* Employees in the United States are twice as likely to be employed in higher paid, professional positions than those in Korea.³

¹ When compared to a basket of countries including Canada, France, Spain, Italy, and Portugal

² Based on coefficient of variation calculations

³ Bureau of Labor Statistics; Korean National Statistics Office

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While Korea cannot simply flip a switch to become as competitive and as wealthy as America, Koreans can learn from the United States and other emerging knowledge-driven economies. Korea can adapt and build upon its innate strengths to achieve a new kind of growth in a uniquely Korean manner.

At the heart of knowledge-driven economies are knowledge-driven companies. These firms use public and proprietary knowledge to identify and create market opportunities. Because these companies are able to differentiate themselves from their competitors — by offering superior products or by making them more efficiently — they are able to generate higher returns. Of the many characteristics of knowledge-driven companies we have illustrated in this report, three stand out:

- *Effective management of organizational knowledge*

Knowledge-driven companies do not leave the use of knowledge to chance. They actively identify and capture organizational knowledge. And they put it to use to improve operations and develop new strategies.

- *Significant investment in market and managerial knowledge as well as production technology*

These firms also invest in all types of knowledge, not just technical knowledge. Knowledge-driven companies realize that knowledge about customer needs and competitor behavior is just as important as technical knowledge, if not more so.

- *Robust incentive systems to encourage use of knowledge by employees*

Finally, knowledge-driven firms create a learning environment that stimulates knowledge development through the use of performance-based incentives for knowledge workers.

Before we can discuss the priority actions for Korea, we must first dispel several myths about becoming a knowledge-driven economy:

Myth #1: Abandoning "low-tech" industries and entering "high-tech" industries will be sufficient to sustain economic growth

Knowledge-driven companies do ***not have to*** produce sophisticated products. Some of the best examples of such companies — 3M, Nucor Steel — are highly successful but produce fairly simple products. So being knowledge driven is not about what products you make, but about ***how*** you make them. Furthermore, as the experience of the chaebols in the 1990s suggests, diversification into unrelated industries is generally not a winning strategy. Especially in the case of knowledge-intensive industries — such as telecommunications, pharmaceuticals and software — investment by companies with little or no relevant experience means entering into an industry at a knowledge ***disadvantage***. Because these industries are sophisticated, just catching up with the knowledge of global market leaders can take years if not decades. Surpassing them, or creating a knowledge advantage, is harder still. Companies, therefore, must build on what they already know rather than imitate others.

This is not to say that Korean firms should ignore opportunities to develop new technology. In fact, knowledge-driven companies continuously look for new market opportunities in their own and related industries. They frequently innovate

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new products or processes that redefine their businesses. This process often leads firms into more knowledge-intensive segments of an industry. For example, Nucor started making reinforcing bars (or rebar), a basic steel product used in construction, and eventually expanded into hot-rolled steel, a more sophisticated product.

Myth 2: Investment in new facilities and the latest equipment is sufficient to improve competitiveness

Korean firms have improved productivity over the last decade through persistent investment in ever-more sophisticated production equipment. This investment-led growth has come to an end. As other studies have pointed out, Korean capital productivity is close to world-class levels while labor productivity remains low.⁴ In building up capital productivity to such a high degree, Korean firms have over-leveraged themselves. And yet they still have not achieved the same level of efficiency as their global rivals. At this point, Korea has little choice but to better harness the economy's knowledge assets, rather purchasing new capital assets. Knowledge of production processes, such as lean manufacturing, as well as superior knowledge about customers' needs can be critical sources of competitiveness.

Myth 3: Restructuring efforts should predominantly focus on debt reduction to return firms to competitiveness

Most political and corporate leaders believe that reducing Korea's private sector debt burden will be sufficient to return the country to economic health. But this emphasis may be dangerous in the long run. Certainly firms have too much capacity — and far too much debt but restructuring should also focus on positioning firms for long-term, global competitiveness. The over-emphasis on debt reduction means that firms may unintentionally divest knowledge assets essential for their ability to compete in the marketplace. Instead, restructuring should balance short-and medium-term financial objectives with long-term strategic goals.

Dispelling these three misconceptions about how Korea should move past the economic crisis will help ensure that the right actions are taken. Although the steps forward are complex, we believe that Korea should act quickly. While the effects of many of our 38 actions will not be felt for some time, there are five priority actions, or trigger actions, which will generate significant momentum in the short term and will better position Korea for the long-term.

Priority Action #1: Include knowledge in restructuring decision-making process

Before chaebols decide to restructure a firm or sell off some of its assets, they should evaluate their knowledge capabilities in light of long-term corporate strategy and ensure that any decisions **strengthen** the company's knowledge capabilities. A recent survey conducted by Monitor Company revealed that strengthening knowledge capabilities was actually the lowest restructuring priority for companies.⁵ Changing this approach will be essential for ensuring the long-term competitiveness of Korean firms.

⁴ McKinsey Global Institute, *Productivity-led Growth for Korea, 1998*

⁵ Only 10% of the respondents said that strengthening knowledge capabilities was a restructuring priority.

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To practice knowledge-based restructuring, firms, creditors, and the government should perform the following tasks:

- Evaluate the knowledge requirements of the firm's competitive strategy to identify knowledge that should be retained or even strengthened during restructuring.
- Conduct a knowledge audit to assess existing knowledge capabilities within an organization. Knowledge "assets" can include a firm's codified knowledge, such as databases and documentation, as well as the expertise of its knowledge workers.
- Re-evaluate the restructuring strategy to ensure that plans to downsize or sell off lines of business do not reduce the firm's knowledge capabilities.

Priority Action #2: Eliminate entry-level employment examinations

As Korea becomes more knowledge-driven, labor mobility will become an increasingly important means for workers to develop specialties and for companies to hire the exact skills they need. Rather than hire homogenous groups of recent university graduates, knowledge-driven companies will need to recruit employees at all levels, both from inside the firm and outside.

To this end, corporations must revise their human resource practices to allow greater labor market flexibility. An important first step is the elimination of the employment exam. Since this exam is geared specifically to recent university graduates, many older, knowledgeable employees cannot qualify for employment. Also, as a centerpiece of the recruiting process, the exam does not sufficiently emphasize more advanced skills necessary for more senior positions. Eliminating the employment exam and replacing it with a more comprehensive selection process is a critical first step.

Furthermore, Korea is currently faced with mounting unemployment. For workers, the system of life-time employment is unfortunately no longer a reality. The economy must now adapt to a more fluid system of employment, where employees enter and leave companies as opportunities arise. Eliminating the exam has the short term appeal of facilitating reemployment

Priority Action #3: Create Ministry of Learning and Employment

For the government to play an active role in the development of knowledge workers in the next century, it must better coordinate its education and labor policies. Currently, the Ministry of Education is responsible for administering policies pertaining to schools and universities, including the administration of the College Entrance Examination (CEE). The Ministry of Labor, on the other hand, formulates policies pertaining to job training and employment. Because these ministries are separate, their policies are not adequately coordinated. A unified Ministry of Learning and Employment (MOLE) would give the government the leverage with which to match-up new academia guidelines with the needs of industry. By explicitly linking education to careers, the MOLE would enhance the practicality of education and offer graduates better employment opportunities.

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In the long term, integrating the two ministries will allow the government to systematically and fundamentally change the way educational policies are formulated in order to reflect the changing needs of employers. The United Kingdom integrated its Ministry of Education with the Ministry of Labor in 1995 in an attempt to maintain consistent policies in the two domains. Furthermore, the U.K. government went on to introduce the program "Education and Training for the 21st Century" to try to strengthen the link between job training and school education.

Priority Action #4: Nurture world-class clusters to create knowledge networks

Business clusters are geographically focused groups of related businesses and institutions. They typically include buyers and suppliers, distributors, related service firms, and educational institutions. The geographic proximity of organizations within a cluster engenders a dynamic flow of knowledge. Today, Korea's largely under-developed business clusters are not effectively sharing their knowledge. Members of the clusters — firms, relevant industry associations, related government agencies, and associated educational organizations — should coordinate regular meetings, circulate newsletters, set common technical standards, and conduct research to enhance knowledge development.

Priority Action #5: Attract foreign knowledge inflow, not just foreign direct investment

Today, there is a push to attract foreign capital into Korea, largely on the hope that it will be used to buy-up excess capacity. But attracting foreign knowledge inflow — through relationships with foreign companies and investment by Korean companies abroad — is just as, if not more, important. To date, Korean companies have been effective in tapping the world's technical knowledge, but they have been ineffective at assimilating global knowledge in other areas, such as customer and consumer market trends, marketing and managerial capabilities and competitor's strategies. To compete on the global stage, however, it is critical that Korea's best companies have access to world-class knowledge at all levels.

To promote such knowledge inflow, Korea can enhance its capabilities in three ways:

- **Become world's best partner:** Adopt a knowledge-friendly approach to partnerships, joint ventures and strategic alliances. Foreign partners must be convinced that knowledge sharing is mutually beneficial and will not be exploited by Korean partners.
- **Increase internet usage:** Koreans today either do not have access to or choose not to use the internet. As the new medium for global communications, however, Koreans must have both access and the interest in tapping into this valuable source of information and knowledge.
- **Strengthen English education programs:** While most Koreans can read basic English, most are not proficient conversationally. In a global economy, both written and spoken English will be critical. Supporting knowledge inflow in its most sophisticated form will require the close interaction of people and the use of spoken English.

These five actions are certainly not comprehensive. They are, however, both high impact and urgent and can help generate the momentum required to create change quickly. In the text of this report, we recommend 38 strategic actions as well as numerous supporting actions to accelerate Korea's transition to a knowledge-driven economy (see exhibit 6. 1).

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In each of the four factors of a knowledge-driven economy, we have presented detailed agendas for companies, the government, and individuals.

Because knowledge-driven companies are the engines of a knowledge-driven economy, their participation in these efforts is absolutely essential. Firms must take the lead in investing in knowledge to improve all aspects of their business, from production efficiency to improved marketing. This involves tapping into the knowledge assets that the company already owns, as well as assimilating knowledge that is externally available at home and abroad. Companies must also re-orient themselves towards long-term profitability instead of growth. This will create the most value for shareholders — the owners of the firm — and ensure that companies are as knowledge-driven — and competitive — as possible.

The government plays a critical role in creating the right environment in which knowledge can grow and thrive in the economy. This involves setting up the right system of incentives and rewards with which to encourage innovation in the private sector. Free and open competition is the most important element. Only when companies are forced to be innovative in order to meet competitive challenges will they invest time and money in managing their knowledge. The government is also responsible to prepare Korea's knowledge workers for employment in tomorrow's knowledge-driven economy. Today, however, knowledge workers lack important skills and the education system must be reformed to meet the demands *of* a knowledge-driven economy.

Finally, individuals must play a more central role in a knowledge-driven economy. Because the skills necessary for success will become increasingly specialized, individuals will have to play an active role in their own skill development. This will begin in school but will continue through their careers as well. Individuals can no longer rely on others to tell them what courses to study or what jobs to take. The attitude *of jung gan eman-gara* or "take the middle" will not be acceptable. For Koreans already in the workforce, the challenge will be to evaluate their own skills against the knowledge requirements of their jobs. By conducting such an audit, employees can identify the ways in which their skills should be improved and take appropriate action.

Taking many of these actions will not be simple. The effort will be substantial and the skills to be developed are many. However, if enacted in full, the benefits *of* this effort will be enormous. Korea is currently at a crossroads. If it chooses to operate using decades-old habits, sustained economic recovery will be elusive. However, a more challenging — but rewarding path is also available. Following this path towards a knowledge-driven economy is not only desirable but necessary.

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Exhibit 6.1: Strategic Actions for Knowledge-Driven Economy

Organizational Knowledge Management

1. *Analyze the importance of knowledge to the firm's competitive strategy*
2. *Appoint a chief knowledge officer*
3. *Create a knowledge map*
4. *Identify and fill significant knowledge gaps*
5. *Change job-rotation policies*
6. *Establish dissemination mechanisms*
7. *Establish measurement mechanisms*
8. *Expand the scope of external knowledge-capture efforts*
9. *Encourage an environment for learning*

Individual Knowledge Capabilities

10. *Change admissions standards*
11. *Redesign the College Entrance Examination*
12. *Increase flexibility in the university curriculum*
13. *Establish systems to improve teaching quality*
14. *Reinvent corporate-training programs*
15. *Create a Ministry of Learning and Employment*
16. *Facilitate re-employment opportunities*
17. *Take responsibility for skill development*

Knowledge Flow

18. *Facilitate cluster strengthening*
19. *Establish knowledge-sharing cluster organizations*
20. *Improve knowledge flow among government, academia, and industry*
21. *Make overseas operations responsible for knowledge collection*
22. *Become a world-class partner*
23. *Tap into the global labor pool*
24. *Upgrade foreign-language capabilities*
25. *Improve information technology infrastructure and encourage usage*

Incentives and Rewards

26. *End government-managed competition*
27. *Establish Presidential Round Tables*
28. *Improve anti-trust enforcement*
29. *Continue to reduce import restrictions*
30. *Accelerate banking reform*
31. *Use equity markets to focus directors on enhancing firm performance*
32. *Revitalize boards of directors*
33. *Establish performance-based incentives for senior management*
34. *Implement organizational meritocracies*
35. *Reform the Board of Audit and Inspection*
36. *Reduce barriers to entrepreneurship*
37. *Strengthen the private venture capital industry*
38. *Improve enforcement of Intellectual property rights*