

SME Innovation Policies in Korea

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Introduction

GLOBAL ENVIRONMENT SURROUNDING SMEs

The transition to New Economy and knowledge-based economy in the 1990s and early 21st century created an atmosphere that entrepreneurs and SMEs became crucial engines of economic growth. It was conjectured that such trends were brought about various changes in global business environment. These changes include technological changes, increased globalization, employment flexibility, consumer diversity, deregulation, privatization and entrepreneurial activities.

In the past, Korean SMEs have steadily grown as sub-contractors of large enterprises due to their relatively low wages, interrelationship with large companies and market protection. The changes in the global business environment, however, enforced these factors to be complemented and replaced with a new paradigm of SME policies. The merit of low wages is nowadays threatened domestically by the high-cost economic structure. In addition, the Korean SMEs should compete against the emerging Chinese economy and other countries' economy with much lower labor cost. Large enterprises have pursued their viability through global outsourcing, and thus Korean SMEs cannot sustain their business any longer by resorting to the interrelationship with large enterprises only. Free trade agreements in the global economy never allow the Korean economy to be indifferent to its trend and, therefore, the Korean government cannot protect domestic markets for the advantage of SMEs. The recent rapid change in technologies

hardly lets Korean SMEs acquire, innovate and accumulate their own technology capability and capacity. All in all, the Korean SMEs are highly likely to be confronted with severe competition domestically and globally.

The difficulties with which Korean SMEs have been confronted are not easy to overcome. The difficulties may make worse the inherent deficiencies of SMEs. New Acquisition of innovated technologies by SMEs themselves becomes more risky and lengthy. Public and private financing for SMEs may be blocked on account of uncertain market and insufficient collateral. The productivity gap of SMEs may be more widened compared to large enterprises. Accordingly, recruiting skilled and talented workforce remains much harder for SMEs.

Nevertheless, the importance of SMEs cannot be overemphasized to the Korean economy and the level playing field presents challenges and new opportunities to Korean SMEs in competing on the global stage. Recognizing this kind of new paradigm for SMEs, the Korean government has set its policy priority towards SMEs. It has put the SME policy goal on establishing vibrant and creative SMEs as the driving force for economic growth engine and job creation. In other words, the government plays a key role in providing an appropriate environment for SMEs to meet the challenges and make use of the new opportunities.

SME DEFINITION

Korean SMEs were defined when the 'Small and Medium Enterprises Act' was enacted and promulgated in 1966. Following the enactment, the scope of SMEs was changed through 10 revisions. According to the SME Act, SMEs in the area of manufacturing are considered as companies which have less than 300 employees or its capital worth under KRW 8 billion (Refer to the Table 1).

Table 1: Definition of SMEs in Korea (as of Year 2002)

Sector	Scope	
	employees	Capital or sales (KRW Won)
Manufacturing	less than 300	capital worth KRW 8 billion or less
Mining, construction, transportation	less than 300	capital worth KRW 3 billion or less
Large general retail stores hotel, computer-related business	less than 300	sales worth KRW 30 billion or less
Seed and seeding production Fishing		
Electric, gas and waterworks	less than 200	sales worth KRW 20 billion or less
Assorted services such as tour, warehouse, telecommunication, engineering, medical, film, etc.		
Wholesales, product intermediation, science service, sewage, etc.	less than 100	sales worth KRW 10 billion or less

As of 2004, the number of SMEs in Korea is approximately about 3 million, including 84,000 medium enterprises (with 50~300 employees), 230,000 small enterprises (with 10~50 employees) and 2.68 million micro-enterprises (with less than 10 employees). As the main component of the Korean economy, SMEs represent 99.8% of the entire enterprises (3 million SMEs), and 86.5% of total employment (10.41 million employees). In the process of overcoming the financial crisis from late 1998 to 2004, the number of employees working for large enterprises decreased by 900,000 due to business restructuring, while SMEs created new jobs of approximately 275,000 (Refer to the Table 2). This shows that SMEs have a major role in terms of job creation.

Table 2: Status of SMEs by Year (Unit: Thousands, %)

Classification		1998	2000	2002	2003	2004
Number of businesses	Total	2,629	2,864	2,953	3,004	3,003
	SMEs	2,607	2,854	2,948	2,999	2,999
	Ratio	99.2	99.7	99.8	99.8	99.8
Number of employees	Total	10,177	11,530	11,975	12,041	12,036
	Large	2,519	1,853	1,590	1,567	1,621
	SMEs	7,659	9,677	10,385	10,474	10,415
	Ratio	75.3	83.9	86.7	87.0	86.5

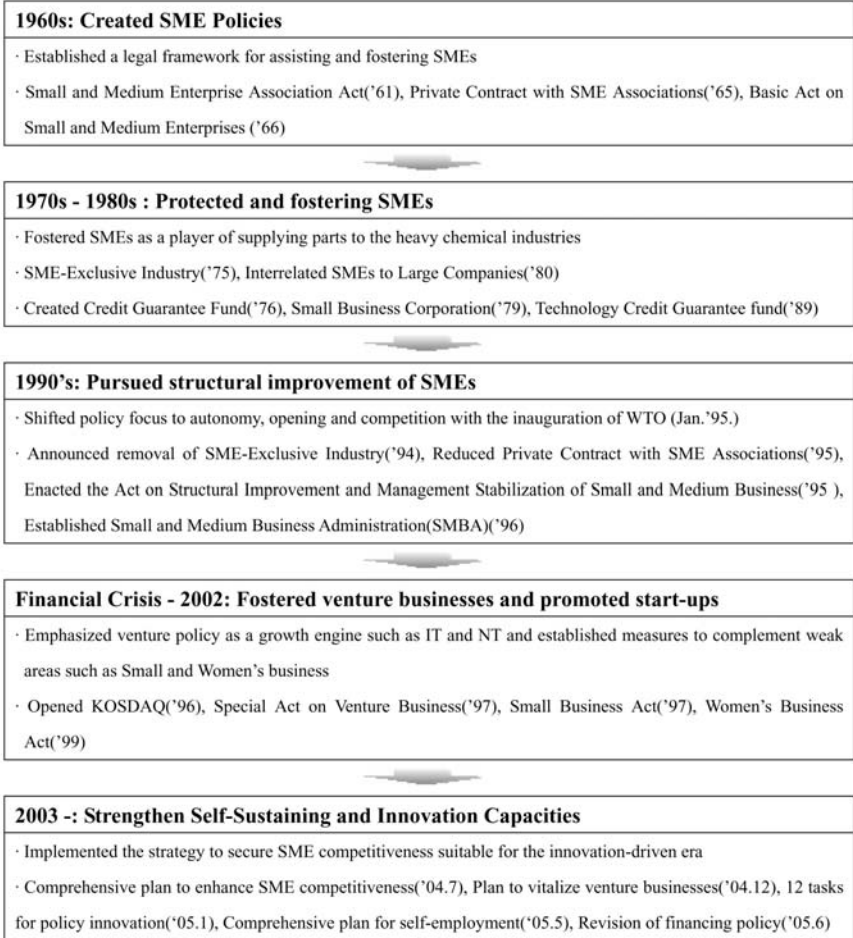
Source: Annual Report on the Business Statistics, Korea National Statistical Office.

Major SME Innovation Policies

Traditional SME policies typically refer to the policies implemented by a ministry or government agency charged with the mandate to promote SMEs. It takes the existing SMEs as exogenous and develops instruments to promote their viability. The Small Business Act of 1953 in USA explicitly mandated the role of the Small Business Administration as "aid, counsel, assist and protect [...] the interests of small business concerns." The SME policy framework in Korea began with governmental efforts to protect SMEs from dominance of large enterprises (Refer to Figure 1). Korea created traditional SME policies in the early 1960s and protected SMEs from large enterprises during the industrial period in the 1970s and 1980s. The turning point was the inauguration of WTO in 1995. Korea shifted its policy focus to autonomy, opening and competition since then.

It is well recognized that productivity increases with technological innovation rather than labor and capital investment. It was witnessed with the advent of New Economy, which was influenced by Information and Communication Technology innovation. Innovation has become a new economic growth engine. The business environment is being shifted to an innovation-led economic structure. As such, it is prevalent that a new strategy needs to be established and implemented to ensure that the SME sector should enhance its competitiveness. Against this backdrop, there is an increasing demand to shift the focus of SME policies from the protectionist policy to the policy of increasing SME competitiveness by promoting competition and enhancing technological and management innovation capacity. The Korean government reflected the trend on its SME policy since 2003 as seen in Figure 1.

Figure 1: Transition of SME Policies in Korea



In an effort to meet the demand, the Korean government changed its SME policy to the direction with strengthening competitive edge of SMEs, an effort to foster SMEs as economic growth base. The government was therefore able to establish a strategy that is more conducive to the innovation-led economic structure (Refer to Figure 2).

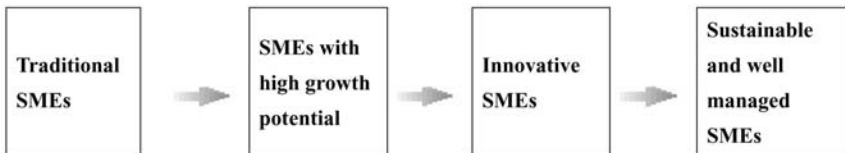
Figure 2: SME Innovation Policy Direction



Source: Innovative SME Advisory Committee (2006)

The government's SME development roadmap was designed to create an environment where all businesses including small firms and micro-enterprises are able to grow into innovative SMEs and the government seeks to make a shift in policy paradigm from the protectionist policy to the policy of promoting free competition and cooperation (Refer to Figure 3). The government continues to customize SME policies to meet the objectives differentiated in accordance with the demands and characteristics of SMEs. Focusing on indirect SME assistance such as establishing infrastructure and offering service and information rather than providing direct SME assistance, the government aims to lay the foundation for an innovative-friendly environment where SMEs can grow into innovative SMEs.

Figure 3: SME Development Roadmap



Source: SMBA(2006)

SME Innovation Policies

Innovative SMEs are defined to be SMEs equipped with R&D (which enables new product and process innovation) and commercialization capabilities. They are estimated to represent about 30,000, which is about 10% of the 330,000 total small and medium manufacturing enterprises in Korea. The government has systematically supported the innovative SMEs by promoting technology-based start-ups, innovating technology and marketing, and others.

1. TECHNOLOGY POLICY

The government implements various policies with focus on the following areas: fostering innovative SMEs that will lead technology innovation of SMEs; reinforcing networking of industry, academia and research institutes; promoting commercialization of developed technology; and encouraging public institutions to use their technological budget for SMEs.

SME Technology Innovation Program

Korea has executed the SME Technology Innovation Program to promote technological innovation of SMEs which have inherited R&D, to accumulate R&D capacity and enhance technological competitiveness by supporting the development of new products and processes. The government supports the program in a year project for general task or in three-year project for strategic tasks. The central government supports 50% and local governments 25% of the costs. When the SME technology innovation program is finished with success, the government receives back 30% of its contribution as technology fee for five years in installments. The program was initiated in 1997. Table 3 shows the result of the program per year since 1997.

Table 3: SME Technology Innovation Program by Year

(Unit: Billion Won, each)

	1997-99	2000	2001	2002	2003	2004	2005	Sum
Budget	107.2	60.0	86.1	99.3	110.1	130.6	142.2	735.5
SMEs	2,147	996	1,301	1,532	1,654	1,883	1,912	11,425

Industry-University-Research Institute Consortium Program

The Korean government supports local SMEs that have lack of innovation capacity to enhance their technology innovation and resolve technical problems by encouraging them to use excellent equipment and manpower of universities or research institutes. For the program of the Industry-University-Research Institute Consortium, the central government provides 50% and local governments 25% of the costs for technology development for up to one year. The industry-university-research consortium program started in 1993. The program resulted in 5,026 patent applications, 13,600 cases of prototyping, and 10,446 cases of process improvement during 1993-2004. Table 4 shows the result of the Industry-University-Research Institute Consortium program by year since 1993.

Table 4: Industry-University-Research Institute Consortium by Year

(Unit: Million Won, each)

Year	1993-99	2000	2001	2002	2003	2004	2005	2006	Sum	
Grant	49,265	21,000	35,000	38,102	34,120	39,120	42,100	42,600	301,307	
Consortium	433	146	182	197	206	218	222	135	1,739	
SME	6,997	1,870	2,554	2,787	2,757	2,876	2,788	2,276	24,905	
Task	6,286	1,795	2,327	2,611	2,593	2,743	2,690	2,276	23,321	
Performance	Patent	1,257	654	731	787	761	836	-	-	5,026
	Prototype	3,692	1,160	2,029	2,184	2,284	2,251	-	-	13,600
	Process	2,611	739	1,536	1,648	1,806	2,106	-	-	10,446

New Technology Purchasing Assurance Program

To commercialize technologies newly developed by SMEs, government agencies, public institutions including Korea Electric Power Corporation, Korea Gas Corporation, and Korea Railroad Corporation, and private large businesses commissioned SMEs to develop new technologies with the assurance that they will purchase the new technological products. The government supports financing for the technological development, while public institutions purchase the products for a certain period of time. The program started in 2003 by supporting 49 projects for one government agency. As of 2006, the government supported 120 projects for 45 demanders

including government agencies, public institutions and private large businesses.

Korean Small Business Innovation Research (KOSBIR) Program

In an effort to offer government-wide support for SME technology innovation activities, the government conducted the Korea Small Business Innovation Research (KOSBIR) program since 1998. In the KOSBIR, 16 agencies including 10 government agencies with massive R&D budgets and 6 government investment institutions are recommended to provide more than 5% of their R&D budget to SMEs. Since 2000, when the 13.2% of the national R&D budget was supported for SME technology development, the proportion has continuously increased up to 20.6% in 2005. The continuous increase is interpreted that the 16 participating agencies allocated more R&D budget for SME technology development and improved their institutional process to support SMEs in response to the promotion policy of innovative SMEs.

2. FINANCING POLICY

The government provides direct and indirect financing support for SMEs to ensure that innovative SMEs do not fail as a result of financing difficulties. For direct financing from the market, the government promotes the venture capital market. As for indirect financing, the government provides a credit guarantee service for SMEs ineligible for bank loans due to a lack of collateral.

Venture Investment Fund

To ensure the continuation of venture investments from the market, the government created \$500 million worth of venture investment funds in June 2006 by setting up 102 venture capital firms and 366 venture capital partnerships (Refer to Table 5 and 6). To build a foundation for the stable growth of venture capital, the government also formed the Fund of Funds to promote the establishment of investment funds for SMEs and venture businesses. Until 2009, the investment resources worth 1 trillion won will be created. So far, 385 billion won have been created, including 170 billion won

in 2005 and 215 billion won in 2006. In 2005 the Korea Venture Investment Corp was designated as the institution for operating the fund of funds.

Table 5: Status of Venture Capital Firms by Year

(Unit: ea, billion KRW)

Year	2000	2001	2002	2003	2004	2005	June, 2006
Firms	147	145	128	117	105	102	102
Fund	2,139	2,219	1,965	1,865	1,653	1,537	1,518

Table 6: Status of Venture Capital Partnerships by Year

(Unit: ea, billion KRW)

Year	2000	2001	2002	2003	2004	2005	June, 2006
Partnerships	326	396	412	430	424	400	366
Fund	2,406	3,051	3,270	3,579	3,817	3,936	3,734

Debt Equity Financing

Debt equity financing is provided for SMEs in order to enhance their access to finance by resolving market failures and to foster innovative SMEs. In July 2004, the government set up a comprehensive measure to strengthen competitiveness of SMEs to expand the provision of start-up fund, long-term facilities fund, and the fund for developed technologies to market. In 2005, measures of debt equity financing focused on innovative SMEs, seeking customer convenience through simplifying procedures, producing more results and strengthening post mortem.

The debt equity fund amounted to 3 trillion won in 2004, 3.16 trillion won in 2005, and 2.75 trillion won in 2006. A one-stop service of the debt equity financing, which does not require visiting loan guarantee institutions, has made the loan process quicker than before.

Credit Guarantee Program

Credit guarantees are provided to SMEs which have difficulty in financing by easing capital shortage and supporting business stability. The purpose of the

credit guarantee service is as follows: first, the service evaluates the level of technology, its commercialization and marketability; second, it offers financial assistance; and third, it intends to foster and develop SMEs with excellent technology and promote technical financing.

The credit guarantee funds are managed by the Korea SME Credit Guarantee Fund and the Korea Technology Guarantee Fund created in 1976 and 1989, respectively. Meanwhile, the Regional Credit Guarantee Foundation was established in 1999 and is being operated in 16 cities and provinces nationwide.

Certification of Innovative SMEs

There are three types of innovative SMEs in Korea. First, it is adventurous and challenging venture business. The venture business is expected to bring high profit and high risk as venture capital investments increase. The second type of SMEs is Innovation business (Inno-biz), which offers high growth potential and is capable to secure technology competitiveness through technology innovation. The third type of SMEs is management innovation-driven SME, which currently carries out management innovation-related activities or has made innovative achievement after implementing management innovation activities within the past three years.

Once a business is certified as innovative SMEs (either a venture business or inno-biz business), the government provides them with diverse benefits such as the standard reduction of issued capital, higher priority and additional scores for a patent, and special benefit when listed on the stock market. In addition, employees in a certified venture business can have tax benefits when they receive stock option. In particular, technology innovative SMEs (inno-biz companies) can take part in various technology development support programs on preferential basis.

3. BUSINESS INCUBATOR POLICY

The government has supported a program for establishing and operating Business Incubators (BIs) at universities and research institutes. The program beneficiary would be entrepreneurs of technology-based start-up firms and

potential SME starters. The program has provided SMEs with business spaces for 2 to 3 years in BIs, management, technology, or marketing counseling services, and bridging financing.

In 1998, the government began to fund some costs for establishing BI centers at university, national and public research institutions. The government grants are provided for operational costs of BIs and the expansion of their facilities. If an incubator achieves poor performance, it would be excluded in the list of beneficiaries for the next financial season. In 1999, the government increased the number of BIs to create more jobs and resolve unemployment. As of June 2006, there are 268 BI centers, which accommodate 4,287 companies, and 4,255 companies graduated from BI centers.

4. MANAGEMENT INNOVATION POLICY

So far, the government has been promoting innovative SMEs by focusing on their technological capability. Traditional SMEs may have a deficiency in high technology, but they have contributed to the Korean economy in terms of job creation and tax payment. The competitiveness of an enterprise can be also brought forth by innovating non-technological areas such as marketing and organizational efficiency as well as technological innovation. Traditional SMEs can build up and enhance their competitiveness by means of management innovation.

SME Consulting Service Program

The SME consulting service program started in 1999. In 2005, the government developed the Coupon-based SME Consulting Service program, a radical change from the previous one by introducing the voucher system and digitalizing the application processes in the website. This Coupon-based Consulting Service program is the outsourcing strategy to counsel SMEs to resolve bottleneck inherited in the organization by major management innovation activities.

The Coupon-based Consulting Service program has a special feature in not only transforming the conventional consulting program but also contributing to fostering the consulting industry. Moreover, the government has

implemented a code of ethics for prohibiting moral hazards, training programs for capacity building of consultants, and consulting evaluation. The government conducts a survey on consulting companies and a survey on the satisfaction of SMEs as policy consumers.

Customized Policy Information System

Korea has a customized policy information system or SPi-1357 system that combines online portal site and a call center for troubleshooting. The portal site (www.spi.go.kr) is the gateway to provide policy information in real time in 9 areas such as finance, manpower and technology by integrating 7,200 kinds of information held by 232 SME support agencies. An offline comprehensive counseling system is also provided for SMEs through the toll-free number of 1357. The specialists in each area answer questions, and counsel the bottleneck of business for SMEs. Through the integration with the public purchasing network, the SPi system is not only a guide to starters and potential founders but also reduce an unnecessary excessive competition within each sector and area.

5. MARKETING POLICY

Procurement of Government

The government requires public institutions to purchase SMEs' technological products that have been approved for performance by the government, thereby promoting technology development in SMEs and public purchasing of SME products. In July 2005, the government introduced a system of performance recognition and insurance of technological products developed by SMEs. It also established a basis for purchase personnel in public institutions to be exempt from liability.

The government adopted the Technological Product Purchase Target System to public institutions. The proportion of purchased technological products made by SMEs stood at 5% in 2006, but will be increased to 10% in 2010. To secure the effectiveness of the system, the accomplishment level is reflected in evaluating public institutions. The purchase amount has increased 400 billion won in 2003 to 1.1 trillion won in 2006.

Export Promotion

In the program of supporting overseas private service center, 153 private consulting companies in major economies were designated as overseas service centers to help SMEs advance into foreign markets. They are responsible for conducting market surveys on export and foreign investment, identifying partners, and providing consulting for projects such as establishment of a local legal entity. During 2001- 2005, the number of companies that received support recorded 752, achieving export sales worth \$12.78 million.

The trade missions are dispatched to overseas niche markets in order to find product markets for SMEs and promote their exports. Since 1998, trade missions have been sent for cooperatives of each industrial sector.

The large and small firms' joint entry into overseas market program, which began in 2006, aims to enhance export competitiveness of SMEs. The purpose of the program is to help small companies advance into overseas markets by using experiences and human networks of a large firm with high brand recognition at home and abroad. The government provides indirect costs for individual firms, while large firms cover the overhead costs incurred. Direct costs are borne by individual companies such as airfare and lodging costs.

6. HRD POLICY

Recruiting

Through the promotion of SME R&D manpower recruiting project, the government assists with the establishment of university-industry cooperation offices and research institutes attached to business so as to enable SMEs to utilize ample workforce and physical R&D resources of a university. In 2005, 164 university-industry cooperation offices were installed and 44 university-industry collaborated research institutes attached to SMEs were established.

In particular, the Industrial Technician Selection program was designed to relieve SME labor shortage problems. The program selects some of those who have obligation to do military service and instead sends them as

industrial technicians to SMEs for production or manufacturing.

Training

The SME Manpower Structure Upgrading Program aims to enhance productivity of SMEs and resolve their manpower shortages by training employees at SME cooperatives in each sector through educational courses. Since 2005, this program involves the Federation of Small and Medium Business, which is in charge of general supervision, and its cooperatives. They conduct the program after reflecting the needs of its member SMEs. In 2005, 20 cooperatives participated in 205 educational courses with the presence of 6,908 workers from 3,338 SMEs.

Status and Issues

The government has set the SME development direction by transforming past SME support practices of protection and direct support policies into a new environment, which can provide a venue for self-managed system, free competition and cooperation. Under the premise that "Cultivating innovative SMEs is the key to a new environment," the government is forecasting that SMEs will play a pivotal role in the Korean economy with its major emphasis on a policy of cultivating, certifying and supporting innovative SMEs. As we have seen from the previous chapter, the government has continued to develop a variety of programs, often newly drawing up a plan suitable for a new environment. This chapter presents policy programs' review of current trends and various issues.

1. TECHNOLOGY POLICY

General and strategic tasks of the SME technology innovation program are supported by the government for one year and three years respectively. Given the government-sponsored tasks are one-time program only, it is easy to witness that a lack of continuity in commercializing developed technologies has made the technologies gradually disappeared in the market. According to a study report, 10 to 100 times of development fees are required for successful

technology commercialization and average six years are taken for transferred technology to be successfully commercialized.

As such, the government needs to upgrade the SME technology innovation program in line with business and market developments. There is a tendency among advanced economies that industrial sectors with high risks are specially defined as market failure and the governmental support for them is increasing. SBIR in the USA supports labor costs of venture companies and even executes pilot projects by itself to reduce the risks that may be taken by private sectors. The technology policies would need to place an emphasis on core technologies having high potential in commercialization and support them long enough to make success in the market.

2. FINANCING POLICY

Although the government is shifting from debt financing to equity financing, the debt financing in Korea still occupies the majority of its financing policy. The debt financing is mostly used in facility investment and operations rather than in technology development. The dependency of debt financing on the government may cause SMEs in trouble, because it would be difficult for them to concentrate on technology development due to a so-called "pay-back pressure." Even those technology-based start-ups would have rare chances to have debt-financing because of no previous record of performance.

The government has adopted the fundamentality of competition and cooperation. However, the government intervention is inevitable in high-risk technology innovation because of market failure. Particularly fostering innovative SMEs requires equity financing from the high-risk and high-return venture capital. The governmental should make efforts to build an environment conducive to SME innovation by promoting direct equity financing for the early staged start-ups.

3. BUSINESS INCUBATOR POLICY

Since most of tenants at the initial stage show lack of marketing, equity and investment capabilities, continued restructuring is a must for BIs producing less satisfactory performance. In addition, integrating BIs spread in many

geographical areas into one and specializing them by industrial sector need to be considered for better BI performance. The followings are programs which can assist tenants to be successful in building their venture businesses: the programs include supporting mutual technology development fund, uniting brand names into one, providing a joint market and establishing technology innovation network as well as conducting management training programs targeting for business managers. Moreover, the government is able to enhance the efficiency of BI programs by pushing for introducing a private licensing system for BI managers and providing a specialized training tailored to managers' capacity building.

There are three ways for the government to achieve BI competitiveness: first, it should be committed to draw further interests in venture capital investment by specializing BIs; second, it should focus on actively supporting model incubators; third, it should secure the foundation for quality innovative incubators by liquidating insolvent BIs. As for venture capital, evaluation and management system for BIs should be enhanced to have active interactions with venture capitals and additional incentives should be given for quality BIs.

4. MANAGEMENT INNOVATION POLICY

Current SME Consulting Service Program is providing one-time service with its government focus on management advice in the areas of operation management. The government needs to offer a policy to promote actual SME innovation by combining consulting service with technology, marketing and e-Business. It is also recommended that a multi-level approach which can provide diagnosis, action plan, and execution helps SMEs fully conduct their own projects independently. BUNT(Business Development using New Technology Program) by the multi-discipline team of Norway, COMET (Commercializing Emerging Technology) of Australia and IRAP (Industrial Research Assistant Program) of Canada can be ideal programs for benchmarking.

5. MARKETING POLICY

Government-initiated marketing programs are offering marketing opportunities to SMEs rather than actually strengthening SME marketing

capacity. The government procurement policy initiates and promotes the sales of the newly developed products by SMEs. To prolong the sales, the government may consider a support policy for marketing service companies. The marketing service companies will be majoring in product planning and distribution, while innovative SMEs will be developing and manufacturing products.

6. HUMAN RESOURCE DEVELOPMENT POLICY

The inflow of high skilled people into SMEs is critical for SMEs to become successful and sustainable. Most SMEs cannot afford to hire high-skilled people nor equip themselves with self-owned training facility, while universities are already equipped with not only facility for training but also skilled trainers and lecturers. The government can induce region-based collaboration between SMEs and universities by providing policy programs of technology development and training. Particularly university students would have chances to work in SMEs and be familiar with an SME environment before graduating from universities. The earlier experiences would lead them to continue their jobs in SMEs.

Public/Private Cooperation in Promoting SMEs

As discussed in the previous chapters, the government has driven the public sector towards supporting SME innovation. One of the representative programs is Industry-University-Research Institute Consortium Program. In the sense that this program promotes technological development through cooperation between Central government, local governments, local universities, local research institutes and local SMEs, it is well evaluated as ideal structure for the regional industrial and SME developments. However, it has been indicated that the government grant is too small with less than 10 million won to make technological development, the manpower of the universities and institutes lacks in field experiences, and the SMEs anticipate outcomes in a hasty manner.

It should be noted that the program involves diverse stakeholders and each one's interest is also different. To produce better performance out of the program, cooperation structure must be sound and effective for the intended synergy effect. In addition, the program needs to set up a prearranged plan with consensus among program participants and to build regional human networks with stakeholders before the participants make a proposal for the program. It also requires refinement and improvement of the consortium structure by linking other regional innovation programs such as Techno Parks, TLO (Technology Licensing Office), TIC (Technology Innovation Center), BI (Business Incubator), and RRC (Regional Research Center).

In details, the current regional innovation programs should be reorganized according to regions, industrial sectors, and hosting organizations. At the same time, the Industry-University-Research Institute Consortium Program should be reorganized to be integrated into the regional innovation programs. Meanwhile, large companies need to be involved in the regional innovation programs so that they can further purchase SME developed products. More structured support programs need to be designed and built along the development lifecycle.

Some other programs for public and private cooperation may include New Technology Purchasing Assurance program, KOSBIR program, Fund of Funds, and Technological Product Purchase Target system. The New Technology Purchasing Assurance Program involves government agencies, public institutions and private large businesses for SMEs to be solely engaged in the technology development without the concerns of marketing. The KOSBIR program recommends 16 government agencies to allocate some portion of their annual R&D budget to the SME technology development. The Fund of Funds using public funds complements private venture capital markets by stabilizing the venture investment environment. The Technological Product Purchase Target system institutionalized the obligatory purchase of SMEs' technological products by public institutions for promoting technology development in SMEs.

These public and private cooperation activities indicate that the government has a strong commitment to promote innovative SMEs by resolving inherent deficiencies of SMEs like technology development, marketing development

and financing. Well-designed cooperation programs will not inhibit the free competition paradigm but foster the policy paradigm of concentration on innovative SMEs.

Conclusion

We have briefly reviewed overall background of SME innovation policies in Korea. This paper describes SME innovation policy development in chronological order. Then it explains major policies on technology, financing, business incubator, management innovation, marketing and HRD, followed by various issues on those policies. Finally, we look at public and private cooperation in promoting SMEs in the last chapter.

In 2005, a comprehensive plan for developing SMEs into innovative SMEs was rebuilt and introduced, and it has been carried out since 2006. The Korean government has focused on the institutional establishment of a SME-friendly environment to enhance SME competitiveness. With the development of e-business, the government has built an online system which provides a tool for submitting applications and conducting ex-post monitoring. Korea has also established and operating the SPi-1357 system on <http://www.spi.go.kr/>, with the aim to deliver integrated information about government support policies and programs to SMEs which have less capability of collecting information.

Moreover, the government has introduced certification systems of innovative SMEs and provides benefits for certified innovative SMEs when they participate in governmental programs. There are certification systems that are being implemented: Venture business certification was introduced in a bid to overcome the 1997 financial crisis, while technology innovation certification and management innovation certification were created in 2001 and 2006 respectively. It shows that the government would focus on setting a qualitative goal and creating an environment for innovative SMEs, rather than counting the target number for a quantitative goal in promoting innovative SMEs.

Starting 2000, the Korean SME policy focus has been shifted to strengthen competitiveness and build innovative capacity from protectionist policy. Given that local governments have a relatively short history and SME policies are less developed, it is advised that the local governments in Korea closely work with the central government to strengthen the SME innovation.

In conclusion, Korea has worked hard to create best practices just suitable for Korea and it has experienced trials and errors to successfully launch them. Its strenuous efforts finally pay off and it has produced various favorable results by benchmarking, adapting and improving cases of other economies. Now, it wants to share its past experience with other member economies. The Korea-made best practices can be well referenced by other economies as long as they recognize and understand the history behind them. Otherwise, those economies may repeat the same mistakes Korea made. Therefore, it is strongly suggested that economies at the PECC level need to build a framework of best practices to effectively share it in the Asia Pacific region.

Notes

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