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1. Conclusions

This study was an important undertaking by APEC and the Korean government to examine the current status of SME informatization, SME ICT promotion policies, the role of supporting organizations and other factors influencing SME informatization in the APEC region. The research framework consists of three components influencing SME informatization: the national infrastructure, business environment, and supporting organizations. Various study methods were applied to identify and compare the different SME informatization levels in APEC member economies, different government support policies for SMEs, and the benefits and impediments of SME informatization.

Based on the research framework mentioned above and the qualitative/quantitative methods, a comparative analysis was made from which the similarities and diversities regarding SME informatization in APEC economies were derived. Of particular importance to this project was the understanding of the different levels of SME informatization, the many factors and mechanisms influencing SMEs' ICT decisions, and the diverse perspectives on the supporting policies and intermediaries in different groups of APEC economies.

There are various policies and approaches for promoting SME informatization in APEC member economies. Although every APEC member economy has both government-led policies for nationwide informatization and for supporting SMEs in general business operations, only a few member economies have launched a set of integrated policies for SME informatization (combining generic SME support and SME informatization policies). More specifically, the low tier economies in the NII have not taken any systematic approach towards SME informatization. By contrast, high tier economies with the policy framework for SME informatization have taken diverse approaches to SME informatization such as providing useful ICT information, resources, financial support, and ICT training and consulting. However, high tier economies in the NII that do not have a policy framework for SME informatization have taken only the basic approaches towards SME informatization such as providing useful information and expanding the ICT infrastructure.

This report also reviewed the intermediaries that play an important role in promoting SME informatization in the APEC community. These intermediaries can be categorized into public and private intermediaries, and have different roles and approaches in carrying out their responsibilities endowed by the government. Diverse cases were presented regarding the efforts of intermediaries to better meet SMEs' needs for informatization.

This report examined the status of SME informatization in the APEC region, factors influencing SME informatization, ICT benefits, and obstacles to ICT adoption through case studies conducted in many APEC economies and the informatization survey of the Korean SMEs. We identified numerous implications facilitating successful SME informatization will have on the APEC economy by comparing the cases from high and low tier economies in the NII. In the same vein, the survey of the Korean SMEs contributes to raising the understanding of the need for SME informatization.

All the interviewees - SME businessmen, government officials, and key staff members of supporting intermediaries for SME informatization in member economies - believe that the potential benefits of SME informatization are great and welcome the involvement of APEC economies in promoting SME informatization by lowering the barriers to it not only at the individual governmental level, but also at the APEC level. The followings are the suggestions to facilitate SME informatization for individual SMEs, intermediaries, member governments, APEC as a whole, and future research.

2. Suggestions for APEC SMEs

Recognize the need for informatization, and raise the ICT awareness and knowledge of SME CEOs.

According to our studies, many SMEs enhanced their business efficiency by using ICT tools such as document management, financial and accounting management, and inventory management. But only a few companies increased business performance in internal and external operations using the more sophisticated ICTs such as ERP, CRM and SCM.

From a financial perspective, companies were able to reduce labor cost related to business processes and increased sales revenue after adopting ICT. From the internal business processes perspective, they reduced the time and effort wasted in conducting businesses and improved the analysis, planning, forecasting and strategic policy making processes. From the customer services perspective, ICT implementation increased communications efficiency with customers and decreased customer waiting time. From the learning and growth perspective, ICT improved communications speed with trading partners through the use of the Internet and e-mail. Over time, CEO and employees that implemented ICT came to see the benefits and value of ICT and thereby raised the awareness of the importance of informatization.

Considering these positive effects of informatization, APEC SMEs should further study the potential benefits of ICT to reduce cost as a result of enhancing the efficiency of management processes, developing new products and services, and developing new markets through new approaches to customers. Raising the ICT awareness and knowledge of CEOs of SMEs is critical considering the absolute influence of CEO leadership in small-sized companies. Strong ICT leadership armed with high-tech knowledge will further facilitate SME Informatization .

Use ICT for integrating SMEs and business partners into the value chain.

Integration with business partners is desirable as it helps achieve the economy of scale. Integrating business processes and data through community-based networks with partners in the value chain is highly effective in sharing costs and benefits of the integrated system. As business hubs, large enterprises have many business partners and have a strong tendency of pressuring their small-sized business partners to adopt the ICT platforms they use. As compatibility is most critical in system integration, large enterprises need to build standardized platforms by cooperating with SMEs. Using application programs at moderate costs through ASP (Application Service Provider) services is a good option in this regard. When forming a network in an industry association, establishing consortiums between the ICT industry and user enterprises is advisable.

3. Suggestions for Intermediaries

Intermediaries (both public and private) in charge of promoting SME informatization should identify SMEs' needs and develop programs from an SME standpoint.

This report reviewed the roles of intermediaries for SME informatization. As SMEs in general have limited financial, technological and human resources and experience numerous difficulties in pursuing informatization, government support is indispensable for SME informatization. Governments could provide various support programs in which ICT information, ICT resources for SMEs and financial support are offered. However, governments lack the ability to identify SME needs and provide tailored solutions to SMEs. The best way to overcome such limits is to make use of SME support intermediaries to carry out the policies the government develops. On the government's part, it must ensure that effective SME policies are continuously developed. The more supporting programs governments develop, the more important the role of intermediaries in SME informatization will become.

Considering their increasing importance, intermediaries should be keen on whether they are truly meeting SME needs through their programs, regardless of whether the intermediaries are public or private. In order to identify the changing ICT environment and SME needs for informatization, intermediaries should have more knowledge and flexibility in their approaches to SME informatization. This applies especially to the public intermediaries, because they are likely to be less responsive to the changing needs of SMEs than private intermediaries are.

4. Suggestions for Governments

Governments should give priority to enhancing the national ICT infrastructure.

Some 40 percent of SMEs from the member economies in the low tier in the NII still use the Internet through slow dial-up modems, and Internet access costs were found to be substantially high for these SMEs to afford. Unless this challenge is addressed, the current digital gap between the low and high tier SMEs will continue to widen. Governments should, therefore, try to lower Internet access fees and improve Internet access speed. Without low-cost, efficient ICT infrastructure in place, SMEs will not be able to understand the benefits of informatization.

For the economies in the low tier in the NII, one of the options to expand the ICT infrastructure is establishing the Mobile Networks. Member economies such as China and Australia may have difficulty in setting land lines across their large territories. These member economies could turn to satellite and mobile technologies instead of the traditional wired-line technologies for building the national ICT infrastructure. It is also important for the government to develop legitimate trust infrastructure in addition to increasing SME participation in e-commerce.

The availability and development of the ICT markets for software, hardware and networks are an increasingly significant part of the national infrastructure for SME informatization. Local software and contents access at reasonable prices will accelerate the informatization of SMEs. Governments should assist the growth of the ICT industry, and in particular, they should develop policies and projects that can promote the ICT market and SME informatization simultaneously.

Develop diverse, business-driven supporting programs and team up with support intermediaries.

The most effective way for SME informatization is helping SMEs feel the need to implement ICT in their business operations. In this sense, the government should design diverse programs responding to the changing informatization needs of SMEs. This includes providing useful information regarding the benefits and costs of adopting ICT, technical and managerial assistance to adopt ICT, and financial support programs. To address the imbalances between government policy and SMEs' demands, governments should increase the effectiveness of their communications so as to keep in close contact with SMEs. In addition, the government should develop programs for supporting the establishment of an e-marketplace in each industry through building computer networks connecting SMEs. Within the e-marketplace, SMEs can build business relationships with partners throughout the value chain.

As the government will depend on diverse intermediaries (both public and private) to develop high quality supporting programs for SME informatization, it must ensure that effective cooperation takes place between diverse intermediaries and the government to create the desired synergy effect in the informatization efforts.

Consider the gender issue in the development and implementation of supporting programs for SME informatization.

While limited, this report reviewed the improving role of women in SME informatization by introducing the U.S. case of supporting women-owned businesses in Chapter II and the contribution of SME informatization to the employment of women in Chapter III. These cases demonstrate that governments need to pay more attention to the gender issue in developing the SME informatization policies. For this purpose, governments may well invite the participation of official and unofficial associations of women-owned SMEs in the process of launching SME informatization policies.

5. Suggestions at the APEC Level

Improve the ICT infrastructure across the APEC region.

SMEs should be able to have access to affordable computer equipment and the Internet. In this respect, collective measures should be taken to ease the burden of purchasing computers for the SMEs in the low tier economies in the NII. For example, APEC member economies can collectively lower the tariff rates on PCs, or outdated computers in high tier members could be resold to low tier members at low prices.

APEC economies also need to discuss how APEC member economies can cooperate with one another to help SMEs in the APEC region to purchase software at reasonable prices. APEC member economies need to provide software at low prices to SMEs in the low tier member economies through license arrangements, or help them develop and use affordable software produced locally.

Prepare collective measures at the APEC level to enhance the effectiveness of supporting intermediaries

Currently, APEC member economies are adopting various policies and different approaches to facilitate SME informatization. The effectiveness of these policies needs to be discussed among APEC member economies. The APEC SME Informatization Forum in 2004, to be held in Korea following this survey, can provide the initiative for this. To keep the momentum for promoting SME informatization and ensure the objectives of the 2004 forum are met, the forum should become a regularly held event. For this purpose, APEC should lead the efforts to make this forum an officially held event.

In addition, training staff members for a number of various supporting intermediaries of each member economy will be crucial for enhancing member economies' ability to better respond to SMEs' demand for informatization. In this sense, the APEC Training Program for SME Informatization in 2004 could become a cornerstone for building a strong foundation for supporting intermediaries. It can become a training program regularly held for the key staff members (e-leaders) from SME support intermediaries.

6. Suggestions for Future Research

The relationship between the ICT infrastructure and SME informatization

The correlation between the digital divide among the companies and the indexes of the digital divide among member economies should be analyzed in detail. In addition, the digital divide between SMEs and large enterprises in member economies needs to be further studied, for the relationship between ICT infrastructure and SME informatization can be clearly identified as a result.

The relationship between SME informatization and the business environment

Discussion at the APEC level is needed to assert the benefits of ICT. Discussion should not only cover the promotion of SME informatization, but also the business conditions required for SMEs (especially in the member economies in the low tiers in the NII) to gain the benefits of informatization through concrete policy programs.

In-depth study on SME informatization

An in-depth study on SME informatization by industry should be undertaken, taking into account the different characteristics of each industry. As our case studies only involved SMEs located in or near capital cities, it may only pertain to SMEs located in urban areas, limiting the comprehensive application of our study. As a result of our interviews, we identified that there is a substantial gap in informatization between SMEs in urban and rural areas, particularly in China and Mexico. Future studies should consider the regional differences when analyzing the informatization levels of member economies.

