APEC Informatization Survey for Small and Medium Enterprises

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Acknowledgement

• Contributors
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Contents

- Background
- Objectives
- Research framework
- SME ICT policies and approaches
- Case study
- Suggestions
Background

- **Efforts for promotion of ICT use by SMEs within APEC**
  - Discussed at the 2000 APEC SME Ministerial meeting
    - To enable SMEs to access ICT and to utilize e-Commerce
    - To collaborate with APEC ECSG and TELWG
  - Emphasized in 2002 APEC Leader’s Summit
    - Policy development for the informatization of micro-enterprises

- **3-phased project proposal “Enabling e-SME environment – through survey and e-community based capacity building”**
  - The APEC fund of US$66,900
  - The first phase “APEC informatization survey for small and medium enterprises” in 2003
Objectives

• To share best policies and practices among APEC member economies
  – To identify policies and approaches practiced for the success of SMEs informatization
  – To analyze influencing or fostering factors and impediments
  – To make suggestions to enhance the informatization level of APEC SMEs

• To provide the ground for policy forum and training work shop
  – Forum in July and work shop in September of 2004
Research Framework

ICT Infrastructure
- National infrastructure
- Trust infrastructure
- ICT industry and market

Business Environment
- Value chain composed of buyer, seller, large company

SME Informatization
- ICT adoption
- Utilization

Supporting Organization
- Government agency
- Public/private organization
- Association

* The 3-pillar framework enabled effective and consistent studies.
Research Approaches

Informatization Policies
- Literature review
- Questionnaire to 21 economies
- Visit to 12 economies

Informatization Survey
- 18 SMEs of 10 economies
- 334 SMEs in Korea

Member Economy Profiles
Policy & Approach
Suggestions
for SMEs
for Intermediaries
for Governments
at the APEC level
and
for Future Research

Case Study & ICT Status Survey
Informatization Survey

* The research team split into two and rejoined for analysis.
Methods in Policy Research

- Literature review, including Web search
- Questionnaire template
  - Containing major policies, government organizations, intermediaries, projects related to SMEs informatization, etc.
  - 7 replies from 21
    * Canada, Hong Kong, Japan, Korea, Philippine, Russia and Chinese Taipei
- Interviews: 12 economies

<table>
<thead>
<tr>
<th>NII</th>
<th>Tier</th>
<th>Member economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-</td>
<td>High</td>
<td>US, Canada, Japan, Chinese Taipei, Australia, Korea</td>
</tr>
<tr>
<td>0-60</td>
<td>Low</td>
<td>Malaysia, China, Indonesia, Mexico, Russia, Thailand</td>
</tr>
</tbody>
</table>

NII: National Informatization Index by NCA in Korea
## Classification of Policies

<table>
<thead>
<tr>
<th>Support Policy</th>
<th>Support Approach (Programs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informati on</td>
</tr>
<tr>
<td>High Tier</td>
<td></td>
</tr>
<tr>
<td>SME-focused (Group I)</td>
<td>Chinese Taipei, USA</td>
</tr>
<tr>
<td>Generic ICT (Group II)</td>
<td>Canada, New Zealand</td>
</tr>
<tr>
<td></td>
<td>Hong Kong</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
</tr>
<tr>
<td></td>
<td>Singapore</td>
</tr>
<tr>
<td>Low Tier</td>
<td>China, Indonesia, Malaysia, Thailand, Chile, Mexico, Peru, Philippines, Russia, Vietnam, Papua New Guinea, Brunei</td>
</tr>
</tbody>
</table>
Comparison of Groups

- **Group I**
  - Economies in the high tier with SME-focused policy
  - SBA of USA, SMEA of Japan, SMEA of Chinese Taipei and SMBA of Korea
  - The five types of the support programs in place

- **Group II**
  - Economies in the high tier with generic ICT policy
  - Canada, New Zealand, Hong Kong, Australia and Singapore
    - Hong Kong with successful on-site training programs
    - Australia supports e-Business networks by funding consortium based applicants

- **Group III**
  - China building an SME network for information sharing
  - Indonesia established BDS and CDS for SMEs and Clusters
  - Malaysia with SMIDEC and Thailand with OSMEP
Intermediaries

- **Types of Intermediaries**
  - Public: Japan Small and Medium Enterprise Corporation of Japan, Small Business Development Centers in US, Industrial Technology Research Institute of Chinese Taipei
  - Private: Industry and trade associations, Consortiums for ITOL of Australia

- **Characteristics**
  - High dependency on public sector because of
    - More sufficient resources of funds, information and human skill
    - Private hardly goes to SMEs due to risks and uncertainties
  - Public intermediaries specializing in SME informatization
    - Japan’s NIC (National Small Business Information Promotion Center)
    - Korea’s KIMI (Korea Information Management Institute for SMEs)
Case Study: Overall

Case studies in 10 member economies:

<table>
<thead>
<tr>
<th>Category</th>
<th>NII</th>
<th>Member Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Tier</td>
<td>82</td>
<td>Australia, Japan, Korea, Chinese Taipei, USA</td>
</tr>
<tr>
<td>Low Tier</td>
<td>15</td>
<td>China, Indonesia, Malaysia, Mexico, Thailand</td>
</tr>
</tbody>
</table>

- 18 cases: 2 companies in each economy except for **Australia and Korea**
- Most cases come from manufacturing sector, located in the capital areas
- Analysis perspectives;
  - ICT adoption, ICT preparedness, ICT benefits and Influential factors
Case Study: ICT adoption (1)

Level of Hardware Usage: PCs per employee

<table>
<thead>
<tr>
<th>Category</th>
<th>PC/employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>High tier in NII</td>
<td>0.66</td>
</tr>
<tr>
<td>Low tier in NII</td>
<td>0.34</td>
</tr>
</tbody>
</table>

- PCs are more expensive in low tier economies with low income because of high tax and tariffs

Level of software Usage: applications

<table>
<thead>
<tr>
<th>Category</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>High tier in NII</td>
<td>8</td>
</tr>
<tr>
<td>Low tier in NII</td>
<td>1-2</td>
</tr>
</tbody>
</table>

- China gives favor for computer-processed tax documents; Mexico for ERP users when bidding
- Malaysia adopts various applications with government’s support policy
Case Study: ICT adoption (2)

### Level of Internet Usage

<table>
<thead>
<tr>
<th></th>
<th>e-mail</th>
<th>Web</th>
<th>Homepage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High tier</strong></td>
<td>All employees use for business and personal purpose</td>
<td>All employees use the Web</td>
<td>Running with a purpose of marketing and on-line sales</td>
</tr>
<tr>
<td><strong>Low tier</strong></td>
<td>Only ICT staffs use for business communication</td>
<td>Only the ICT staffs access to the Web</td>
<td>In the initial stage without a clear business model</td>
</tr>
</tbody>
</table>

- Low tier economies have low awareness of the benefits of the Internet due to the available contents and language barriers.
## Case Study: ICT preparedness

<table>
<thead>
<tr>
<th></th>
<th>ICT infrastructure</th>
<th>Financial status</th>
<th>Awareness</th>
<th>Change management</th>
<th>Standardization</th>
</tr>
</thead>
<tbody>
<tr>
<td>High tier</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
<td>1.75</td>
<td>2.25</td>
</tr>
<tr>
<td>Low tier</td>
<td>1.80</td>
<td>1.90</td>
<td>2.70</td>
<td>1.50</td>
<td>1.60</td>
</tr>
<tr>
<td>Average</td>
<td>2.33</td>
<td>2.39</td>
<td>2.72</td>
<td>1.61</td>
<td>1.89</td>
</tr>
</tbody>
</table>

Note: The preparedness was measured on a 3 point scale (3: sufficient, 2: average, 1: insufficient)

- **Highest awareness**: Most SMEs are aware of the importance of ICT utilization for their business.
- **Lowest change management and standardization**: Because of intrinsically limited capacity, SMEs are unable to respond to changing organization and system management of ICT.
- **Big gap of ICT Infrastructure and Financial status between high and low tier SMEs**
Case Study: ICT benefits

<table>
<thead>
<tr>
<th></th>
<th>Finance</th>
<th>Customer service</th>
<th>Internal business process</th>
<th>Learning and growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>High tier</td>
<td>50</td>
<td>88</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Low tier</td>
<td>10</td>
<td>20</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>Average</td>
<td>28</td>
<td>50</td>
<td>83</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: The benefits were measured on a binomial scale (1: experienced benefits, 0: no experience), unit:%

- **learning and growth**: *e.g.* Internet and e-mail for communication and error free; reuse of documents for learning
- Big gap of customer service between high and low tier SMEs because the companies in low tier focus on internal automation rather than on customer services or business relationships
Case Study: influential factors

- **National ICT infrastructure**
  - High tier with 100% broadband Internet lines; low tier with 60%
  - *e.g.* Indonesia costs US$38 per month; China US$13 and Korea US$25

- **Business Environment**
  - High tier with more pressure for applications from partners
  - *e.g.* 88% of high tier SMEs adopt procurement management, compared to 40% of low tier

- **Supporting organizations**
  - To utilize intermediaries such as business or industry associations
  - *e.g.* Hong Ya of Chinese Taipei with the Franchise Promotion Association; Sanohatsu of Japan with the Tokyo Fasteners Cooperative Association
Suggestions for APEC SMEs

- **Recognize the need for informatization, and raise the ICT awareness and knowledge of SME CEOs**
  - To assess the benefits from perspectives: financial, internal business process, customer service, and learning and growth

- **Use ICT for integrating SMEs and business partners into the value chain**
  - To build standardized ICT platforms for collaboration
  - To provide applications at moderate costs
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**
  – Government support is indispensable for SME informatization
  – To utilize SME support intermediaries to carry out the policies the government develops
  – The more supporting programs governments develop, the more important the role of intermediaries in SME informatization will become.
Suggestions for Governments

• **Governments should give priority to enhancing the national ICT infrastructure**
  – To lower Internet access fees, improve Internet access speed, and provide software, hardware and networks at reasonable prices

• **Develop diverse, business-driven supporting programs and team up with support intermediaries**
  – To ensure effective cooperation between diverse intermediaries and the government

• **Consider the gender issue in the development and implementation of supporting programs for SME informatization**
  – To involve women-owned SMEs in the process of policy making
Suggestions at the APEC level

• **Improve the ICT infrastructure across the APEC region**
  – To take collective measures for low-tier SMEs at low hardware and software prices

• **Prepare collective measures at the APEC level to enhance the effectiveness of supporting intermediaries**
  – To share and discuss policies and approaches for SMEs informatization at a regular basis
  – To train e-leaders of supporting organizations in APEC
Suggestions for Future Research

• **In-depth study on SME informatization**
  – To undertake an in-depth study on SME informatization by industry and region in each member economy

• “e-APEC Readiness” – a Survey of SMEs informatization in the APEC region
  – *The European e-Business Report*, by European Commission
  – *Business in the Information Age: The International Benchmarking Study 2003*, by United Kingdom

Thank You!