Innovation Oriented Public Procurement (IOPP) of School Computers

– a comparative case study in the contexts of the UK and China

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OUTLINE

• IOPP in China – an overview
• Positioning the study
• Case information
• Comparative analysis
• Implications
Innovation Oriented Public Procurement (IOPP) definition:

Any public procurement activities that aim at stimulating the creation, improvement, adaption and diffusion of innovative solutions (technological or organisational)

OECD actions

US ‘SBIR’ program; EU ‘Lead Market Initiative (LMI)’; Australian ‘Climate Ready’ program; Japan promoting international standardization

China policy initiative


- Settled ‘indigenous innovation’ as a fundamental national strategy
- Explicitly highlighted systemic usage of public procurement and standardization together with supply-side measures
Before 2006

• ‘Catching up’ was a theme while ‘indigenous innovation’ was not yet explicit
• STI policy instruments were mainly supply-based
• Emerging literature in academia debating the potential of IOPP

2006 – July 2011

• Announcement of MLP (2006-2020); implementation measures were enacted
• A regulatory system supporting IOPP practices was formed, featuring ‘product/technology catalogues’ as a means of communicating between demand and supply
• Implementing actions by regions
• International concerns and criticisms, mainly from USCBC (US-China Business Council) and EUCCC (EU Chamber of Commerce in China)
July 2011 – present

- The Chinese ministries eventually withdrew four of the fundamental policy measures in July 2011
- From explicit to implicit, from routinized to occasional

Existing problems & challenges

- Fragmented legal system and institutional setup for government/public procurement
- Conflicts with international interests and obligation to join WTO-GPA
- Doubtful competition environment and regional/national protectionism

Achievements

- Raised the awareness of IOPP among various stakeholders
- Facilitated commercialization of some strategic and social need technologies, and a number of IOPP cases emerged
An Institutional Assessment of IOPP as a Demand-side Innovation Policy (DSIP) in China

Institutional framework

- Policy & legislation
- Context for DSIP

Regional actions

Evidence evaluation

Cases of implementation

- Loongson e-classroom
- New energy vehicles
- Tunnel engineering
- Offshore wind farm
- LED lighting
- Water recycling

OECD experience
Case 1: Loongson based e-classroom solution

Step I: Lemote proposed to catch the opportunity via IOPP
Step III: 1st stage contract of 10000 units was signed in 2009

Step II: Changshu government consulted stakeholders and set up requirements

Step VI: communication between levels of government

Impact on the firm, schools, supply chain and other region practices

Step VII: 2nd stage contract of 150000 units in 2010-2011

Supply: Lemote Tech. Co. Ltd

Researchers, users and specialized officers

Procurer 1: Changshu city

Procurer 2: Jiangsu Province

Technological & political driving forces

Step IV: Prototype delivered, user-supplier interactions
Step V: Tailored electronic classroom solutions delivered
Case 2: BBC Microcomputer in Computer Literacy Program (CLP)

Procurer: British Broadcasting Corporation

Supplier: Acorn Computers Ltd.

The government and other stakeholders

Social & technologic al driving forces

Step I: in 1980 BBC began consultation for CLP

Step II: BBC initiated dialogues with firms, set requirements and launched call for bidding

Step III: in total six firms submitted detailed design

Step IV: Acorn provided the only satisfactory prototype and won the contract of at least 12,000 machines

Follow up step: the DoI subsidized half of the price for each BBC Micro purchased by schools

Impacts on the firm, the industry, private users, schools and computer technology

Six other firms: including Sinclair and Newbury Labs

Procurer: British Broadcasting Corporation
## Table of comparison – part I

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<th>Background and driving forces</th>
<th>Loongson case</th>
<th>BBC Micro case</th>
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<td>Contextual</td>
<td>China, developing country, local articulation</td>
<td>UK, developed country, market mechanism</td>
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<tr>
<td>Historical</td>
<td>2009-2011, globalization, indigenous innovation</td>
<td>1980s, 1982 named by DoI ‘Year of IT’</td>
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<td>Technological</td>
<td>Mature PC technology, needed tailored solutions</td>
<td>Early stage of IT, needed better machines</td>
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<tr>
<td>Sectoral</td>
<td>Education</td>
<td>Education &amp; private</td>
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<td>Initiating body</td>
<td>the supplier</td>
<td>the procurer</td>
</tr>
<tr>
<td>Procurer</td>
<td>local and provincial governments</td>
<td>BBC</td>
</tr>
<tr>
<td>Supplier</td>
<td>Lemote co-founded by PRI, local government and private firm</td>
<td>Acorn Computers Ltd. from the private sector</td>
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<tr>
<td>User</td>
<td>Middle and primary schools in Jiangsu</td>
<td>Schools as well as private users</td>
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# Table of comparison – part II

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<th>Procurement process</th>
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<th>BBC Micro case</th>
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<td>Procedure</td>
<td>‘First procurement’ under provincial regulations in conjunction with catalogues</td>
<td>Competitive dialogue</td>
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<td>Competition issues</td>
<td>No competition</td>
<td>Initially approached Sinclair and Newbury, then competition</td>
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<tr>
<td>Stakeholder interaction</td>
<td>Supplier – procurer, user – supplier, government – others</td>
<td>Procurer – supplier, government – others</td>
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<td>Outcomes &amp; Impacts</td>
<td>• Innovative e-classroom solution</td>
<td>• Better performing machine</td>
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<td>• Improved supply chain based on Loongson processors</td>
<td>• Significantly accelerated PC popularization in the UK;</td>
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<td>• Experiences for other localities to conduct IOPP</td>
<td>• At least 70% of UK school computers were BBC Micro</td>
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## Table of comparison – part III

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<tr>
<th>Difficulties encountered</th>
<th>Loongson case</th>
<th>BBC Micro case</th>
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<td>• Stakeholders who were unwilling to bear the risk</td>
<td>• Demand dramatically exceeded supply</td>
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<td>• Needed further transformation towards ‘e-education’</td>
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<tr>
<th>Other features</th>
<th>Loongson case</th>
<th>BBC Micro case</th>
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<tr>
<td>• Strong catching up feature</td>
<td>• Although there were mature PC companies providing cheaper machines, and Newbury was favored by government, BBC maintained its principle to buy advanced technologies</td>
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<td>• Governmental intervention was the leading factor</td>
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<td>• Brave and interactive stakeholders (e.g. the proactive firm, cooperative users and officials who were willing to bear the risk) played crucial roles in the process</td>
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Coping with the changing social need:
While the process that Loongson case followed might be easily considered as a form of protectionism, the process followed by BBC Micro might not be easily transferrable as the challenges we face nowadays are different. Today the demand is not that demanding, but more problems need to be addressed with IOPP.

Making use of sectoral advantages:
Routine mechanism (for communicating and collaborating) can be established in favour of innovation in suitable sectors such as education and healthcare to enhance the effectiveness and efficiency of IOPP.

Further communicating and engaging various stakeholders:
Although IOPP is a demand-side tool by nature and normally initiated by procurers and users, it can be initiated from the supplier side. Other stakeholders might be the initiator as well, e.g. researchers/experts who know both the potential of technology and the demand.
Thank you