Experiential Knowledge, Recombination and Public-Private Institutions

or

You have to Walk Before you Can Run

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Message

• Solving the SME Problem is Solving the Development Problem for Middle-Income Countries

• Integration in GVCs offers remarkable opportunities: not only easier market access, but notably knowledge flows, technological and learning spillovers and capabilities improvements.

• However GVCs are only an opportunity, insufficient per se, that needs to be exploited.

• Local firms/SMEs need to be exposed to modern practices and technologies, but often do not have the capabilities to link into and to benefit from them.

• It is not frontier research and knowledge that matters most, but experiential knowledge and local adaptation and learning.

• MNCs and chain leaders may make this knowledge available, but non-market, private-public institutions may provide the relevant knowledge and training and act as social and knowledge bridges.

• Key vehicle for Knowledge Recombination
Introduction

• Although SMEs make up the vast majority of firms in Latin America, their participation in export markets and integration in global value chains (GVCs) is low.

• Increased GVC participation has the potential to:
  • Not only foster access to international markets, with improved earnings and wages
  • But generate knowledge transfer and foster SMEs’ technological and organizational learning and upgrading.

• After two decades of increased economic openness in LAC, the expected benefits of open markets have been small for SMEs.

• Example: Mexico and McKinsey report – declining productivity with NAFTA

• Certain types of mechanisms, institutions and policies can improve both SME participation in GVCs and SME competitive capabilities over time.
Evolution of SME Support Programs

Some recent policy reforms recognize the relevance of knowledge transfer and capabilities creation for SMEs, and the need to link SMEs into different learning networks (public and private). Beyond traditional credit programs.

1. Cluster development programs
2. Value chain integration programs
3. Move beyond “linkage-enhancing” programs and acknowledge the need for experiential knowledge and private-public intermediary institutions.

• Problems: Self selection of strong firms. Over focus on collective resources as function of scale. Too mechanical, incentives based.
Experiential Knowledge, Networks and Institutions for SMEs

• SMEs in the region lack the material and knowledge resources to fill the large productivity gaps.
• Two main solutions in literature:
  1. MNCs and Global Buyers
  2. Innovation systems – need to have strong R&D institutions, closeness matters.
• Problem 1 – Knowledge not easily transferable, even within MNCs – experiential ambiguity of standard practices. Not bought off the shelf either.
• Problem 2 – Converse of Knowledge theory of MNC – lead firms tell “what” to do, not “how” and “why”. They have limited interest and capabilities to train many, more backward firms. Aim is not to adapt.
• Problem 3 – SMEs have large gaps in capabilities to take advantage of pioneering technology and systems. And Latin America can’t build frontier R&D fast enough.

• Possible solution:
  • SMEs especially need access to a variety of applied and experiential knowledge that helps firms convert their capabilities from where they were to where they need to be.
  • Certain constellations of public-private institutions can best facilitate this process.
Beyond promoting linkages: The Role of Institutions as Resources for Knowledge Creation and Diffusion

• **Locally embedded public and private organizations** may be better positioned than MNCs or global buyers for knowledge creation and diffusion.

• **Recombination** of a diversity of applied, experiential knowledge via the constellation of evolving non-market institutions such as schools, business associations, and government supported centers for training and extension.

• The public-private institutions vital for SME upgrading trigger both direct tutelage and social learning among the actors.
But we see limits to Developing Public-Private Institutions for Collective Learning based on voluntary or market incentives

- **Examples:** Fresh produce suppliers in Chile and Mexicoin Chile, Salmon and Dairy farmers in Nicaragua (Perez-Aleman, Pietrobelli, IDB, McDermott & Avendano)

- Local producers had severe difficulties implementing standards specified by MNCs. With the help of foreign agencies and governments, local producers:
  - Established key product and process standards and a system of local monitoring.
  - Established common organizational resources, from cooperatives to training centers, to help firm understand directly the how and why of the standards, and how to improve gradually their own practices.

- The organizations became necessarily embedded into the industry or region so they can draw on, integrate and diffuse to experiential and applied knowledge gathered from the firms themselves.

- **BUT:** 1) Membership can become exclusive;

- 2) Balkanized Industrial Districts
Constraints: Balkanization & Governance

• Balkanization – the very ties and local institutions that promote cooperation limit inward and outward flows of knowledge and new relationships
  • Experiential knowledge embedded in these relationships
• Governance – private actors quickly become gate keepers and oligopolists
  • Need rules on inclusive membership from diverse districts and active rights and responsibilities.
Clusters, Networks, and Upgrading

- Much of the research on networks and development view embeddedness in terms of a society’s endowments of economic and social resources & assumes homogeneity of organizations and institutions.
  - Innovative societies – those with dense social networks & associationalism; historically given.

- Recently, network and institutional scholars stress variation due to structure & composition of networks (Granovetter, Lin, Locke, Powell):
  - Some organizations facilitate access to new knowledge better than others, especially via horizontal ties
  - GSIs and other collective organizations can structure types of knowledge.
Role of Government and Biz Associations

• Groups and associations can promote world views & close ties within a community that can easily insulate/filter its members from info and relationships with other communities.
  • A society with many org’ns & assoc’ns can be fragmented or balkanized. This is a barrier to learning and broader collaboration. (Berger, Ostrom, Safford)
• Public policy can reinforce or change this.
  • Governments can create institutions to relieve these constraints.
  • E.g., GSIs (for R&D, training, etc) that promote horizontal relationships across communities.
Policy reshapes Networks…& Upgrading

- A firm’s access to diverse knowledge resources, in turn broad-based upgrading, can be constrained by your local organizational network.

- It depends on a firm being tied not just to any or many organizations, but particularly those that act as social and knowledge bridges between previously isolated, even antagonistic producer communities.

- Govts can create new GSIs with certain governance principles that anchor this network characteristic.

- These are PPIs – Public-Private Institutions – underpinned by rules of inclusion and participatory governance for a variety of public and private actors (e.g., sectoral associations).
Potential Solutions – Non-market institutions
(eg, McDermott & Corredoira 2010,2014; McDermott, Corredoira & Kruse 2009)

• Public-private institutions that:
  • Act as social and knowledge bridges b/n previously isolated producer communities.
    • Work with firms from a variety of communities
    • Anchor multiplex networks
  • Provide basic services for applied experiments
  • Create forums for sharing tacit knowledge and building common strategies

• Might need special governance structure to be sustained.
• Then firms can learn faster from the MNCs.

• Examples – Argentine wine/grape Sector and Autoparts Sector
Research Design

- Two “natural experiments” – wine and autos in Argentina during the 1990s and early 2000s.
- EXAMPLE: The transformation of Argentine wine industry in 1990s. Why is Mza the pioneer and not S.Juan? What types of networks and institutions help firms upgrade?

- Used qualitative and quantitative methods.
- Launched a survey in 2004-05 to distinguish impact of different types of networks and institutions on firm-level upgrading.
- Yielded survey data base on a) firm level product and process upgrading capabilities, b) demographics, c) inter-firm networks, d) institutional networks.
## Process Innovation in Suppliers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Effect</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ties to Associations</td>
<td>Positive</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Ties to GSIs</td>
<td>Positive</td>
<td>P&lt;0.05</td>
</tr>
<tr>
<td>Ties to MNCs</td>
<td>Negative</td>
<td>0/p&lt;0.10</td>
</tr>
<tr>
<td>Ties to other Firms, Banks, Schools</td>
<td>Negative</td>
<td>0</td>
</tr>
<tr>
<td>Ties to Top Bridging MNCs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties to Top Bridging Associations</td>
<td></td>
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<td>Ties to Top Bridging GSIs</td>
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<tr>
<td>Ties to Top Bridging Assns *MNCs</td>
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<td>Negative</td>
<td>0</td>
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<td>Ties to Top Bridging Associations</td>
<td>Positive</td>
<td>P&lt;0.01</td>
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<td>Ties to Top Bridging GSIs</td>
<td>Positive</td>
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<td>Positive</td>
<td>P&lt;0.05</td>
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Industrial Districts without Bridging Institutions

![Diagram showing industrial districts and bridging institutions in various locations in Argentina.](image-url)
With the Bridging Institutions
Autoparts

• Associations -- Top Bridging: AFAC, CAC (Cam Arg Commercial), IDEA
• GSIs -- Top Bridging: INTI, Cancilleria, IRAM
• Field work suggests different mechanisms for accessing diverse knowledge
  • Associations – contacts, forum for knowledge and info exchange, and some services
  • GSIs – Technical services (R&D, standards, training) and International market knowledge
  • BUT with very limited resources

• NB. These were NOT constructed to be bridging institutions; and they have relatively FEW resources!!

• The Interaction b/n Top Bridging GSIs and MNCs
  • INITI is giving basic but real training, helping firms combine old and new practices
  • This is recombination and adaptation
• Associations may be allowing Suppliers to gain both old and new.
  • MNCs are involved in AFAC, plus AFAC information services
  • Suppliers are also meeting one anotehr from other industrial districts
The Interaction Effects – Recombining local experiential and advanced knowledge

- Zero ties to High Geo Diversity GSIs
- One tie to High Geo Diversity GSIs
- Five ties to High Geo Diversity GSIs
Mendoza’s Public-Private Institutions

• Examples – INTA, Promendoza, IDR, IDITS, Fondo Vitivinícola, FTC

• 2 mechanisms:
  • Rule of inclusion - Govt convenes relevant sectoral associations to generate institutional solution to problem;
  • Reps of govt and associations govern institutions, add to resources, and engage in collective problem solving;

• These mechanisms help:
  1. Reshape relationships b/n govt, associations, firms – NEW BRIDGES B/N COMMUNITIES.
  2. The institutions improve knowledge and skills creation;
  3. The actors think strategically, collectively → target new areas for innovation.
<table>
<thead>
<tr>
<th>Institution</th>
<th>Year</th>
<th>Governing Members</th>
<th>Activities</th>
<th>Resources</th>
<th>Legal Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTA Cuyo</td>
<td>1991</td>
<td>Govts of S Juan &amp; Mza, 9 Agro Ass’ns, 2 Nat’l Univ’s</td>
<td>Regional development plan, oversee budgets &amp; activities of EEA’s</td>
<td>National &amp; provincial budgets</td>
<td>1 of 15 semi-autonomous Regional Centers; Federal body in Sec. of Agro.</td>
</tr>
<tr>
<td>INTA EEAs</td>
<td>1991</td>
<td>Gov’t of Mza, Munis. Agro Ass’ns, Nat’l and Prov’l Inst and Univ’s</td>
<td>R&amp;D (inputs, plants, tech), extension training, consulting</td>
<td>Half – nat’l budget (salaries &amp; overhead); Half – services, alliances, gov’t Mza, cooperadoras</td>
<td>Part of INTA Cuyo; 4 in Mza, 1 in SJ; Each has 1-4 AERs</td>
</tr>
<tr>
<td>Fondo Vitivinicola</td>
<td>1993- 94</td>
<td>Gov’t Mza, 11 wine/grape Ass’ns</td>
<td>Oversees new wine regulations, promotes wine industry/marketing</td>
<td>Tax on firms from over produc’n of wine</td>
<td>Public, non-state, non-profit entity.</td>
</tr>
<tr>
<td>Fondo para la Transformacion y el Crecimiento (FTC)</td>
<td>1993- 94</td>
<td>Min. of Economy, Regional advisory councils</td>
<td>Subsidized loans and credit guarantees to SMEs for tech against extreme weather &amp; for grape conversion</td>
<td>Self-financing; initial capital from privatization of gas &amp; oil reserves</td>
<td>Independent legal entity under authority of governor</td>
</tr>
<tr>
<td>Instituto Desarrollo Rural (IDR)</td>
<td>1994- 95</td>
<td>36 founders – INTA Cuyo, Govt Mza, ISCAMEN, 2 peak ass’ns, various agro sectoral ass’ns</td>
<td>Technical info collection &amp; dissemination; Data base mgmt; R&amp;D, training, consulting</td>
<td>Mza Gov’t; services; gradual increase of fees from member ass’ns</td>
<td>Non-profit Foundation; with oversight by Min of Economy</td>
</tr>
<tr>
<td>Pro Mendoza</td>
<td>1995- 96</td>
<td>Gov’t Mza, 3 peak business associations</td>
<td>Export promotion – organize fairs, delegations, strategic information, training</td>
<td>Gov’t Mza; Peak ass’ns; services</td>
<td>Non-profit Foundation</td>
</tr>
</tbody>
</table>
Mendoza 1989
Mendoza 2000

New Institutions

More gov’t specialization

Economy Ministry

ISCAMEN

University

ProMza

INTA Mza

 IDR

Fondo Viti

 Ass’n South

Ass’n Elite

Peak Ass’n

Bolsa de Comercio

Fed’n Vineyards

Ass’n East

Zona Sur

Primer Zona

Zona Este
A Simulation – Mza 1988
Mendoza 1993 – Some new institutions are created
Different Institutional Communities - 2004

Mendoza

San Juan
Bridging Support Institutions

1. Need to focus on improving firm product and process capabilities.

2. The results emphasize the importance of accessing diverse knowledge resources, especially applied knowledge, for upgrading.
   • Focus on Experiential knowledge and Adaptation first.

3. Firms access DIVERSITY via the Associations and GSIs that act most as Social and Knowledge Bridges between isolated producer communities.

4. We need non-market institutions to act as these bridges and sources of recombination.
   • Extension, training, forums
   • Suggests that governance rules shapes knowledge flows.

5. This means politics and policy can shape networks and knowledge diffusion.
Conclusions

• Building public-private institutions via principles of inclusion and collective problem solving can:
  – Bridge existing structural holes and strengthen new horizontal ties among groups and firms.
  – Improve experiments and knowledge flow for government and firms.
  – Limit problems of powerful gate keepers (knowledge, resources), monocropping, short-term exploitation.
  – Improve institutional governance (e.g., all of the above, including government, have had changes in directors/governors, but continue to grow and adapt).
Networks, Institutions & Experiential Knowledge

• Economic Development is mainly about SMEs

• GVCs and MNCs are good at telling local firms WHAT they need to do. But Not WHY and HOW!!

• The latter is about getting access to a diversity of Applied and Experiential Knowledge. MNCs and local networks are not enough.

• You can construct institutions to get the SMEs this Knowledge and also Reshape the Learning Networks. Often PPIs.

• IOs have important roles to instigate and support this process.
Gracias!
### Abbreviated Regression Results – Wine Making

Results from models including all control variables.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Product Upgrading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ties to Other Firms</td>
<td>0.41</td>
</tr>
<tr>
<td>Ties to GSIs</td>
<td>1.19</td>
</tr>
<tr>
<td>Ties to Ass’ns, Banks, Schools, Coops</td>
<td>Negative or not significant</td>
</tr>
<tr>
<td>Ties to PPIs</td>
<td>3.03</td>
</tr>
<tr>
<td>Ties to Old GSIs</td>
<td>-2.04</td>
</tr>
<tr>
<td>Ties to Top Geo Diversified Firms</td>
<td>1.53</td>
</tr>
<tr>
<td>Ties to Top Geo Diversified GSIs</td>
<td>5.44</td>
</tr>
<tr>
<td>Ties to Most Central Firms</td>
<td>0.22</td>
</tr>
<tr>
<td>Ties to Most Central GSIs</td>
<td>3.59</td>
</tr>
<tr>
<td>Diversity of Focal Firm’s Network</td>
<td>2.9-3.25</td>
</tr>
</tbody>
</table>

Notes: *** = significant @ 0.01 level; ** = significant @ 0.05 level; * = significant @ 0.10 level