Innovation for Inclusive Development: Evidence from National Innovation Survey - India

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OUTLINE

• Importance of Innovation in Indian Context
• Understanding of Innovation – National Innovation Survey
• Implications
National Innovation Survey - India

- **Survey Coverage**: A firm level national survey covering 31 states and Union Territories in 2011. The survey has been conducted for 10,000 samples firms in NIC two digit classification.

- **For the present purpose we use data from 11 states for which processed data was available.**

- **Context Specificity (Inequality)**:
  - inclusiveness of innovation – *firms at the bottom of pyramid*
  - effectiveness of the innovation support system *vis-à-vis* developed context
Support system for Innovation

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• From generation of new knowledge to its application to the production system it is a long way with difficult terrain of both technological and non-technological nature and necessitates efficient support system.

• Support system essentially means shortening the long way and also making it smoother and easier journey for a technology from research to production or as it is generally said, from lab to land or a firm’s search for a new technology or knowledge.

• Innovation, therefore, is the effectiveness of the support system.

• We propose that both the arrangement and effectiveness of the support system is specific to the context of the country, and largely distinguishable between developed and developing economies.

• We examine it in the context of Indian experience based on a firm level survey of innovation activities
Support system for Innovation

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- We distinguish between developed and developing economies mainly in terms of maturity of market forces which is considered as weaker in developing countries compared to the developed world.
Innovation System dynamics: Supply and Demand

- We define the market for innovation in terms of supply system – that is innovation support system.

- On the other hand the demand side is understood in terms of the extent of accessing of the supply system by the innovative firms.

- The innovation systems comes to fruition with the synergy between the demand and supply side of the innovation dynamics.

- We examine the demand and supply issues in terms of NIS, RIS and SIS.
Innovation infrastructure: the Indian scenario

- Organisations at local levels are quite skeletal
- Large number of organizations for technology generations. Comparatively less are the organizations for latter two phases of innovations – like survival phase and growth phase
- If ‘innovation’ is the end, institutions traced here as means look quite discrete as initiatives.
- While all dimensions of innovation are covered by these institutions the beneficiaries appear to be abstract entities because the modus operandi is users approaching for the services – an approach more suitable for developed industrialized economy.
- More useful for the corporate sector than SMEs.
Innovation infrastructure: State level initiatives for RDI
Innovation infrastructure: State level Pub and Pvt. R&D
Innovation infrastructure: for SMEs

In terms of Focused Areas

- Skill Development: 21%
- Financial Support: 14%
- Entrepreneurship Development: 12%
- Infrastructure Development: 11%
- Marketing Support: 11%
- Technological Assistant: 9%
- Cluster Development: 8%
- Multifacet: 5%
- Quality Upgradation: 4%
- Other: 5%
## The demand side of innovation

<table>
<thead>
<tr>
<th>State</th>
<th>Innovation intensity (Rank)</th>
<th>Source of knowledge (Educational institution)</th>
<th>Source of knowledge (R&amp;D institution)</th>
<th>Institutional Source of finance</th>
<th>Training in institution</th>
<th>Novelty of innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>8.18 (11)</td>
<td>19</td>
<td>19</td>
<td>1</td>
<td>20</td>
<td>93% new to the firm</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>45.78 (4)</td>
<td>11</td>
<td>16</td>
<td>5</td>
<td>50</td>
<td>88% new to the firm</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>16.92 (9)</td>
<td>84</td>
<td>82</td>
<td>20</td>
<td>52</td>
<td><strong>75% new to market</strong></td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>44.47 (5)</td>
<td>10</td>
<td>17</td>
<td>5</td>
<td>2</td>
<td>84% new to the firm</td>
</tr>
<tr>
<td>Haryana</td>
<td>25.99 (7)</td>
<td>39</td>
<td>40</td>
<td>5</td>
<td>12</td>
<td>78% new to the firm</td>
</tr>
<tr>
<td>Kerala</td>
<td>57.26 (2)</td>
<td>4.78</td>
<td>16.27</td>
<td>0</td>
<td>1.16</td>
<td>78% new to firm</td>
</tr>
<tr>
<td>Karnataka</td>
<td>62.60 (1)</td>
<td>4.33</td>
<td>18.61</td>
<td>0.43</td>
<td>3.9</td>
<td>58% new to firm</td>
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<tr>
<td>Gujarat</td>
<td>18.75 (8)</td>
<td>89.58</td>
<td>87.5</td>
<td>2.27</td>
<td>16.67</td>
<td>81% new to firm</td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td>13.29 (10)</td>
<td>29.55</td>
<td>29.55</td>
<td>0</td>
<td>20</td>
<td><strong>55% new to market</strong></td>
</tr>
<tr>
<td>Odisha</td>
<td>28.48 (6)</td>
<td>18.09</td>
<td>32.98</td>
<td>0</td>
<td>10</td>
<td>94% new to firm</td>
</tr>
<tr>
<td>W. Bengal</td>
<td>47.95 (3)</td>
<td>22.86</td>
<td>28</td>
<td>14.29</td>
<td>9.89</td>
<td>77% new to firm</td>
</tr>
</tbody>
</table>
The demand side of innovation: effectiveness of NIS

<table>
<thead>
<tr>
<th>States</th>
<th>Innovation intensity</th>
<th>Rank INV intensity</th>
<th>Rank for RIS</th>
<th>Rank Correlations</th>
<th>Sector distribution of innv firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>8.18</td>
<td>11</td>
<td>11</td>
<td>-0.26</td>
<td>5.12</td>
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<tr>
<td>Jharkhand</td>
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<td>9</td>
<td><strong>0.31</strong></td>
<td>2.44</td>
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<td>10</td>
<td>-0.05</td>
<td><strong>3.43</strong></td>
</tr>
<tr>
<td>TN</td>
<td>44.47</td>
<td>5</td>
<td>3</td>
<td><strong>0.08</strong></td>
<td>1.52</td>
</tr>
<tr>
<td>Haryana</td>
<td>25.99</td>
<td>7</td>
<td>2</td>
<td><strong>0.03</strong></td>
<td>1.31</td>
</tr>
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<td>5</td>
<td>-0.07</td>
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<tr>
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<td>4</td>
<td>-0.07</td>
<td><strong>2.83</strong></td>
</tr>
<tr>
<td>Gujarat</td>
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<td>8</td>
<td>1</td>
<td><strong>0.07</strong></td>
<td>1.88</td>
</tr>
<tr>
<td>Chhattisgarh</td>
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<td>6</td>
<td>-0.05</td>
<td><strong>4.03</strong></td>
</tr>
<tr>
<td>Odisha</td>
<td>28.48</td>
<td>6</td>
<td>7</td>
<td>-0.08</td>
<td><strong>3.57</strong></td>
</tr>
<tr>
<td>W.Bengal</td>
<td>47.95</td>
<td>3</td>
<td>8</td>
<td><strong>0.02</strong></td>
<td>2.49</td>
</tr>
</tbody>
</table>
looked at the other side of the Innovation System approach of understanding innovations. The other side is the effectiveness of the system once it is in place.

Showed that innovations are essentially new to the firm, and is not part of the firms’ strategy for market expansion and consolidation.

Again market is not strong enough that firms would mobilise financial and technological resources for new innovations. As a result innovations remain essentially restricted to the internal abilities of the firms.

There is no market dynamics that lead the firms to access the facilities provided under NIS which is rarely used by firms. On the other hand weak RIS works as major detriment of innovation.

One important finding of the study is the role played by SIS in determining the innovation intensity of a state overcoming the burden of weak RIS and weak market forces.

Pro active efforts from the national agencies to close the communication gap between the actors and the innovation support system to realise the true innovative potential.
Thanks

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