Ingredients for Cluster Success: Attracting the Right Companies for Cluster Development

Shyam Kamath, Dean, College of Business, CSUMB
A Paradox to Ponder and Some Key Questions

• With the “world becoming flat” and “the death of distance”, why do places and the proximity of people matter for firm, business and national economic success?
• What defines a cluster?
• Why do some clusters succeed and some clusters fail?
• What are the ingredients for successful responsible cluster formation?
• How does one attract responsible companies for successful cluster development?
Why is the World Not Flat?
Economic Activity in a Spiky World

SOURCE: U.S. DEFENSE METEOROLOGICAL SATELLITE PROGRAM

MAP BY TIM GULDEN

www.WhosYourCity.com
Why is the World Not Flat? Innovation in A Spiky World

www.WhosYourCity.com
And America is Not Flat: US Clusters

– “Clusters and the New Economics of Competition” by Michael E. Porter.
U.S. Clusters: The New Geography of Work

www.WhosYourCity.com
What are Clusters?

• Porter: “Clusters are geographic concentrations of interconnected firms, suppliers, service providers, related firms and associated organizations (e.g. universities, trade groups etc.) in particular fields or areas” (1998)

• General: Clusters are geographic concentrations of interconnected firms, suppliers, service providers, related firms and associated organizations in a variety of fields or areas that form a symbiotic ecosystem that collaborates and competes within and with other clusters and regions

• Silicon Valley and Hollywood are examples of clusters as are China’s Special Economic Zones (SEZs) or Europe’s Foreign Direct Investment (FDI) Zones

• The ultimate supercluster is the city or region
The Failure of Traditional Regional Development

- Focus on economic development at the cost of social justice and the environment
- Failure to understand and capitalize on strengths
- Not thinking strategically
- Scattershot and diffuse efforts
- Lack of critical mass
- Lack of focus on holistic strategic goals
- Lack of integration of efforts and cooperation
- One Shot, One Type, One-on-One, One Sided!
Why Clusters Matter: Regional Development and Clusters

- Clusters generate wealth, exports, jobs, sources of information for a region
- Firms are attracted to clusters in the region because of:
  - economies of scale
  - productivity advantages
  - marketing and other competitive advantages
  - talent pools
- Hotbeds for new firm formation, innovation, entrepreneurship & skills upgrading in the region
- Key to competitive advantage, linkages & competitiveness
- Basis for new technology, products and markets
- Globally, clusters are driving regional growth through higher productivity and livelihoods/jobs=> raising the standard of living
Business Model – The Twelve GEMS Framework

GEMS Model - Hard & Soft Factors

• Porters 4 Diamonds:
  • Factor conditions
  • Demand conditions
  • Firm Structure and Rivalry
  • Presence of Related & Supporting Industries

• 4 GEMS “Hard” Factors
  • Government Policy
  • Anchor Effect
  • Concentration of Firms (“Agglomeration Effects”)
  • Historical Factors (“Path Dependence”)

• 4 GEMS “Soft” Factors
  • Business Climate
  • Innovation and Entrepreneurship
  • Industry Networks
  • Element of Chance
Primary Data Collection - Survey Responses

- **Survey of Management of Clusters**
  - 137 respondents
  - 32 countries
  - 51% of respondents from the U.S.

- **Survey of Tenants of Clusters**:
  - 57 respondents
  - 16 countries
  - 46% of respondents from the U.S.

Large management sample with wide country representation
Relative Success of Clusters (Indicated by Cluster Managers)

4. Very successful (48%)
3. Somewhat successful (46%)
2. Less successful (5%)
1. Not successful at all (1%)

Why are some clusters more successful than others?

Source: Survey of Management of Technology Parks Worldwide, 2006/2012
<table>
<thead>
<tr>
<th>Relative Presence of:</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio political climate</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government/public policy</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business climate</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Labor</td>
<td>.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-firm Linkages/Networks</td>
<td></td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historical Factors</td>
<td></td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation &amp; Entrepreneurship</td>
<td></td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading Anchor Firms</td>
<td></td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration of Firms</td>
<td></td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Capital</td>
<td></td>
<td></td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>Availability of Infrastructure</td>
<td></td>
<td></td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Availability of Suppliers</td>
<td></td>
<td></td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td>Presence of competitors/collab.</td>
<td></td>
<td></td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>Element of Chance</td>
<td></td>
<td></td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>Presence of Market Demand</td>
<td></td>
<td></td>
<td></td>
<td>.54</td>
</tr>
</tbody>
</table>

Source: Survey of Management of Technology Parks Worldwide, 2006/2012
Relative Importance of KSFs

Success of a park = \( f \) (Factor Scores on 4 Dimensions)

<table>
<thead>
<tr>
<th>Four Factors/Dimensions</th>
<th>Relative Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business environment, public policy &amp; labor</td>
<td>27.5%</td>
</tr>
<tr>
<td>Input pre-requisites</td>
<td>26.5%</td>
</tr>
<tr>
<td>Park specific endowment</td>
<td>25.0%</td>
</tr>
<tr>
<td>Supply &amp; demand</td>
<td>21.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Survey of Management of Technology Parks Worldwide, 2006/2012
<table>
<thead>
<tr>
<th>KFF’s</th>
<th>Management</th>
<th>Tenants</th>
</tr>
</thead>
<tbody>
<tr>
<td>High cost of entry and operation</td>
<td>48%</td>
<td>59%</td>
</tr>
<tr>
<td>Infrastructure &amp; facilities</td>
<td>14%</td>
<td>66%</td>
</tr>
<tr>
<td>Improper location</td>
<td>30%</td>
<td>27%</td>
</tr>
<tr>
<td>Lack of skilled labor</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>Limited funding</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Bureaucratic/regulation</td>
<td>23%</td>
<td>5%</td>
</tr>
<tr>
<td>Lack of affiliation with research universities</td>
<td>19%</td>
<td>0%</td>
</tr>
<tr>
<td>Lack of support services</td>
<td>18%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Survey of Management of Technology Parks Worldwide, 2006/2012
Major Conclusions

• Conventional explanations incomplete
• All the factors of the GEMS Model matter in the success of clusters, some more than others
• Most important factors (Business Climate & Labor):
  • Business and socio-political climate
  • Public policy
  • Labor factor conditions
• Other important set of factors (Park-related/Input):
  • Industry networks
  • Concentration of firms
  • Innovation & Entrepreneurship
  • Presence of anchor firms
  • Historical factors and element of chance
  • Availability of capital
  • Availability of infrastructure
  • Availability of suppliers
Major Conclusions

- **Factors that are less important** *(Demand & Co-opt)*:
  - Presence of related & supporting industries
  - Regional presence of collaborators/competitors
  - Demand conditions

- **Factors that can hurt the success of parks**:
  - High cost of entry and operation
  - Improper location
  - Lack of infrastructure & facilities
### Firms’ Choice Criteria to Locate in a Cluster

<table>
<thead>
<tr>
<th>Choice Criteria</th>
<th>Tenants</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of cluster</td>
<td>41</td>
<td>80%</td>
</tr>
<tr>
<td>Industry focus of cluster</td>
<td>25</td>
<td>49%</td>
</tr>
<tr>
<td>Company’s goals</td>
<td>22</td>
<td>43%</td>
</tr>
<tr>
<td>Quality of park management</td>
<td>21</td>
<td>41%</td>
</tr>
<tr>
<td>Incentive package</td>
<td>15</td>
<td>29%</td>
</tr>
<tr>
<td>Government support</td>
<td>14</td>
<td>28%</td>
</tr>
<tr>
<td>Services offered</td>
<td>14</td>
<td>28%</td>
</tr>
<tr>
<td>Quality/nature of tenants</td>
<td>14</td>
<td>28%</td>
</tr>
<tr>
<td>Nature of customer service</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td>Funding availability</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td>Comparative investment costs</td>
<td>11</td>
<td>22%</td>
</tr>
</tbody>
</table>

Source: Survey of Management of Technology Parks Worldwide, 2006/2012
Implications for Central Coast Region Cluster

- Location of Monterey-Salinas cluster is an advantage
- Business and socio-political climate, public policy & cooperation and labor factor conditions are key
  - Local support of enterprises/entrepreneurship
  - Business friendly climate & regulations
  - Climate for risk-taking & business innovation
  - Local “results-oriented” business culture
  - Business & government collaboration
  - Key role of supportive government policies & incentives
  - Availability and high quality of workforce
  - Low crime rate and good quality of life
- Attraction of anchor firms and firm agglomeration is critical
- Availability of quality infrastructure, capital and supply links is important
- Cluster focus is key initially with congruence to company goals and high quality of cluster services and management
Possible Areas of Focus

- Environmentally responsible industries like biological control-focused and precision agriculture, sustainable hospitality management, eco-tourism, responsible design and development, specialized social venture capital – a “responsible” (People, Ethics, Plant and Profit/Performance) focus for the Central Coast Cluster
- Industry linkages with Silicon Valley & SF Bay Area
- Key niche for a “Responsible Cluster”
Examples of Responsible Clusters

- Costa Rica Ecotourism Cluster, Costa Rica, various web-sites
- CleanTECH San Diego Cluster, USA
  http://www.cleantechsandiego.org/cluster-database.html
- Oslo Renewable Energy & Environment Cluster (OREEC), Norway
  http://www.oreec.no/?aid=9079212
- Kitchener Environmental Business Cluster, Ontario, Canada
- Parc Sapiens Technology Cluster, Santa Catarina, Brazil
  http://www.marcopolis.net/sapiens-parque-a-complex-for-innovation-science-technology-1311.htm
- The Finnish Solar Cluster, Reykjavik, Finland
Thank You, for Listening!

High achievement comes from high aims.
King Ching of Chou (1100 B.C.)