

PANEL 1: ECONOMIC DEVELOPMENT & INNOVATION

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

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Extraordinary Opportunity



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? Population in A Spiky World



SOURCE: LANDSCAN GLOBAL POPULATION DATABASE, OAK RIDGE NATIONAL LABORATORY

MAP BY TIM GULDEN

www.WhosYourCity.com

Why is the World Not Flat?

Economic Activity in a Spiky World



SOURCE: U.S. DEFENSE METEOROLOGICAL SATELLITE PROGRAM

MAP BY TIM GILDEN

www.WhosYourCity.com

Why is the World Not Flat? Innovation in A Spiky World



SOURCES: THE WORLD INTELLECTUAL PROPERTY ORGANIZATION; UNITED STATES PATENT AND TRADEMARK OFFICE

MAP BY TIM GULDEN

www.WhosYourCity.com

Why is the World Not Flat? Star Scientists in a Spiky World

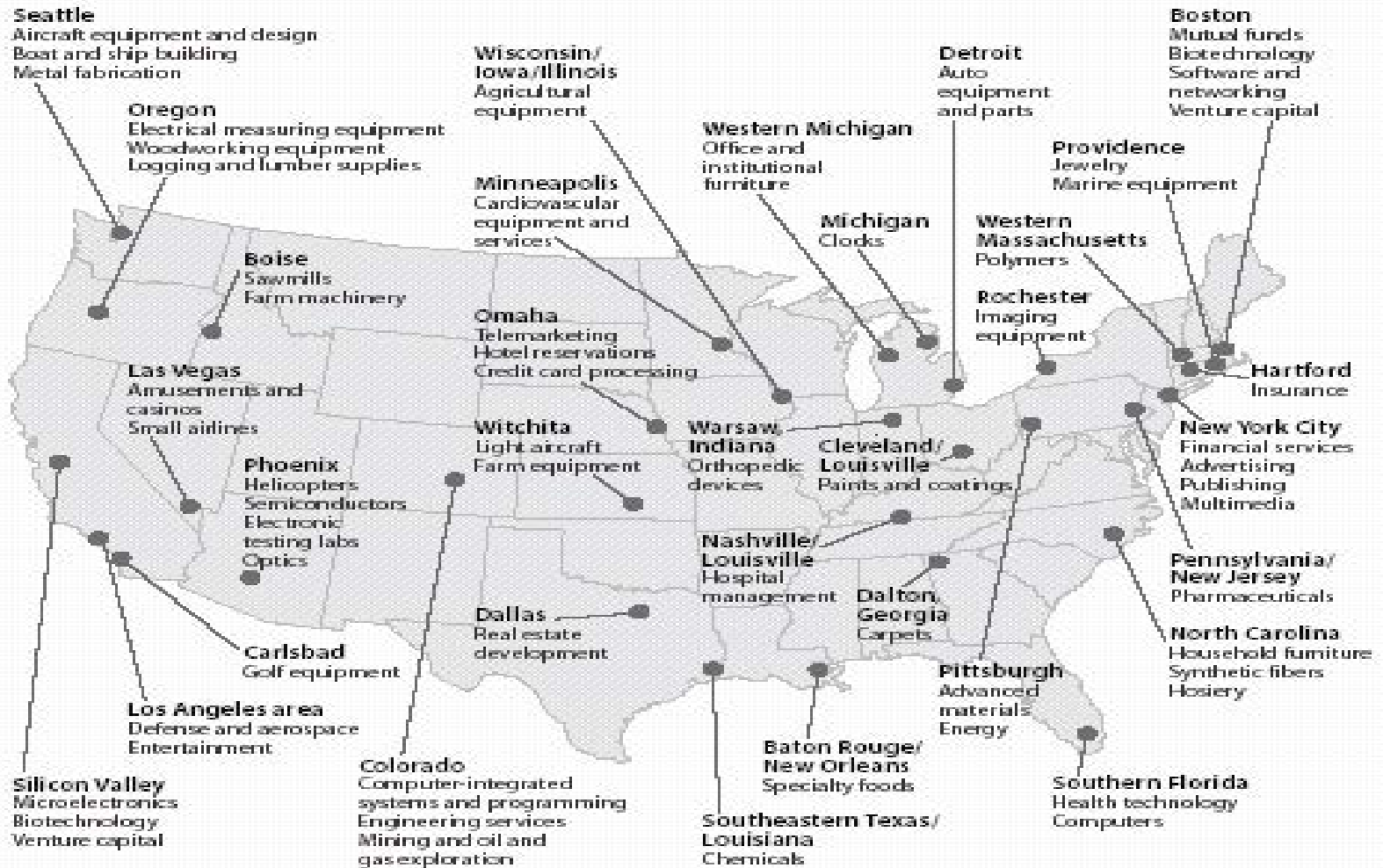


SOURCE: MICHAEL BATTY, CENTRE FOR ADVANCED SPATIAL ANALYSIS, UNIVERSITY COLLEGE LONDON

MAP BY TIM GULDEN

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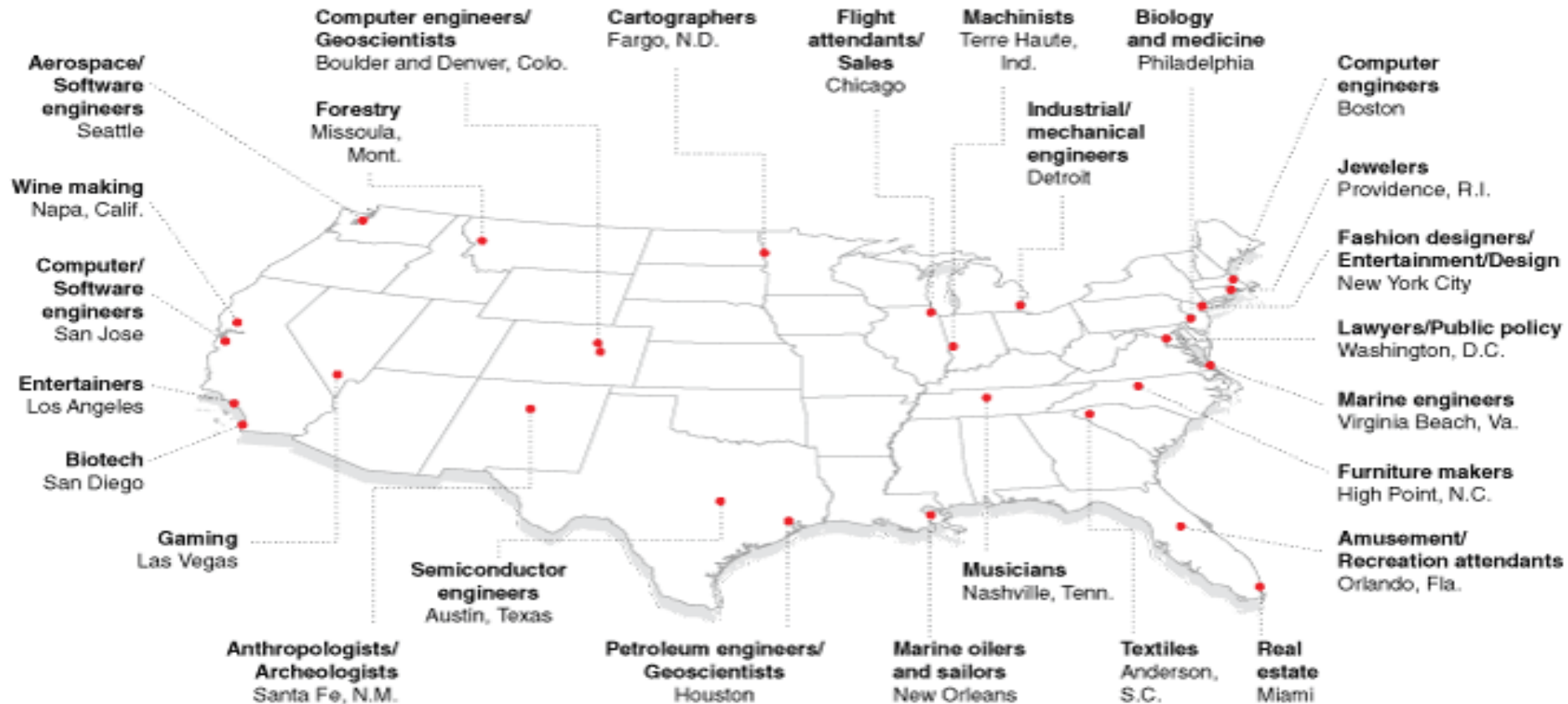
And America is Not Flat: US Clusters



Source: Harvard Business Review, Nov-Dec 1998 article updated

– “Clusters and the New Economics of Competition” by Michael E. Porter.

U.S. Clusters: The New Geography of Work



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

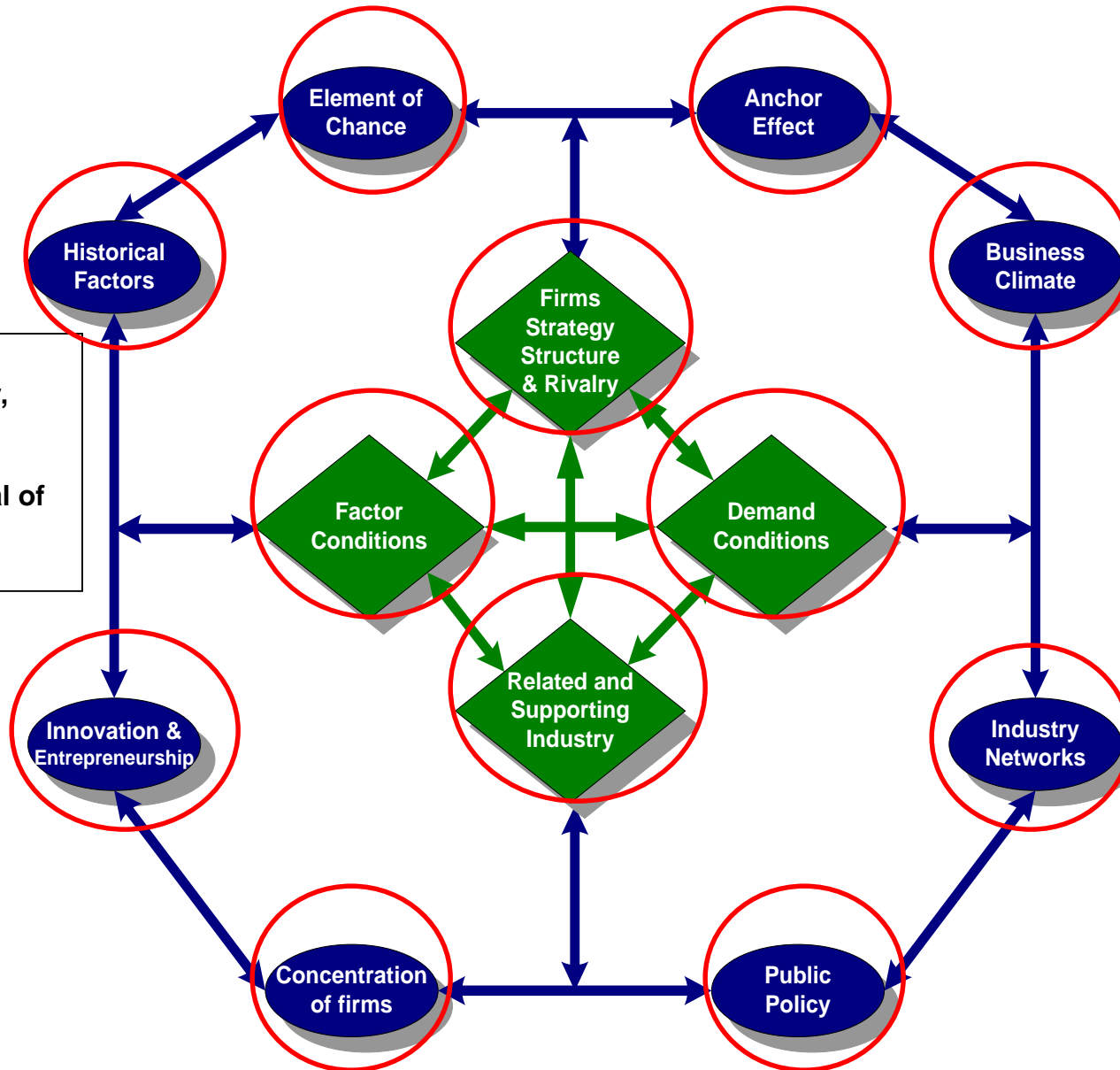
The Failure of Traditional Regional Development

- 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



Source:
Michael E. Porter,
HBR 1998 and
Kamath et. al,
American Journal of
Economics &
Sociology, 2012

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?

Derivation of 4 Dimensions from 15 Factors

Relative Presence of:	D1	D2	D3	D4
Socio political climate	.83			
Government/public policy	.75			
Business climate	.64			
Availability of Labor	.56			
Inter-firm Linkages/Networks		.77		
Historical Factors		.73		
Innovation & Entrepreneurship		.56		
Leading Anchor Firms		.56		
Concentration of Firms		.53		
Availability of Capital			.74	
Availability of Infrastructure			.66	
Availability of Suppliers			.51	
Presence of competitors/collab.				.80
Element of Chance				.69
Presence of Market Demand				.54

Relative Importance of KSFs

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

<u>Four Factors/Dimensions</u>	<u>Relative Importance</u>
Business environment, public policy & labor	27.5%
Input pre-requisites	26.5%
Park specific endowment	25.0%
Supply & demand	<u>21.0%</u>
	Total 100%

Key Failure Factors

KFF's	Management	Tenants
High cost of entry and operation	48%	59%
Infrastructure & facilities	14%	66%
Improper location	30%	27%
Lack of skilled labor	19%	20%
Limited funding	13%	7%
Bureaucratic/regulation	23%	5%
Lack of affiliation with research universities	19%	0%
Lack of support services	18%	12%

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

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

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
- Focus on anchor firms: GE, First Solar, Patagonia, CA Technologies, Water Health International, The Water Institute (TWI), SC Johnson Company, Whole Foods, Google, Herman Miller, IBM, Advanced Materials, Timberland and many more
- 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
http://www.kitchener.ca/en/insidecityhall/resources/ED_CorporateConsultationEnvironmental.pdf
- 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
http://www.tekes.fi/Global/Ohjelmat%20ja%20palvelut/Ohjelmat/Groove/Aineistot/the_finnish_solar_cluster_2012.pdf

Thank You, for Listening!



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