

Clusters In Practice

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IMPRESA

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Roadmap

- Recapping Cluster Theory
- Understanding Clusters
 - Quantitative Approaches
 - Qualitative Approaches
- Cluster Examples

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Clusters

- Ideas
- Relationships
- Place

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Theory into Practice

Applying the Cluster Idea

Definition

- **Cluster:** A geographically bounded group of similar or related firms--connected by common markets, technologies or knowledge--their suppliers, their skilled workers and supporting institutions

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What makes Clusters Tick?



Source: Michael Porter, Harvard Business School

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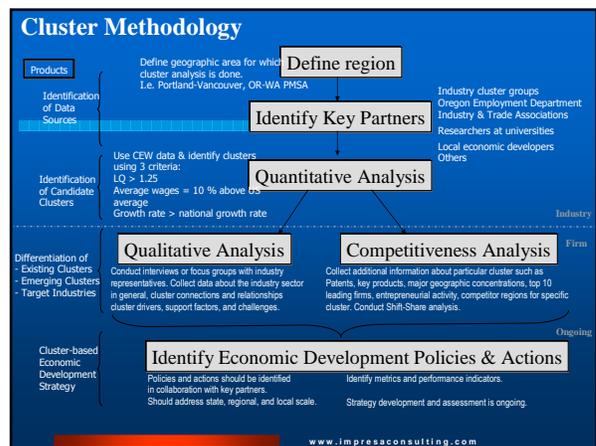
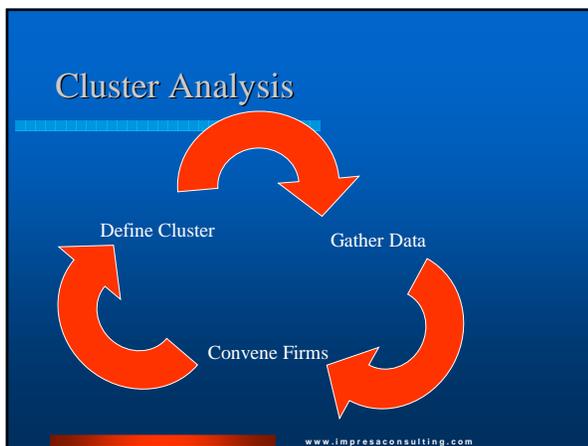




- ### Typologies of Clusters
- Buyer-supplier and value chain
 - Inter-firm relationships
 - Geographic extent
 - Cluster life cycle
 - Other issues (Awareness)
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- ### Micro-foundations of Clusters
- Labor market pooling
 - Supplier specialization
 - Knowledge spillovers
 - Entrepreneurship
 - Path dependence and lock-in
 - Culture
 - Local demand
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- ### Clusters as a Framework for Policy
- An organizing principle for engaging a region in a discussion of its economic strengths and weaknesses
 - A flexible tool at the intersection of analysis and policy-making
 - Best efforts integrate quantitative and qualitative methods
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Quantitative Approaches

Starting Points

Criteria for Identifying Clusters

Groups of Industries in which your region is:

- **More Concentrated**
 - Location Quotient
- **Faster Growing**
 - Outperformed Same Industry Nationally
- **Higher Paid**
 - Exceeds US average for same industry

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Sectors versus Clusters

SECTORS

Most quantitative analysis relies on data organized according to the SIC or NAICS classification schemes to define industries

CLUSTERS

Qualitative analyses define clusters according to local relationships. Cluster theory maintains that clusters cut across sector lines; many clusters are highly specialized

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Sources of Data

- **Generic**
- **Industry-Specific**
- **Quantitative**
- **Qualitative**

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Employment Data

- **Five Flavors**
 - Covered Employment and Wages (OED/BLS)
 - Current Employment (OED/BLS)
 - County Business Patterns (Census)
 - Regional Economics Information System (BEA)
 - Quality Workforce Information (Census)

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Non-Employer Data

- **Census Non-Employer Statistics**



<http://www.census.gov/epcd/nonemployer/>

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Firm Data

- Dun & Bradstreet
- Corp Tech
- Superpages
- Trade association directories

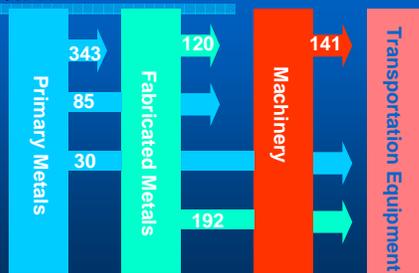
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Visualizing Clusters

- Diagramming clusters
- Mapping clusters
- Genealogies

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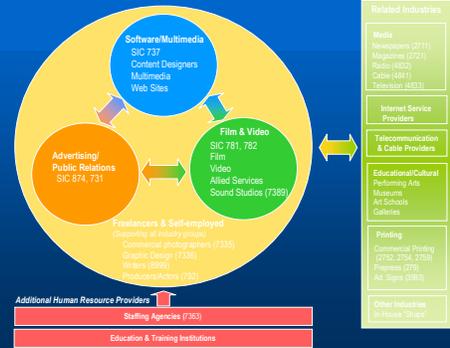
Metals Industry Value Added Chain



Estimated Inter-Industry Purchases, \$ Millions, 1992

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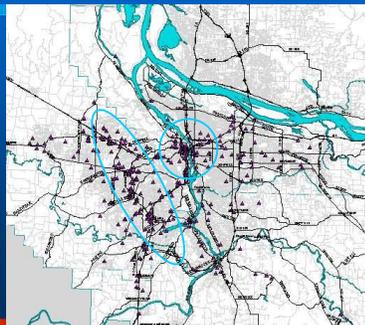
The Creative Services Cluster



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Understand Cluster Geography

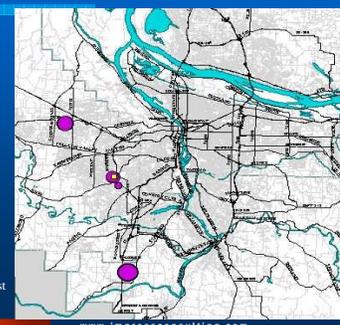
but Cluster on Westside and in Central City



Only Oregon firms are shown
Source: ABI Directory Listings

EDA Software Firms Cluster on Westside

Electronic Design Automation (EDA) Software Firms support the region's high technology industries by producing software to design electronic circuits and printed circuit boards. Circles are proportionate to number of employees.

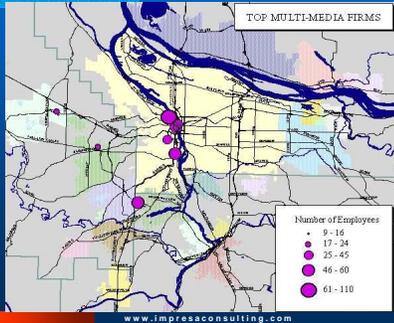


Source: Business Journal Top 25 List

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Multimedia Software Firms Located in Central City

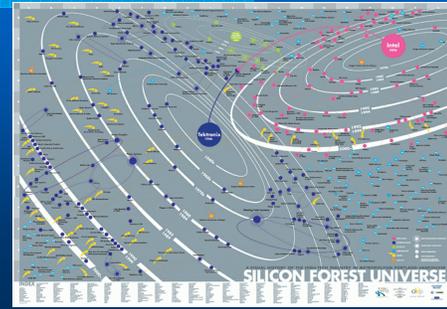
Multimedia firms are located primarily in the Central City with some located on the Westside



Source: *Business Journal* Top 25 List

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Evolution of Firms



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Qualitative Approaches

Narrative and Dialog

Remember the Diamond?

Rivalry & Cooperation

Inputs

Customers

Suppliers

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This Suggests Some Questions

Who are your competitors?

Where do you get
Inputs and workers?

Who do you sell to?

Who do you buy from?

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Questions to Ask

- Who is in your industry cluster?
 - Principal customers
 - Suppliers
 - Competitors
- What is your firm's (your industry cluster's) source of competitive advantage?
- How has your industry changed in the last 10 years?
- What are the biggest challenge's your industry cluster faces in the next 5 to ten years?
- Where do the people in your industry cluster come from?
- Who else should be in the room?

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SWOT

- **A Standard Approach**
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats

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Some Ground Rules

- **Make the purpose clear**
- **Not asking to violate confidentiality**
- **Attendees already know the answers**
- **Circulate written summary for corrections**
- **Wide open to industry perspective— not narrowed to agency interest**

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Other Tips

- **Make the focus group about the industry, not about public policy**
- **Ask questions; even dumb ones-- they are the experts**
- **Don't limit the scope of discussion to your portfolio**
- **Provide feedback & continuity**
- **Do not "sell" your agency and its programs at the meeting**

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Organizing Qualitative Work

- **Look for partners**
 - Industry Associations can be useful
- **Develop "champions" in the industry who can help focus the effort**
- **Take advantage of government's "convening" power**
- **Coordinate the public sector--Don't duplicate what has already been done**
- **Capture contact info—follow up**

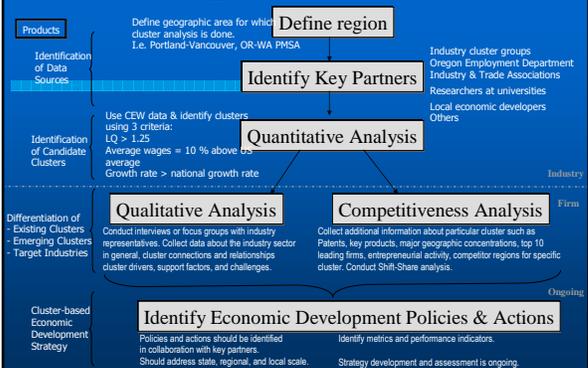
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Refine Cluster Definitions

- **Group industries based on common technology, markets, labor, input-output relationships**
- **Triage**
 - Blatant
 - Latent
 - Emerging

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Cluster Methodology



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How Good Are You?

- **High Tech**
 - Produce 10% of all US semiconductors
 - High Location Quotients in Employment & R&D
 - Relatively Higher Wages
 - Outperformed US industry
- **Biotech**
 - Rank in 30s in size of industry/research
 - Very Low Location Quotient
 - Wages below US average
 - No significant growth

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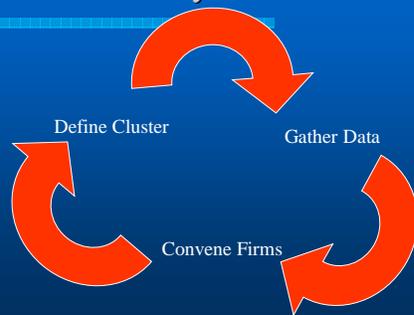
Biotech Metrics

Average Levels of Activity in Metro Areas

Metric	Top 9 Centers	Bottom 42	Portland
NIH\$	812	104	126
Patents	2,641	263	164
Venture Capital	957	27	4
R&D Alliances	1,089	11	0
New Firms	35	2.3	7
Large Firms	24	1.5	0
Number of Top:			
Med Schools (18)	16	2	0
Biotech VC (51)	47	4	0

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Cluster Analysis



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Examples of Cluster Strategies

Organizing for Action

Microbreweries

- Largest Center of Microbreweries in US
- 29 in City of Portland
- 5 times as likely to drink microbrew as typical US consumer



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Cluster Strategies

- Deregulation
- Support for Marketing

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Specialty Food

- Natural, Organic & Local Foods
- Chef/Farmer Collaborative
- Ranks Second in restaurants per capita



The New York Times Dining & Wine

In Portland, a Golden Age of Dining and Drinking

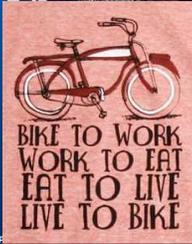
Cluster Strategies

- Marketing assistance
- Farmers markets
- Certification

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Bicycles

- Most bike friendly large city in US
- 7 times as likely to commute by bicycle as average US resident



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Cluster Strategies

- Design
- Recruiting
- Tourism connection

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Recreational Vehicles

- Second largest cluster of RV makers in US
- Coburg, Oregon
- Monaco, Marathon, local suppliers



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Cluster Strategies

- Workforce Training
- Cooperative Curriculum

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Nursery Products

- \$800 million annual sales
- 1,000 producers
- Economies of scope



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Cluster Strategies

- Industry association
- Land use planning
- Regulatory cooperation

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Knives and Tools

- Most US Knives are designed or manufactured in Portland
- Leatherman, Gerber, Kershaw and Others



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Cluster Strategies

- Quality improvement
- Workforce development

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Green Buildings

- More LEED accredited green buildings (70) than any other city in the US
- Direct payrolls associated with green building are estimated to range between \$350 and \$960 million annually in Portland



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Cluster Strategies

- Industry organization
- Local regulations
- National marketing

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Athletic Apparel & Footwear

- Nike, Adidas, Columbia
- Nearly 10,000 employees
- Leading center for design
- Attracting others, creating startups



Cluster Strategies

- ?????

Integrating Clusters into Workforce and Economic Development Policy

Every business faces enormous challenges



The public sector seems like an impenetrable labyrinth

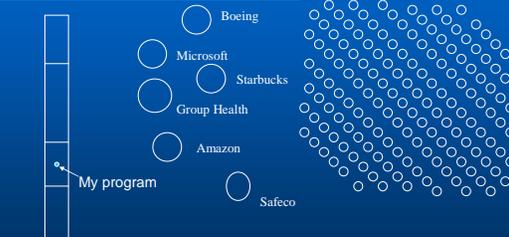
My Business

Federal	OSHA	Wage & Hour	EDUCATION
State	EPA	IRS SBA	LW
Regional	Port	Land Use	WSU
County	Ecology		Hutch
City	Workers Comp	Zoning	Comm. Col.
	CTED	Cities	High Schools
	Counties	Parking	Vocational
		Elementary	WASL
			Elementary

Workforce

Understanding business is daunting, too

A few big businesses And lots of small ones



Gaps remain in cluster efforts

- Goals of economic development not aligned with clusters
- Programs still oriented to “one business at a time”
- Staff and management not recognized or rewarded for cluster work
- Cluster information is ad hoc, not systemic

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Clusters aren't currently a goal

- Policies emphasize short term job creation
- Long term economic health and job creation depends on strong clusters, yet nobody is charged with looking to these foundations

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Programs emphasize “one firm at a time” service delivery

- Most programs offer services for single firms (business loans, tax breaks, job training, various grants)
- This emphasizes one-business-at-a-time deal-making and credit-taking rather than on fundamentals that help many businesses

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Personal incentives reward delivering services and doing deals

- Productivity measures for workers emphasize dollars spent and services delivered
- Workers and managers aren't generally recognized for efforts that help firms work together to solve their own problems, or become more productive if no agency program is involved.

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Information is lacking on clusters

- Cluster information and studies are ad hoc efforts
- Data is available only when studies are done
- Definitions are often inconsistent across clusters

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Capitalizing on clusters

- Make cluster success a stated economic goal
- Design programs that reward collaboration
- Reward and recognize managers and employees for cluster successes
- Provide ongoing information and training
- Institutionalize networking

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