Building a Competitive U.A.E Economy: The New Learning

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Dubai, United Arab Emirates
7 May, 2003
Perspectives on Firm Success

- Competitive advantage resides solely inside a company or in its industry.
- Competitive success depends primarily on company choices.
- Competitive advantage (or disadvantage) resides partly in the locations at which a company’s business units are based.
- Cluster participation is an important contributor to competitiveness.
What is Competitiveness?

• Competitiveness is determined by the **productivity** with which a nation uses its human, capital, and natural resources. Productivity sets a nation’s or region’s standard of living (wages, returns to capital, returns to natural resource endowments)
  – Productivity depends both on the **value** of products and services (e.g. uniqueness, quality) as well as the **efficiency** with which they are produced.
  – It is not what industries a nation competes in that matters for prosperity, but how firms compete in those industries
  – Productivity in a nation is a reflection of what both domestic and foreign firms **choose to do in that location**. The location of ownership is secondary for national prosperity.
  – The productivity of “local” industries is of fundamental importance to competitiveness, not just that of traded industries
  – Devaluation **does** not make a country more competitive

• Nations compete in offering the **most productive environment** for business
• The public and private sectors play **different but interrelated roles** in creating a productive economy
Innovation and Competitiveness

Prosperity

Productivity

Innovative Capacity

- Innovation is **more than just scientific discovery**
- There are **no low-tech industries**, only low-tech firms
Patenting Growth and Prosperity Growth
Selected OECD Countries

United Arab Emirates’ Economic Situation 2003

• The United Arab Emirates has registered high real GDP growth rates since 1995, surpassed in the region only by Qatar

• Labor productivity has been relatively high, but has lagged peer countries as more people entered the labor force

• The U.A.E. has attracted increasing amounts of foreign direct investment (FDI)

• The U.A.E. economy has made progress in moving away from a sole dependence on oil products, especially in Dubai

• However, the U.A.E. will need to embrace many changes if it is to become a truly competitive economy and advance to the next level of prosperity
Comparative Economic Performance
Middle Eastern Countries

GDP per Capita (PPP), USD, 2002

- $30,000
- $25,000
- $20,000
- $15,000
- $10,000
- $5,000
- $0

Growth of GDP per Capita (PPP), CAGR, USD, 1995-2002

- -5%
- -4%
- -3%
- -2%
- -1%
- 0%
- 1%
- 2%
- 3%
- 4%
- 5%

- Qatar
- Kuwait
- U.A.E.
- Saudi Arabia
- Oman
- Israel
- Bahrain
- Lebanon
- Jordan
- Syria
- Yemen
- Iran
- Egypt

- The U.A.E.’s **prosperity level is high**, but with **negative growth** over the post-1995 period it has lost ground to many peers

Source: EIU (2002)
Growth of Population and Real GDP
Middle Eastern Countries

*With the highest population growth in the region*, the UAE’s high GDP growth rate was insufficient to raise average prosperity levels.

Source: EIU (2002)
• The U.A.E. has a **higher labor productivity** than many Arab peers, but has registered **negative labor productivity growth** since 1995

Source: EIU (2002)
Determinants of Productivity and Productivity Growth

Macroeconomic, Political, Legal, and Social Context for Development

Microeconomic Foundations of Development

- A sound macroeconomic, political, legal, and social context creates the potential for competitiveness, **but is not sufficient**
- Competitiveness ultimately depends on improving the microeconomic capability of the economy and the sophistication of local companies and local competition
Productivity, Innovation, and the Business Environment

Context for Firm Strategy and Rivalry

- A local context and rules that encourage investment and sustained upgrading
  - e.g., Intellectual property protection
- Meritocratic incentive system across institutions
- Open and vigorous competition among locally based rivals

Factor (Input) Conditions

- Presence of high quality, specialized inputs available to firms
  - Human resources
  - Capital resources
  - Physical infrastructure
  - Administrative infrastructure
  - Information infrastructure
  - Scientific and technological infrastructure
  - Natural resources

Demand Conditions

- Sophisticated and demanding local customer(s)
- Local customer needs that anticipate those elsewhere
- Unusual local demand in specialized segments that can be served nationally and globally

Related and Supporting Industries

- Access to capable, locally based suppliers and firms in related fields
- Presence of clusters instead of isolated industries

- Successful economic development is a process of successive economic upgrading, in which the business environment in a nation evolves to support and encourage increasingly sophisticated ways of competing
The California Wine Cluster

Sources: California Wine Institute, Internet search, California State Legislature. Based on research by MBA 1997 students R. Alexander, R. Arney, N. Black, E. Frost, and A. Shivananda.
Norway has 0.1% of the world’s population, represents 1.0% of the world’s economy, yet accounts for 10% of world seaborne transportation.

Source: Sven Ullring, presented to M.I.T.
Clusters and Competitiveness

Clusters increase productivity and efficiency

• Efficient **access** to specialized inputs, services, employees, information, institutions, and “public goods” (e.g. training programs)
• Ease of **coordination** and transactions across firms
• Rapid **diffusion** of best practices
• Ongoing, visible **performance comparisons** and strong incentives to improve vs. local rivals

Clusters stimulate and enable innovation

• Enhanced ability to **perceive innovation opportunities**
• Presence of multiple suppliers and institutions to assist in **knowledge creation**
• Ease of **experimentation** given locally available resources

Clusters facilitate commercialization

• Opportunities for **new companies** and **new lines of established business** are more apparent
• **Commercializing** new products and starting new companies is easier because of available skills, suppliers, etc.

Clusters reflect the fundamental influence of **externalities / linkages** across firms and associated institutions in competition
Levels of Clusters

• There is often an **array of clusters** in a given field in different locations, each with different levels of specialization and sophistication

• Global **innovation centers**, such as Silicon Valley in semiconductors, are few in number. If there are multiple innovation centers, they normally **specialize** in different market segments

• Other clusters focus on **manufacturing**, outsourced **service functions**, or play the role of **regional** assembly or service centers

• Firms based in the most advanced clusters often **seed or enhance clusters** in other locations in order to reduce the risk of a single site, access lower cost inputs, or better serve particular regional markets

• The challenge for an economy is to move from **isolated firms** to an array of **clusters**, and then to **upgrade the breadth and sophistication** of clusters to more advanced activities
Leading Footwear Clusters

**Portugal**
- Production
- Focus on short-production runs in the medium price range

**Italy**
- Design, marketing, and production of premium shoes
- Export widely to the world market

**United States**
- Design and marketing
- Focus on specific market segments like sport and recreational shoes and boots
- Manufacturing only in selected lines such as hand-sewn casual shoes and boots

**Romania**
- Production subsidiaries of Italian companies
- Focus on lower to medium price range

**Vietnam/Indonesia**
- OEM Production
- Focus on the low cost segment mainly for the European market

**China**
- OEM Production
- Focus on low cost segment mainly for the US market

Source: Research by HBS student teams in 2002

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Institutions for Collaboration

**General**

- Chambers of Commerce
- Professional associations
- School networks
- University partner groups
- Religious networks
- Joint private/public advisory councils
- Competitiveness councils

**Cluster-specific**

- Industry associations
- Specialized professional associations and societies
- Alumni groups of core cluster companies
- Incubators

**Institutions for collaboration (IFC) are formal and informal organizations** that
  - facilitate the exchange of information and technology
  - conduct joint activities
  - foster coordination among firms

**IFCs can improve the business environment** by
  - creating **relationships** and level of trust that make them more effective
  - defining of **common standards**
  - conducting or facilitating the organization of **collective action** in areas such as procurement, information gathering, or international marketing
  - defining and communicating common **beliefs and attitudes**
  - providing mechanisms to develop a common economic or **cluster agenda**
## Institutions for Collaboration

### Selected Institutions for Collaboration, San Diego

<table>
<thead>
<tr>
<th>General</th>
<th>Cluster-Specific</th>
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</thead>
<tbody>
<tr>
<td>• San Diego Chamber of Commerce</td>
<td><strong>Telecommunication</strong></td>
</tr>
<tr>
<td>• San Diego MIT Enterprise Forum</td>
<td>• Linkabit Alumni</td>
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<tr>
<td>• Corporate Director’s Forum</td>
<td><strong>Biotech</strong></td>
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<tr>
<td>• San Diego Dialogue</td>
<td>• Hybritech Alumni</td>
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<tr>
<td>• Service Corps of Retired Executives, San Diego</td>
<td>• Scripps Research Institute Alumni</td>
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<tr>
<td>• San Diego Regional Economic Development Corporation</td>
<td>• BIOCOMM</td>
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<tr>
<td>• Center for Applied Competitive Technologies</td>
<td>• UCSD Connect</td>
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<td>• San Diego World Trade Center</td>
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<tr>
<td>• UCSD Alumni</td>
<td></td>
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<tr>
<td>• San Diego Regional Technology Alliance</td>
<td></td>
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<tr>
<td>• San Diego Science and Technology Council</td>
<td></td>
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<tr>
<td>• Office of Trade and Business Development</td>
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</tbody>
</table>

Source: Clusters of Innovation project ([www.compete.org](http://www.compete.org))
Stages Of Competitive Development

Factor-Driven Economy

Low Input Cost

Investment-Driven Economy

Efficiency Through Heavy Investment

Innovation-Driven Economy

Unique Value

U.A.E. Competitiveness Agenda

• Upgrade the business environment
  • Foster cluster development
  • Develop an economic strategy at the emirate level
  • Create a regional strategy for the Gulf states
  • Shift the roles of government and the private sector in economic policy
U.A.E. Economic Policy Initiatives

- Oct 2000: Opening of “Dubai Internet City”, a new free export zone developed with a $250m investment
  - The Jebel Ali Free Zone established in 1985 has been a key element of the economic transformation of the U.A.E.; it now hosts 2,200 companies


Source: EIU (2002)
Export Processing Zones and Competitiveness

• Export processing zones are more successful if they are targeted around the needs of specific **clusters**
  – Use a cluster-based approach to FDI promotion
  – Involve companies already present in the zone to attract further specialized suppliers and service providers

• Export processing zones can improve a country’s competitiveness if they **trigger economy-wide changes** in the business environment
  – Creation of specialized input factors, such as specialized suppliers and research facilities
  – Upgrading of rules and regulations, for example in the labor market
  – Improvement of government services, for example in customs services

U.A.E. Competitiveness Agenda

• Upgrade the business environment

• Foster cluster development
  
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  • Create a regional strategy for the Gulf states
  
  • Shift the roles of government and the private sector in economic policy
Composition of the U.A.E. Economy
Change over Time

Share of GDP

- Over the last twenty years, the U.A.E. has reduced its dependence on the oil sector significantly

Source: IMF 2002
U.A.E.’s average change in non-oil world goods export share: + 0.03%

U.A.E.’s average non-oil goods export share: 0.17%

Dubai is home to an aluminium plant
Source: UN (2002), author’s calculations

*Dubai is home to an aluminium plant
Source: UN (2002), author’s calculations

= $1 billion export volume in 2000
Public / Private Cooperation in Cluster Upgrading
Minnesota’s Medical Device Cluster

Context for Firm Strategy and Rivalry

- Aggressive trade associations (Medical Alley Association, High Tech Council)
- Effective global marketing of the cluster and of Minnesota as the “The Great State of Health”
- Full-time “Health Care Industry Specialist” in the department of Trade and Economic Development

Factor (Input) Conditions

- Joint development of vocational-technical college curricula with the medical device industry
- Minnesota Project Outreach exposes businesses to resources available at university and state government agencies
- Active medical technology licensing through University of Minnesota
- State-formed Greater Minnesota Corp. to finance applied research, invest in new products, and assist in technology transfer

Demand Conditions

- State sanctioned reimbursement policies to enable easier adoption and reimbursement for innovative products
The Australian Wine Cluster
Trade Performance

Australian Wine Exports in million US Dollars

$0
$100
$200
$300
$400
$500
$600
$700
$800
$900
$1,000


Australian Wine World Export Market Share

0%
1%
2%
3%
4%
5%
6%
7%

Value
Market Share

Source: UN Trade Statistics
The Australian Wine Cluster

History

1930
First oenology course at Roseworthy Agricultural College

1955
Australian Wine Research Institute founded

1965
Australian Wine Bureau established

1970
Winemaking school at Charles Sturt University founded

1980
Australian Wine and Brandy Corporation established

1990
Winemaker’s Federation of Australia established

1991 to 1998
New organizations created for education, research, market information, and export promotions

1950s
Import of European winery technology

1960s
Recruiting of experienced foreign investors, e.g. Wolf Bass

1970s
Continued inflow of foreign capital and management

1980s
Creation of large number of new wineries

1990s
Surge in exports and international acquisitions

The Australian Wine Cluster
Recently Founded Institutions for Collaboration

<table>
<thead>
<tr>
<th>Winemakers’ Federation of Australia</th>
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<tbody>
<tr>
<td><strong>Established in 1990</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Public policy representation of companies in the wine cluster</td>
</tr>
<tr>
<td><strong>Funding:</strong> Member companies</td>
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<tr>
<th>Cooperative Centre for Viticulture</th>
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<tbody>
<tr>
<td><strong>Established in 1991</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Coordination of research and education policy in viticulture</td>
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<tr>
<td><strong>Funding:</strong> other cluster organizations</td>
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<tr>
<th>Australian Wine Export Council</th>
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<tr>
<td><strong>Established in 1992</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Wine export promotion through international offices in London and San Francisco</td>
</tr>
<tr>
<td><strong>Funding:</strong> Government; cluster organizations</td>
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<thead>
<tr>
<th>Grape and Wine R&amp;D Corporation</th>
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<tbody>
<tr>
<td><strong>Established in 1991 as statutory body</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Funding of research and development activities</td>
</tr>
<tr>
<td><strong>Funding:</strong> Government; statutory levy</td>
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<tr>
<th>Wine Industry Information Service</th>
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<tr>
<td><strong>Established in 1998</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Information collection, organization, and dissemination</td>
</tr>
<tr>
<td><strong>Funding:</strong> Cluster organizations</td>
</tr>
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<table>
<thead>
<tr>
<th>Wine Industry National Education and Training Council</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Established in 1995</strong></td>
</tr>
<tr>
<td><strong>Focus:</strong> Coordination, integration, and standard maintenance for vocational training and education</td>
</tr>
<tr>
<td><strong>Funding:</strong> Government; other cluster organizations</td>
</tr>
</tbody>
</table>

Appropriate Roles of Government in Cluster Development

- A successful cluster policy builds on **sound overall economic policies**

- Government should support the development of **all clusters**, not choose among them

- Government policy should **reinforce established and emerging clusters** rather than attempt to create entirely new ones

- Government’s role in cluster initiatives is as **facilitator** and **participant**. The most successful cluster initiatives are a public-private partnership
Cluster Policy versus Industrial Policy

**Industrial Policy**

- Target desirable industries / sectors
- Focus on domestic companies
- Intervene in competition (e.g., protection, industry promotion, subsidies)
- Centralizes decisions at the national level

**Cluster-based Policy**

- **All** clusters can contribute to prosperity
- Domestic and foreign companies both enhance productivity
- Relax impediments and constraints to productivity
- Emphasize cross-industry linkages / complementarities
- Encourage initiative at the state and local level

**Distort competition**

**Enhance competition**
U.A.E. Competitiveness Agenda

- Upgrade the business environment
- Foster cluster development
- Develop an economic strategy at the emirate level
- Create a regional strategy for the Gulf states
- Shift the roles of government and the private sector in economic policy
Influences on Competitiveness

Multiple Geographic Levels

- World Economy
- Broad Economic Areas
- Groups of Neighboring Nations
- Nations
- States, Provinces
- Cities, Metropolitan Areas
Specialization of Regional Economies
Select U.S. Geographic Areas

- **Seattle-Bellevue-Everett, WA**
  - Aerospace Vehicles and Defense
  - Fishing and Fishing Products
  - Analytical Instruments

- **San Francisco-Oakland-San Jose Bay Area**
  - Communications Equipment
  - Agricultural Products
  - Information Technology

- **Los Angeles Area**
  - Apparel
  - Building Fixtures, Equipment and Services
  - Entertainment

- **Pittsburgh, PA**
  - Construction Materials
  - Metal Manufacturing
  - Education and Knowledge Creation

- **Wichita, KS**
  - Aerospace Vehicles and Defense
  - Heavy Machinery
  - Oil and Gas

- **Raleigh-Durham, NC**
  - Communications Equipment
  - Information Technology
  - Education and Knowledge Creation

- **San Diego**
  - Leather and Sporting Goods
  - Power Generation
  - Education and Knowledge Creation

- **Houston**
  - Heavy Construction Services
  - Oil and Gas
  - Aerospace Vehicles and Defense

- **Denver, CO**
  - Leather and Sporting Goods
  - Oil and Gas
  - Aerospace Vehicles and Defense

- **Boston**
  - Analytical Instruments
  - Education and Knowledge Creation

- **Chicago**
  - Communications Equipment
  - Processed Food
  - Heavy Machinery

- **Pittsburgh, PA**
  - Construction Materials
  - Metal Manufacturing
  - Education and Knowledge Creation

Note: Clusters listed are the three highest ranking clusters in terms of share of national employment.

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Comparative Economic Performance
Emirates of the U.A.E.

GDP per Capita
Dirham, 2001

Average Annual Growth of GDP per Capita, 1997-2001

Source: IMF(2002)
U.A.E. Competitiveness Agenda

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Cross-National Regions and Economic Strategy

Traditional Views
• Regions as free trade zones; regions as economic unions (e.g., United States, European Union)

New View
• A regional strategy as a powerful tool to enhance competitiveness in autonomous countries
• Internal trade and investment
  – Gains from internal trade and investment
  AND
• Company operations and strategy
  – Enhancing the competitive capability of firms
  – Expanding trade in non-traditional export industries
• Business environment
  – Mutual benefits to the productivity of the business environment through policy coordination that captures external economies and the benefits of specialization in institutions and infrastructure across borders
• Cluster development
  – Cross-border cluster specialization and integration
• Foreign investment
  – Enhancing interest and investment in the region by the international community
• Economic policy process
  – Improving economic policy formulation and implementation at the national level
Cross-National Economic Coordination
Alternate Geographic Levels

- World Economy
- Broad Economic Areas (e.g. ASEAN)
- Groups of Neighboring Nations (e.g. Malaysia, Singapore, and Indonesia)
- Nations
- States, Provinces
- Cities, Metropolitan Areas
Cross-National Economic Coordination
Illustrative Policy Areas

<table>
<thead>
<tr>
<th>Factor (Input) Conditions</th>
<th>Context for Strategy and Rivalry</th>
<th>Demand Conditions</th>
<th>Related and Supporting Industries</th>
<th>Regional Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve regional transportation infrastructure</td>
<td>Coordinate macroeconomic policies</td>
<td>Agree on foreign investment promotion guidelines to limit forms of investment promotion that do not enhance productivity</td>
<td>Establish ongoing upgrading process in clusters that cross national borders, e.g.</td>
<td>Share best practices in government operations</td>
</tr>
<tr>
<td>Create an efficient energy network</td>
<td>Eliminate trade and investment barriers within the region</td>
<td>Set minimum safety standards</td>
<td>- Tourism</td>
<td>Improve regional institutions</td>
</tr>
<tr>
<td>Upgrade/link regional communications</td>
<td>Simplify cross-border regulations and paperwork</td>
<td>Establish reciprocal consumer protection laws</td>
<td>- Agribusiness</td>
<td>- Regional development bank</td>
</tr>
<tr>
<td>Upgrade/link financial markets</td>
<td>Guarantee minimum basic investor protections</td>
<td></td>
<td>- Textiles and Apparel</td>
<td>- Dispute resolution mechanisms</td>
</tr>
<tr>
<td>Upgrade higher education through facilitating specialization and student exchanges</td>
<td></td>
<td></td>
<td>- Information Technology</td>
<td>- Policy coordination body</td>
</tr>
<tr>
<td>Expand cross-border business and financial information access and sharing</td>
<td></td>
<td></td>
<td></td>
<td>Develop a regional marketing strategy</td>
</tr>
<tr>
<td>Coordinate activities to ensure personal safety</td>
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</tr>
</tbody>
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U.A.E. Competitiveness Agenda

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• Shift the roles of government and the private sector in economic policy
Shifting Responsibilities for Economic Development

**Old Model**

- **Government** drives economic development through policy decisions and incentives

**New Model**

- Economic development is a **collaborative process** involving government at multiple levels, companies, teaching and research institutions, and institutions for collaboration
Roles of Government in Economic Development

• **Macroeconomic, political, legal, and social context**
  – Establish a **stable and predictable** macroeconomic, legal, and political environment
  – Improve the **social conditions** of citizens

• **General microeconomic business environment**
  – Improve the availability, quality, and efficiency of **cross-cutting or general purpose inputs, infrastructure, and institutions**
  – Set **overall rules and incentives** governing competition that encourage productivity growth

• **Clusters**
  – Facilitate **cluster development and upgrading**

• **Process of Economic Change**
  – Create institutions and **processes for upgrading competitiveness** that inform citizens and mobilize the private sector, government at all levels, educational and other institutions, and civil society to take action
Role of the Private Sector in Economic Development

• A company’s competitive advantage is partly the result of the local environment
• Company membership in a cluster offers collective benefits
• Private investment in “public goods” is justified

• Take an active role in upgrading the local infrastructure
• Nurture local suppliers and attract new supplier investments
• Work closely with local educational and research institutions to upgrade quality and create specialized programs addressing cluster needs
• Provide government with information and substantive input on regulatory issues and constraints bearing on cluster development
• Focus corporate philanthropy on enhancing the local business environment

• An important role for trade associations
  – Greater influence
  – Cost sharing
Selected References


Web resources

• Institute for Strategy and Competitiveness www.isc.hbs.edu

• ISC Cluster Mapping Data (US) data.isc.hbs.edu/isc/index.jsp

• Cluster of Innovation Initiative
  – Council on Competitiveness www.compete.org
  – Monitor Company www.monitor.com