Malaysia’s Competitiveness: Moving to the Next Stage

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Kuala Lumpur, Malaysia
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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 is more than just scientific discovery

There are no low-tech industries, only low-tech firms
Patenting Growth and Prosperity Growth
Selected OECD Countries


Compound annual growth rate of real GDP, 1990-2000

Malaysia’s Economic Situation 2003

• Malaysia has achieved strong progress in the last several decades, and has weathered the **Asian Crisis** better than many of its regional neighbors

• Currently, however, the slowdown in the world economy and especially in **IT/electronics** is having a strong impact on Malaysian exports and revealing challenges in Malaysian competitiveness

• Malaysia will need a new strategy to move the economy to the next level
Comparative Economic Performance
Selected Middle- and Lower-Income Economies

GDP per Capita, 2001, US=100

Source: World Development Indicators 2002
Comparative Labor Productivity Performance
Selected Asian Economies

Labor Productivity (GDP per Employee), 2000

Change of Labor Productivity, CAGR, 1995-2000

- Malaysia’s labor **productivity growth** is average among Asian economies, lagging the more dynamic economies

Source: EIU (2002)
Prosperity and Productivity Performance
Selected Asian Economies

Labor Productivity
(GDP (PPP) per Employee), 2000

Employees as % of Population

GDP per Capita (PPP):

$20,000

$10,000

$5,000

Source: EIU (2002)
• Malaysia has recently received relatively less foreign direct investment than many of its neighboring countries, after high inflow before the Asian Crisis.
International Patenting Output

Annual U.S. patents per 1 million population, 2001


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**

**Related and Supporting Industries**

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

**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

• 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.

Winemaking Equipment
- Barrels
- Bottles
- Caps and Corks
- Labels
- Public Relations and Advertising
- Specialized Publications (e.g., Wine Spectator, Trade Journal)

Winery/Processing Facilities
- Educational, Research, & Trade Organizations (e.g., Wine Institute, UC Davis, Culinary Institutes)
- Specialized Publications (e.g., Wine Spectator, Trade Journal)

Growers/Vineyards
- California Agricultural Cluster
- Educational, Research, & Trade Organizations (e.g., Wine Institute, UC Davis, Culinary Institutes)

State Government Agencies (e.g., Select Committee on Wine Production and Economy)
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- Educational, Research, & Trade Organizations (e.g., Wine Institute, UC Davis, Culinary Institutes)

California Agricultural 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.
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

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

**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

**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

Source: Research by HBS student teams in 2002
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>
</tr>
</thead>
</table>
| - San Diego Chamber of Commerce  
- San Diego MIT Enterprise Forum  
- Corporate Director’s Forum  
- San Diego Dialogue  
- Service Corps of Retired Executives, San Diego  
- San Diego Regional Economic Development Corporation  
- Center for Applied Competitive Technologies  
- San Diego World Trade Center  
- UCSD Alumni  
- San Diego Regional Technology Alliance  
- San Diego Science and Technology Council  
- Office of Trade and Business Development | **Telecommunication**  
- Linkabit Alumni  

**Biotech**  
- Hybritech Alumni  
- Scripps Research Institute Alumni  
- BIOCOMM  
- UCSD Connect |

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

Malaysia’s Competitiveness Agenda 2003

• Prepare the business environment for the next stage of economic development

• Engage in cluster development

• Strengthen regional and cross-border initiatives for competitiveness

• Redefine the roles of government and the private sector in economic development
Factor (Input) Conditions
Malaysia's Relative Position

Competitive Advantages
Relative to GDP per Capita

<table>
<thead>
<tr>
<th>Factor</th>
<th>Country Ranking</th>
<th>Note: Rank by countries; overall Malaysia ranks 26 out of 80 countries (26 on National Business Environment, 43 on GDP pc 2001) Source: Global Competitiveness Report 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Burden for Start-Ups</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Air Transport Infrastructure Quality</td>
<td>14</td>
<td>Arrows indicate a change of 5 or more ranks since 1998</td>
</tr>
<tr>
<td>Overall Infrastructure Quality</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Port Infrastructure Quality</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Railroad Infrastructure Quality</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Local Equity Market Access</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Adequacy of Public Sector Legal Recourse</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Quality of Public Schools</td>
<td>24</td>
<td></td>
</tr>
</tbody>
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Competitive Disadvantages
Relative to GDP per Capita

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</thead>
<tbody>
<tr>
<td>Availability of Scientists and Engineers</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Quality of Management Schools</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Judicial Independence</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Ease of Access to Loans</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Telephone/Fax Infrastructure Quality</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Extent of Bureaucratic Red Tape</td>
<td>37</td>
<td>DOWN</td>
</tr>
<tr>
<td>Venture Capital Availability</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Cell phones per 100 people (2001)</td>
<td>36</td>
<td>DOWN</td>
</tr>
<tr>
<td>Quality of Math and Science Education</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Intellectual Property Protection</td>
<td>33</td>
<td>DOWN</td>
</tr>
<tr>
<td>Patents per Capita (2001)</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Electricity Supply Quality</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>
Public Spending on Education
Selected Asian Countries

Public expenditure on education, Share of GNP, 1995-97

Change of public education spending as % of GNP, 1995-97 to 1985-87

*No growth rate data available
Source: UN – Human Development Indicators
# U.S. Patenting by Malaysian Institutions

<table>
<thead>
<tr>
<th>Organization</th>
<th>U.S. Patents Issued from 1996 to 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MOTOROLA, INC.</td>
<td>37</td>
</tr>
<tr>
<td>2. CERAM OPTEC INDUSTRIES, INC.</td>
<td>27</td>
</tr>
<tr>
<td>3. INTEL CORPORATION</td>
<td>11</td>
</tr>
<tr>
<td>4. SUNG LING GOLF &amp; CASTING CO., LTD.</td>
<td>4</td>
</tr>
<tr>
<td>4. <strong>BRANDEIS UNIVERSITY</strong></td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>5. IRIS CORPORATION BERHAD</td>
<td>3</td>
</tr>
<tr>
<td>6. MOTOROLA MALAYSIA SDN BHD</td>
<td>2</td>
</tr>
<tr>
<td>6. OTIS ELEVATOR COMPANY</td>
<td>2</td>
</tr>
<tr>
<td>6. SHIN-ETSU HANDOTAI CO., LTD.</td>
<td>2</td>
</tr>
<tr>
<td>6. ADVANCED MICRO DEVICES, INC.</td>
<td>2</td>
</tr>
<tr>
<td>7. ALDES AERAULIQUE</td>
<td>1</td>
</tr>
<tr>
<td>7. ARTWRIGHT TECHNOLOGY SDN BHD</td>
<td>1</td>
</tr>
<tr>
<td>7. AUTOLIV DEVELOPMENT AB</td>
<td>1</td>
</tr>
<tr>
<td>7. CHARTERED SEMICONDUCTOR MANUF. PTE LTD</td>
<td>1</td>
</tr>
<tr>
<td>7. COLLINS INTERNATIONAL CO., LTD.</td>
<td>1</td>
</tr>
<tr>
<td>7. ELITE FURNITURE, INC.</td>
<td>1</td>
</tr>
<tr>
<td>7. GLOBAL PALM PRODUCTS SDN. BHD.</td>
<td>1</td>
</tr>
<tr>
<td>7. HALLIBURTON ENERGY SERVICES</td>
<td>1</td>
</tr>
<tr>
<td>7. IMPACT SURGE SDN. BHD.</td>
<td>1</td>
</tr>
<tr>
<td>7. INTEGRATED DEVICE TECHNOLOGY, INC.</td>
<td>1</td>
</tr>
<tr>
<td>7. INVETECH OPERATIONS PTY. LTD.</td>
<td>1</td>
</tr>
<tr>
<td>7. JOHNSON &amp; JOHNSON MFG SN BHD</td>
<td>1</td>
</tr>
<tr>
<td>7. MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.</td>
<td>1</td>
</tr>
<tr>
<td>7. MAXHILL TOY INDUSTRIES SDN. BHD.</td>
<td>1</td>
</tr>
<tr>
<td>7. NATIONAL SEMICONDUCTOR CORPORATION</td>
<td>1</td>
</tr>
<tr>
<td>7. NOVAL CONTROLS SDN BHD</td>
<td>1</td>
</tr>
<tr>
<td>7. NOVO NORDISK A/S</td>
<td>1</td>
</tr>
<tr>
<td>7. PALM OIL RESEARCH &amp; DEVELOPMENT BOARD</td>
<td>1</td>
</tr>
<tr>
<td>7. PETRONAS RESEARCH &amp; SCIENTIFIC SERVICES</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** Shading indicates universities, research institutions, and other government agencies.  
**Source:** US Patent and Trademark Office (www.uspto.gov). Author's analysis.
## Patents by Organization
Commonwealth of Massachusetts

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1 MASSACHUSETTS INSTITUTE OF TECHNOLOGY</td>
<td>518</td>
</tr>
<tr>
<td>2 GENERAL HOSPITAL CORPORATION</td>
<td>296</td>
</tr>
<tr>
<td>3 EMC CORPORATION</td>
<td>269</td>
</tr>
<tr>
<td>4 DIGITAL EQUIPMENT CORPORATION</td>
<td>261</td>
</tr>
<tr>
<td>5 POLAROID CORPORATION</td>
<td>213</td>
</tr>
<tr>
<td>6 ANALOG DEVICES, INC.</td>
<td>167</td>
</tr>
<tr>
<td>7 MILLENNIUM PHARMACEUTICALS, INC.</td>
<td>165</td>
</tr>
<tr>
<td>8 HARVARD UNIVERSITY</td>
<td>150</td>
</tr>
<tr>
<td>9 COMPAQ COMPUTER CORPORATION, INC.</td>
<td>147</td>
</tr>
<tr>
<td>10 SUN MICROSYSTEMS, INC.</td>
<td>143</td>
</tr>
<tr>
<td>11 BOSTON SCIENTIFIC CORPORATION</td>
<td>135</td>
</tr>
<tr>
<td>12 ACUSHNET COMPANY</td>
<td>130</td>
</tr>
<tr>
<td>13 GENETICS INSTITUTE, INC.</td>
<td>127</td>
</tr>
<tr>
<td>14 GILLETTE COMPANY</td>
<td>112</td>
</tr>
<tr>
<td>15 BRIGHAM AND WOMEN'S HOSPITAL</td>
<td>107</td>
</tr>
<tr>
<td>16 RAYTHEON COMPANY</td>
<td>101</td>
</tr>
<tr>
<td>17 GENERAL ELECTRIC COMPANY</td>
<td>99</td>
</tr>
<tr>
<td>18 HEWLETT-PACKARD COMPANY</td>
<td>96</td>
</tr>
<tr>
<td>19 CHILDREN'S MEDICAL CENTER CORPORATION</td>
<td>93</td>
</tr>
<tr>
<td>20 QUANTUM CORP. (CA)</td>
<td>93</td>
</tr>
<tr>
<td>21 COGNEX CORPORATION</td>
<td>90</td>
</tr>
<tr>
<td>22 DANA-FARBER CANCER INSTITUTE</td>
<td>90</td>
</tr>
<tr>
<td>23 JOHNSON &amp; JOHNSON PROFESSIONAL INC.</td>
<td>90</td>
</tr>
<tr>
<td>24 BOSTON UNIVERSITY</td>
<td>84</td>
</tr>
<tr>
<td>25 SEPRACOR INC.</td>
<td>84</td>
</tr>
</tbody>
</table>

Note: Shading indicates universities, research institutions, and other government agencies
## Context for Firm Strategy and Rivalry
### Malaysia's Relative Position

#### Competitive Advantages Relative to GDP per Capita
Country Ranking, Arrows indicate a change of 5 or more ranks since 1998

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of Distortive Government Subsidies</td>
<td>19</td>
</tr>
<tr>
<td>Cooperation in Labor-Employer Relations</td>
<td>19</td>
</tr>
<tr>
<td>Decentralization of Corporate Activity</td>
<td>19</td>
</tr>
<tr>
<td>Extent of Locally Based Competitors</td>
<td>24</td>
</tr>
</tbody>
</table>

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<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy of Corporate Boards</td>
<td>44</td>
</tr>
<tr>
<td>Costs of Other Firms' Illegal/Unfair Activities</td>
<td>39</td>
</tr>
<tr>
<td>Hidden Trade Barrier Liberalization</td>
<td>39</td>
</tr>
<tr>
<td>Favoritism in Decisions of Government Officials</td>
<td>38</td>
</tr>
<tr>
<td>Tariff Liberalization</td>
<td>34</td>
</tr>
<tr>
<td>Effectiveness of Anti-Trust Policy</td>
<td>33</td>
</tr>
<tr>
<td>Intensity of Local Competition</td>
<td>28</td>
</tr>
</tbody>
</table>

Note: Rank by countries; overall Malaysia ranks 26 out of 80 countries (26 on National Business Environment, 43 on GDP pc 2001)

Source: Global Competitiveness Report 2002
Corruption Ranking
Selected Asian Countries

<table>
<thead>
<tr>
<th>Rank 2002</th>
<th>Country</th>
<th>Change in Rank since 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Singapore</td>
<td>+3</td>
</tr>
<tr>
<td>14.</td>
<td>Hong Kong</td>
<td>+2</td>
</tr>
<tr>
<td>27.</td>
<td>Taiwan</td>
<td>+2</td>
</tr>
<tr>
<td>36.</td>
<td>Malaysia</td>
<td>-5</td>
</tr>
<tr>
<td>42.</td>
<td>South Korea</td>
<td>+4</td>
</tr>
<tr>
<td>57.</td>
<td>China</td>
<td>-1</td>
</tr>
<tr>
<td>61.</td>
<td>Thailand</td>
<td>+4</td>
</tr>
<tr>
<td>65.</td>
<td>Philippines</td>
<td>-4</td>
</tr>
<tr>
<td>75.</td>
<td>Vietnam</td>
<td>+7</td>
</tr>
<tr>
<td>88.</td>
<td>Indonesia</td>
<td>+1</td>
</tr>
</tbody>
</table>

• Malaysia scores better on corruption than many competing Asian countries, but has lost some ground recently

Note: Rank out of 91 countries, change in rank calculated for constant sample of countries
## Demand Conditions

### Malaysia's Relative Position

#### Competitive Advantages Relative to GDP per Capita

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Procurement of Advanced Technology Products</td>
<td>7</td>
</tr>
<tr>
<td>Laws Relating to Information Technology</td>
<td>16</td>
</tr>
</tbody>
</table>

#### Competitive Disadvantages Relative to GDP per Capita

<table>
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<th>Indicator</th>
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<tbody>
<tr>
<td>Stringency of Environmental Regulations</td>
<td>31</td>
</tr>
<tr>
<td>Presence of Demanding Regulatory Standards</td>
<td>30</td>
</tr>
<tr>
<td>Consumer Adoption of Latest Products</td>
<td>29</td>
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</tbody>
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Source: Global Competitiveness Report 2002
Related and Supporting Industries
Malaysia's Relative Position

Competitive Advantages Relative to GDP per Capita

| Local Supplier Quantity | 19   |
| Local Availability of Components and Parts | 20   |
| Local Availability of Process Machinery | 25   |

Competitive Disadvantages Relative to GDP per Capita

| Local Availability of Specialized Research and Training Services | 34   |
| Extent of Product and Process Collaboration | 31   |
| Local Supplier Quality | 31   |
| State of Cluster Development | 28   |

Note: Rank by countries; overall Malaysia ranks 26 out of 80 countries (26 on National Business Environment, 43 on GDP pc 2001)

Source: Global Competitiveness Report 2002
Malaysia’s Export Performance By Broad Sector
1995-2000

Malaysia’s average change in world goods export share:
- 0.01%

World Export Share, 2000

[Diagram showing various sectors with their export share and changes from 1995-2000]

- Malaysia is strengthening its position in key export industries

Source: UNCTAD Trade Data. Author’s analysis.
### Company Operations and Strategy

#### Malaysia's Relative Position 2002

#### Competitive Advantages Relative to GDP per Capita

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rank</th>
<th>Change Since 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of Foreign Technology Licensing</td>
<td>5</td>
<td>▲</td>
</tr>
<tr>
<td>Willingness to Delegate Authority</td>
<td>22</td>
<td></td>
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<tr>
<td>Breadth of International Markets</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Company Spending on R&amp;D</td>
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<th>Change Since 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of Competitive Advantage</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Control of International Distribution</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Capacity for Innovation</td>
<td>36</td>
<td>▲</td>
</tr>
<tr>
<td>Extent of Marketing</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Extent of Incentive Compensation</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Reliance on Professional Management</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Extent of Branding</td>
<td>32</td>
<td>▲</td>
</tr>
<tr>
<td>Production Process Sophistication</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Degree of Customer Orientation</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>

Note: Rank by countries; overall Malaysia ranks 26 out of 80 countries (27 on Company Operations and Strategy, 43 on GDP per Capita 2001)

Source: Global Competitiveness Report 2002
Malaysia’s Competitiveness Agenda 2003

- Prepare the business environment for the next stage of economic development

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- Redefine the roles of government and the private sector in economic development
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%

Source: UN Trade Statistics
The Australian Wine Cluster

History

1930
First oenology course at Roseworthy Agricultural College

1955
Australian Wine Research Institute founded

1960s
Import of European winery technology

1965
Australian Wine Research Institute founded

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

1970
Winemaking school at Charles Sturt University founded

1970s
Continued inflow of foreign capital and management

1980
Australian Wine and Brandy Corporation established

1980s
Creation of large number of new wineries

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

1990s
Surge in exports and international acquisitions

### The Australian Wine Cluster

Recently founded Institutions for Collaboration

<table>
<thead>
<tr>
<th>Institution</th>
<th>Established</th>
<th>Focus</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Winemakers’ Federation of Australia</strong></td>
<td>1990</td>
<td>Public policy representation of companies in the wine cluster</td>
<td>Member companies</td>
</tr>
<tr>
<td><strong>Cooperative Centre for Viticulture</strong></td>
<td>1991</td>
<td>Coordination of research and education policy in viticulture</td>
<td>Other cluster organizations</td>
</tr>
<tr>
<td><strong>Australian Wine Export Council</strong></td>
<td>1992</td>
<td>Wine export promotion through international offices in London and San Francisco</td>
<td>Government; cluster organizations</td>
</tr>
<tr>
<td><strong>Grape and Wine R&amp;D Corporation</strong></td>
<td>1991</td>
<td>Funding of research and development activities</td>
<td>Government; statutory levy</td>
</tr>
<tr>
<td><strong>Wine Industry Information Service</strong></td>
<td>1998</td>
<td>Information collection, organization, and dissemination</td>
<td>Cluster organizations</td>
</tr>
<tr>
<td><strong>Wine Industry National Education and Training Council</strong></td>
<td>1995</td>
<td>Coordination, integration, and standard maintenance for vocational training and education</td>
<td>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**
Malaysia’s Competitiveness Agenda 2003

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• Redefine the roles of government and the private sector in economic development
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

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

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

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

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

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

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

- **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

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

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

- **Atlanta, GA**
  - Construction Materials
  - Transportation and Logistics
  - Business Services

**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
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

- Improve regional transportation infrastructure
- Create an efficient energy network
- Upgrade/link regional communications
- Upgrade/link financial markets
- Upgrade higher education through facilitating specialization and student exchanges
- Expand cross-border business and financial information access and sharing
- Coordinate activities to ensure personal safety

- Coordinate macroeconomic policies
- Eliminate trade and investment barriers within the region
- Simplify cross-border regulations and paperwork
- Guarantee minimum basic investor protections

- Agree on foreign investment promotion guidelines to limit forms of investment promotion that do not enhance productivity
- Coordinated competition policy

- Set minimum environmental standards
- Set minimum safety standards
- Establish reciprocal consumer protection laws

- Establish ongoing upgrading process in clusters that cross national borders, e.g.
  - Tourism
  - Agribusiness
  - Textiles and Apparel
  - Information Technology

- Share best practices in government operations
- Improve regional institutions
  - Regional development bank
  - Dispute resolution mechanisms
  - Policy coordination body
- Develop a regional marketing strategy
Malaysia’s Competitiveness Agenda 2003

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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