

World Bank

Analyzing and Implementing Cluster Competitiveness

Kevin X. Murphy

Internal Circulation Only

Overview of Today's Session

1. Importance of Competitiveness
2. Definition of "Competitiveness"
3. Overview of Competitiveness Initiatives
4. Industry Competitiveness Initiatives
5. Specific Tools Used
6. Examples of Where This Has Worked
7. Discussion

Why Competitiveness Has Become So Important

1. WTO and BTAs → Struggle to Compete
2. Globalization → Winners and Losers
3. Political Backlash
4. Focus on Micro-Economic Conditions
5. Need to Help Industries Adapt
 - Without Protection
 - Without Subsidies
 - Without Picking Winners and Losers

Building Export Competitiveness

Even in football, a level playing field is necessary, but not sufficient to be competitive.
How do we do it?

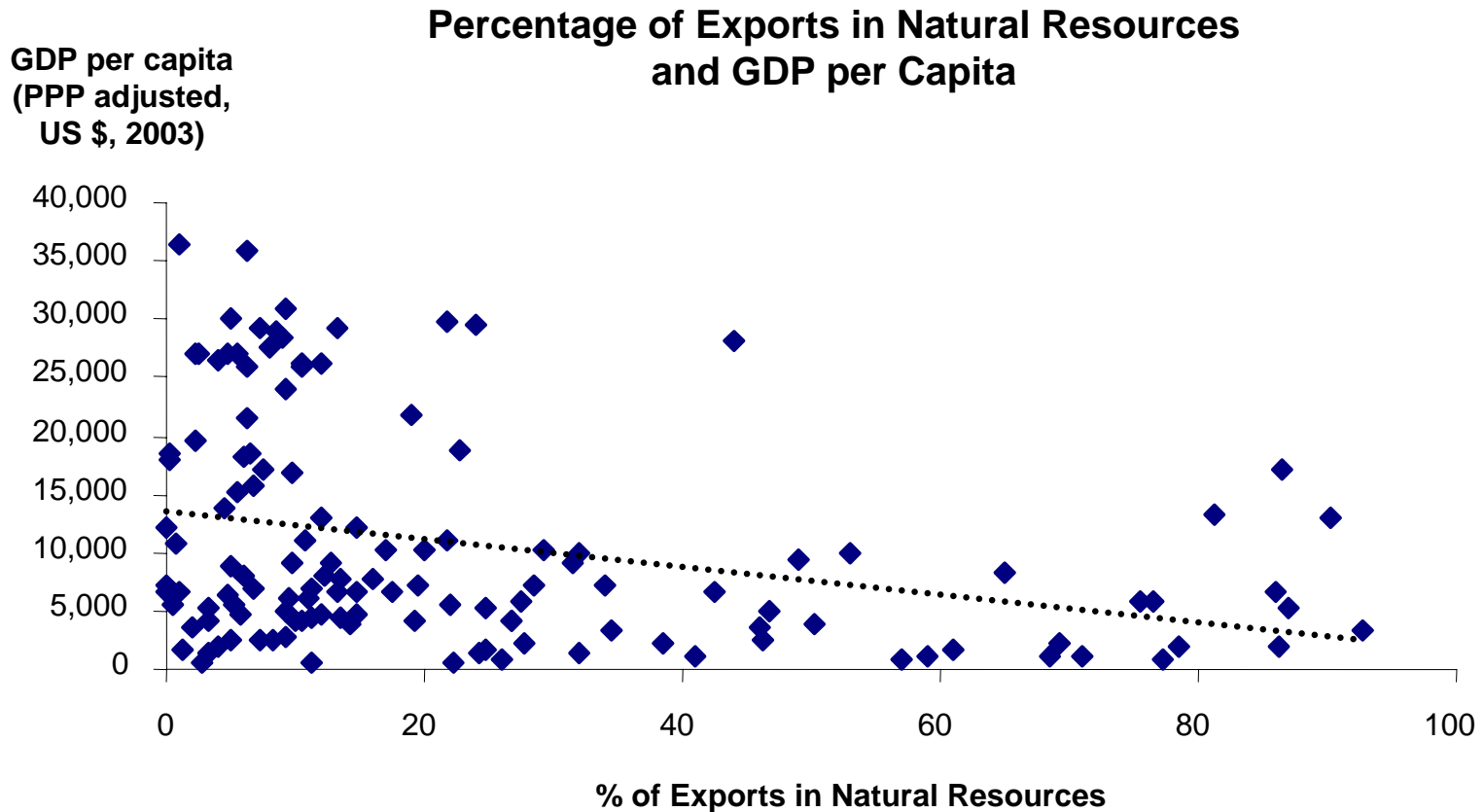


What Competitiveness is not...

- Abundant Natural Resources
- Cheap Labor
- Cheap Currency
- Great Location
- Better Government “Incentives”

Competitiveness is not abundant natural resources

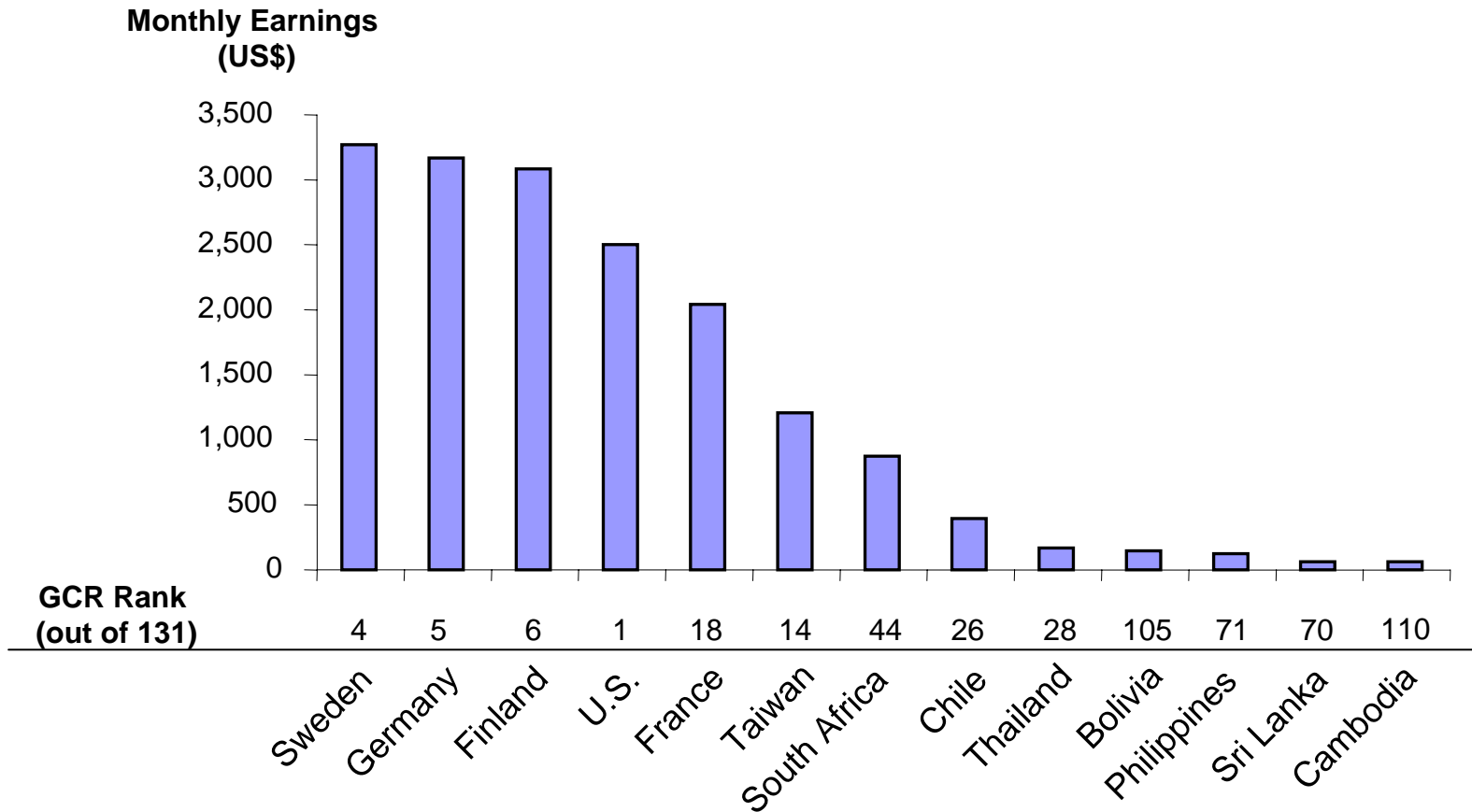
Countries highly dependent on natural resources tend to be poor and less competitive



Source: World Development Indicators, developed in partnership with Monitor Co

What Competitiveness is not...

Competitiveness is not low wages. Low wages position a country against those countries that are even poorer



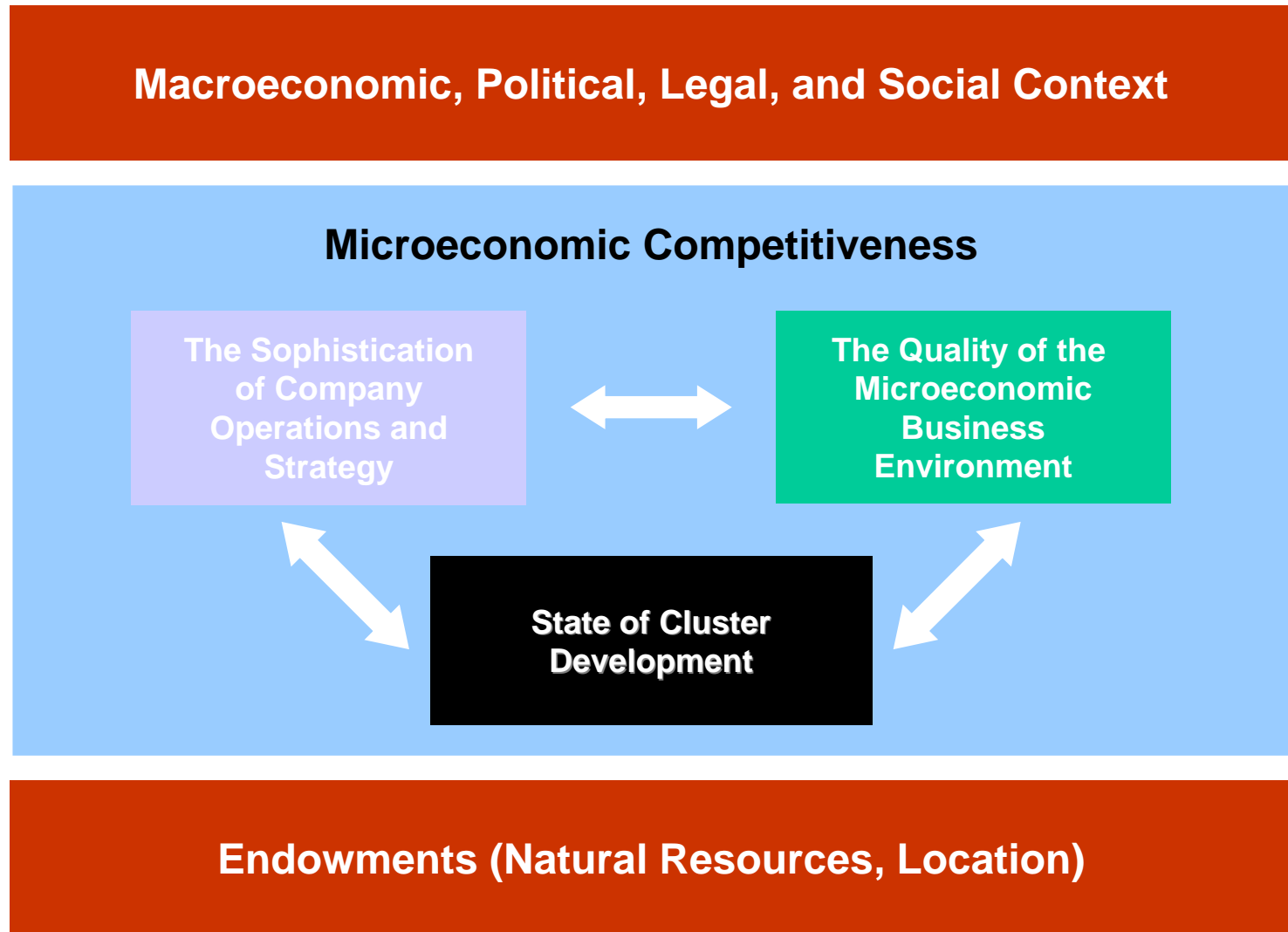
Source: World Development Indicators, ILO, Global Competitiveness Report 2007.

Competitiveness = Sustained Productivity Growth

- Competitiveness is determined by the **productivity (value per unit of input)** with which an economy uses its human, capital, and natural resources
 - Productivity depends on **value** (e.g. uniqueness, quality) AND **efficiency**
 - It is not **what** industries an economy competes, but **how** firms compete in those industries
 - Productivity of **“local”** industries critical to competitiveness
 - Devaluation and revaluation do **not** make a country more or less “competitive”
- Nations or regions compete in offering the **most productive environment** for business

Source: Michael Porter, The Competitive Advantage of Nations, 1990.

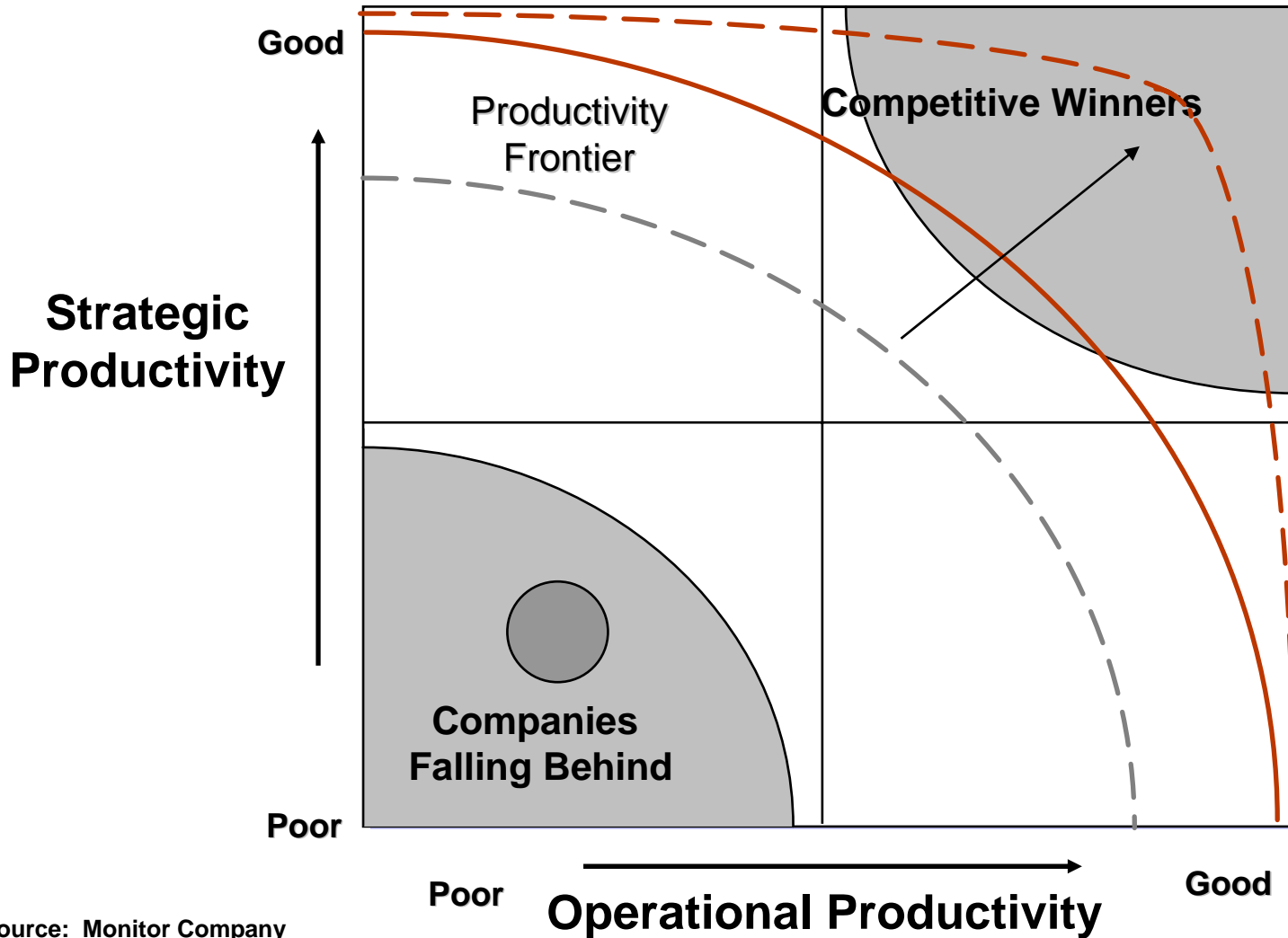
Determinants of Productivity and Productivity Growth



Source: Michael Porter, 2007.

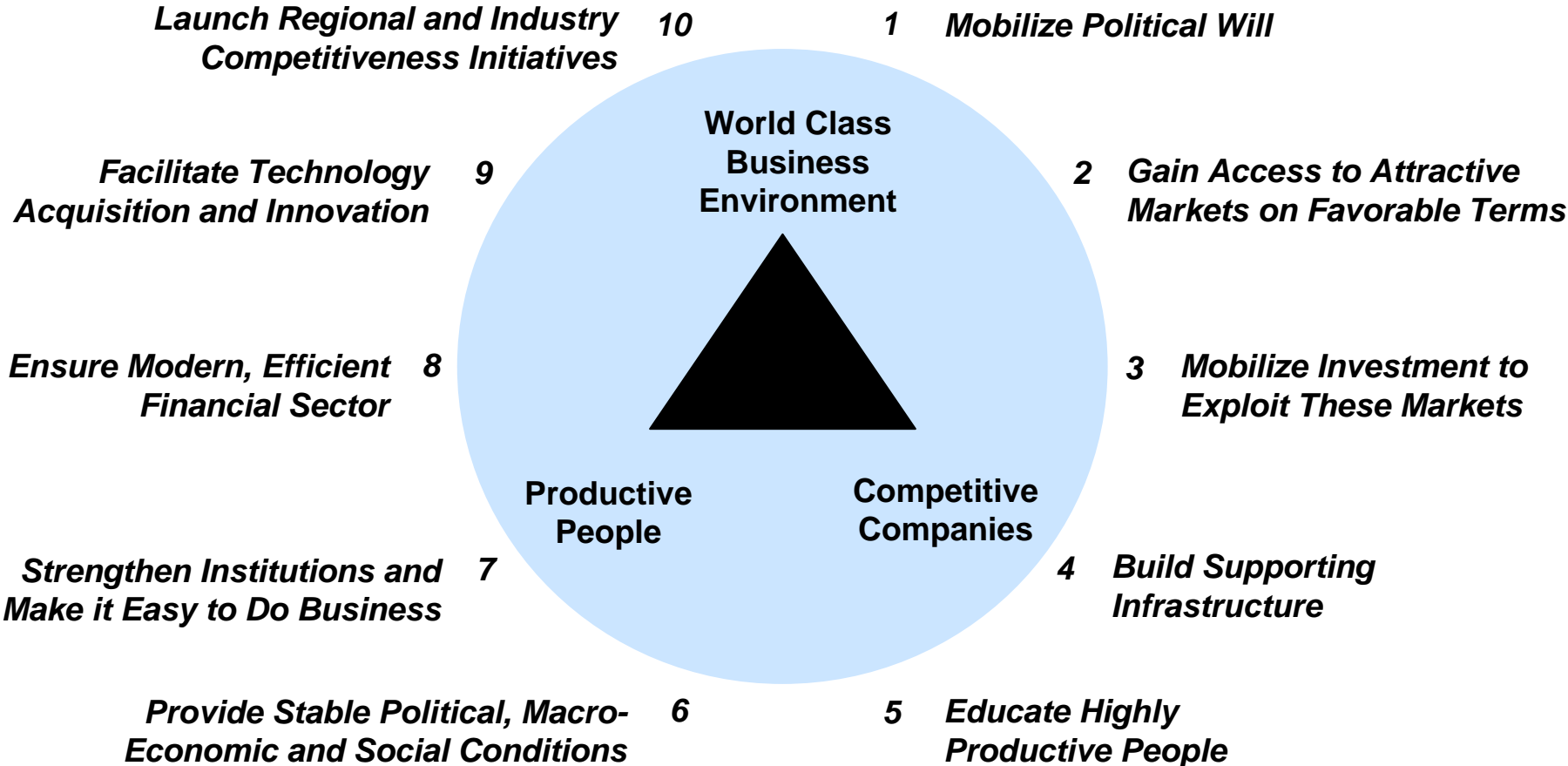
Competitiveness = Sustainable Productivity Growth

Firm: Good Strategy and Good Operations



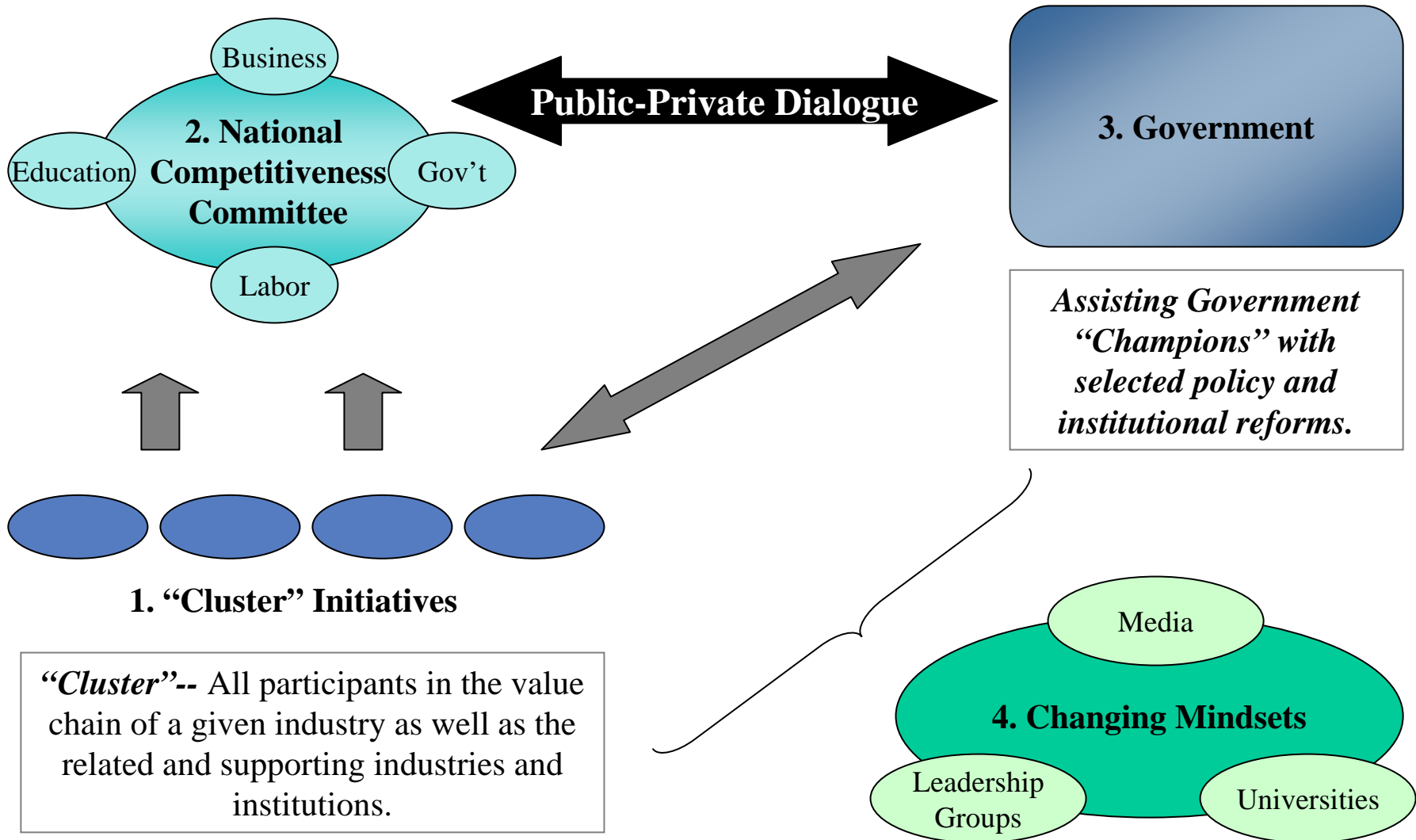
Source: Monitor Company

Building Competitiveness



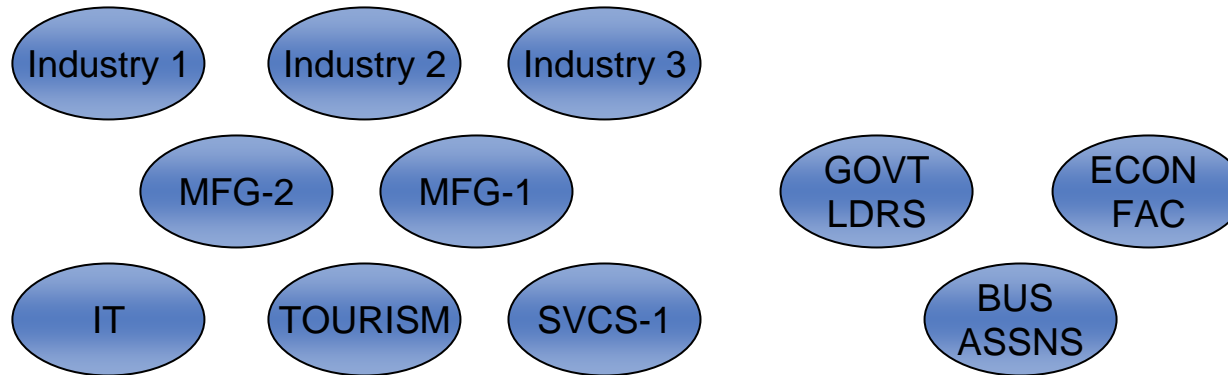
Source: JE Austin Associates, 2008

Building National Competitiveness



Industry Competitiveness Initiatives

Intensive presentations to Industry Clusters, Government Leadership, Business Associations, Economic Faculties, and the Business Press



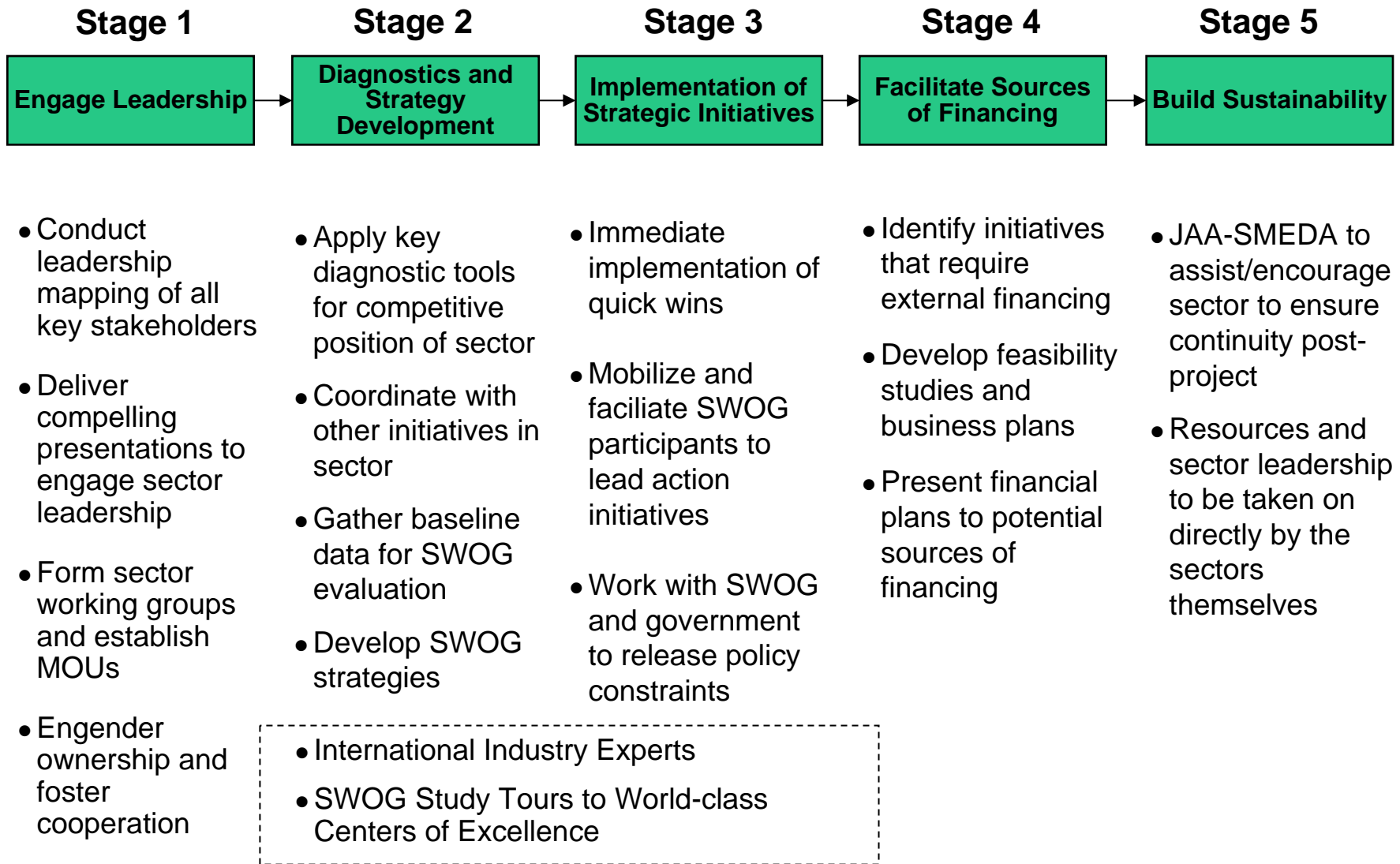
KEY TOOLS

- Country Competitiveness Benchmarking
- Tailored Competitiveness Presentations
- Leadership Mapping
- Trade Analyses
- Macro/Microeconomic Environment Analysis

RESULTS

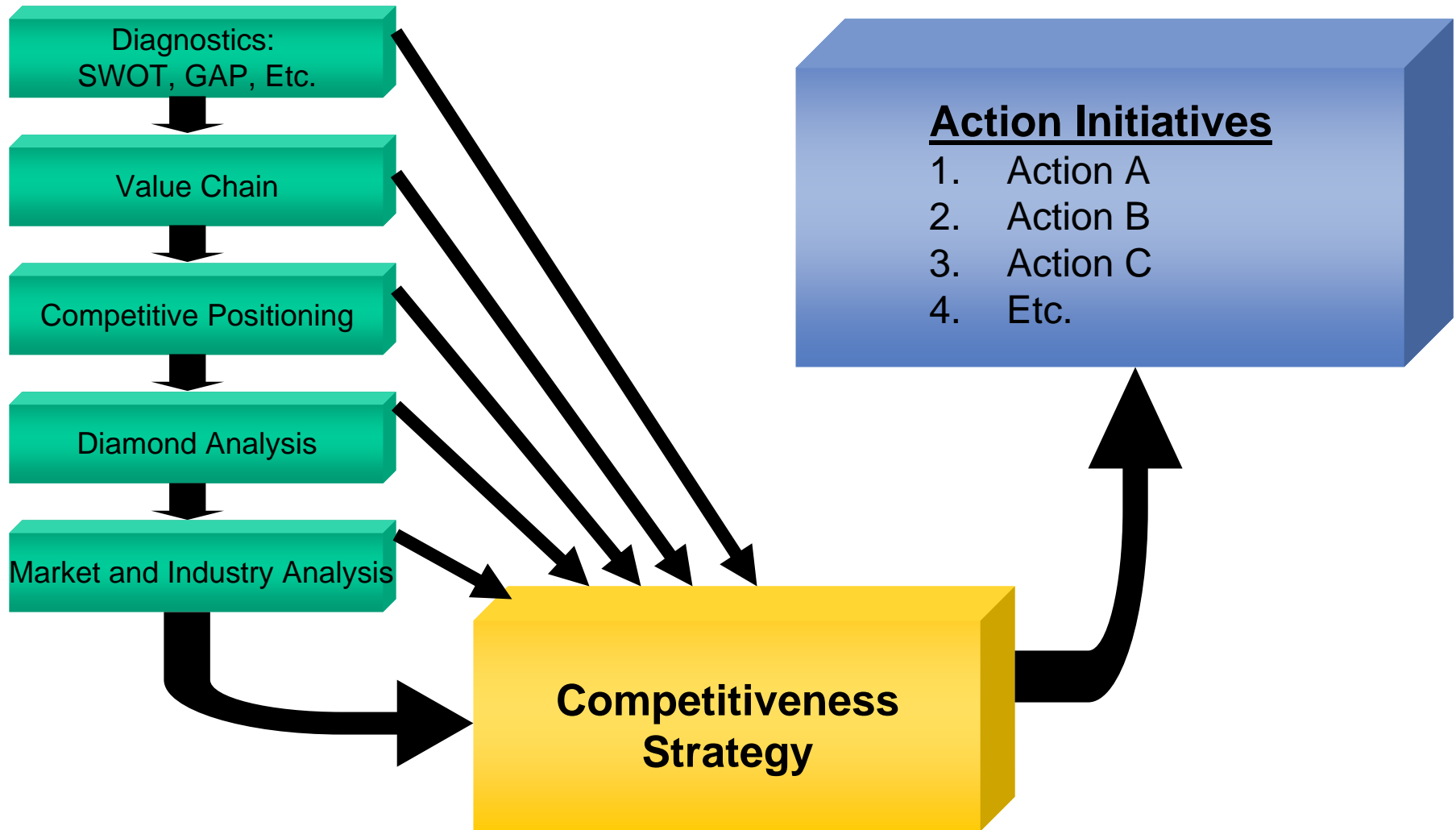
- Leadership Convened
- Counterparts Identified
- At Least 3 Clusters Meet Criteria
- Government Reform Champions Identified
- *Note:* Requires Dynamic, Versatile, Experienced and Highly-Trained Presenters

Catalytic Competitiveness Process



Source: JE Austin Associates, 2008

Strategy Overview



Source: JE Austin Associates

SWOT Analysis: Useful as a Cocktail Starter

	Positives	Negatives
Internal	<u>Strengths</u>	<u>Weaknesses</u>
External Environment	<u>Opportunities</u>	<u>Threats</u>

Gap Analysis: Premium Cigars

Dominican and Cuban Cigars: 1995

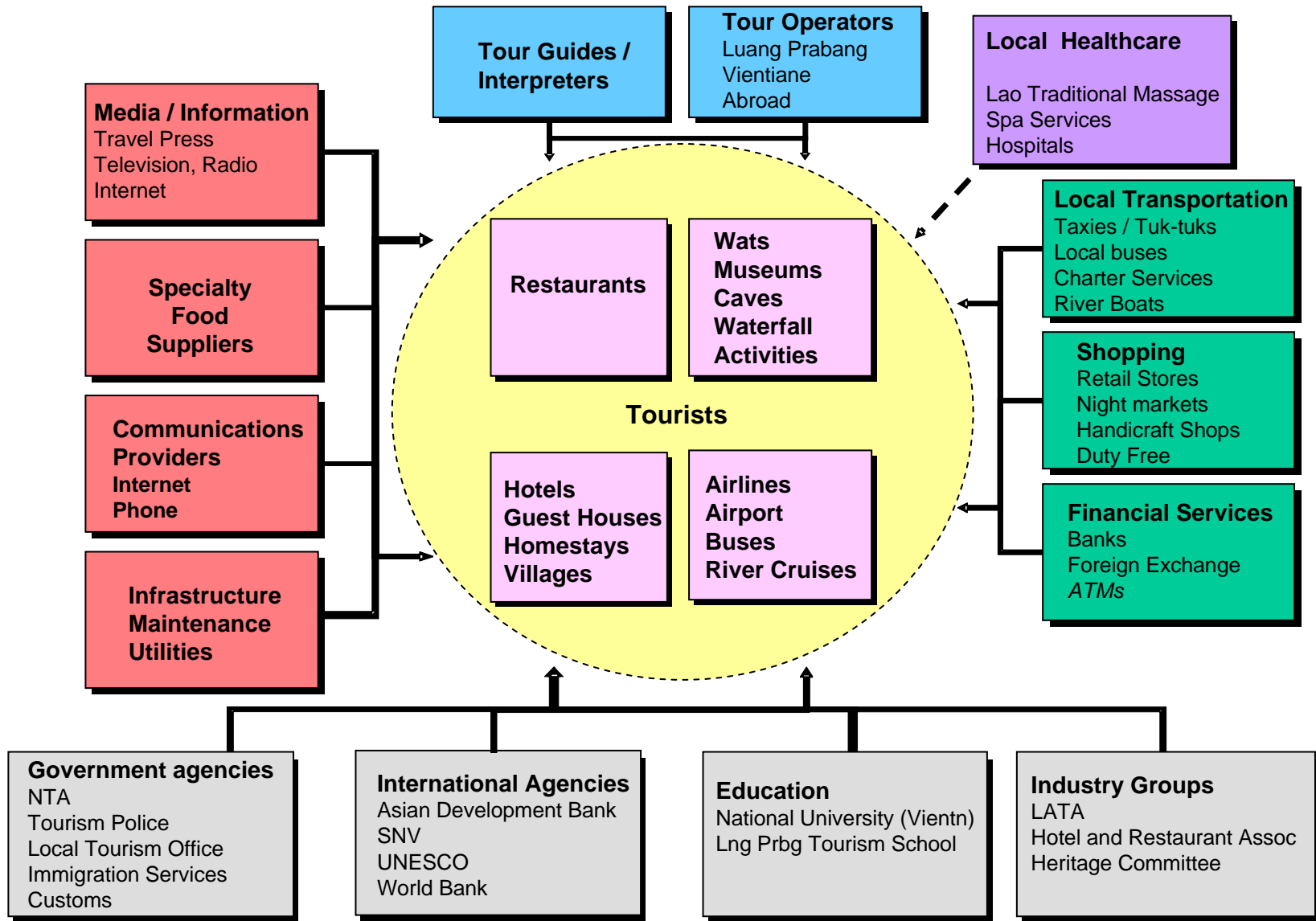
Cuban Cigars

1. 80M sold
2. Blind Taste Tests: #1
3. Strong Local R&D
4. Controls Distribution Local
“Wrapper”
5. Channels in Europe
6. State-owned
7. Strong “Cuban” brand
8. Strong European
penetration

Dominican Cigars

1. 120M sold
2. Taste Tests: #2
3. Weak R&D
4. Mostly sells to Davidoff,
etc.
5. Imported “Wrapper”*
6. Dynamic companies
7. “Cigar Country” now
8. Over-reliance on US
embargo

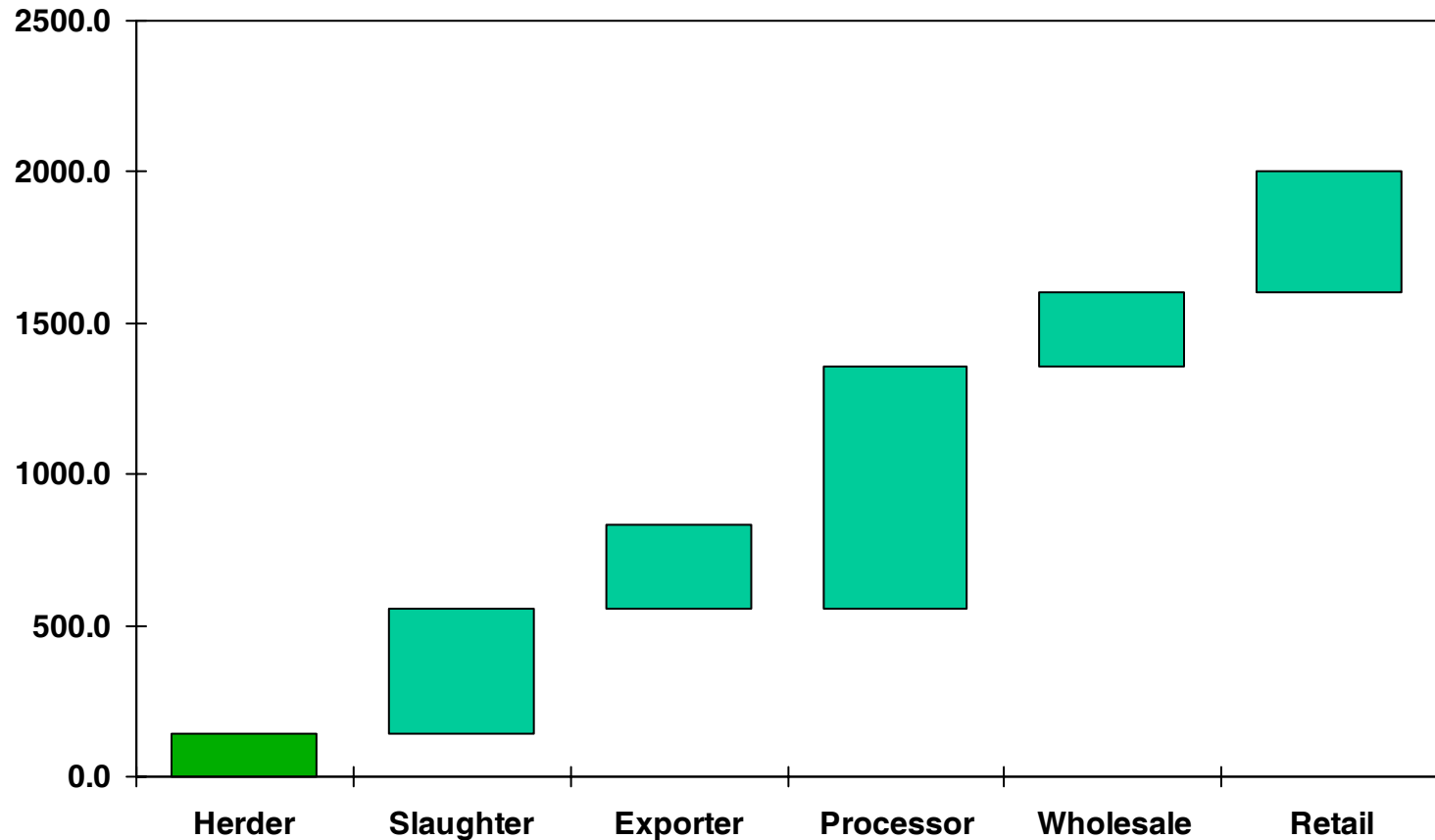
Example of a Cluster: Luang Prabang Tourism



Source: Lao PDR Export Competitiveness Report, World Bank, 2005. JAA Analysis.

Value Chain Breakdown

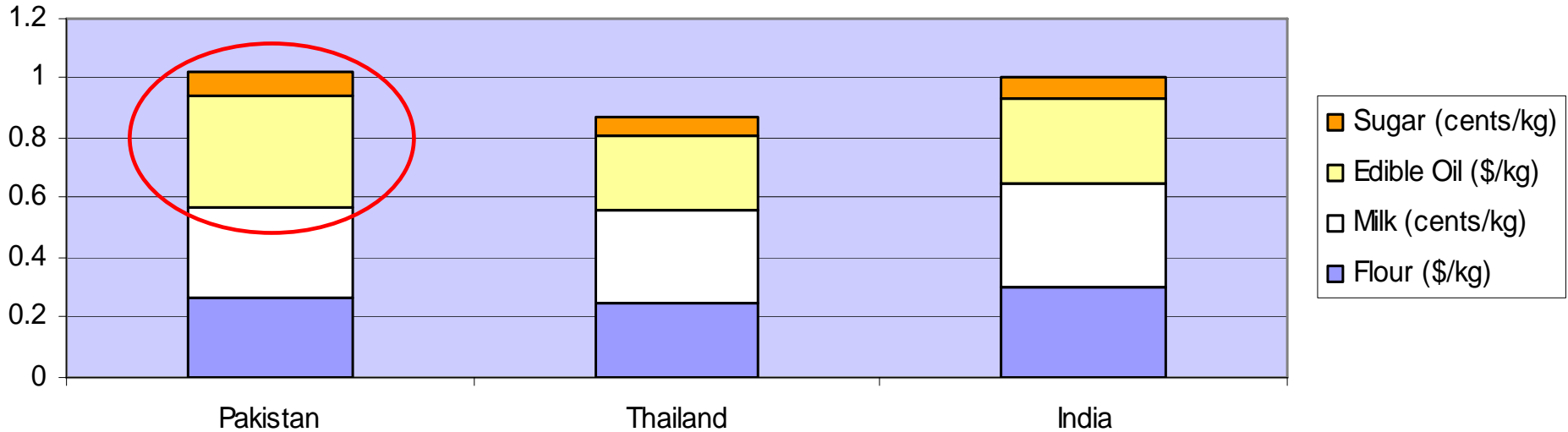
Cash Flow per KG of Meat for Each Component of the Value System



Example of Mongolian Meat Processed Into Sausage Sold At 2000 Tugriks/kilo

Relative Cost Analysis - Raw Material Costs in Selected Countries

US\$

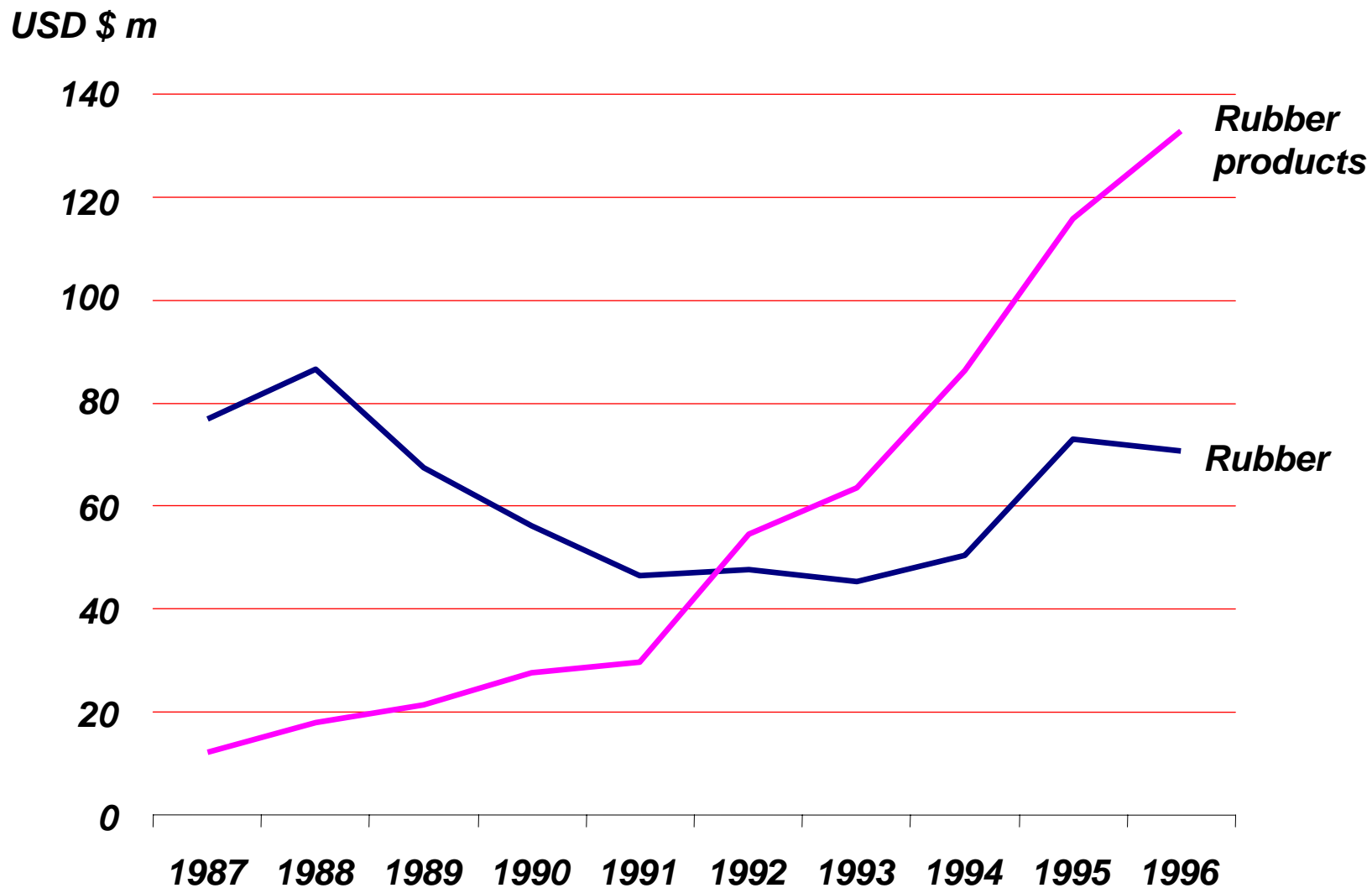


Pakistan has one of the highest raw material costs for food processing among other regional countries

Sri Lanka Rubber Cluster



Sri Lanka Rubber: Export Mix Transformation



Source: Sri Lanka National Statistics

Industry Benchmarking

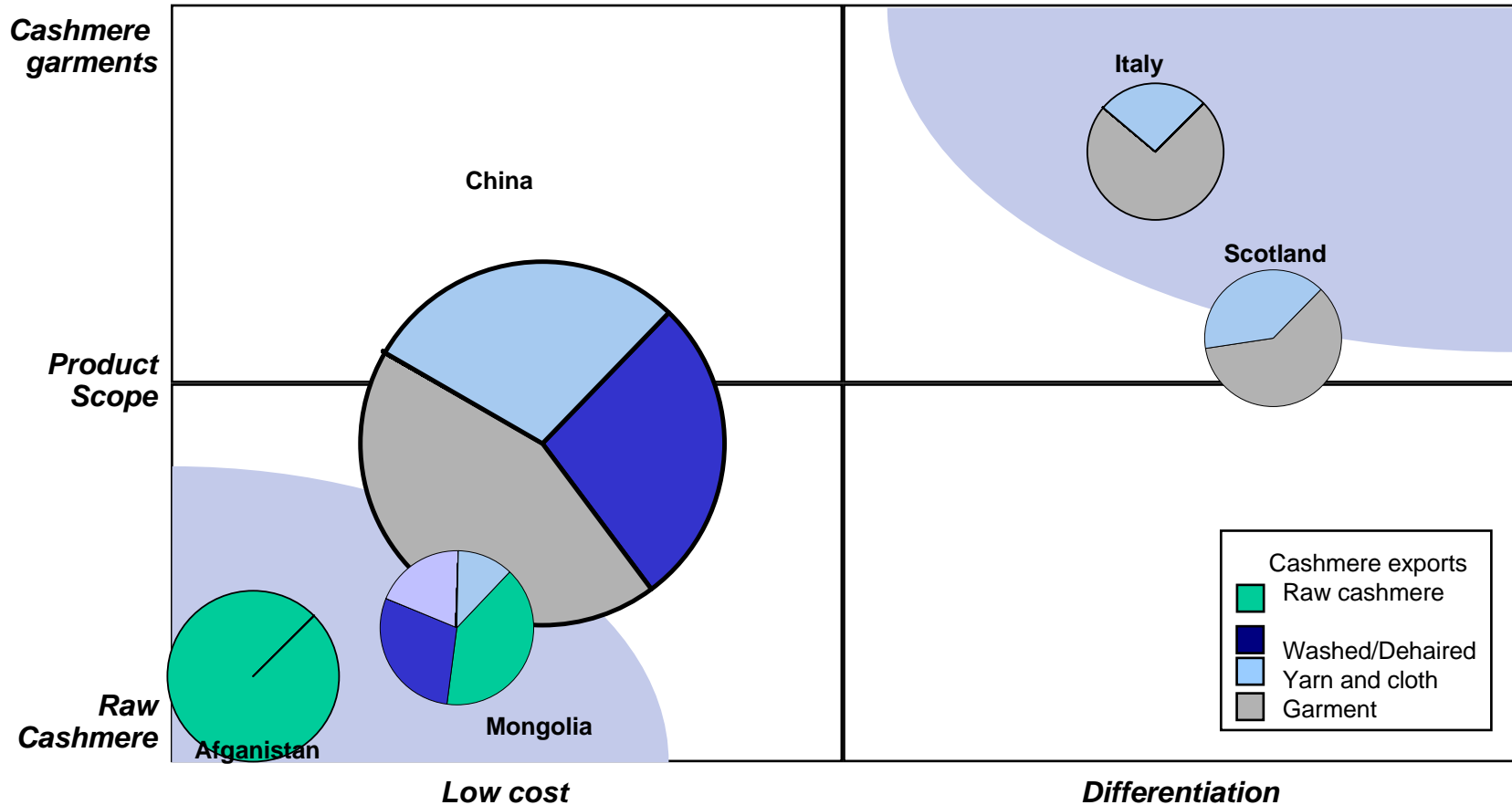
Per Unit Textiles Procurement and Manufacturing Costs, 2003

	Brazil	China	India	Italy	Korea	Turkey	US	Kaz
Raw Materials	1.49	1.99	1.42	1.85	1.63	1.63	1.43	0.9
Auxiliary Materials	0.11	0.11	0.11	0.12	0.11	0.11	0.12	0.013
Labor	0.06	0.04	0.05	0.85	0.2	0.13	0.55	0.642*
Energy	0.11	0.23	0.3	0.37	0.17	0.25	0.16	0.166
Total Costs	1.77	2.37	1.88	2.99	2.11	2.12	2.26	1.721

Source: ITMF 2003, JE Austin and CMAR interviews and analysis

Competitive Positioning: Mongolian Cashmere

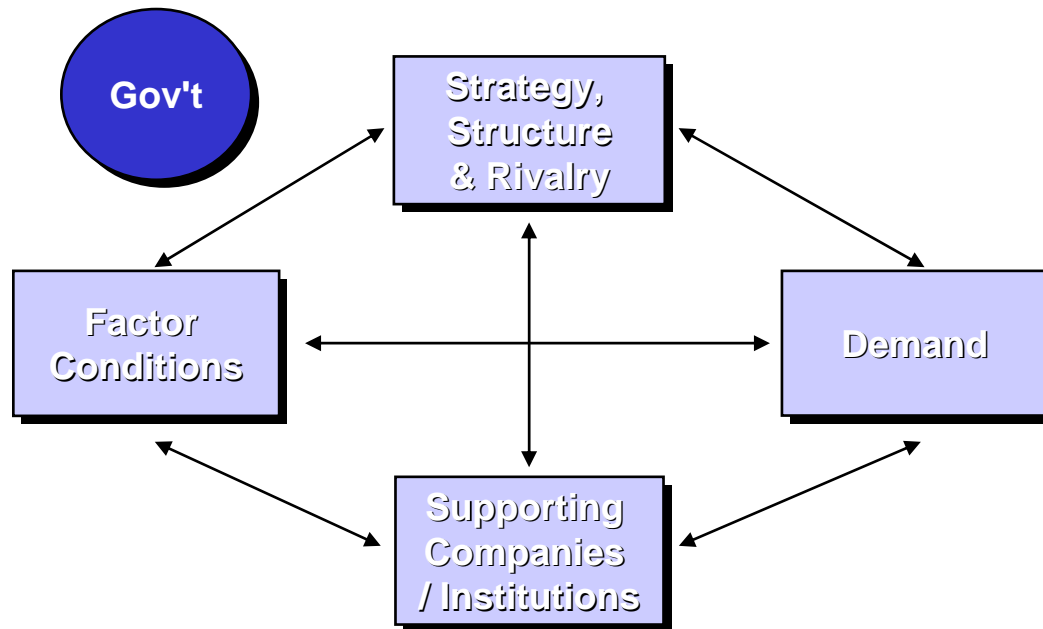
Cashmere and Cashmere Garment Exports



Mongolian cashmere is a competitive product in its raw form, but it competes in the same mass market segment as China, a bigger producer.

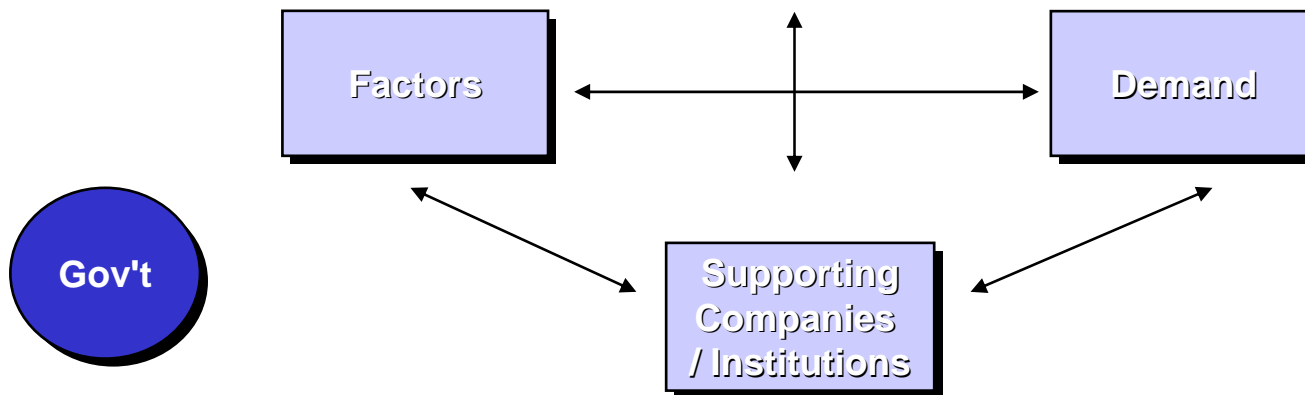
The Competitive Diamond

Source: Michael Porter



Strategy

- Does industry rivalry drive innovation?
- Are company strategies sophisticated?
- How are firms choosing to compete?
- Is strategy mainly about price?
- Does the industry cooperate to position itself better in world markets?
- How productive is the management-labor relationship?
- Is competition fair or based on influence?
- Are there parastatals and monopolies?
- Is the industry protected from international competition?
- Does company strategy in this industry tend to be reactive or proactive?
- How is quality of private-public dialogue?
- What is the strategy on distribution channels?
- E-commerce?
- Number of competing firms?
- Commodities vs. Specialized products



Examples: Uganda Coffee, DR Cigars, Sri Lanka Rubber

The way Croatian furniture used to be presented...



HRVATSKI DRVNI KLASTER
CROATIANWOOD CLUSTER



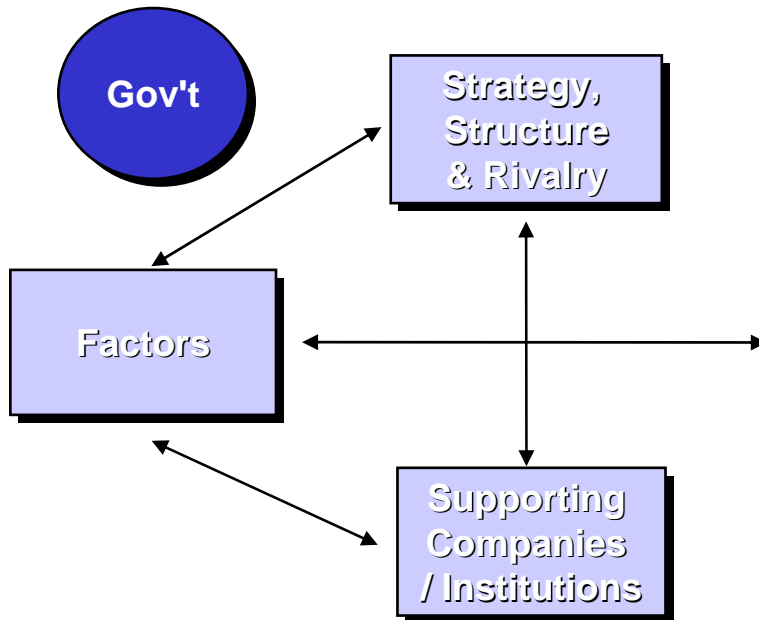




Goodwood Collection – Croatian Wood Cluster



Demand Conditions



- ⊕ How directly exposed are we to the most sophisticated and demanding consumers?
- ⊕ Do our consumers or buyers *anticipate* trends in global demand?
- ⊕ Are there sections of our local market that provide sophisticated signals?
- ⊕ Do our foreign buyers send us signals or provide feedback to monitor the pulse of change in the industry?
- ⊕ Are we selling via e-commerce?
- ⊕ Size and segmentation of local demand

Examples: Israeli Fish, Southern Rainbow

Mongolia Tourism: Operational Efficiency

Moving from this...

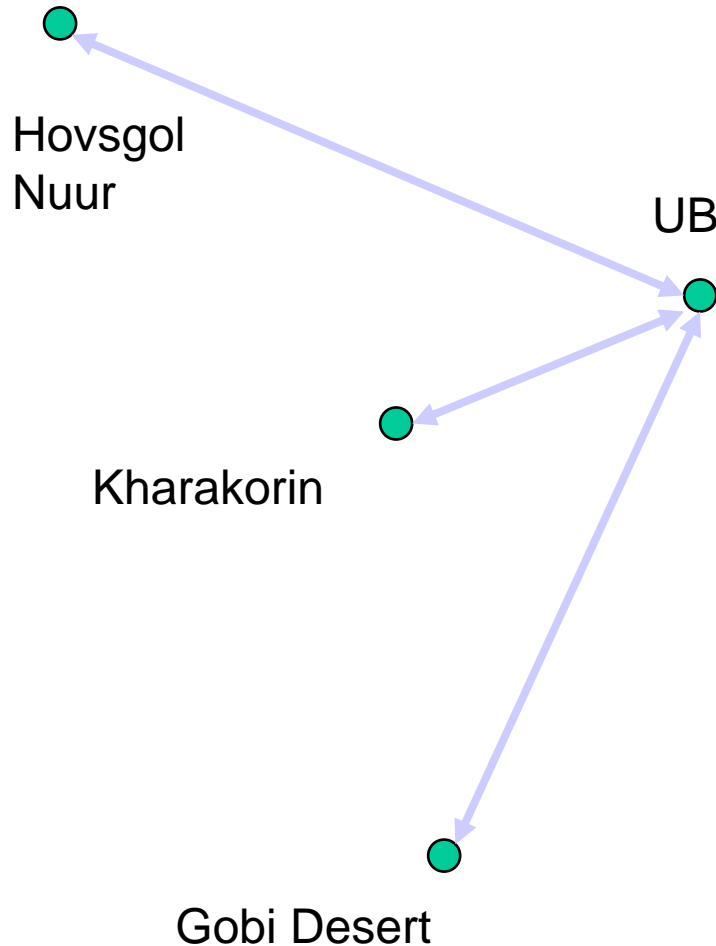


To this...



Upgrading and Streamlining Supply

Re-Routing Site Visits in Mongolia



Typical 10 Day Itinerary

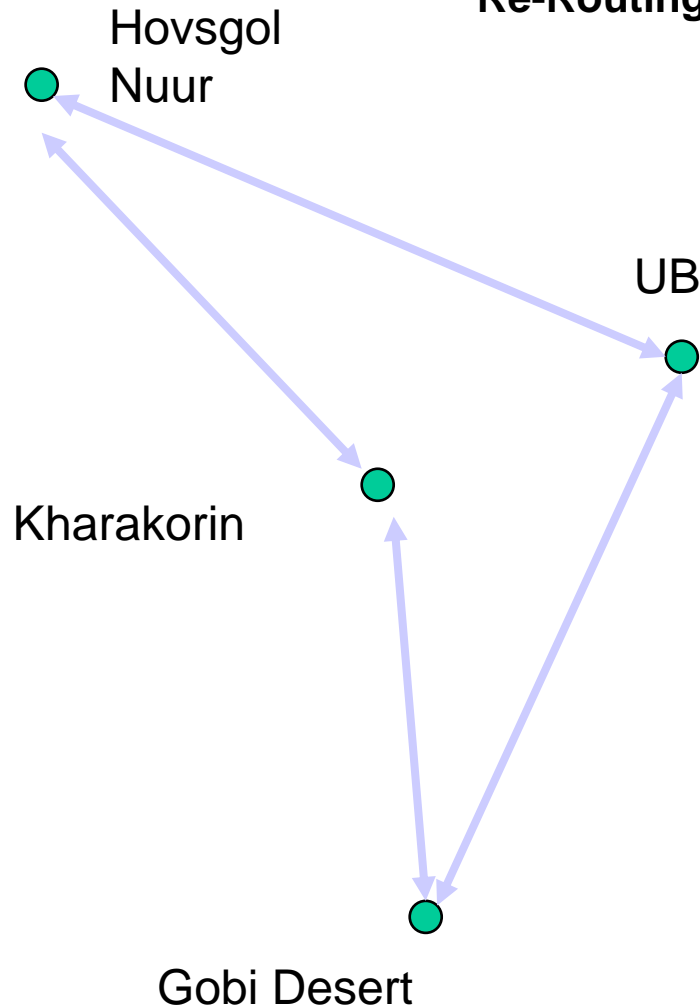
Day 1	UB
Day 2	Hovsgol
Day 3	Hovsgol
Day 4	UB
Day 5	Karakorin
Day 6	UB
Day 7	Gobi Desert
Day 8	Gobi Desert
Day 9	UB
Day 10	Departure

Vacation Days = 5

Flights = 6

Upgrading and Streamlining Supply

Re-Routing Site Visits in Mongolia



Typical 10 Day Itinerary

- Day 1 UB
- Day 2 Hovsgol
- Day 3 Hovsgol
- Day 4 Hovsgol
- Day 5 Karakorin
- Day 6 Karakorin/Gobi
- Day 7 Gobi Desert
- Day 8 Gobi Desert
- Day 9 UB
- Day 10 Departure

Vacation Days = 8

Flights = 4

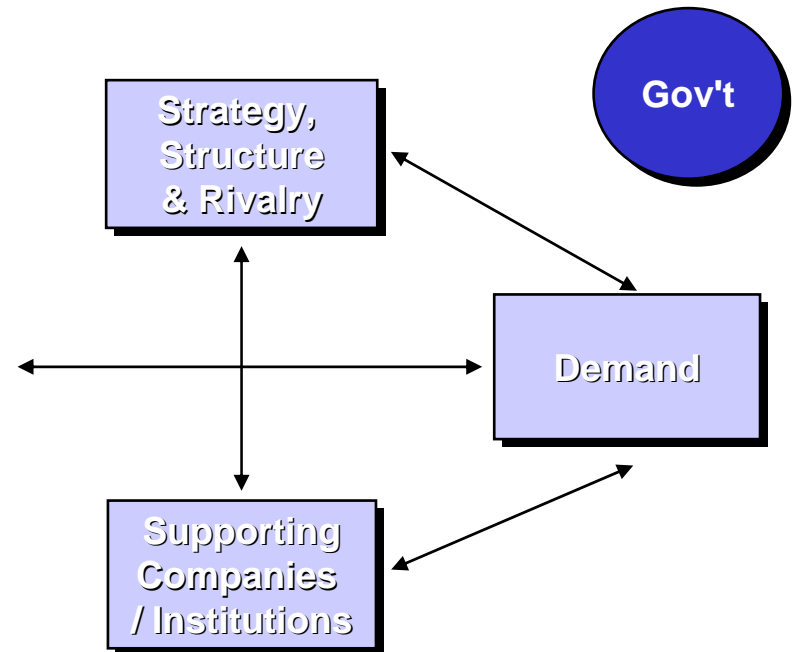
Factor Conditions

☛ To what extent is our competitive advantage based on BASIC factor conditions

- Climate
- Cost and productivity of land
- Location
- Availability of basic inputs
- Abundant or low cost labor

☛ ADVANCED factor conditions?

- Highly skilled labor force
- Efficient logistics
- Information systems
- Knowledge resources, R&D, technology
- Access to capital resources
- Infrastructure



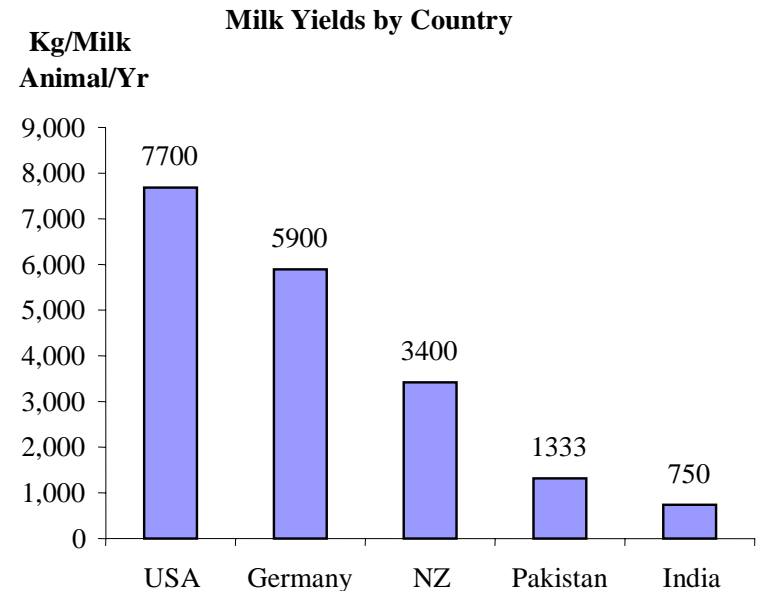
Examples: Honduran Textiles, DR Tourism, Sri Lanka Gems

Pakistan Dairy: Industry Cluster Productivity



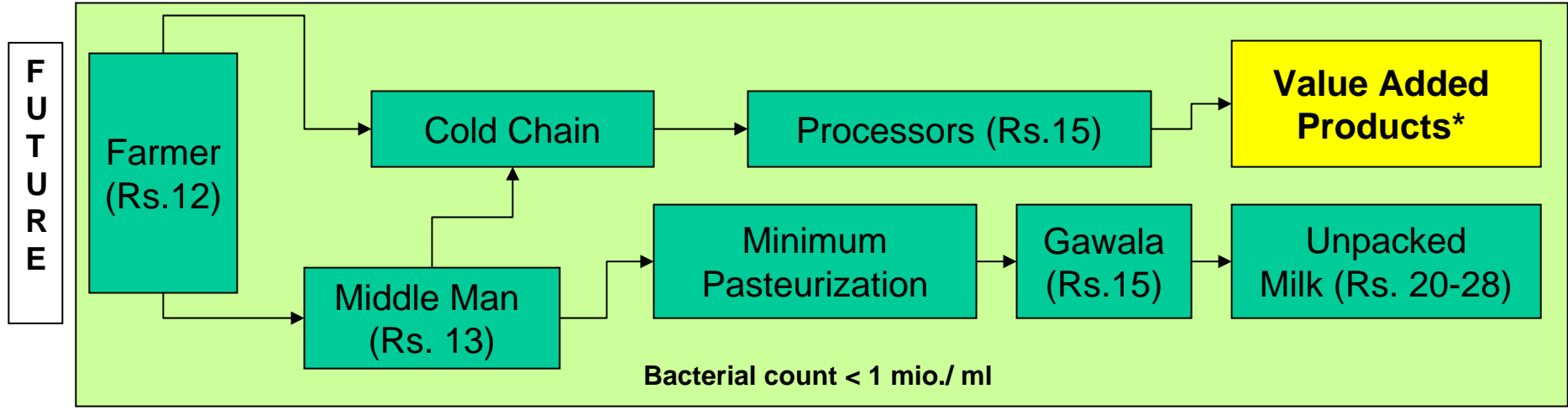
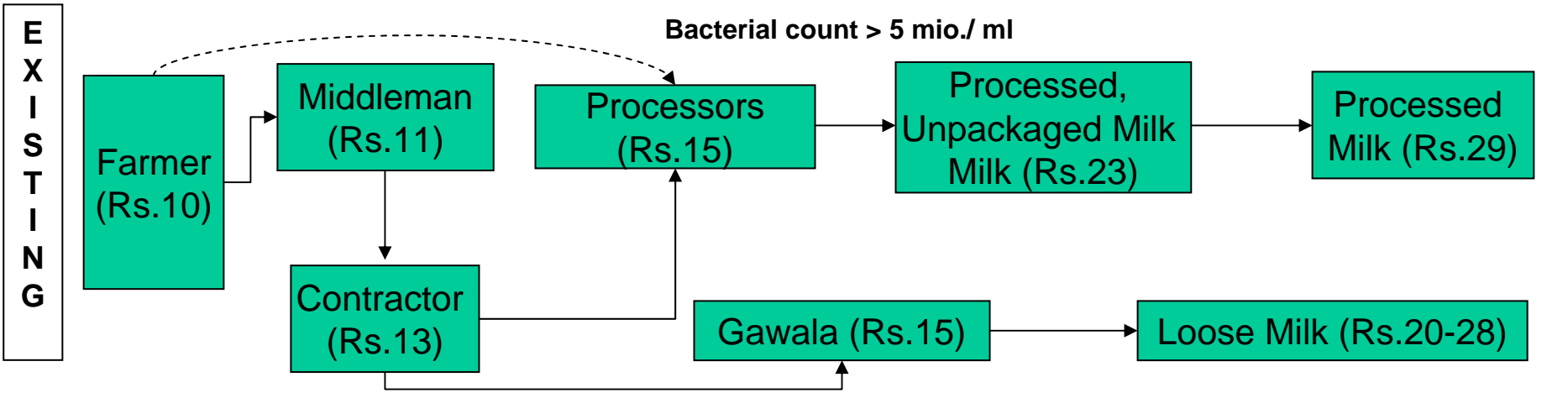
Dairy Industry in Pakistan

- Fifth largest dairy market in the world
 - 28 million tons of milk produced per year
 - 30 million farmers
 - Average consumption of ½ liter per person per day
- Industry constraints:
 - Low productivity
 - Seasonality in milk supply
 - Fragmented distribution system
 - Lack of mechanization, automation, refrigeration
 - Unhygienic handling



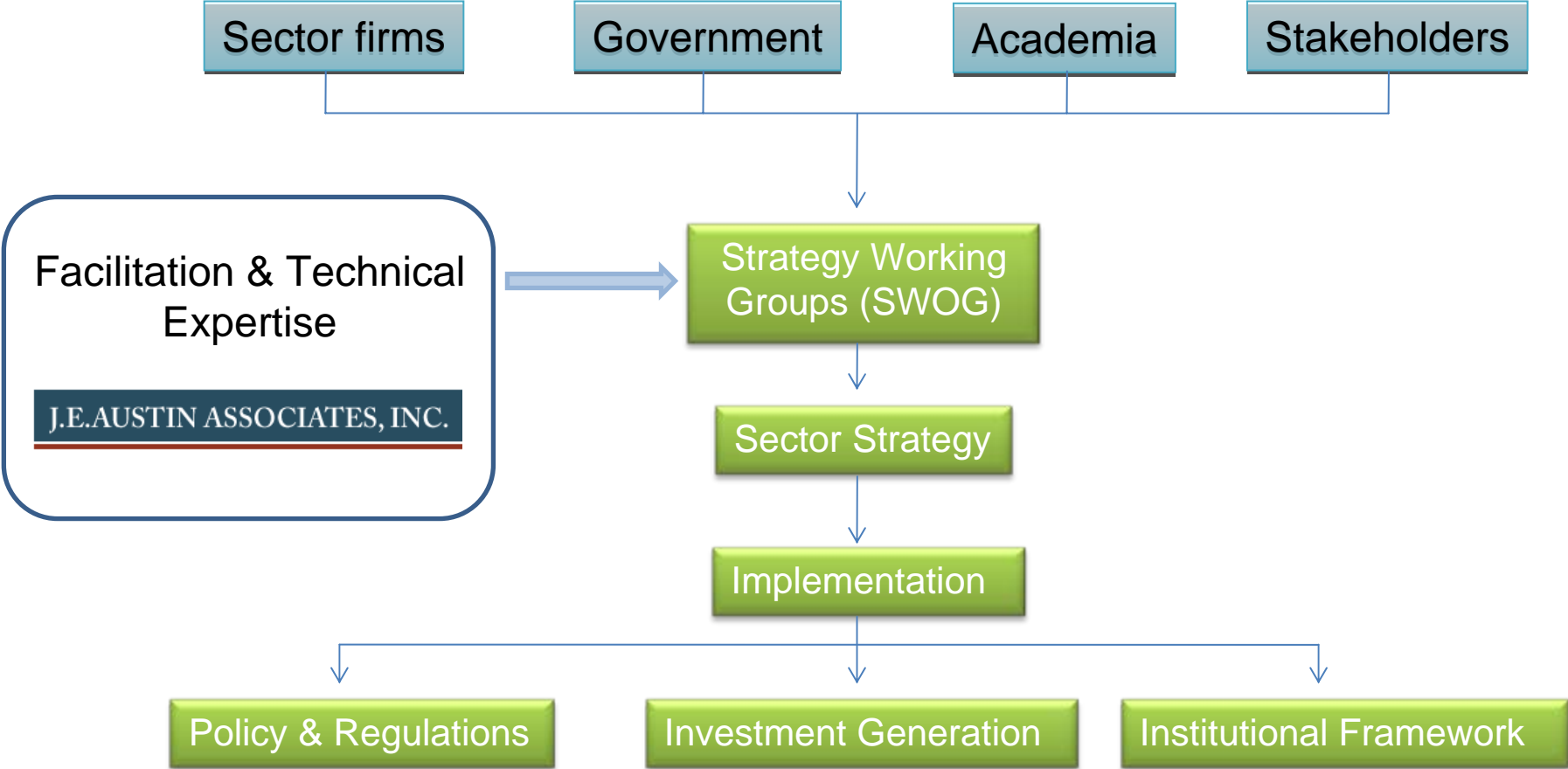
Source: IFCN, 2003.

Pakistan Milk Value Chain



* Processed milk, Ice Cream, Cheeses, Yogurt/Yogurt drinks etc.

Methodology and Work Plan for the Assignment



Dairy Farm Cooling Tanks

- The constraint: low levels of productivity/quality in the dairy value chain
 - 40% wastage
 - Unhygienic and risky milk
- The Cluster Intervention: reduced import tariffs and investment incentives (5yr interest free loan)
 - Large FCT unit cost = \$4,417
 - Full FCT Package = \$7,150 (including generator, voltage stabilizer, pump)
 - Small FCT unit (200 liters) = \$1,500 (already several hundred applications from small farmers)

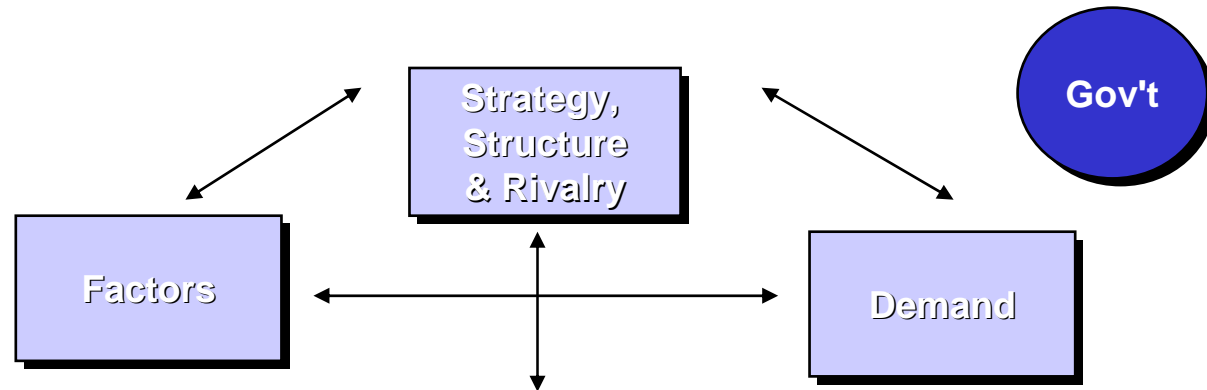


Dairy Farm Cooling Tanks

- 678 FCTs installed in the past year representing \$4.4m in investment
 - Large and medium-sized dairy companies (Nestle, Haleeb, Millac, Noon)
 - Across Punjab and Sindh
- Additional 280,000 liters per day of milk in the value chain
- Increase in price from PKR 16 to PKR 22 per liter
- Smoother, more predictable production and demand cycles
- Improved health conditions
 - Higher fat content
 - Lower bacteria count
 - Lower rates of adulteration by middlemen

	Now	2010	2015
Quality Milk Procured (Million Liters / Day)	1.76	9.08	22.6
Total No. of Cooling Tanks	1,375	7,568	17,456
Quality Milk Procurement as % of Milk Processing	65%	71%	99%

Supporting Companies and Institutions



- ⊕ Competitive and high quality suppliers?
- ⊕ Financial sector efficient and effective?
- ⊕ Business services?
- ⊕ Strong business associations?
- ⊕ Strong ties with research institutions?
- ⊕ Private-public partnership for results?
- ⊕ Quality of education and training providers
- ⊕ Standards and certifications?

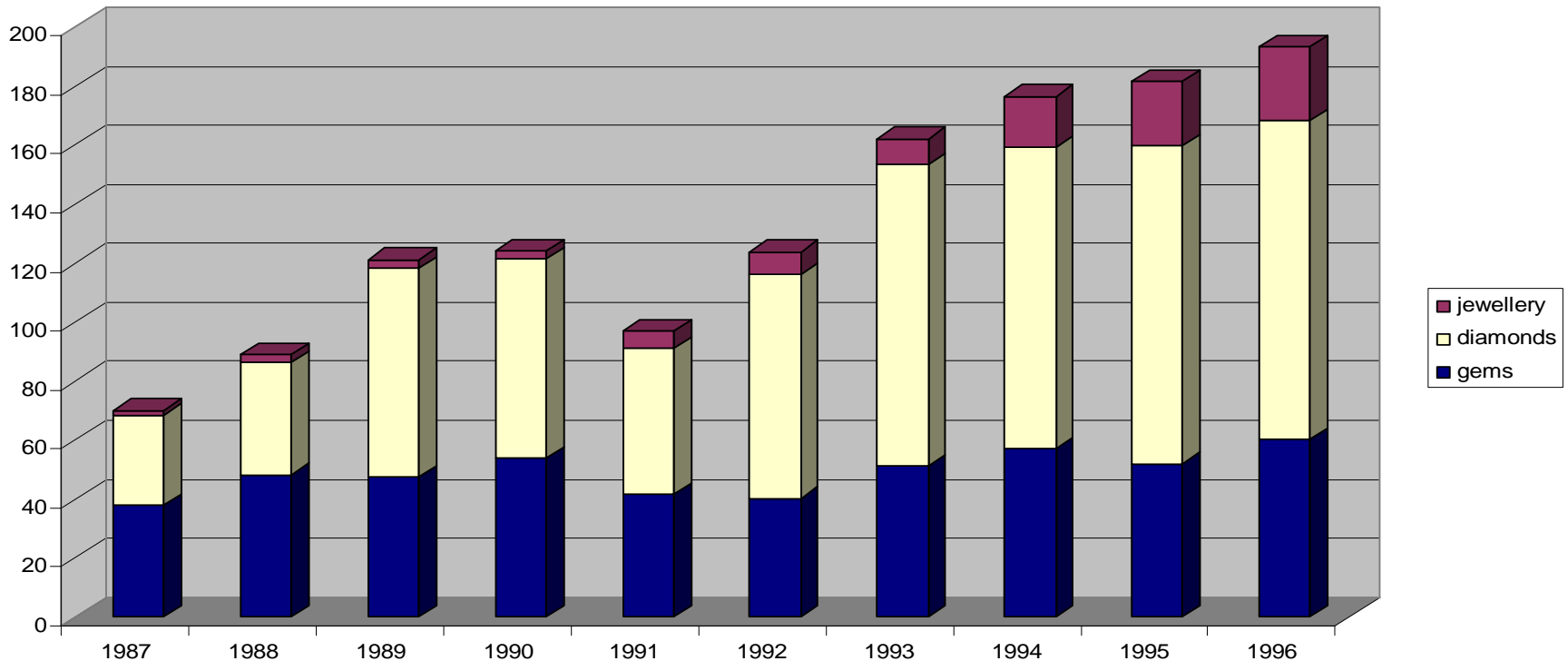
Examples: Mongolian Cashmere, Leather, Sri Lanka Tea

Sri Lanka: Exports of Gems and Jewelry

**Opportunity: Build Complex Exports
Avoid Over-Relying on Basic Factors**

Sri Lanka Exports of Gems and Jewelry

(Source: Sri Lanka Industry Statistics)



Source: Sri Lanka National Statistics

Cluster Strategy Implementation: Examples

Productivity Enhancements

- Inputs discount through joint procurement
- Development of cold chain

Market and Product Development

- Branding “Ceylon Sapphires”
- Design competition for export industry

Infrastructure and Logistics

- Improvement in travel logistics for tourists (air travel, taxis, visas, signage, etc.)

Financing

- Industry valuation training for commercial and investment bankers

Industry Standards

- Certifying product characteristics and standards for Sri Lankan latex rubber

Workforce Development

- Model farms and quarries
- IT training centers in secondary cities

Industry Organization / Support Services

- Industry Service Company ‘Dairy Pakistan’
- Research partnerships with universities

Regulatory Reforms

- Open skies regulations

مدينة المعرفة الاقتصادية
(مؤسسة الملك عبدالله لوالديه)



Enlightened by the spirit of Al Madina





Al Madina: Knowledge Economic City

Objectives:

- Catalyze knowledge-based industries in Al-Madinah Al-Mounawwarah
- Establish easily accessible alternative business district
- Enhance Al-Madinah as a tourist destination
- Create attractive environment for residents, visitors and knowledge workers

Cluster Strategies:

- **Pillars in Time**
Position Al-Madinah as the center of the Middle East for knowledge sharing and Islamic Innovation by hosting annual seminars and conferences on relevant topics to Muslims
- **Funnels and Forums**
Plan structure of city to support the transportation of worshippers in and out of the center but fosters the gathering of people at communal areas throughout the city

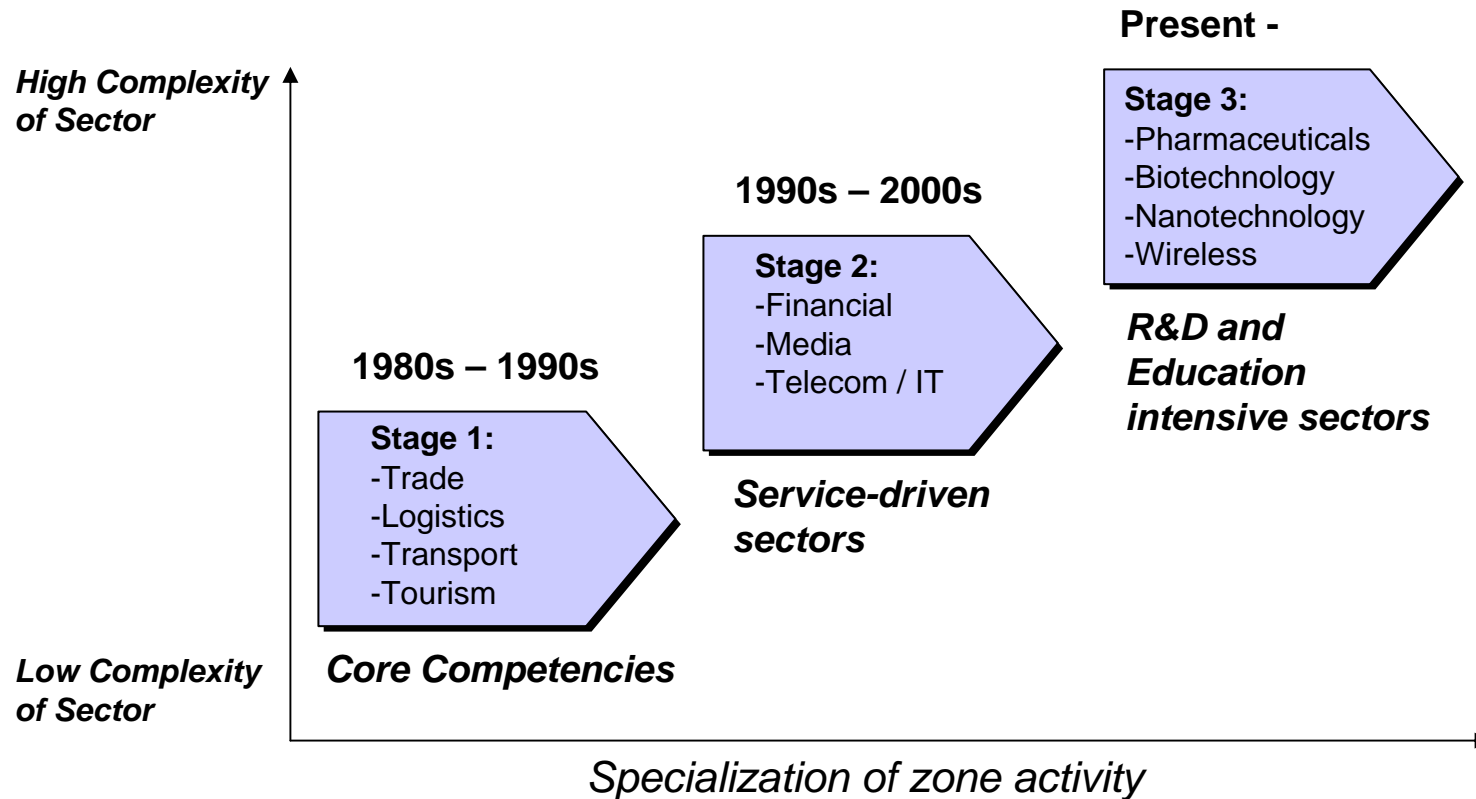
Appendix for Reference

Why Has Competitiveness Become Key Priority For Dubai?

- Dubai Strategic Plan (2015)
- Increased Costs in Dubai
- New Competitors to Dubai
- New Global Opportunities
- Globalization → Challenges
- Rapid Technological Change
- Need to Benchmark Dubai's Constraints → Timely Action



Dubai Special Economic Zone Strategy and Diversification Timeline



Source: Adapted from Santosh Hejmadi, "Best Practices in Public Free Zones: Dubai Technology and Media Free Zone"

Dubai: Overall strategy for success

- **Set the stage:** Build infrastructure (roads, ports, airports, water, electricity)
- **Create the right conditions:** Free Zones as institutional structure for parallel economy to attract foreign participation while still maintaining high degree of control both inside and outside the zones
- **Learn from the world:** Business missions to US, Europe and Japan to attract investors (beginning in 1987, first business mission to US)
- **“Invest first in what we do best”:** Capitalize on trading tradition and geographical position for transportation and logistics, then move to light manufacturing and assembly, and then upgrade to more technology oriented industries and services
- **Build internationally recognized management expertise:** Created another entity (Economic Zones World) to export its expertise in free zone development and management to other parts of the world. Projects under discussion: Pakistan, India, Oman, South Korea and Morocco
 - JAFZA International already manages free zones in Djibouti, Malaysia and Morocco

Source: JAA analysis informed by Santosh Hejmadi, “Best Practices in Public Free Zones: Dubai Technology and Media Free Zone”

Clusters and Value Chains: What's the difference?

Value Chains

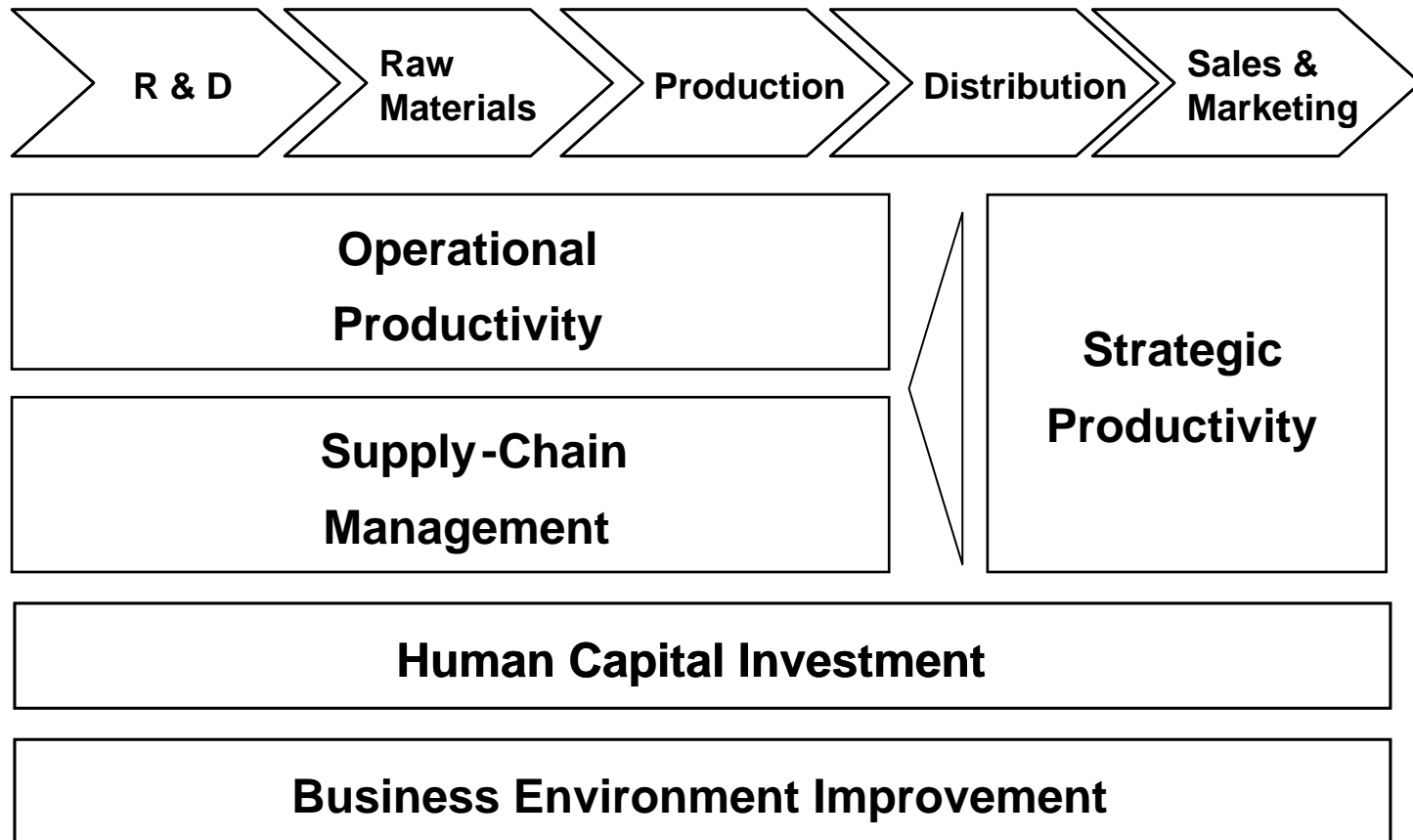
- **Linear** approach
- Can **span multiple geographies**
- **Transaction-oriented**
- Seeking to increase **operational productivity and transactional efficiency** of the chain
- Specific **bottlenecks in supply chains**
 - Regulatory
 - Production
 - Transportation and distribution
 - Activity-based financing

Clusters

- **Systemic** approach
- Typically **geographically centered**
- **Collaborative**
- **Strategic**
- Seeking to solve **coordination and information failures**:
 - Policy reforms
 - Infrastructure
 - Industry organization and strategy
 - Establishment and monitoring of industry standards
 - Engagement with related and supporting industries
 - Universities and institutes for collaboration

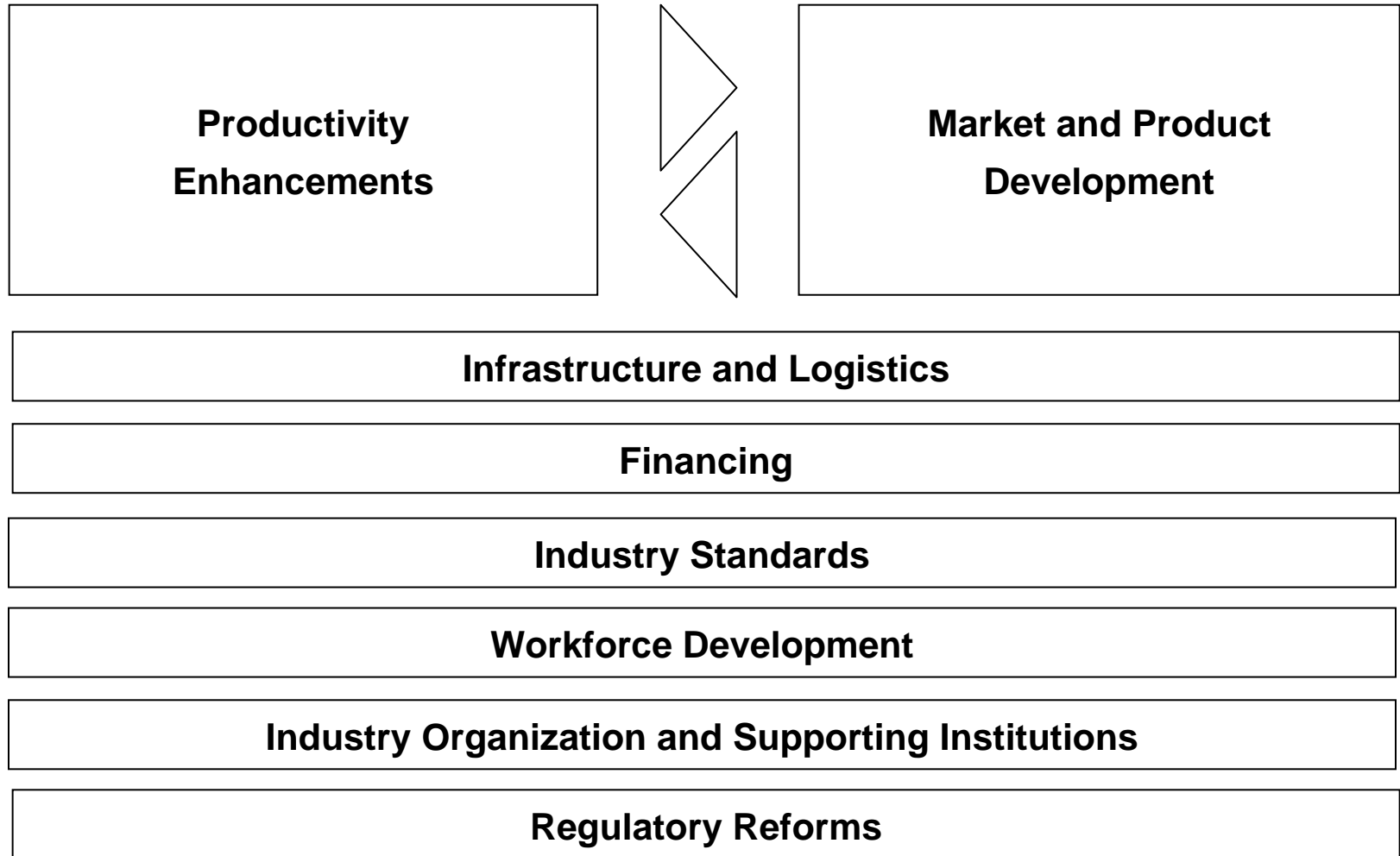
Source: JE Austin, 2007

The chain of activities can be a useful framework for understanding productivity and value addition



Source: JE Austin, 2006

Industry Strategy Framework



Source: JE Austin Associates, 2008

What is an industry cluster strategy?

Strategies...

- Benefit more than one firm in the cluster
- Increase productivity and efficiency of the Supply Chain
- Increase supply of skilled labor and technology
- Expand Local Supplier Base
- Pursue opportunities that are above the capabilities of just one firm
 - Coordination across the Supply Chain
 - Collective Investment
 - Support from Outside

Source: JE Austin Associates and material from Michael Porter, *Microeconomics of Competitiveness*, HBS, 2004

Understanding Market Demand

- Japanese box lunches in Mongolia
- Croatia: cuisine tourism and authentic cultural tourism
- Colombian Cut Flowers
 - Customer Knowledge → Forward integration:
 - Service features to Supermarkets
 - Created value for supermarkets
 - Fresher flowers on arrival led to improved rotation
 - Understanding the drivers of profitability of your customers is key (return on space)

Cluster Development: Results

- Demand from industries for competitive strategies
- Extensive dialogue is underway
- Sound data and analysis form the basis for dialogue
- Private and public champions emerge
- “Mindset” beginning to change
- Change process is underway
- A clear, shared vision
- Clear opportunities for action
- Opportunities for donor coordination

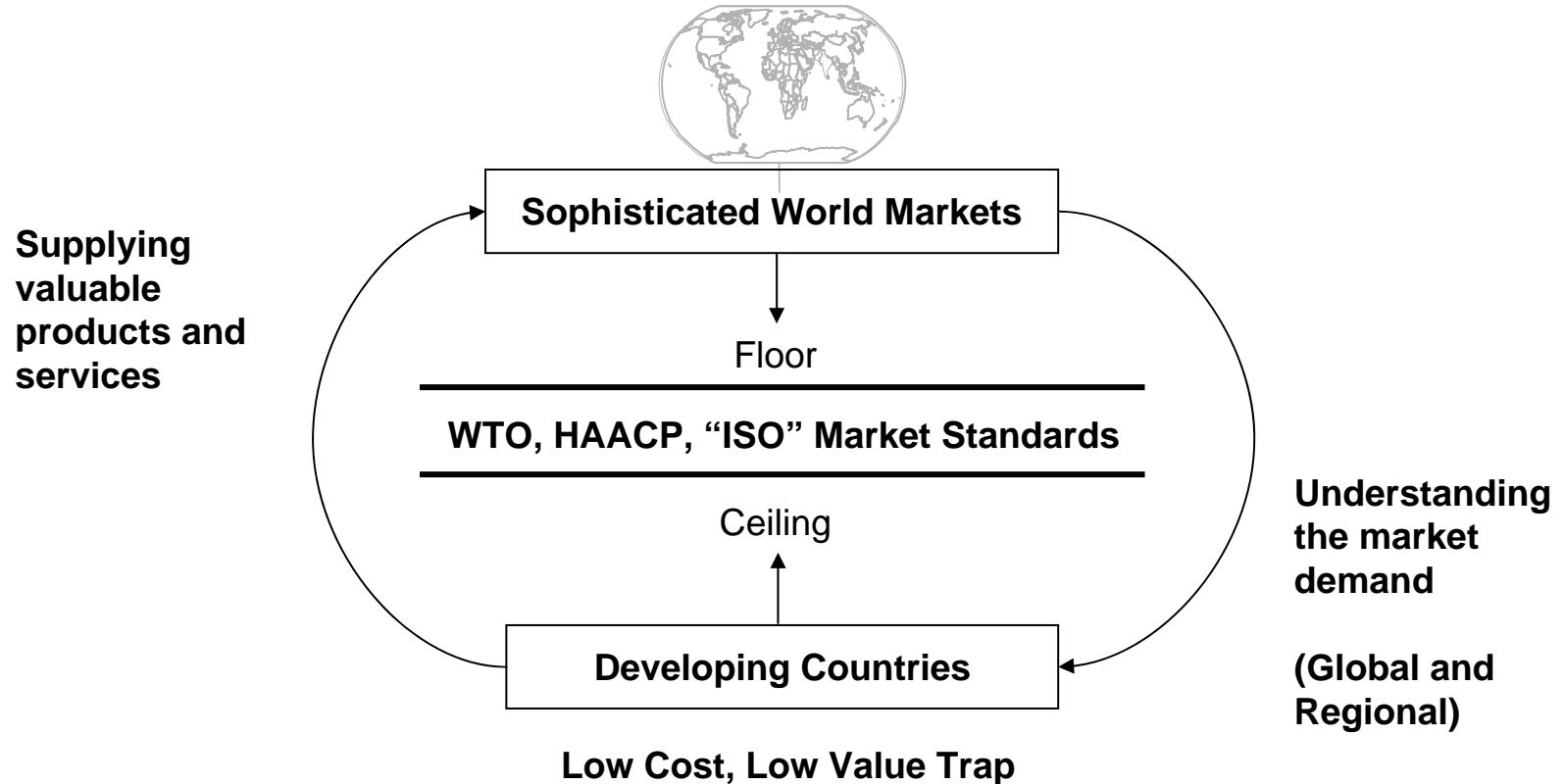
Upgrading and Streamlining Supply

BanCafe: Building a Premiere Coffee Business in Uganda

- Identified best forms and highest quality (Arabica) coffee
 - Imported high quality roasting equipment
 - Used excellent packaging for freshness and branding
- Created high growth in national demand

Building Industry Competitiveness

Penetrating and competing on world markets requires firms and industry clusters to understand the market demand and supplying products with unique value to the market



How are companies successfully penetrating international markets?