

DEVELOPING ALTERNATIVES

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COMPETITIVENESS

That Obscure
Object of Desire

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Since 1970, DAI has been exploring alternative paths to development. DAI generates ideas through research, shares these ideas with the development community through publications, and tests the ideas in the crucible of development projects.

Developing Alternatives provides a forum for DAI's professional staff and collaborators to expose their ideas to a wider audience. Articles treat policy issues of topical interest and aim at promoting broad discussion.

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THE TAO OF COMPETITIVENESS

by Ulrich F.W. Ernst

Pundits have declared “competitiveness” the buzzword of the 1990s (although “globalization” may have the edge). In fact, the competitiveness buzz started earlier, to the point that by 1987 people in the know in Washington, D.C., coyly referred to it only as the “c-word” because *hoi polloi* had started using it. Rebuilding America’s competitiveness, supposedly threatened by the performance of the Pacific Rim countries, actually dominated the legislative agenda dealing with economic growth in the mid- to late-1980s.

In 1990, Michael Porter followed his influential management tomes on competitive strategy and competitive advantage with *The Competitive Advantage of Nations*, which presented the results of a cross-country study demonstrating that competitive advantage in (not of) nations tended to be concentrated geographically in regional clusters. More than a decade later, efforts to promote competitive clusters at both the national and the regional levels form an important part of development and investment policies in many countries. Even so, many skeptics in the development community see competitiveness as just another “miracle cure” destined to go the way of the other “elixirs” that William Easterly skewered in *The Elusive Quest for Growth*.

Competitiveness Is Not Optional

Overuse (and sometimes abuse) of the term, however, does not make competitiveness any less important to business and government. In a market environment, any firm must be competitive to survive. Unless financiers are willing to sustain chronic losses, or protection or outright subsidies make others—consumers or taxpayers—pay for poor performance, the firm must be at least as efficient as its competitors to stay in business. It must be able to meet competitive standards of productivity—that

is, the efficiency with which it converts resources into value for customers. For countries, achieving prosperity and eradicating poverty remain elusive goals without competitive performance at all levels. Governments therefore have a fundamental obligation to create the environment and provide the support for competitive performance to flourish.

At the level of the firm, competitive strategy of course is not so much concerned with staying level with competitors but with creating superior value for the firm and achieving competitive advantage. Competitive advantage means doing better than your competitors. A firm builds competitive advantage by offering customers goods and services that are better or cheaper—or at least perceived to be—than those offered by its competitors, in existing or new markets. Because competitors do not stand still, sustained competitive advantage depends on the firm’s capacity to maintain a swift and steady pace of innovation.

The essence of innovation—the process of searching for, discovering, developing, imitating, adapting, and adopting new products, new processes, and new organizational set-ups—is the economic utilization of new technologies to raise returns to all factors of production. The firm may be able to capture increased value through forward integration—that is, gaining control over the downstream portion of its value chain. It may be able to add features to its product or service without a commensurate increase in costs. New technologies or organizational structures, such as integrating backward or changing the rules for interacting with suppliers, may contribute to lowering costs without affecting quality. New marketing techniques may succeed in expanding the market, allowing the firm to reap the benefits of scale economies. The voluminous management literature on creating and sustaining competitive advan-

tage in a dynamic context covers the full range of options.

The Innovation Machine

Competitive performance for the firm, however, cannot be seen in isolation. In real life, competitive advantage depends not only on the firm itself but also on the quality and cost of the goods and services it uses in the production process, including the services of its work force. Sustained competitive advantage is ultimately the result of constant innovation throughout the value chain. And innovation is not a solitary activity. Successful innovators are parts of well-connected and active networks in terms of vertical linkages, with both suppliers and customers as sources of ideas, and in terms of lateral linkages to competitors. In fact, the OECD defines industrial clusters as innovation networks that link enterprises, knowledge producers, market intermediaries, and customers.

This definition actually fails to give adequate weight to the role of cooperation and competition with like firms—that is, rivals. William Baumol has stressed the importance of lateral linkages as drivers of innovation in his recent book, *The Free-Market Innovation Machine*. The role of competition is obvious: the rewards of doing better than your competitors are a powerful incentive. The importance of cooperation among competitors is often less well understood, but the evidence is mounting that the exchange of knowledge among rivals accelerates the pace of innovation. These spillovers, or “leaks” in Easterly’s phrase, greatly lower the transaction costs for all participants. In fact, constraints on such forms of cooperation may be detrimental to competitive performance. In *Reinventing the Bazaar*, John McMillan cites the culture of sharing as a reason why Silicon Valley beat out Route 128 in Massachusetts to become the high-tech hub—a culture fostered by California law that prohibits non-compete covenants in employment, whereas Massachusetts enforces such covenants. In low-trust environments, cooperation among competitors is often regarded with suspicion. If it does take hold, it often diminishes competition (and its incentives), because cooperation turns into collusion.

What Role for Government?

Government intervention in the economy is often cloaked in competitiveness concerns—to correct market failures. For example, old-style industrial policies with favorable treatment for favored industries, usually at the expense of the rest of the economy, are thought to be more respectable if they masquerade as new competitiveness policies. Similarly, many policy initiatives ostensibly in support of the development of competitive industrial clusters are little more than efforts to force the creation or growth of a particular industry. Unless minimum conditions in terms of critical mass, competitive orientation, and commitment to a strategic balance between competition and cooperation—what Nalebuff and Brandenburger have called “co-opetition”—are met, efforts are bound to be wasted. Michael Enright, who directed the research study that led to *The Competitive Advantage of Nations*, has referred to the objects of such well-meaning but ultimately misguided initiatives as “policy-driven” or “wishful thinking” clusters. Not every town, province, region, or country is destined to become a world leader in information technology, high-tech equipment, or bio sciences—although even a cursory search turns up dozens of examples of cluster initiatives in these fields by government agencies as well as nongovernmental organizations.

In an effort to distance themselves from such failed policy approaches, cluster proponents have stressed the need for neutral policies—to support the development of clusters but not of specific clusters. That posture may blunt the criticism, but it begs the issue. Virtually anything government does affects different clusters differently, whatever the stage of their development or their prospects for competitive performance. Provisions in the tax system, for example, with respect to depreciation or transfer pricing, competition policy, privatization strategies, and other “general” policy structures matter greatly in shaping the real business environment for particular clusters.

Moreover, government also is typically a major player as a supplier of specialized services, such as skills development, research and development

support, and infrastructure services. How resources are allocated across different clusters (and regions) shapes competitiveness conditions. To leverage these investments most effectively, the government needs criteria to determine whether actions improve the productivity of industries rather than keep uncompetitive industries alive artificially. Setting clear priorities for support is not the same as “picking winners” and then doing everything to justify the initial pick beyond all economic rationale.

Support to cluster formation and development requires a light touch and flexibility. Governments that have succeeded in supporting the emergence of competitive clusters, whether at the national or the local level, have acted as catalysts in support of cluster development initiatives and have sought to complement, rather than supplant, private sector efforts to improve conditions for competitive performance. In a market environment, policies to stimulate innovation and build competitiveness need to focus on strengthening linkages and markets. Government can play a crucial role, not just by removing constraints but also by encouraging and facilitating interaction among the elements of innovation networks.

Three Decades of Support For Building Competitiveness

Almost by definition, any support for economic development aims at promoting competitive performance and creating competitive advantage. Over more than three decades, DAI has been actively engaged in helping firms and industries improve their competitive performance, in strengthening market linkages and innovation networks, and in assisting governments in creating a policy environment that fosters competitiveness throughout the economy. At the firm level, the scope of our support has ranged from the smallest microenterprise to large enterprises and industries competing directly in world markets. Building market linkages has been a particular focus of our work in the former socialist countries, where forced vertical integration has given way to emerging small-firm networks where efficient interaction has been hampered by low trust and weak market institutions. At the policy level, we

have advised governments at both the national and the local levels on the most effective steps to create an environment that nurtures the emergence of competitive industrial clusters. For the economy as a whole, our work has stressed the importance of structural reform in tax and trade policies, deregulation, and the rule of law. At the local level, we have worked with stakeholders in both the public and the private sectors to design and implement approaches to creating competitive advantage regionally.

The articles in this issue of *Developing Alternatives* distill key lessons from that experience. They stress common themes in providing support for efforts to build competitiveness in transition economies and developing countries at different geographic and economic levels. In preparing this issue, we have reached beyond DAI to bring other perspectives to bear on these questions. The article by Raphael Kaplinsky and Michael Morris draws on their extensive work on value chains in developing countries to highlight the critical role of governance structures in reducing transaction costs and fostering systemic competitiveness. Jörg Meyer-Stamer, who pioneered the Participatory Appraisal of Competitive Advantage tool for launching and focusing local economic development initiatives, reflects on options to encourage cooperation among competitors in a low-trust environment. My own article examines the continuing debate over national competitiveness and explores its relevance for the design and implementation of structural policy reform. James Packard Winkler outlines some approaches DAI has been using to support the development of competitive clusters. Finally, Kenneth Swanberg details approaches to forging competitive strategies for firms in less-than-supportive policy environments.

Common to all of the articles in this issue is the notion that achieving competitiveness is not a one-time event. It is a continuing process, a way of seeking a better future for individual firms, industries, local communities, and national economies. The Tao of competitiveness is not another magical elixir for development but an imperative for entrepreneurs, managers, and policy makers at all levels. ♦

THE PURSUIT OF COUNTRY COMPETITIVENESS: PANACEA OR “DANGEROUS OBSESSION”?

by Ulrich F.W. Ernst

*What does it mean? I was delighted with it,
upon the Common Principle of delight
in every Thing We cannot understand.*

—John Adams, on the new term “ideology”

Policy makers in transition economies and developing countries, as well as officials of donor agencies, have embraced “competitiveness” as the new Holy Grail, as William Easterly puts it in *The Elusive Quest for Growth*. The criteria used in cross-country comparisons of competitiveness feature prominently among the eligibility criteria for support under the Millennium Challenge Account. Yet there also is a widespread sense we are looking at yet another development fad, bound to raise unrealistic expectations and thwarted aspirations. The argument here is that indicators of competitiveness, as used in cross-country comparisons, can be a useful tool for the strategic management of structural reforms aimed at improving a country’s investment climate.

Competitiveness as applied to a country is an elusive yet enduring issue that has often dominated the economic policy debate in both developed and emerging economies. In the United States, the 1980s saw a surge of books and articles arguing that the country was losing its competitive edge and thereby the “economic race.” In 1992, several of the more alarmist pundits went on to occupy key positions in the incoming Clinton administration, with President Clinton himself articulating the view that each country is “like a big corporation competing in the global marketplace.”

In a 1994 article in *Foreign Affairs*, “Competitiveness—A Dangerous Obsession,” Paul Krugman questioned whether competitiveness at the level of

an economy was actually a legitimate policy concern. A focus on competitiveness meant viewing the world economy as an arena for competition, a perspective that could skew domestic policies and threaten the international economic system. He concluded that—in the economic realm, at least—competitiveness was no more than a poetic way of saying productivity. In dissecting the arguments for a national competitiveness policy, Krugman found that proponents of intervention often engaged in highly creative uses of statistics—or what he tactfully described as “careless arithmetic.”

Krugman’s article triggered a lively and sometimes acrimonious (at least by academic standards) debate in the pages of *Foreign Affairs* and elsewhere. The heat of the argument over U.S. competitiveness—or lack thereof—may have subsided, reflecting in part the dismal economic performance of Japan and Europe since the early 1990s. Yet fretting about competitiveness remains a popular pastime.

In 1999, for example, the U.S. Council on Competitiveness—often touted as a model for national competitiveness councils in developing countries and transition economies—released a study by Michael Porter and Scott Stern that looked at the factors shaping innovative performance across countries.¹ The study focused on the number of international patents, actually more a measure of inventive than innovative activity, as the key criterion for ranking country performance. Porter and Stern then assessed the relative contribution of different factors, such as national spending on research and development, to this measure. Using the regression coefficients for these causal factors as weights, they proceeded to project innovative performance for a group of countries. The results led them to

¹ *The New Challenge to America’s Prosperity: Findings from the Innovation Index*. Washington, D.C., March 1999.

predict that the current leadership of the United States was in jeopardy and that it would slip from first among 17 OECD countries in 1995 to sixth by 2005 unless action was taken now to upgrade the “fundamentals of innovative capacity.”

On the other side of the Atlantic, the European Union has attributed the sluggish performance of its major economies in recent years to a lack of competitiveness rather than lingering structural rigidities. In 2000, the Lisbon Summit adopted a program to make the European Union “the most competitive and dynamic knowledge-based economy in the world by 2010, capable of sustainable economic growth, with more and better jobs and greater social cohesion.” Alas, a recent review by the World Economic Forum² concluded that the average E.U. economy received worse ratings than the United States and the other OECD economies in all aspects of the Lisbon Strategy except “social inclusion.”

The quest for national competitiveness goes on. After all, nobody can be in favor of being uncompetitive. Yet exactly what constitutes competitiveness at the level of nations? Concepts and definitions abound.

Which Flavor Competitiveness?

Most, although by no means all, commentators agree on what national competitiveness is not—more exports, a greater trade surplus, a strong currency, or artificial and unsustainable price advantages in international markets because of systematic undervaluation of the currency. But views on what competitiveness is cover a wide range and often lack clarity and precision. For example, according to Stephen Cohen, in his “Reply to Krugman,” the competitiveness approach has been to pose sensible questions: “How are we doing as an economy?”

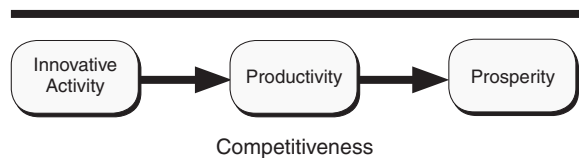
“How are we doing compared with the other guys?” But he proposes an unspecified “broad set of indicators” for answering these questions:

Competitiveness [is] a reconsideration of a broad set of indicators, none of which tells the whole story, but which together, like the pixels on a flat panel display of the sort American producers have so much trouble producing competitively, provide the eye with an intelligible picture, and a very legitimate focus.³

Similarly, Michael Porter offers a definition of what determines competitiveness, although not necessarily what it is:

Competitiveness is determined by the productivity with which a nation, region, or cluster uses its human, capital, and natural resources. Productivity sets a nation’s or region’s standard of living (wages, returns on capital, returns on natural resources).⁴

That definition, which stands for many, would be in line with Krugman’s contention that competitiveness is a more or less poetic way of saying “productivity”—that is, the ratio between the value of goods and services produced and the total value of resources used in the respective value chain. In fact, Porter reinforces that notion by showing productivity (“competitiveness”) as the link between innovative capacity and prosperity:



Current interpretations of national competitiveness tend to focus on the business environment that provides the foundation for competitive performance of businesses in the global marketplace, both at home and abroad. In that sense, competitiveness is under-

² World Economic Forum. *The Lisbon Review 2002-2003: An Assessment of Policies and Reforms in Europe*. Geneva, 2002.

³ Published by the Berkeley Roundtable on the International Economy, July 1994; an abbreviated version was included under the title “Speaking Freely” in the *Competitiveness* reader published by *Foreign Affairs* (*Foreign Affairs*, 1994, pp. 27-30).

⁴ Porter, Michael. “Microeconomics of Competitiveness—Learnings about Process.” Presentation at the Inter-American Development Bank, Washington, D.C., November 18, 2002, Slide #5.

POLICY MAKERS IN TRANSITION ECONOMIES AND DEVELOPING COUNTRIES, AS WELL AS OFFICIALS OF DONOR AGENCIES, HAVE EMBRACED “COMPETITIVENESS” AS THE NEW HOLY GRAIL.

stood in terms of both productivity of resources and the ability to attract resources. Porter characterizes this aspect as “[n]ations or regions compete in offering the most productive environment for business.”

A recent study of cluster-related competitiveness issues in Finland elaborates on this approach to defining competitiveness:

Regional competitiveness is the ability of regions to foster, attract and support economic activity so that its citizens enjoy relatively good economic welfare. Competitive regions have built a production environment with high accessibility that perpetuates and attracts mobile production factors, and results in fostering the economy. These mobile factors include skilled labour, innovative entrepreneurs and footloose capital. Success in attracting these factors creates external economies, such as agglomeration and localisation benefits, that further enhance the economic fortune of a region.⁵

The degree of national (or regional) competitiveness in that sense refers to productivity levels and trends for all factors of production—and therefore returns, and expectations of returns, to their owners—relative to those for other countries or regions. More competitive countries, regions, or cities offer higher returns and therefore attract more resources. Achieving and maintaining competitive productivity levels depend on the ability to innovate—that is, to develop and apply new knowledge and technologies. Competitiveness ultimately translates into lower transaction costs for innovative activity to raise productivity. These costs occur in the generation of knowledge, in its acquisition and dissemination, and in the appropriation of its economic benefits by pioneering entrepreneurs. That view of

competitiveness links it closely to the quality of the business environment.

In that sense, the real driver of growth is a country’s or region’s investment climate. The returns entrepreneurs, workers, and researchers can expect on investments in capital, skills, and knowledge are the difference between poverty and prosperity. Financial capital is part of the equation, but the engagement of foreign as well as domestic investors is a consequence of competitiveness, not the source (although the knowledge capital associated with outside investments can raise competitiveness). How investors view a country’s business environment therefore becomes a central concern for structural reform efforts. The increasingly popular endeavors to rank the “competitiveness” of countries offer a rich lode of information for assessing different dimensions of the business environment or investment climate.

Ranking Business Environments

The web site of the Foreign Investment Advisory Service of the International Finance Corporation (www.fias.net/investment_climate.html) contains links to some 20 comparative rankings and ratings of countries according to various aspects of their investment climate. These rankings include:

- *Institutional Investor’s* Country Credit Ratings
- *The World Competitiveness Yearbook*
- *The Global Competitiveness Report*
- Sovereign ratings lists by ratings agencies such as Standard and Poor’s, Moody’s, and Fitch
- The Fraser Institute’s Index of Economic Freedom

In addition, other financial institutions, including export credit agencies, also prepare their own

⁵ Huovari, Janne, Aki Kangasharju, and Aku Alanen. “Constructing an Index for Regional Competitiveness.” Pellervo Economic Research Institute Working Paper No. 44, Helsinki, June 2001, p. 1.

ratings of the business environment as it affects lending risks.

The competitiveness rankings across countries that have attracted the most attention are the *Global Competitiveness Report* of the World Economic Forum and the *World Competitiveness Yearbook* compiled by the International Institute for Management Development. The *World Competitiveness Yearbook* (2001 edition) uses 286 criteria (118 “hard” criteria used in rankings, 62 “hard” criteria used for background information, and 106 criteria from survey data) to rank 49 countries, including 30 OECD members and 19 newly emerging and transition economies. The *Global Competitiveness Report* covers a broader range of countries (80 in its 2002-2003 edition). It actually offers two indices, the Growth Competitiveness Index (GCI), developed by a team led by Jeffrey Sachs, and the Microeconomic Competitiveness Index (MICI),⁶ developed by Michael Porter. The GCI ranks countries according to criteria that are seen to shape growth prospects for the next five to eight years. It comprises both “hard” criteria (that is, objective statistical measures) and “soft” criteria based on survey responses. The MICI is based primarily⁷ on data from a survey of 4,700 “senior business leaders” in 80 countries to measure the “set of institutions, market structures, and economic policies supportive of high current levels of prosperity, referring mainly to an economy’s effective utilization of its current stock of resources.” The questions in the survey are grouped around the four corners of the “diamond” that Porter introduced in his 1990 *The Competitiveness of Nations* to categorize the factors influencing the competitiveness of clusters: firm strategy and rivalry, characteristics of domestic demand, supporting industries, and factor conditions.

The *Global Competitiveness Report* team subjected the raw data to statistical manipulations to define

two sub-indices, one measuring the quality of the national business environment and the other the sophistication of company operations and strategy. It then aggregated these two sub-indices into the MICI used to rank countries.⁸

The Economist Intelligence Unit links its own business environment rankings—based on a model that “seeks to measure the quality or attractiveness of the business environment and its key components by using quantitative data, business surveys and expert assessments”—to levels of foreign direct investment. The Economist Intelligence Unit used this approach to assess business environments in 27 transition economies in Eastern Europe and the former Soviet Union, both retrospectively for 1996-2000 and prospectively for 2001-2005. The projected business environment scores served as a basis for forecasting foreign direct investment. On average, foreign direct investment responded well to improvements in the business environment: a 1 percent change in the score was accompanied by an increase in foreign direct investment per capita of 3.7 percent.

Using Rankings for the Strategic Management Of Structural Reform

Viewed as the path to stimulating innovative activity and raising productivity and thereby prosperity, the competitiveness paradigm can inspire and guide policies focusing on the improvement of the investment climate. Improving the business environment demands progress across the full range of structural reforms. A hospitable investment climate includes a transparent, equitable, and efficient tax system; a legal and regulatory framework that strengthens and supports markets; healthy competition; and reliable and cost-effective infrastructure services. The lessons of successful as well as failed structural reform efforts underline the critical role of strategic management in this process. Strategic management has been described as a “process of discourse,” bringing

⁶ Called the “Current Competitiveness Index” in previous years.

⁷ It also includes “hard” measures: patenting rates, Internet penetration, and mobile phone penetration.

⁸ The approach raises two questions. First, raw scores for each country are apparently based only on the responses of business leaders in that country. Second, the weights for aggregating the two sub-indices into the MICI are obtained by regressing per capita GDP (adjusted for purchasing power parity) on these sub-indices. The MICI therefore should correlate perfectly with the predicted per capita GDP from the regression.

together various levels of an organization, with a particular focus on action. The strategic management approach to structural reform stresses the active engagement of stakeholders in both the public and the private sectors. Stripped down to its essentials, it comprises the following elements forming a sequence that is constantly repeated:

- (1) *Clearly define the mission and articulate a strategic vision.* The more operational the vision in terms of the investment performance and productivity levels that define a “competitive economy,” the easier it becomes to set priorities and launch actions.
- (2) *Set objectives* to convert the overall mission into measurable performance targets.
- (3) *Forge a strategy* that outlines how the objectives are to be attained, how to respond to changing conditions, and how to meet the needs of stakeholders. Identifying the needed activities forms the basis for assessing organizational capabilities and incentives to define needs and outline appropriate responses.
- (4) *Implement the strategy.*
- (5) *Monitor progress, adjust implementation, reallocate resources, and take corrective action.* This step in effect closes the loop.

Competitiveness rankings and related comparative assessments of the quality of countries’ business environments can inform this process. They provide a basis for identifying priorities at any given point in time and for assessing the degree of success (or failure) of policies to improve the investment climate. There may be mild interest in the standings for a given year, but it may not really matter much whether a country ranks 54th or 64th in competitiveness. However, the constituent elements of any index—both the dimensions of the (perceived) business environment and the changes over time—greatly facilitate the task of monitoring and adjusting strategies.

In a strategic management context, the uses of readily available business environment rankings include:

- **Tracking the position** of the country vis-à-vis its peer group and role models;
- **Keeping score:** using indicators related to country competitiveness rankings, it becomes easier to assess the effectiveness of policy initiatives in improving the investment climate;
- **Setting priorities** on the basis of the relative strengths and weaknesses of the country’s investment climate, as seen by business leaders and investment analysts; and
- **Making the case** by designing investor outreach and information strategies that respond better to the perceived strengths and weaknesses of the country.

Keeping Track and Keeping Score

Although it may not matter much for countries below some particular rank exactly what that rank may be, the dynamics over time do matter. Is the country successful in moving up in rank? Is the gap to benchmark countries (the role models) shrinking or widening? The competitiveness rankings and related measures provide an easy yardstick to answer these kinds of questions. Many of the measures are available at little or no cost. For example, the rankings and supporting material for the *Global Competitiveness Report* can be downloaded from the World Economic Forum web site (www.weforum.org) without charge.

Does it matter which of the various rankings are used to keep track and keep score? It probably does not. Although the coverage of countries varies, the correlations among different rankings and ratings suggest that any of them will deliver the needed feedback. For example, the correlation between rankings of the *Global Competitiveness Report’s* GCI and the *World Competitiveness Yearbook* for 2001 was 0.9243. Similarly, the rankings of the *Institutional Investor*, which are published twice a year and cover more than 150 countries, correlated well with those

based on the Current Competitiveness Index (now the MICI): 0.8640.

Setting Priorities and Making the Case

To take full advantage of the information content of the competitiveness comparisons for strategy formulation and monitoring, however, demands going beyond the aggregate scores and rankings. Dissecting the overall measures and looking analytically at the constituent elements can advance the process of establishing priorities, pinpointing strengths to build on and weaknesses to remedy, and identifying actors best placed to take action.

For example, working with the Ukrainian government to develop and implement a comprehensive action plan for improving the country's investment climate, a DAI team examined individual elements of the country's 2001 Current Competitiveness Index rankings. This analysis served as a basis for building consensus around key priorities. For example, from the perspective of the business leaders surveyed, Ukraine ranked relatively high (29th among the 75 countries ranked in 2001-2002) on "capacity for innovation" but low on firm-level innovation (72nd). The gap underlined the need to look for causes and develop appropriate policy responses. The ratings on the different dimensions of a competitiveness index make it easier to assess strengths and weaknesses so countries can set strategic priorities. Singapore, for example, has been known to post the results of the rankings on its web site, focusing on those areas where it ranked poorly and outlining steps to address these weaknesses.

Individual elements of a competitiveness index also play a critical role in benchmarking over time—examining whether the country has gained or lost ground with respect to comparison countries. For the MICI index, for example, developing countries have been losing ground, implying that national income inequalities have worsened. For the policy process, it is more important to understand just where the gaps have been widening and where the country has registered relative progress.

The Cluster Nexus

Whatever the specific causes of gaining and maintaining competitive advantage, relentless and continued innovation is key. The traditional view of innovation saw it as a largely self-driven process. Firms and research institutions would develop new products and technologies. The adoption of an innovation by the pioneers would then be followed by a process of diffusion (following the familiar S-curve).

However, a large and growing body of empirical work has shown that things work differently in reality. Innovation can best be understood as a distributed process in which all participants—producers, consumers, and suppliers—play an active role. For example, end users (customers) are often the most important source of ideas for product or service improvements. Competitors may be suppliers of critical innovations through licenses and other means. *The Economist* recently noted that in "the real world, innovative firms are often remarkably quick to license new technology or to become members of technology-sharing consortia." The theme is echoed in recent reassessments of the role of technology and innovation in market-driven economic growth—in particular, William Baumol's *The Free-Market Innovation Machine*.

These recent insights show that innovation ultimately involves the entire network of producing and using (economically valuable) knowledge. The concept of an effective innovation network is closely linked to the notion of competitive industry clusters as the focus of policy and public-private initiatives. The view of competitiveness as a cluster phenomenon is commonly associated with Michael Porter's work in this area, but it builds on a much broader base, incorporating elements from transaction cost economics, regional science, and innovation research. Well-connected and active networks drive competitive excellence. Because geographic proximity favors and is often (even today) essential to economic interaction, Porter defines a cluster as a "geographically proximate group of interconnected

companies and associated institutions in a particular field, linked by commonalities and complexities.”

Geographic proximity is central to this particular view of clusters. This proximity angle is not just of academic interest because it shapes policy approaches in support of competitiveness in selected clusters. Innovation researchers have found that informal, face-to-face communication with partners along the value chain, the “complementors,” as well as with competitors matters greatly in the innovation process. Such exchanges of course benefit from geographic proximity. The spread of the e-mail culture, where face-to-face contact even within individual organizations and offices gives way to the quick note, is likely to have some effect on this proximity advantage. Easier communications aside, agglomeration economies favor geographic concentration as an element in competitive performance. Even so, important portions of the relevant value chain that contribute to innovation and competitive performance may well be located away from other parts of the cluster. Some cluster practitioners therefore downplay the role of geographic space and stress network linkages throughout the economy and sometimes even beyond national borders. In fact, cluster policy initiatives in some OECD countries have deliberately steered away from focusing on particular regions or localities. In fact, E.U. policy efforts in pursuit of competitiveness include support for supranational clusters.

Ultimately, the cluster orientation is central to any policy initiative seeking to strengthen national competitiveness and to contribute to raising total factor productivity. Since productivity growth is driven by innovation, policies must be viewed and evaluated in the context of existing and evolving innovation networks or clusters. Although the borders of these networks, both in spatial and in economic terms, may be fuzzy, policies that disregard these critical linkages will be ineffective and may be counterproductive.

Porter and others have argued that policies should be “cluster neutral” and support the development of all clusters. Yet Porter and others also stress the importance of setting priorities. In fact, even a cursory review of successful policies aimed at boosting competitiveness with a cluster flavor—Ireland, Costa Rica, and Slovenia, for example—makes it clear that choices need to be made. Making choices and setting priorities are not the same as picking winners—and then doing everything to make them succeed, even if the market gives a thumbs down.

The Structural Reform Imperative

In a paper for the 2002-2003 *Global Competitiveness Report*, John Llewellyn and the Global Economics Team of Lehman Brothers argue for “Reinvigorating Structural Reform” to allow countries to get the most from what they have, and to attract more. The structural reform imperative is paramount. Structural rigidities not only keep a national economy from realizing its potential, but they also make it more vulnerable to external shocks.

Like competitiveness, structural reform is a process of constant renewal. By pinpointing structural weaknesses and priority reform targets, a dispassionate look at comparative measures of national competitiveness can guide policy initiatives. National competitiveness may be an elusive concept—that obscure object of desire—but as shorthand for productive economic performance it has a place in the policy debate. In that sense, the pursuit of country competitiveness is neither a panacea nor a dangerous obsession. Unfortunately, some of its proponents have portrayed competitiveness as the solution to all economic ills, often missing its essence in the process. Misconceptions of the nature and role of competitiveness in national economic development can be counterproductive, introducing new structural rigidities rather than removing existing ones. Understanding that it is firms that compete in increasingly global markets, both at home and abroad, and that the national policy environment can either hamstring or boost their efforts is critical in meeting the structural reform imperative. ♦

GOVERNANCE MATTERS IN VALUE CHAINS

by Raphael Kaplinsky and Michael Morris¹

Developing countries and transition economies often seek to capitalize on low labor costs through export-processing zones or similar arrangements. Such activities typically form part of a global network of design, production, and distribution. How relations in these networks, or value chains, are organized matters greatly in gaining and maintaining (or often losing) competitiveness. Understanding the implications of different forms of organization or “governance” is therefore critical in designing and implementing competitiveness strategies.

Loosely organized value chains resemble open competition where only costs count. The experience of a firm “manufacturing” denim jeans in an export-processing zone in the Dominican Republic during the early 1990s stands for many. The firm’s jeans were designed in the United States, used materials cut in the United States, and were sold under an established brand name. As neighboring countries devalued (reducing the cost of their labor in U.S. dollars), the firm was forced to cut its prices, but it was outbid and the work was eventually sourced elsewhere.

Even tightly organized value chains do not ensure sustainable competitiveness. The 1970s saw the emergence of a thriving shoe industry in Brazil’s Sinos Valley, which accounted for 12 percent of total global exports in women’s shoes. A few large-scale buyers controlled access to the principal market in the United States. Once these buyers had established reliable, quality suppliers in Brazil, they moved their supply-chain management capabilities to China, building competitive capabilities and undercutting the very Brazilian producers they had

helped upgrade during the 1970s. The consequence was a 40 percent fall in wages in the Sinos Valley’s shoe sector during the 1980s.

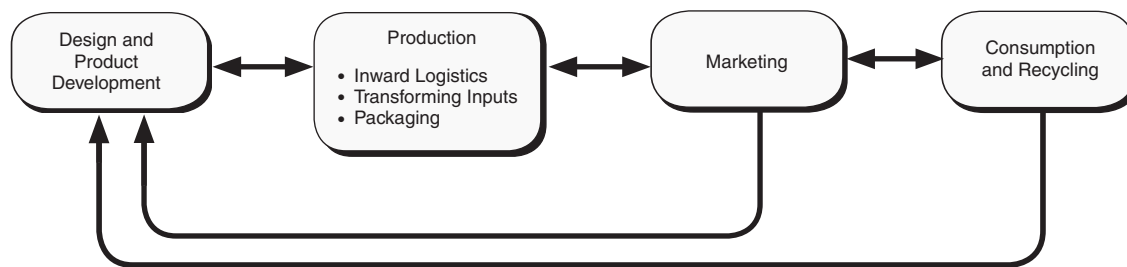
These kinds of examples are often cited in the globalization debate. In our context, they underline the need for understanding the governance structures of the value chain and developing appropriate strategies to sustain competitive advantage.

The Value Chain Defined

The value chain describes the full range of activities required to bring a product or service from conception through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use. Production is only one of the value-added links, each comprising a range of activities. Considered in its general form, the value chain takes the shape shown in Figure 1.

In the real world, of course, value chains are much more complex. For one thing, there tend to be many more links in the chain. Moreover, linkages are often of a two-way nature; for example, specialized design agencies not only influence the nature of the production process and marketing but are in turn influenced by constraints and demands in downstream links in the chain. The example of the furniture industry (Figure 2) illustrates these relationships. This value chain involves the provision of seed inputs, chemicals, equipment, and water for the forestry sector. Cut logs pass to the sawmill sector, which gets its primary inputs from the machinery sector. From there, sawn timber moves to furniture

¹ The authors are grateful to Ulrich Ernst for his thoughtful and constructive editing of an earlier version. The fuller version can be found in Kaplinsky, R. and M. Morris (2001), *A Handbook for Value Chain Research*, <http://www.ids.ac.uk/ids/global/valchn.html#manuals>.

FIGURE 1: FOUR LINKS IN A SIMPLE VALUE CHAIN

manufacturers, which, in turn, obtain inputs from the machinery, adhesives, and paint industries and draw on design and branding skills from the service sector. Depending on which market is served, the furniture then passes through intermediary stages until it reaches the final customer who, after use, consigns the furniture to recycling.

In addition to the manifold links in a value chain, intermediary producers in a particular value chain may feed into different value chains. For example, in timber, two distinct value chains in South Africa emanate—pulp and paper on the one hand and furniture on the other. As a result, the orderly value chains depicted in Figures 1 and 2 are idealized; in the real world, value chains are more likely to look like the second case in Figure 3.

At the simplest level, value chain analysis plots the flow of goods and services up and down the chain and among chains. Recent developments in value chain theory have begun to transform this heuristic device for the generation of data into an analytical tool focusing on three dimensions:

- Value chains as repositories for dynamic rents;
- Some degree of governance as a condition for effective value chains; and
- Alternative structures of value chains.

Rents

The value chain is an important construct for understanding the distribution of returns arising from design, production, marketing, coordination, and recycling. Essentially, the primary returns—*eco-*

nomie rents—accrue to parties able to protect themselves from competition by creating *barriers to entry*. Economic rents:

- Arise in the case of differential productivity of factors (including entrepreneurship) and barriers to entry (that is, scarcity);
- Take various forms within the firm, including technological, organizational, and marketing capabilities;
- May also arise from purposeful activities taking place between groups of firms—*relational rents*;
- Have become increasingly important since the rise of technological intensity in the mid-19th century and the growth of differentiated products after the 1970s; and
- Are dynamic in nature, eroded by the forces of competition, and transferred into consumer surplus in the form of lower prices and/or higher quality.

As countries have developed their capabilities in industrial activities, barriers to entry in production have fallen and competitive pressures have heightened. Consequently, it is sometimes argued that the primary economic rents in the chain of production are increasingly to be found in areas outside of production, such as design, branding, and marketing. Yet this conclusion is too simplistic because even within production some activities involve greater barriers to entry. The key shift we are witnessing

in an increasingly globalized and competitive world is a transition from rents accruing from tangible activities to those arising from intangible activities in the value chain. Intangible activities are increasingly knowledge and skill based and are imbedded in organizational systems; the knowledge they incorporate is thus tacit in nature, implying growing barriers to entry. The intangibles are to be found in all links—for example, the control of logistics in the production phase and the conceptual phase in advertising.

Not all rents are producer rents. Some arise from command over scarce natural resources (such as access to deposits of diamonds), and others are provided by parties external to the chain. For example, efficient government policy makes it easier for the firm to construct economic rents through providing better access to human skills and better infrastructure and more efficient financial intermediation than in competitor countries.

Governance

Various activities in the chain—within firms and in the division of labor between firms—are subject to what scholar Gary Gereffi has usefully termed “governance.” Oliver Williamson has characterized governance as the means by which to infuse *order*, thereby to mitigate conflict and realize *mutual gains*. In value chains, governance ensures that repetitive linkage interactions between firms exhibit some organization rather than being simply random. Value chains are governed when parameters requiring product, process, and logistic qualifications are set that have consequences up or down the value chain, encompassing bundles of activities, actors, roles, and functions. Of course, some value chains exhibit little governance at all or, at best, very thin forms of governance.

Power asymmetry is central to value chain governance. Key actors in the chain take responsibility for the inter-firm division of labor and for the capacities of particular participants to upgrade their activities. The intricacy and complexity of trade in this era of globalization require sophisticated forms of coordination, not merely with respect to positioning (who

FIGURE 2. THE FORESTRY, TIMBER, AND FURNITURE CHAIN

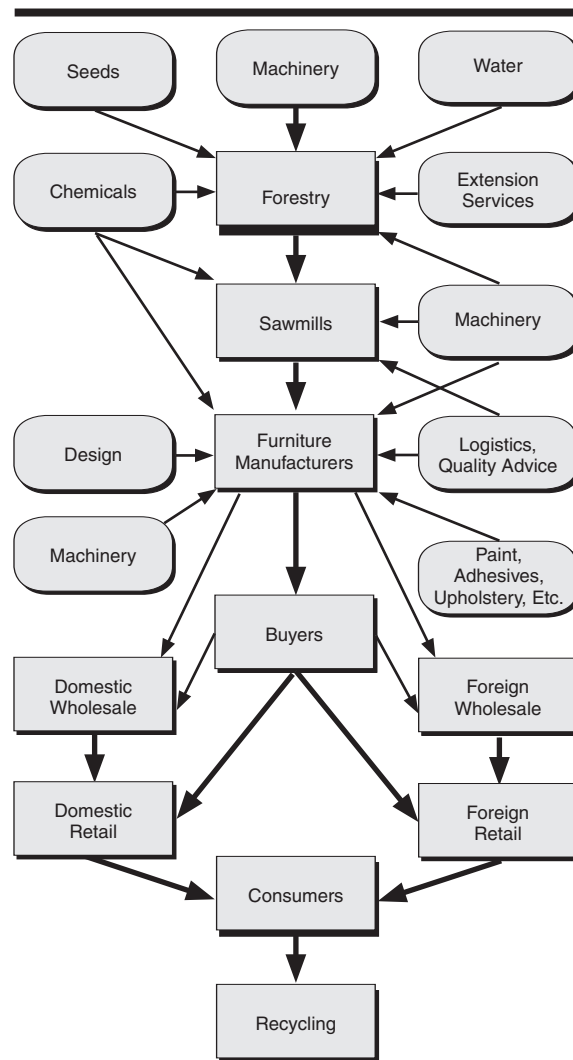
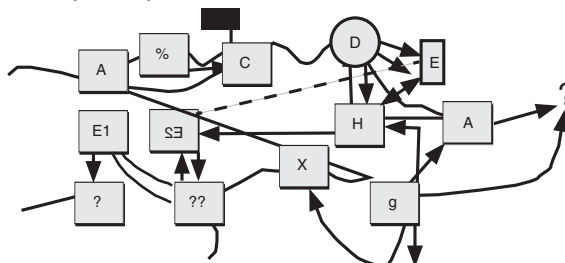


FIGURE 3. “REAL” VALUE CHAINS

The way we describe it:



The way it really is:



Source: Brown, Bessant, and Lamming, 2000

is allocated what role in the value chain) and logistics (when and where intermediate inputs, including services, are shipped along the chain), but also in relation to the integration of components into the design of the final products and the quality standards for this integration. However, coordination does not require that a single firm engage in these roles. Indeed, there may well be a multiplicity of nodal points of governance and coordination functions that may change as the prominence accorded to different firms and actors shifts within a value chain.

Value chain governance comprises three aspects:

- *Legislative governance* is concerned with the basic rules that define conditions for participation in the chain. The standards may be set in legal codes and subject to fines if transgressed. They also may be internationally recognized and widely used, even though they have no legal basis. More recently, the “rules” of participation increasingly mean conformance to international standards such as ISO 9000 (on quality), ISO 14000 (on environment), and SA 8000 (on labor) applying across industries, as well as industry-specific standards such as phytosanitary and hazard analysis and critical control point (HACCP) in the food-processing industry.
- *Judicial governance* comprises activities to audit performance and to check compliance with the rules.
- *Executive governance* is a form of proactive governance that assists value chain participants in meeting operating rules. It may be direct (helping a supplier achieve quality standards, for example) or indirect (such as forcing a first-tier supplier to assist a second-tier supplier).

Governors may be producers in the chain or parties external to the chain. In most value chains, there are multiple points of governance (in all areas of legislative, judicial, and executive governance). At any point, different parties may be setting rules (which may differ in nature), auditing per-

formance, and assisting producers in achieving the required standards.

Exercising sanctions is critical to the function of governance in value chains. The ultimate negative sanction is whether a particular party is excluded in the production network and has no access to final markets. But there may be intermediate forms of negative sanctions as well, such as limiting the role that particular producers play in the chain or imposing cost penalties for non-conformance. Not all sanctions are negative, of course, and there may be forms of reward that governors may mete out. For example, the ability to meet specified quality standards on a regular and sustained basis may mean that a supplier will not be subject to the same level of auditing as before.

Legitimacy in value chain governance rests in the degree of trust between different parties (Table 1), particularly of the “governor.” The distinction between arms-length relationships and obligation relationships is helpful. In the low-trust chain, suppliers are frequently changed to pursue short-term price advantages, and failure to conform with the wishes of the governor leads to the rapid sanction of exclusion from the chain. By contrast, in modern, flexible production systems, trust becomes increasingly important, and failure to reach the required level of standards does not automatically result in the sanction of exclusion; instead, executive governance is exercised to assist the transgressing party in achieving the required levels of performance. Such high-trust relationships, in which the governor has legitimacy from other links in the chain, tend to be long lived.

The depth of governance in a value chain refers to the extent to which it affects the core activities of individual parties in the chain. For example, do the rules set by the value chain governors affect the core or peripheral operations of individual links in the value chain? But we also need to know how widely over the chain their power is exercised and, related to this, whether there are competing bases of power. Depth and pervasiveness correspond to “richness” and “reach.”

TABLE 1. ASSESSING TRUST RELATIONS IN THE VALUE CHAIN

	LOW-TRUST CHAINS	HIGH-TRUST CHAINS	DATA SOURCES
Length of trading relationship	Short term	Long term	Sales function in suppliers, purchasing function in buyers
Ordering procedure	Open bidding for orders, with prices negotiated and agreed before order commissioned	Bidding may not take place, or likely winner known in advance; prices settled after contract awarded	Sales function in suppliers, purchasing function in buyers
Contractual relationship	Supplier starts production only on receipt of written order	Supplier more flexible about instructions and will start production without written order	Sales function in suppliers, purchasing function in buyers
Inspection	Inspection on delivery	Little or no inspection on delivery for most parts	Sales function in suppliers, purchasing function in buyers
Degree of dependence	Supplier has many customers, and customer has multiple sources	Few customers for supplier and single- or dual-sourcing by customer	Sales function in suppliers, purchasing function in buyers
Technical assistance	Expertise rarely pooled, and assistance only when paid for	Extensive unilateral or bilateral technology transfer over time	Production control, quality, and product development functions in both supplying and purchasing firms
Communication	Infrequent and through formal channels; narrowly focused on purchasing department	Multi-channeled, including, engineers, personnel department, and top management; frequent and often informal	Production control, quality, and product development functions in both supplying and purchasing firms
Price determination	Adversarial, with hiding of information	Non-adversarial with "open books"	Sales function in suppliers, purchasing function in buyers
Credit extended	Punitive or no credit extended	Easy access to letters of credit, longer payback period, easy terms	Nature of letters of credit, finance section in suppliers and buyers
Outsourcing payment terms	Long delays in paying agents and informal economy producers	Payment on receipt of finished goods	Outsourcing agents, outsourcing firms, informal economy producers

Structure

Building on this concept of governance, Gereffi has made the useful distinction between buyer-driven chains, characteristic of labor-intensive industries such as footwear, clothing, furniture, and toys, and producer-driven chains, in which key producers take responsibility for upgrading the efficiency of both their suppliers and their customers. Generally commanding vital technologies, they coordinate the various links. Particular product families (for example, toys or clothing) may simultaneously have buyer-

and producer-driven chains, depending on which intangibles the lead parties dominate. For example, in clothing, the Gap is a firm without its own manufacturing facilities and represents a classic form of buyer-drivenness, whereas Levi-Strauss governs a vertically integrated value chain.

In more recent work, Gereffi has pointed out that producer-driven chains are more likely to be characterized by foreign direct investment than are buyer-driven chains. He also argues that each type of

value chain is associated with different types of production systems. Yet the distinction between different types of value chains is still something of a research hypothesis, as is the suggestion that we are seeing a shift from a producer-driven to a buyer-driven world.

Assessing Governance in Value Chains

Chain Power. The framework for the empirical assessment of governance patterns in value chains and their implications comprises three realms: making rules, monitoring rules, and assisting producers in complying with the rules. It also identifies operating environments in which these functions may be performed by parties internal to the chain or outside of the commercial operations of the chain.

IN RECENT YEARS, NONGOVERNMENTAL ORGANIZATIONS HAVE GROWN INTO AN IMPORTANT SANCTIONING FORCE, PARTICULARLY IN THE FINAL CONSUMER GOODS SECTORS.

Within the chain, the concept of power is central to the way in which governance functions are handled. Two seemingly contradictory attributes characterize the power of any party in the chain. The first is the ability to force other parties to take particular actions—for example, to limit themselves to assembly rather than to involve themselves in design. The second is the capacity to be deaf to the demands of others—that is, to refuse the demand to confine activities to assembly alone.²

Generally, the extent of chain power tends to be related in complicated ways to the relative size of a particular firm in the chain. In general, the larger the firm, the more influential its role. Table 2 outlines some of the options of defining “chain power.”

Rule Setting. Increasingly, rules that pertain in the final market are being set by supranational bodies

such as the European Union. These externally set legal rules generally transcend all others in importance and can be identified by examining these legal codes. But there also may be a rule-setting process that has no legal backing—for example, pressure from nongovernmental organizations for value chains to achieve environmental standards (such as Forestry Sustainability Council [FSC] accreditation in wood and furniture) or to exclude child labor.

Different sets of rules often apply to the same chain. In some cases, particularly when the rules regime is subject to pressure from civil society, the number of rules to which producers have to

respond can be overwhelming. (One Chinese firm reported being audited by teams from 40 customers in a single month,

from a combination of buying firms, external audit firms, and nongovernmental organizations!)³ As a result, private sector parties often actively search for public recognition of process and product rules.

Tracking and Monitoring Rules. Rules monitoring is an important component of the analysis of value chains because it provides a window into the reach and richness of the rules regime. In most chains, the auditing process will be done by a mix of parties, both internal to and external to the chain. For example, in the wood and furniture chain, FSC accreditation of producers is undertaken by firms such as Société Générale de Surveillance. Similarly, ISO 9000 standards are monitored, with annual inspections, by firms that undertake this service on behalf of the International Organization for Standardization headquartered in Geneva. Many of the rules set by key links in the chain for the suppliers are monitored by the buying firm itself—for example, the performance of suppliers with respect to on-time delivery and quality standards.

² We are grateful to John Humphrey for making this point to us.

³ Data provided by Mil Niepold of Verite.

TABLE 2. HOW TO IDENTIFY THE KEY GOVERNOR IN THE CHAIN

INDICATORS	STRENGTHS AND WEAKNESSES	DATA SOURCES
Share of chain sales	<ul style="list-style-type: none"> • Not a strong indicator because it may only be a reseller of bought materials and may lack influence 	<ul style="list-style-type: none"> • Balance sheets
Share of chain value added	<ul style="list-style-type: none"> • A better indicator for measuring size because it reflects the share of the chain's activities 	<ul style="list-style-type: none"> • Firm-level interviews
Share of chain profits	<ul style="list-style-type: none"> • May be a good reflection of chain power but also may arise from monopoly control over scarce raw materials (e.g., platinum) and may have little influence over downstream processing 	<ul style="list-style-type: none"> • Balance sheets, but it is likely that these data will be available only for publicly owned companies
Rate of profit	<ul style="list-style-type: none"> • A poor indicator because minor players in the chain may be relatively profitable but have little influence 	<ul style="list-style-type: none"> • Balance sheets, but it is likely that these data will be available only for publicly owned companies
Share of chain buying power	<ul style="list-style-type: none"> • A good indicator of power, particularly if there are asymmetries—that is, its dependence on its suppliers is less than their dependence on the lead firm 	<ul style="list-style-type: none"> • Firm-level interviews
Control over a key technology (e.g., drive-train in autos) and holder of distinctive competence	<ul style="list-style-type: none"> • A good indicator in producer-driven chains such as autos because this defines the distinctive competence of a chain (BMW's image as a quality, refined car) while the smaller firms fill in the gaps in the chain 	<ul style="list-style-type: none"> • Firm-level interviews
Holder of chain "market identity" (e.g., brand name)	<ul style="list-style-type: none"> • May be critical in markets where brand image is very important 	<ul style="list-style-type: none"> • Firm-level interviews; studies of market share of brands in final markets

A primary source of data on rules in the chain is the relevant statute book, but these books tend to be impenetrable. An obvious point of entry is the sales function in the final link in the chain. Where relevant, interviews with or searches of the web sites of nongovernmental organizations (which are generally informative) also will be helpful.

Less obvious are those rules that govern a chain and that are informal—that is, they have no official, legislative backing. For example, key parties in the chain may require conformance to certain quality processes. These data can generally best be obtained from the purchasing departments of each major chain member. But there also may be an issue of miscommunication between buyers and sellers, or commitment to these rules may be thin so it may

be helpful to interview the people responsible for sales in the firms feeding into these primary links in the chain.

Support for Rules Compliance. A key function of governance is to ensure that suppliers develop the capability to comply with evolving rules as rapidly as possible. Many textbooks suggest that the assistance provided to producers comes from the dominant rules setters. For example, it is widely believed that Toyota directly helps upgrade its suppliers, that Marks and Spencer historically did the same for its suppliers in the United Kingdom, and that the Gap performs the same function in the global clothing industry. In reality, however, there are generally parties that act as intermediaries and help suppliers meet the chain rules:

- First-tier suppliers, the key suppliers in the chain, command major technologies or have power as a result of their scale, and assist their own suppliers in meeting the rules set by the chain governor or governors.
- Buying agents of lead firms located outside the home country not only broker contracts but also assist supplier firms in meeting the standards required.
- Specialized consulting firms often play an important role, sometimes assisted by government support. For example, during the second half of the 1980s, new quality and logistics procedures inside U.K. manufacturing supply chains were diffused through a growing number of consultants partially funded by the government's "Inside UK Enterprise" program. Similarly, PricewaterhouseCoopers licensed the use of the Kawasaki Production System and sold these capabilities to firms in India and Zimbabwe.
- Often, particularly when value chains involve small firms, learning networks develop to assist producers in meeting chain rules. In some cases, these networks are outcomes of business associations, local government initiatives (as in the case of Germany), or national programs (as in the case of Denmark and South Africa).
- Government agents also can directly assist firms in achieving chain rules. For example, during the second half of the 1990s, the U.K. government established the Business Links Program, which provided services to firms, generally small and medium-sized enterprises, in making the necessary internal changes.

Sanctions in the Rules Regime. Sanctions also may be exercised outside of the chain, and most governments have extensive bureaucracies checking compliance to legislation and prosecuting offenders. In recent years, nongovernmental organizations have grown into an important sanctioning force, particularly in the final consumer goods sectors. Boycotts

and publicity campaigns have forced many leading firms to change the way they produce or to de-list particular suppliers. Less powerful have been the attempts to reward conformance through positive buying campaigns—for example, rewarding companies for compliance to new norms of social and environmental behavior. Voluntary associations of informal economy producers and traders also are playing a positive role in formalizing the link of informal economy producers within a value chain. They can defend members against local manipulation by intermediaries by getting larger firms to set transparent rules and remuneration agreements. For example, the Self Employed Women's Union in South Africa has formalized the relationship among informal cardboard recyclers, local pick-up agents, and large paper producers.

Trust. The effectiveness of a governor's command of a chain rests not only on the power of its sanctions but also on the trust its suppliers or customers have in it. The level of trust shapes the long-term viability of the chain.

Depth and Pervasiveness. A final component of value chain governance is the extent to which the rules of incorporation pervade chain relationships. Although it is difficult to separate this concern from the "richness" of these rules—that is, how in reality they actually affect firm behavior as a function of sanctions and legitimacy in the chain—it is an important issue.

From Analysis to Strategic Action

Assessing the structure and functioning of value chain governance is a critical part of the articulation of strategic options for building competitive advantage. Part of any strategy has to be a path toward arrangements that offer some protection against the erosion of economic rents associated with being part of a value chain. Although firms and clusters in developing countries and transition economies may start out with weak negotiating positions in trying to shape governance structures, understanding the implications of the alternatives helps identify opportunities and priorities for collective action. ♦

OBSTACLES TO COOPERATION IN CLUSTERS AND HOW TO OVERCOME THEM

by Jörg Meyer-Stamer

In the 1990s, many local and regional initiatives to promote competitiveness and create jobs focused on the cluster. In *The Competitive Advantage of Nations*, a book more about subnational regions than about nations, Michael Porter helped place the concept of clusters on the policy agenda of countries around the world. Porter's argument underlined what other authors had argued before: firms that operate close to related firms and supporting institutions are often more innovative and therefore more successful in raising productivity than firms that operate in isolation. As illustrated in the classic case of the renaissance of the industrial districts of northern Italy in the 1970s, competitive performance results from both competition and cooperation in the cluster.

At the local level, competition is generally not an abstraction. It often involves personal or company rivalries, thus creating more pressure than the anonymous mechanism of the invisible hand of the market. Cooperation does not necessarily mean formal alliances, although even competitors have shown an increasing tendency to enter into arrangements such as strategic technology alliances. Cooperation at the local level often involves informal communication between firms along the value chain, employees who move from one firm to another, and information exchanged over a beer at a local pub.

Many places match the cluster definition of the academic literature, but many (if not most) of them do not display the cooperative culture described in the early literature on Italy. Often, cooperation inside a cluster—between firms, between firms and institu-

tions, and between the private and the public sectors—is weak, particularly when it comes to any initiative that goes beyond common business transactions. Although firms tend to understand the benefits of strengthening vertical links in the value chain—that is, creating forms of forward and backward integration—lateral cooperation with direct competitors is often regarded with suspicion.

In a survey of 160 clusters, Michael Enright found that, on a scale from 0 (no activity) to 5 (very important), the importance of specialized organizations (such as associations of firms, specialized institutions, or specific cluster organizations) in coordinating activities among firms in the cluster ranges mostly between 1 and 2.¹ In a cluster with little tradition in collective action and ineffective organizations, local actors will perceive concepts such as “collective efficiency”—that is, competitiveness based on intense networking between firms—as a strange suggestion because it does not at all mesh with their experience of local rivalry.

Obstacles to Cooperation

Based on the case studies of successful clusters,² we can identify three main areas of cooperation:

- Cooperation among firms (relational contracting, interactive learning, information exchange, and collective action);
- Cooperation between firms and supporting institutions (business associations and business support institutions in fields such as training, technology, exports, and finance); and

¹ Enright, M.J. “Survey of the Characterization of Regional Clusters: Initial Results.” University of Hong Kong, 2000. The exceptions with means greater than 2 are market research, joint promotion in foreign markets, other education and training, and coordination of public-private investments. The winner, with a score of 3.2, was “lobbying government.”

² See, for example, the cases documented in the special issue of *World Development* (No. 9, 1999).

- Cooperation between the private and the public sectors.

It is useful to look at each main area of potential cooperation to identify typical obstacles to cooperation.

Cooperation and the Prisoners' Dilemma

For the firm, the choice between cooperating with competitors in a cluster-based competitiveness initiative or “going it alone” involves short-term costs, unknown benefits, and strategic uncertainties about the reaction of competitors. With respect to strategic uncertainties, the firm faces a special type of prisoners' dilemma, the most familiar example of what Oliver Williamson calls the coercive logic of game theory. Two prisoners are joint suspects in a major crime. They are interrogated separately. Both face, say, three years in jail if neither confesses to the major crime. The police offer a deal: if you confess and your partner does not, you'll get a light sentence and your partner gets 15 years. If you both confess, both will get 10 years. If neither knows what the other will do, the police win: the dominant strategy is to confess. Both confess and get to spend seven more years in jail than if they had kept silent.

But things change when the game is repeated because participants learn that opportunistic behavior is detrimental. In fact, empirical research on the prisoners' dilemma has shown that the probability of cooperation is higher than 50 percent in repeated games. The likelihood of a cooperative outcome is further enhanced if direct communication is possible. Even without the opportunity to learn, however, the dominant strategy changes if both prisoners are affiliated with an organization, the local version of the Mafia and with rules (the code of silence), enforcement, and support for those who obey the rules, such as financial assistance to the prisoners' families. In this case, even though the prisoners may not trust each other, they are better off cooperating.

Not so in a cluster. There, cooperation entails risks giving up valuable business secrets to competitors. Firms, especially in emerging markets, are fierce rivals. There is often a long history of rivalry

that creates a strong bias toward non-cooperation. Typical events in the evolution of a given cluster will reinforce this bias. For instance, spin-off firms will cater to the same customers and their founders may take trade secrets from their former employer with them.

Moving from non-cooperation to cooperation in clusters is difficult, especially if non-participants benefit from the cooperative efforts of others—a variant of the “free-rider” problem. Isolated attempts of individual actors to cooperate will evoke opportunistic behavior by other actors, thus frustrating the cooperation pioneers and reinforcing a non-cooperative bent. If many firms produce similar products, everyday business behavior will tend to be opportunistic because firms are desperate for sales. Firms are competing for the same customers, so they will tend to underbid one another, which is of course a stimulus for innovation and increased efficiency to lower costs. It is not by chance that in his early publications Porter emphasized the importance of rivalry for cluster dynamics.

Ironically, this disposition may become even stronger in periods of crisis, when cooperation might offer a way out (for instance, through a collective effort to upgrade) but when opportunistic behavior is even more likely as firms scramble for survival. From both a theoretical and an empirical perspective, one thus has to expect the emergence and reinforcement of non-cooperative games in clusters, and any kind of initiative to strengthen clusters has to be based on the assumption that it will be very difficult to move to a cooperative game.

Risks of Formal Cooperation among Firms

In the view of the industrial researcher, stronger linkages in clusters offer real opportunities. The perspective of local business people may well be the opposite. They may or may not appreciate the advantages of strong clusters, such as the easy availability of inputs and skilled workers and easy access to customers. They are certainly aware of the disadvantages, such as the loss of skilled employees and the swift diffusion of information about new technologies, customers, and markets. Regarding formal

networking and cooperation, be it within an association or some other type of collaborative venture, any decision has to be based on an assessment of the benefits on one hand and the costs and risks on the other. Often, the benefits will be long term and hypothetical, whereas costs and risks are obvious and immediate. For a firm, the most obvious risk is the loss of trade secrets, such as technology or knowledge regarding markets and customers. These risks are an important motive for firms not to enter cooperative ventures with direct competitors.

Another risk regards anti-competitive behavior, when cooperation becomes collusion. Many firms basically like the idea of cooperation, in particular if it involves the creation of market power or the elimination of market processes, such as joint purchasing, sales cooperatives, or cartels. Such practices are common in many industries. In countries with strong anti-trust policies, many firms have a clear idea of the costs of such cooperation—namely, the fines they have to pay. In fact, in these cases, firms may find it strange that government agencies promote clustering and cooperation and may prefer to distance themselves from such initiatives as long as the anti-trust implications remain unresolved.

The direct costs of cooperation include first and foremost transaction and opportunity costs. Meetings have to be held, there has to be some follow-up, and discussion papers and minutes have to be prepared. All this puts a strain on the scarce time of decision makers in firms. If firms agree on concrete activities, this will generate further costs (for example, the investment and operational costs of joint development projects). This may lead to the kinds of problems that are well known from research and development and training, where the inability to appropriate returns on the respective investments creates a discrepancy between the individual and the collective benefit, leading to underinvestment. In the field of research and development, governments subsidize firms' activities. Similarly, it may be necessary for government to subsidize cooperative ventures and cover at least part of the transaction and opportunity costs.

Problems of Cooperation between Firms And Supporting Institutions

There are two kinds of problems regarding cooperation between firms and supporting institutions. First, there is often a complicated relationship between firms and business associations, especially between small and medium-sized firms and chambers of industry and commerce. Smaller firms often perceive, correctly or not, that chambers are dominated by large firms, and they feel that the support they receive from their chambers is inadequate. At the same time, the chambers often have to deal with expectations they cannot meet, given their limited resources. Firms also may be skeptical of business associations. They may suspect that certain associations exist largely because of political motives, or they may perceive that their associations are weak or that there are too many of them. A further problem is mandatory membership, which often minimizes the performance pressure on business associations or creates the image that a given association is a para-governmental organization.

Second, there are the usual problems of cooperation between firms and supporting institutions. For many supporting institutions, the satisfaction of local customers from the private sector is not the only, and often not the most important, performance indicator. This problem is particularly pertinent in the case of training and technology institutions; a priori, it is not necessarily likely that they cooperate with firms. In education and training institutions, especially in higher education, academic merits play an important role. But research and development institutions also have a difficult time balancing the demands of private sector customers and academic criteria, something that is further complicated by profoundly different standards. Researchers want to publish their results quickly and widely and aspire to a profound understanding of problems, whereas firms want quick solutions to problems and want to keep research results secret. Moreover, cooperation is more likely among large firms, which often have elaborate training centers and research and development laboratories, than among small and medium-sized firms.

Problems of Cooperation between the Private And Public Sectors

Local governance structures—how firms and other elements of potential clusters interact—may set limits for cluster initiatives. To begin with, a crisis can put the advantages of cluster cooperation in sharper perspective. However, this outcome is by no means obvious. It is just as likely the opposite may happen. Local actors may perceive a profound crisis as a structural crisis; they may define the dominating branch in the cluster as a sunset industry that does not deserve promotion; or they may direct their promotion activities at diversifying the local economic base, preferably achieving broad diversification to avoid the vulnerability of depending on just one branch. In other words, local actors may perceive a de-clustering strategy as the best option.

Second, another phenomenon has been observed in old clusters—for instance, in the Ruhr Valley. Communication and cooperation between local actors may become so intense that their ability to perceive changes outside the cluster suffers, which leads to collective conservatism. Moreover, old clusters tend to be organized and politically connected. Accordingly, they have the motivation and the means to focus on keeping old industries alive, rather than promoting and shaping structural change.

Third, only with great difficulty will chambers of industry and commerce play a constructive role in cluster initiatives. Chambers cater to firms from many sectors and branches. A cluster initiative, however, will involve only a limited set of branches, and those firms not directly linked to the dominant branches in the cluster will feel frustrated if the chamber puts a lot of effort into the cluster initiative. Especially in those locations where one cluster dominates the local economy, firms from other branches will complain loudly because of their perception that the chamber is focusing too much energy on the cluster-related branches.

Fourth, there is no reason to believe that politically motivated differences can be overcome more easily

at the local level than at other levels. It is likely that political differences are intertwined with other factors, such as personally motivated aversions, traditional enmity between families or elites, and economic rivalries, and that a complex set of obstacles emerges that make organizing a coherent initiative complicated.

Finally, in countries with a long history of the heavy hand of government—which includes all of the transition economies and most developing countries—a private initiative to strengthen clusters and systemic competitiveness may be deeply mistrustful of any attempts by government officials to contribute.

Global Governance and Local Initiatives

Global governance patterns create two types of problems for local initiatives. First, cluster initiatives depend on networking between persons rather than between organizations. Such initiatives therefore face serious obstacles whenever important firms are not locally owned and directors change frequently. Moreover, in large companies with a global reach, the director of a local branch plant frequently has limited freedom to make decisions. In this respect, dramatic changes in framework conditions for clustering initiatives can occur if a local firm is taken over by an external investor.

Second, external oversight of local firms also can have a major impact on cluster initiatives in another way. Clusters, especially in developing countries, often are part of global value chains that are ruled by a large firm elsewhere (for example, large distribution chains in industrialized countries). The large firm may of course have an interest in the long-term perspective and performance of the cluster, but usually its short-term considerations will prevail. This frequently means that external buyers are playing cluster firms against one another to get the best price or that they discourage cluster firms to engage in upgrading efforts that might change the power structure in the value chain. This leads us back to the observation that fierce rivalry between local firms is often a major obstacle for local cooperation.

Moreover, it means that even well-meaning government initiatives may bear no fruit.

Promoting Cooperation in Clusters

How is it possible to increase the propensity to cooperate in the three areas outlined above?

Regarding inter-firm cooperation, initiatives are most likely to succeed if they meet four criteria:

- They address the immediate problems of firms;
- They do not touch what firms perceive as their core activities;
- They offer little or no latitude for predatory behavior; and
- They present the potential of savings through economies of scale.

These criteria can be explained by outlining typical activities that do not meet them and usually fail.

First, there is technological cooperation, such as the joint development of a new production process. In such a case, participating firms fear that other firms learn pieces of information they perceive as essential to their competitiveness. Accordingly, they put pressure on their technicians not to unveil any possibly critical information, thus crippling the cooperation project. Firms also may choose their less competent technicians to take part in the project, thus decreasing the probability of success. Second, when one mentions the option of cooperation, business people in a non-cooperative cluster typically come up with ideas that are anti-competitive, such as forming a purchasing cooperative. However, if firms do not trust one another, a supplier that is the target of the cooperative will easily break it by offering preferential purchasing conditions to one or several of the participating firms.

What then are activities that meet the four criteria?

Three types of activities come to mind:

- *Training.* The economies of scale are obvious, as are the benefits. Training can be limited to areas that do not touch upon core activities, and there is little opportunity for predatory behavior.

- *Environment-related activities.* Firms, initially usually sticking to end-of-pipe solutions, perceive environmental protection literally as a peripheral activity. Moreover, a government environmental agency generally serves as an external enemy and creates an incentive for firms to stick together.
- *Basic testing activities.* In the textiles industry, for example, this refers to testing cotton fiber and chemical inputs.

The results of Michael Enright's cluster survey cited above supports the notion that these are areas where specialized organizations are perceived to add value. Success in initiatives focusing on these areas may pave the way for more ambitious cooperation activities. As firms see that cooperation creates advantages, they may develop a certain degree of trust that permits other, more ambitious and riskier cooperation activities, such as an exchange of technological information. However, there is by no means a clear trajectory in this respect. The experience of the tile cluster in Criciúma, Brazil, is sobering. A precipitous decline in market share created a sense of crisis and triggered a massive effort to regain competitiveness. After this response achieved most of its declared goals by the mid-1990s, cooperation virtually collapsed. Whereas six years ago several of the local actors saw their cluster on track to emulate the experience of the Italian industrial districts, today one can sense frustration because maintaining cooperation takes real effort.

The Role of Specialized Organizations

Among specialized organizations, business associations can play a role in facilitating cooperation among firms. However, business associations in developing countries and transition economies tend to be relatively weak, with few employees and a low level of competence, especially when it comes to providing member firms with real services. Organizational development in such associations is a lengthy but unavoidable activity.

In the past, institutions such as training and technology institutes tended to operate in a kind of

vacuum and were highly self-referential. In the import-substitution era, technology institutes found little demand from the private sector, which was under scant pressure to innovate in a not very competitive market. Training institutes existed in an environment marked by massive skills shortages so that whatever training they provided was gladly accepted by the private sector. Even though most vocational training was administrated by the private sector itself, the possibility of firms articulating their specific demands vis-à-vis the training institutes was often limited. In a new, more competitive environment, these institutions face tough challenges.

To gain a better understanding of how to make supporting institutions more responsive to private sector demand, it is useful to use a concept implicit in much of the restructuring that took place in firms in the 1990s. There were four key goals of organizational development: efficiency, quality (in the sense of minimizing the cost of quality management), flexibility (the ability to satisfy a wide scope of differentiated demand), and responsiveness (the ability to respond quickly to demand). In the old days, optimizing these factors involved tradeoffs. Increasing flexibility often went to the detriment of efficiency, responsiveness went to the detriment of quality, and so on. In the management field, the analysis of Japanese organizational methods provided crucial insights in terms of overcoming these tradeoffs. There is no reason this idea should not be applicable to supporting institutions in fields such as education, training, and technology. True, it often will involve a major upheaval in organizations that so far have had a single-minded rationale (for example, academic excellence). But reaching a balance between different rationales is exactly the point of organizational development.

Cooperation between the private and the public sectors puts high demands on both sides. On the side of the private sector, it is, first and foremost, essential to have effective organizations. Large firms can interact with government, especially local government, on an individual basis. Small and medium-sized firms will find this difficult. They will have to unite their voices to be heard.

Options for Government

On the public sector side, the first rule is that the government, especially local government, has to take an active interest in the fate of the private sector. This interest should not be taken for granted. Many private businesses—in particular, small and medium-scale firms—have been growing for decades without support from local government. Moreover, because central and state governments used to set promotion policies, local government has developed a disposition to wait for action rather than acting on its own.

The second rule is akin to the Hippocratic oath—do no harm. Government at all levels tends to erect obstacles for private business and for the collective pursuit of competitiveness. Some of these obstacles are essential and may be necessary to stimulate competitiveness, such as environmental regulation and consumer protection, but many are inefficient or unenlightened. Before becoming actively involved in cluster initiatives, government therefore ought to get its own house in order. Reviewing regulations, removing those obstacles that are not essential, and reorganizing what remains are the most important tasks for government. In practical terms, this means different things at different levels, such as moving from command and control to economic instruments for environmental policy at the national level, streamlining regulations at all levels, and creating one-stop or first-stop agencies at the local level.

Only after addressing the obstacles it has created for the private sector will government have the credibility to get involved in meaningful private sector promotion activities, such as cluster initiatives. Government agencies at the local or the regional level can play two important roles. First, they can act as moderators, mediators, and facilitators and play a crucial role in overcoming mistrust among firms. Second, they may cover part of the transaction costs any cooperative venture incurs. In this respect, the justification is much the same as in terms of government support for activities where the returns on investment are difficult to appropriate, especially in environments with a less than adequate protection of property rights. ♦

STRATEGIC MANAGEMENT OF INDUSTRY CLUSTERS: WHERE PRACTICE MEETS THEORY

by James Packard Winkler

In December 2000, 10 Palestinian business leaders traveled to Washington, D.C., for eight days to explore strategies to build more competitive industry clusters. The group, which included representatives from the tourism, information technology (IT), and manufacturing sectors, met with executives and board members of U.S. trade associations to discuss strategies to compete in global markets and build cluster-based trade associations. The Palestinian Intifada was only two months old, and the group was concerned about their families back home and the possibility of a protracted conflict. Yet the focus of this trip was on the future and how to restructure businesses and industries to compete globally. Following their return from the United States, five Palestinian trade associations, with the assistance of USAID's Market Access Program (MAP), implemented political, social, and economic reforms to improve competitiveness based on strategic growth strategies created and owned by their members and partners.

Even in the most challenging emerging market environments, like that of the Palestinian Territories, economies can grow if collective industry interests and the profit motive of individual companies are aligned within cluster-based trade associations that become the catalyst for change. Business and policy leaders who respond to global market opportunities—by implementing an industry growth strategy—can improve competitiveness. The experience in the Palestinian Territories and in countries worldwide demonstrates the vitality and utility of processes that build competitiveness by empowering businesses, government, and community leaders to make informed decisions that improve prosperity.

Competitiveness As Process

The old joke about economists—they look at the world and say, “It works in practice, but the

real question is does it work in theory?”—applies in reverse to many competitiveness initiatives: “It works in theory, but the real question is, how does it work in practice?” Both theory and experience argue that competitive performance is the result of both cooperation and competition in industrial clusters to spur innovation and increase productivity. Yet the gap between knowing that it should work and actually making it work can be large. Successful industrial clusters of the kind portrayed in Michael Porter's *The Competitive Advantage of Nations* have evolved organically, often over centuries. In developing countries and transition economies, the pressure to achieve competitiveness places a premium on the ability to telescope this process in time, without jeopardizing its organic nature, which is critical for success.

The process of building competitiveness is as important as the results. Implementing catalytic processes to build competitiveness in emerging markets is necessary to achieve tangible gains. Success in the quest for competitiveness is the result of clearly articulated growth strategies that guide actions throughout the cluster. At their best, such strategies reposition clusters in the global market, foster innovation and productivity growth, and result in bottom-line improvements for companies. These processes must be global in market perspective and local in application. Most important, no competitiveness initiative can succeed without the active participation and ownership of the businesses and organizations that make up the cluster.

Competitiveness Strategy Framework

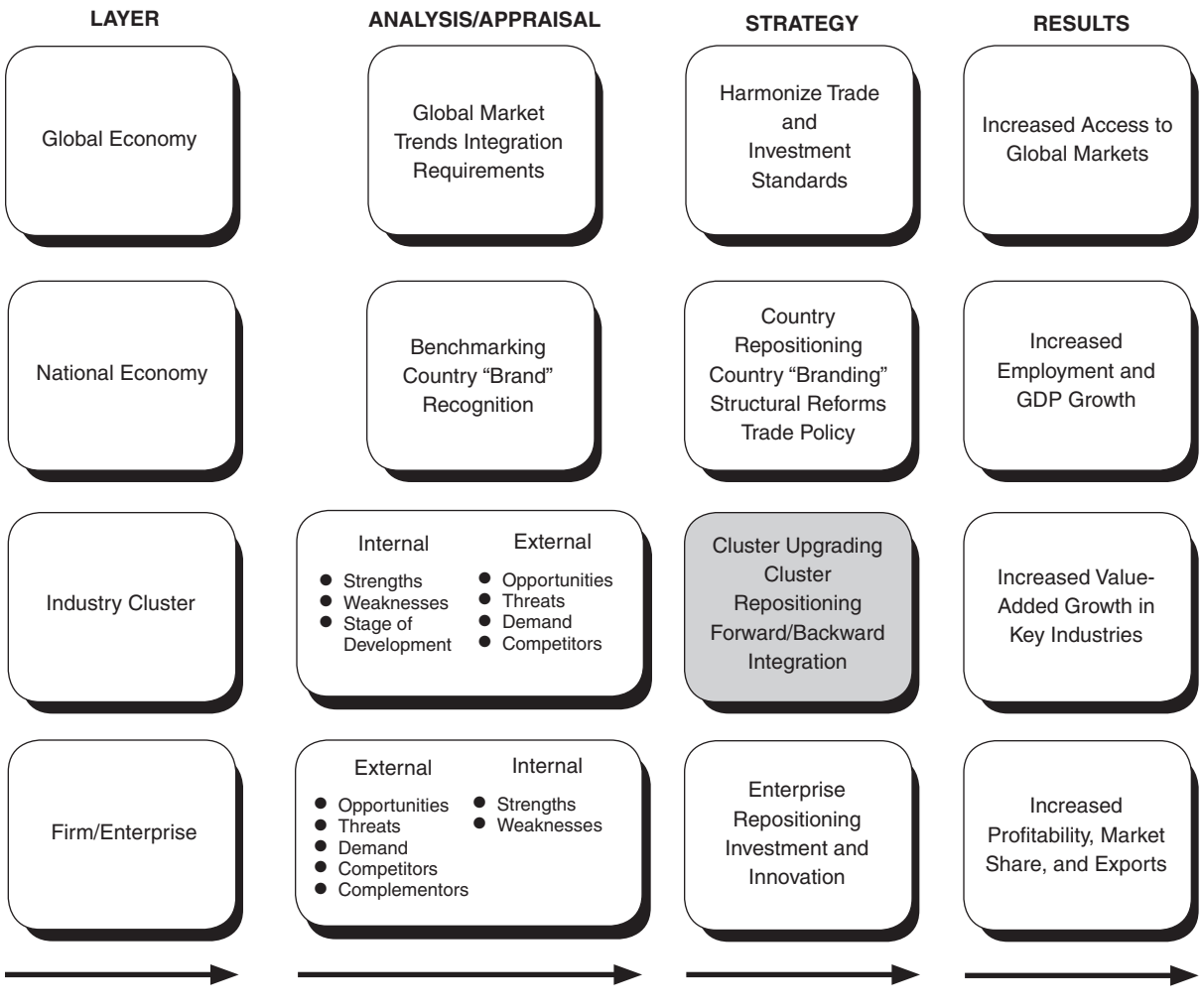
A successful competitiveness initiative is global in scope and local in focus. It demands a sophisticated understanding of global markets and an appreciation of the global forces that shape the environment for the industry cluster. At the same time, it requires a

dispassionate appraisal of the competitive position of the firm, the cluster, and the national economy to develop appropriate strategies. These elements come together in the competitiveness strategy framework shown in Figure 1 that integrates the market dynamics of the different layers. This framework provides the conceptual blueprint for a competitive repositioning of the economy at all levels, which can operate in various ways. It can proceed sequentially, building from the company level up. It may focus on working with one or more industry clusters at the same time or simultaneously working within one or more of the layers. It also may occur by working from the top down through a national competitiveness initiative. How to proceed is an important

strategic decision, driven by the need to achieve relatively quick, tangible results to galvanize support and build momentum for more change.

The enterprise layer in effect forms the base because ultimately only firms compete in markets and productivity gains must be measurable at the enterprise level. It is difficult to gain credibility with private sector leaders and organizations without achieving real results for firms quickly. Bottom-line growth is a persuasive incentive for restructuring businesses and industry clusters, particularly in a risky, unstable market like that in the Palestinian Territories. A full understanding of firm-level dynamics guides company repositioning and shapes the industry com-

FIGURE 1. COMPETITIVENESS STRATEGY FRAMEWORK



petitiveness agenda. The Palestinian Information Technology Association (PITA) recognized that good intellectual property rights and telecommunications policies benefit every firm interested in Internet-based businesses—virtually all of its member firms, both local and foreign. Similarly, providing marketing services to the cluster as a whole—for example, trade missions and research in a key regional market such as Dubai—allowed members to learn about software subcontracting and partnering opportunities.

To build competitive clusters, firm-level technical assistance, although expensive, is a good investment to demonstrate the potential for increased profitability, sales, and productivity and to make the case for collective action that benefits the industry. Firm-level assistance is particularly valuable in countries where economic and political instability is high, industry cooperation is weak or nonexistent, there is little tradition of value-added business services, macroeconomic policies are obstructionist, and private sector leaders are highly risk averse.

Industry clusters are the layer for achieving economies of scale and competitive efficiencies through cooperation without curtailing competition. In global markets, only the largest firms can overcome market access constraints alone. Yet even the largest firms, such as Palestine Telecommunications Company, a monopoly operator, must rely on cooperation within the industry to improve the industry's performance by advocating for policy reform, benchmarking industry practices to global standards, and organizing export and marketing services for branding and positioning.

The national economy layer includes the social and physical infrastructure, macroeconomic policy, and the legal and regulatory framework that shapes the day-to-day market dynamics for business. Achieving improved competitiveness often requires a realignment of the roles of government and the private sector to be more complementary, yet still distinct.

The government needs to liberalize policies and laws to encourage fair competition, create enabling institutions and infrastructure, and ensure that rewards for investment and innovation accrue to the entrepreneur. In addition, any relevant government entities that are part of the cluster—in particular, knowledge producers (universities, training centers, research institutes, and testing laboratories)—have to be guided by the competitive repositioning strategy. The private sector, including nongovernmental organizations that form part of the cluster, is the principal force in the competitiveness strategy framework. Entrepreneurs and managers from the private sector need to drive the process.

Selecting Industry Clusters for Action

One of the most vexing issues in any initiative to support the emergence of competitive clusters is that of industrial focus. The conventional wisdom stresses that clusters should be self-selecting. Having politicians or bureaucrats choose clusters for promotion often leads to costly efforts to make them succeed, typically with meager results. Michael Enright¹ has established a category for this type of intervention—the “wishful-thinking cluster.” At the same time, there are usually several candidate clusters for self-selection. Efforts to support competitiveness initiatives need to make choices in working with clusters.

Three criteria should guide the process for selecting industry clusters for donor investment to achieve early results to prove to a skeptical market that business leaders can control their future and improve their competitiveness. The selection criteria include:

1. **Special Advantages.** Initial factor endowments—often confused with “comparative advantage”—matter. Clusters with natural resource or geographic assets offer valuable advantages that can be leveraged through dynamic strategic management. For example, limestone in the Palestinian Territories competes with the world-class limestone in France

¹ Enright, Michael J. “Regional Clusters: What We Know and What We Should Know.” Paper prepared for the Kiel Institute International Workshop on Innovation Clusters and Interregional Competition,” November 12-13, 2001.

and Italy in its natural state, offering good prospects for growth. Similarly, the religious sites in and around Jerusalem provide unparalleled advantages for tourism in the Holy Land that could benefit both Israeli and Palestinian industries. Factor endowments alone, however, are inadequate to spur innovation and productivity. Although factor endowments are important to achieve visible results quickly, dynamic competitive factors determine success for competitive repositioning.

2. **Competitive Potential.** A cluster should have some competitive capacity that can be leveraged to foster innovation and to improve productivity. The existence, for example, of a cluster of companies already manufacturing stone and marble for export—despite shortcomings in product or pricing—is crucial. Competitive potential offers leverage points to improve existing capacity within companies and industry to achieve higher profitability.
3. **Industry Leadership.** There should be a trade association or leadership group that is motivated to change the industry organization and structure. If such an organization does not exist or if only dormant ones exist, a sector growth team can be established as a temporary group representing major subsectors of the industry. For example, representatives from hotels, tour operators, handicraft manufacturers, tour guides, and travel agencies, as well as the Ministry of Tourism and local municipalities, are candidates to participate on a tourism sector growth team.

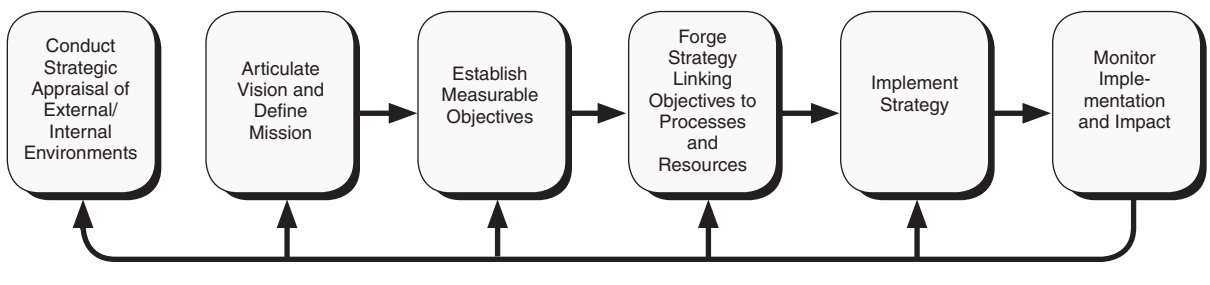
Although many industry clusters offer some growth potential, those that can demonstrate institutional reform and action are preferable in the early stages of a competitiveness initiative.

Applying Strategic Management

To gain and maintain competitiveness, coordinated action is required among industry players that often operate in environments that foster distrust, corruption, and incompetent institutions. The fragmentation, dislocation, and negative institutional environments typical of chronically low-performing emerging markets must change if industry clusters are going to achieve cooperation and efficiency. In such an environment, how do you create change among key stakeholders, encourage participation, and build ownership in the growth strategy?

MAP's support relied on strategic management principles to create an environment for new thinking, innovative leadership, and market-focused action. Figure 2 shows the main elements of strategic management. Strategic management is, by definition, a participatory process. It has been described as a process of discourse, bringing together various levels of an organization. As a continuous process, strategic management enables the government and individual agencies to stay focused yet flexible in an evolving environment. Within its strategic mission to improve economic policy making and economic performance, a competitiveness initiative needs to be nimble in responding to opportunities and changes as they occur. Successful economic policy reform always has an opportunistic element to it—to take advantage of or mitigate the impact of exogenous developments. Any successful strategy is ultimately a

FIGURE 2. STRATEGIC MANAGEMENT PROCESS



skillful blend of planned strategy, adaptive reaction, and strategic action.

The Washington, D.C., trip for Palestinian business leaders, followed by local strategy workshops for information technology, trade, furniture, stone and marble, and pharmaceuticals, was the impetus for young business leaders to take control of their future. They developed growth strategies that over the next two years propelled five Palestinian trade associations to catalyze major economic, social, and political reform. Previously dysfunctional or dormant associations are becoming modern business institutions with sound corporate governance practices. Associations are providing productive services to their member firms and successfully advocating policy reform to improve the business climate. The business culture has changed as competing businesses work together to ensure fair competition and cooperation for the common good in their sectors and in the general economy. The political impact of market-focused business institutions is influencing democratic processes at the grassroots. The collective action of individual firms organized into associations has developed a national business agenda collaboratively with the Palestinian Authority for positive policy, regulatory, and institutional changes. This process has created consensus for a market economy and a reform process led by the private sector.

The strategic management process and results are reshaping the competitiveness of Palestinian industry. Despite conflict and economic depression, Palestinian industry has reorganized business associations that are adopting global practices at the industry and the firm levels. Some sectors, such as pharmaceuticals, IT, and furniture, have achieved positive growth in spite of the conflict. PITA, for example, has expanded its market presence in the Middle East by broadening its network of IT partners to Dubai, Silicon Valley, and neighboring Arab countries in an effort to link into global value chains to increase specialization and lower transaction costs.

Most important, reform and change are occurring within Palestinian society through the leadership

of business people who want to improve their own firms' and society's well-being. For participating business and policy leaders, nationalism is now aimed at global positioning, profitability, and institutional reform, rather than on violence. The combination of bottom-line interest in their own companies and collective industry interest makes for improved competitiveness.

The strategic management process is hands-on and grows organically among cluster players. With the assistance of MAP, PITA organized two one-day workshops held simultaneously in hotels in Gaza City and Ramallah, linked by videoconferencing. The initial skepticism of several participants about strategic management was overtaken by an intense, engaging discussion about the future of their industry:

- **Analyzing External Environmental Factors:** exploring social, technological, economic, environmental, and political trends affecting the future of the IT industry. This discussion was conducted in plenary session so all participants could share their ideas and agree on the major external trends, opportunities, and threats facing the industry.
- **Exploring Scenarios:** identifying possible scenarios during the next three to five years that could affect the industry. The group worked to identify the most strategic variables affecting the future. Four scenarios were identified as possible future market outcomes. Four working groups developed each scenario by defining its market conditions, the kinds of companies that would exist, and the services and needs of those companies.
- **Formulating Strategy:** developing a vision, mission, and strategic goals for the industry. After each group reported its findings, MAP facilitators worked with the plenary session to extract the three core issues common to all four scenarios. These issues became the strategic goals for PITA that would endure under most future outcomes that would be beyond the control of the IT industry. The group developed a vision

statement of what the industry should look like in three years and adopted a mission statement of how to realize this vision, incorporating the strategic goals.

The workshop raised awareness and consensus about global trends in IT as well as challenges the industry could tackle. After concluding this phase of the strategy discussion, a working group was delegated the responsibility of developing a draft strategy for the IT industry. Two weeks later, a draft strategy was circulated widely and discussed in consultative sessions. Word quickly spread throughout the industry that something new was afoot.

Although the possibility of obtaining donor resources was an incentive for participants, the genuine enthusiasm indicated the participants brought integrity and commitment to the process to tackle their own problems. A PITA board member and prominent IT business leader shared his view of this process: “Being a participant of the strategic competitiveness process of our IT sector since its start and being exposed to the same process in our tourism industry, I cannot overstate the strategic added value that this critical dynamic has added to all levels of decision making. By consciously putting our nascent economy on the global map, our state-building efforts have leapfrogged by gaining vision, direction, and focus.”

PITA’s board adopted the strategy, and it was presented and ratified at a general assembly meeting in May 2000. The strategy guides all of PITA’s programs and activities, including partnerships with government agencies and partners. PITA became the strongest advocate for an industry agenda that includes curriculum design and education reform for IT graduates, telecommunication and intellectual property rights policies, and a public-private partnership to manage Palestine’s top-level domain (.ps) on the Internet. These issues did not provide immediate benefit to the member firms of PITA, but the agenda created a strategy to harmonize the industry with global IT practices. Now highly respected as a cluster-based trade association, PITA has established agreements with its sister associations

in Jordan, Egypt, and the UAE for a regional IT association and, more important, with the World International Information Technology Association.

At the same time, the strategy telescoped services that provided immediate benefits to member firms. All PITA activities, such as trade missions, market research, and access to Persian Gulf markets through the establishment of a Dubai Internet City office, support the organization’s strategy to improve the industry’s performance and competitive position. Despite the Intifada, many firms are hiring staff and developing new products and services.

This strategic management process created a corporate strategy for building a competitive industry cluster and a cluster-based trade association with global market focus. “Corporate” here means a unified mindset among key actors to pursue one course of action that benefits all parties. Strategic management to reposition industry is now an ongoing process for PITA as well as for four other associations. PITA’s board of directors is using the strategy to guide its investments from membership dues, services fees, and donor contributions—all aimed at improving the industry.

Strategic Clustering

Industry clusters should benefit from support services and infrastructure that improve competitive performance. Trade promotion and standards are two critical facets of export sales that affect almost all manufacturing and services clusters in today’s global economy. Strategic clustering of industry clusters with high growth potential, combined with networks that link trade services and standards, can achieve higher levels of efficiency.

Trade is a strategic sector that affects country and product branding and dictates access to markets for virtually all sectors of the economy. Critical actors in the trade cluster include freight forwarders, shippers, exporters, packaging manufacturers, export promotion associations, tax and customs officials, policy makers, and market research firms. A cluster-based trade organization that builds consensus for trade promotion strategies to support high-growth indus-

try clusters is critical for accessing key export markets and preparing firms to compete overseas. Palestinian observer status to the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO) were important steps to harmonize Palestinian trade policies. The establishment of the WTO/WIPO Resource Center as a public-private initiative to provide services to cluster-based trade associations ensures practical applications of global trade policies and rules to Palestinian industries and businesses.

Standards are integrally related to trade. Metrology measurements for products and services must meet global standards. Weights and measures are so vital to the U.S. economy that they are included in Article 1 of the U.S. Constitution. Most countries have standards institutes that are either public or public-private organizations that bring industry leaders and the scientific and policy communities together to provide critical metrology and standards services through a system of accreditation and certification. MAP created a partnership between the U.S. National Institute of Standards and Technology and the Palestinian Standards Institute to build the standards infrastructure that will deliver metrology, standards accreditation, and certification services needed to upgrade Palestinian companies.

Competitiveness should facilitate the process of industry cluster development and strategic clustering of multiple related sectors. A strategic competitiveness program will not only select the most promising industry clusters but also aggregate strategic sectors, such as trade and standards, that support many industries. In the Palestinian Territories, trade and standards are two strategic sectors that are linked to selected industry clusters with growth potential, including pharmaceuticals, IT, construction materials and services, tourism, and furniture.

Other sectors of the economy will benefit from this competitiveness approach. For example, the microenterprise sector, which is a major focus for improving rural areas, the informal sector, and impoverished households, should be viewed through the competitiveness framework. Microenterprises

tend to be highly concentrated within certain industries such as tourism and agriculture. Small-scale farmers, who are microentrepreneurs, contribute to agricultural production, such as seaweed, horticultural products, small animal production, and alternative cash crops. The value chains of such commodities should be treated as clusters that can improve productivity performance by applying competitiveness principles and processes. Leverage points for improving competitiveness within the value chain or commodity cluster include farmer groups, exporters, and processing firms.

Leveraging Principles into Economic Benefits

Strategic management to improve competitiveness is most effective when it:

1. Adheres rigorously to global factors affecting business performance in each industry;
2. Selects industry clusters with growth potential and local leaders who want to reposition their industry through market-focused institutions;
3. Aligns bottom-line incentives throughout the competitive market chain and applies global market requirements at all levels: to countries to harmonize with global market trends and requirements and compete for scarce global capital, management, and technology; to industries for benchmarking to achieve higher contributions to the country's GDP; and to enterprises for restructuring and providing incentives to innovate and increase market share; and
4. Achieves results early on to build credibility and galvanize the private sector and other industry actors to work toward repositioning their companies, industries, and country in line with the competitive forces of the global market.

Competitiveness works, even in the riskiest emerging markets. But it requires a competitiveness framework and rigorous strategic management processes to leverage competitiveness principles into real economic benefits. ♦

FORGING SUCCESSFUL COMPETITIVE STRATEGIES IN INHOSPITABLE ENVIRONMENTS

by Kenneth Swanberg

From the time of the pharaohs into our time, Egyptian cotton enjoyed a privileged position in world markets. Egypt's long-staple cotton, a variety known as barbadense cotton, a genotype different from any other cotton in the world, had traditionally been the preferred choice for high-end cotton products. The perceived superiority of Egyptian cotton had shaped marketing strategies—reaching a market share in long-staple cotton as high as 50 percent. Yet the Egyptian cotton industry was not immune from what David Landes calls the “Law of Nemesis”: every situation harbors the seeds of its reversal.

By the mid-1990s, Egyptian cotton's market share had fallen to less than 10 percent. Egyptian cotton was losing out to pima cotton, the only other well-recognized long-staple cotton, largely as a result of aggressive branding and pricing by SuPima, the U.S. pima cotton marketing organization. The collapse of Egypt's competitive position in the market triggered an overdue response. Under a USAID-funded policy project, DAI experts provided strategic guidance and analytic support to help the Egyptian cotton industry reposition itself in world markets and reverse the erosion of its competitive advantage. They found that although many of the lessons from the management literature on creating and sustaining competitive advantage apply, considerable retooling is needed to cope with shortcomings in the microeconomic foundations of competitive performance in a country like Egypt, which ranked 51 out of 75 countries in 2001 on growth competitiveness in the *Global Competitiveness Report*. Yet it is possible to design and implement effective competitive strategies even in an inhospitable environment.

Competitive Advantage Is Fleeting

Two perspectives have shaped the management literature on competitive strategies. The structural forces approach, with Michael Porter as its most prominent exponent, views advantage as resulting from a firm's ability to establish a sustainable position in the most attractive market segments, based on cost or differentiation, or both. The resource-based view focuses on the core competencies of the firm: its distinctive, hard-to-duplicate resources. The two views are of course complementary since “positional superiority is a consequence of relative superiority in the resources a business deploys.”¹

Whatever the competitive advantage in a particular market, it is subject to erosion because competitors are seeking to catch up and surpass the market leader. Resting on one's laurels in the battle for competitive advantage is a sure-fire recipe for decline. Egypt's cotton industry not only counted on its edge in terms of product quality but also raised the stakes by maintaining a pricing policy with a premium of 5 to 15 percent above pima cotton, even as effective marketing for the latter changed perceptions of quality. Moreover, the Egyptian authorities complicated the pricing picture when they sought to take political advantage of a temporary surge in world market prices for cotton in 1996. They guaranteed a floor price for cotton lint for the 1 million cotton farmers based on (temporarily) high prices in world markets. No sooner had the floor price been set than world market cotton prices declined sharply below the historical average.

Adjusting the domestic floor price to reflect world market conditions proved politically difficult. Yet exporters, sensibly, refused to sell below procure-

¹ Day, George S., David J. Reibstein (with Robert Gunther) (eds.). *Wharton on Dynamic Competitive Strategy*. New York: John Wiley and Sons, 1997.

ment costs. At the same time, any sales abroad at prices below domestic levels would have invited charges of dumping. Although the dilemma created by the floor price scheme based on overly optimistic expectations was obvious to anyone, finding a politically acceptable solution was no easy task. During this transition period, Egypt lost even more of its worldwide market share of long-staple cotton. The need for action became obvious.

Fashioning a Competitive Strategy

The response took the form of a comprehensive effort to develop and implement a strategy that would strengthen the competitive position of Egyptian cotton in the global marketplace. DAI provided support and guidance in this effort, which incorporated many of the elements of dynamic competitive strategizing, as outlined in Day et al. (see Figure 1).

An initial step in the Egyptian cotton competitiveness initiative was to redefine the markets in which Egyptian cotton was competing. Traditionally, the market had been limited to high- and medium-count yarn, where sales volumes were small. DAI advisers believed that Egyptian cotton could command a market presence in garments or furnishings made with fabric containing low-count Egyptian cotton yarn. In other words, the entire range of yarn counts could be made into products that could

sell at a premium. Although Egyptian cotton was priced too high to compete head to head with the short-staple cotton on a commodity basis, pricing it competitively vis-à-vis its major competitor, pima cotton, appeared sufficient to regain some market share. These two elements—expansion of the market into fabrics with low-count yarn and competitive pricing—formed the basis for an in-depth appraisal of the competitive environment.

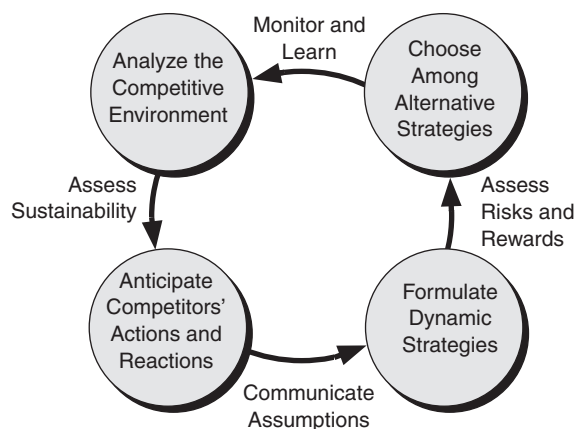
Productivity throughout Egypt's cotton value chain was inconsistent, and markets could not count on on-time deliveries. What were the constraints that prevented the industry from reclaiming its once dominant share? A series of diagnostic studies sought to give the industry the insights needed to address specific constraints and thereby improve systemic competitiveness. The studies addressed the following:

- Policy environment
- Market conditions and demand
- Industry structure
- Productivity and competitive position

Within each broad category, DAI advisers worked with industry and government counterparts to identify constraints and opportunities and to design and implement actions to strengthen the competitiveness of the Egyptian cotton industry.

Policy Environment. An appraisal—or “road map”—of first- and second-tier constraints addressed the policy environment. This appraisal focused on trade-related issues, such as exchange rates, tariffs, taxes, duties and quotas, and the regulatory environment. The appraisal also included issues related to pricing policies. The authorities subsequently took steps to mitigate some of these constraints but not in a comprehensive manner, given the political sensitivities involved. As an incentive for implementing policy reforms, USAID would respond to the achievement of negotiated policy benchmarks with the release of a tranche of budget support funds, usually about \$2 million per benchmark.

FIGURE 1. DYNAMIC COMPETITIVE STRATEGY



Market and Demand Conditions. Building on the strategic notion that the market for Egyptian cotton was broader than traditionally thought, a market analysis focused on the steps needed to turn the strong reputation of Egyptian cotton into a brand identity. The strategy was to invest in a new asset, in a move akin to Intel’s “Intel Inside” campaign. Under the guidance of a consultant from the Fashion Institute of Technology in New York City, students in fashion design and marketing classes at two U.S. universities interviewed people in the street about what they thought when they heard the words “Egyptian cotton.” A video of these interviews made a persuasive case that an Egyptian cotton logo on home furnishings, such as sheets, towels, and bed linens, and on other textiles in the United States would be beneficial.

After an intensive design effort, the industry adopted a logo that combined images of Egypt (the pyramids, of course) with that of a cotton bud. The largest home furnishings manufacturer in the United States, WestPoint Stevens, agreed to place the Egyptian cotton logo on its products, without even passing through a market testing period. The agreement with WestPoint Stevens and one of its principal suppliers, Parkdale Mills, was signed in the presence of President Mubarak at the U.S. Chamber of Commerce on April 2, 2000.

The efforts to strengthen brand recognition went hand in hand with an assessment of the implications of alternative pricing policies. Although the regime of administered prices rendered traditional models used in demand estimation inappropriate, a careful assessment of market conditions served to demonstrate that inching closer to parity with U.S. pima cotton prices would stimulate the export of significant amounts of Egyptian cotton and return Egypt to its once-dominant market share.

Industry Structure. Understanding constraints to and opportunities for improving systemic competitiveness requires a comprehensive view of the industry. The characteristics of all participant firms at each level within the value chain for cotton and textiles—producers, ginnerers, traders, spinners, weavers,

finishers, ready-made garment makers, and retailers—and their interactions determine overall performance. Vertically integrated, state-owned firms dominate the Egyptian textile industry, but the private sector is thriving in certain segments. Private firms account for almost 90 percent of the ready-made garment sector; however, they were almost exclusively using imported yarn and fabrics. Private ownership also was predominant among finishing firms and traders.

In 1997, the government owned four of five ginneries, six trading companies (with two major and several small trading companies in the private sector), 22 vertically integrated spinning and weaving companies, and several ready-made garment manufacturers. The government-owned firms purchased and sold their cotton, yarn, and fabrics according to prices set by the Alexandria Cotton Exporters’ Association (Alcotexa) and the Textile Consolidation Fund.

Privatization of the cotton sector was one benchmark for the policy component of the USAID project, but three factors made for slow progress. First, all of these firms held exorbitant debt, most of which was no longer being serviced. Second, they maintained enormous inventories because they were unable to move their products in the marketplace. Third, their work forces were too large to be efficient. As full privatization stalled, the assets of two firms were “leased,” one by a Korean firm and the other by local investors. Based on that experience, DAI advisers convinced the Ministry of Public Enterprise to promulgate guidelines for management and leasing contracts and pursued management contracts with three firms, two foreign and one local. However, given the precarious financial conditions and work-force redundancies, progress has been slow in implementing these forms of privatization.

The appraisal of the industry structure provided insight into the forces that prevented the industry from liberalizing its prices and privatizing its operations, prohibited the marketing rings from operating transparently, thwarted the attempts of Alcotexa to

reach parity pricing for cotton lint, and forced the Textile Consolidation Fund to maintain fixed prices for export yarn. The assessment also highlighted the debilitating effects of the practice of having the government set domestic and export prices and triggered actions to remedy the situation.

Productivity and Competitive Position. The analysis of productivity levels, systemic efficiency, and competitive position is at the core of developing a competitive strategy. It addresses:

- The actual cost of raw cotton production, especially with respect to the floor price set by the government;
- The resulting competitive position in key markets in terms of both quality (differentiation) and cost; and
- Opportunities and approaches to raise productivity through enhanced value or lower cost.

At the time of the study, the government guaranteed farmers a floor price slightly above the export price of approximately \$1.00 per pound of lint. A farm budget analysis determined the unit costs of cotton lint production, taking into consideration all input costs such as seeds, fertilizers, pesticides, land rents, land preparation, cultivation labor, packaging, and finance. In addition to guaranteeing floor prices, the government provided subsidies for several inputs, including seeds, pesticides, and land preparation. Although it was difficult to determine the actual costs to farmers, the consensus conclusion was that production costs were well below the floor price. Production costs ranged from \$0.33 to \$0.55 per pound of lint cotton, depending on which inputs were included. In particular, unit costs were low when land was owned (and not charged as rent) and high when land was rented and paid for, which was usually the case. In short, lowering the floor price, while politically unpopular, would not harm farmers.

The competitive positions analysis builds on the analysis of the costs of cotton lint production. The

competitive positions analysis calculates the total cost of the final product as delivered to the consumer and compares these costs with prices in major markets, both domestic and export. For processed goods, prices generally do not exhibit any seasonal fluctuations, but for raw commodities or highly perishable products, prices can vary significantly throughout the year. Company costs to seasonal prices can then determine windows of opportunity where the country or industry is in fact competitive—that is, where costs fall below the prevailing price.

A competitive positions analysis seeks to capture the costs for each input and transaction leading to the production of this good. In the case of Egyptian cotton, the total production cost, in addition to the cost of cultivation, included the cost of the ginning process and the transportation and exchange from producer to ginner to trader to processor, up to the door of the spinning factory. The cost of the final product—finished garments or home furnishings—comprised the costs of spinning the yarn and weaving, cutting, sewing, marketing, and distributing the final product.

The analysis resulted in a good understanding of the costs of production, ginning, trading, and spinning. The information obtained for weaving, finishing, and cut-and-sew operations was less reliable. Even so, the competitive positions analysis concluded that Egypt was in fact competitive in the production of both low- and high-count barbadense cotton yarn. Actually, the analysis originally suggested that only high-count yarn was competitive, but the drastic devaluation in 2001 made all yarn, including low-count yarn, competitive—even when compared with Indian and Pakistani short-staple, low-count yarn.

The Textile Consolidation Fund set export price guidelines for yarn according to variety, yarn count, and type of yarn (open end, carded, or combed). In setting these prices, the fund paid scant attention to the actual cost of production or to market responses. For example, it established the same price for different yarn counts, in effect overpricing lower-count yarn. The competitive positions analysis established

an empirical basis for determining prices that would be competitive in world markets.

Manufacturing in weaving, finishing, ready-made garments, and home furnishings were already considered to be competitive if the yarn could be obtained at international prices. Because the yarn study demonstrated competitiveness in yarn production—that is, the spinners could deliver their yarn at international prices—downstream activities, it could be assumed, also would be competitive.

The results of the competitive positions analysis have been sufficient to entice some foreign firms to make overtures for the leasing or purchase of several government-owned factories. These firms would not show such interest if they felt that the production of yarn of all counts would not be competitive on a worldwide basis.

At the same time, the cost analysis also helped identify areas where productivity could be raised. DAI advisers sought to maintain yields of at least 8 kentars (1 kentar = 167.5 kilograms of seed cotton) per feddan (roughly an acre), working with a German team to promote new cultivation technologies and the Cotton Research Institute to reproduce the most desired varieties. The effort reached the 8 kentars per feddan productivity rate for most cotton varieties in virtually all of the production regions.

The search for improved productivity, and thereby competitiveness, also involved initiatives to upgrade the skills of the industry work force. A training needs assessment was used to identify the types of training needed throughout the value chain among all of the stakeholders, such as ginners, traders, and spinning, weaving, and garment manufacturers, for both line staff and management. This assessment formed the basis for a massive training program for staff from all of the stakeholder firms.

The cotton competitiveness initiative worked closely with the Cotton Research Institute on the selection and assignment of cotton varieties to the different upper and lower delta production regions. This cooperation was critical to ensure the distribution of

medium-, long-, and extra long-staple cotton in the marketplace. The Textile Consolidation Fund maintained a laboratory to test cotton yarn and fabrics for various quality characteristics, and the USAID project included steps to improve the services and responsiveness of this unit. Lastly, the Fashion Design Center in Cairo, originally established by the Fashion Institute of Technology in New York, launched a program to revise and re-establish its curriculum and training schedule.

Taken alone, none of these efforts is likely to have a major impact on the competitiveness of the Egyptian cotton and textile industry; together, however, they have planted the seeds for stronger performance in both domestic and export markets. Much remains to be done.

Competitive Strategy Is a Process

The case of the Egyptian cotton and textile industry demonstrates vividly the gains possible from working with stakeholders in forging a competitive strategy. The case also illustrates the constraints on achieving competitiveness in inhospitable environments. The industry remains mired in institutional and administrative rigidities that keep it from realizing its full potential. Political sensitivities and vested interests continue to prevent a wholesale turnaround.

Even so, the techniques of building and maintaining dynamic competitive advantage that have emerged and been distilled from the management practices of the best companies in the world can have a significant impact even in less-than-supportive environments. As development policy becomes increasingly concerned with building and strengthening an environment for competitive performance, efforts to forge dynamic competitive strategies for key industry clusters will have a greater impact. Moreover, these efforts will establish priorities for structural reform, setting in motion a virtuous circle. Competitiveness is not a state—it is a process of striving for better performance in using a country's (or an industry cluster's) resources. ♦

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