

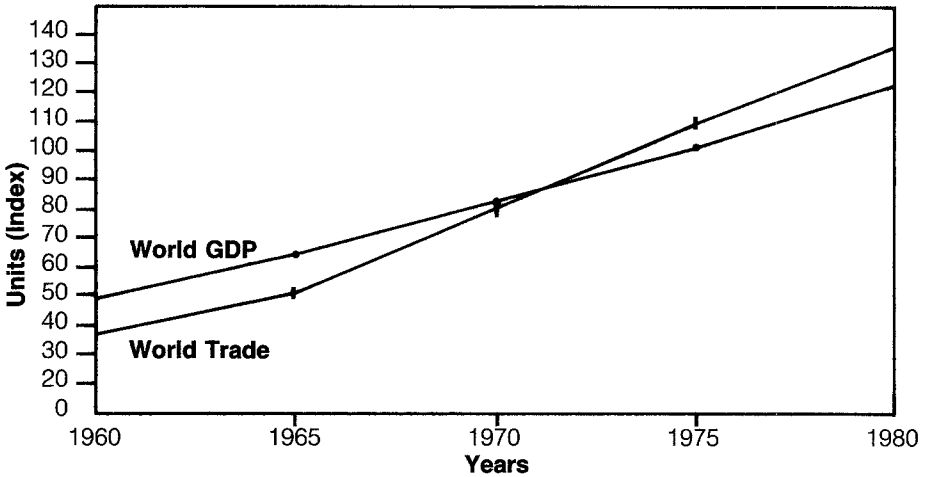
Changing Patterns of International Competition

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When examining the environmental changes facing firms today, it is a rare observer who will conclude that international competition is not high on the list. The growing importance of international competition is well recognized both in the business and academic communities, for reasons that are fairly obvious when one looks at just about any data set that exists on international trade or investment. Exhibit 1, for example, compares world trade and world GNP. Something interesting started happening around the mid-1950s, when the growth in world trade began to significantly exceed the growth in world GNP. Foreign direct investment by firms in developing countries began to grow rapidly a few years later, about 1963.¹ This period marked the beginning of a fundamental change in the international competitive environment that by now has come to be widely recognized. It is a trend that is causing sleepless nights for many business managers.

There is a substantial literature on international competition, because the subject is far from a new one. A large body of literature has investigated the many implications of the Heckscher-Ohlin model and other models of international trade which are rooted in the principle of comparative advantage.² The unit of analysis in this literature is the country. There is also considerable literature on the multinational firm, reflecting the growing importance of the multinational since the turn of the century. In examining the reasons for the multinational, I think it is fair to characterize this literature as resting heavily on the multinational's ability to exploit intangible assets.³ The work of Hymer and Caves among others has stressed the

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Exhibit 1. Growth of World Trade

Source: United Nations, *Statistical Yearbooks*

role of the multinational in transferring know-how and expertise gained in one country market to others at low cost, and thereby offsetting the unavoidable extra costs of doing business in a foreign country. A more recent stream of literature extends this by emphasizing how the multinational firm internalizes transactions to circumvent imperfections in various intermediate markets, most importantly the market for knowledge.

There is also a related literature on the problems of entry into foreign markets and the life cycle of how a firm competes abroad, beginning with export or licensing and ultimately moving to the establishment of foreign subsidiaries. Vernon's product cycle of international trade combines a view of how products mature with the evolution in a firm's international activities to predict the patterns of trade and investment in developed and developing countries.⁴ Finally, many of the functional fields in business administration research have their branch of literature about international issues—e.g., international marketing, international finance. This literature concentrates, by and large, on the problems of doing business in a foreign country.

As rich as it is, however, I think it is fair to characterize the literature on international competition as being limited when it comes to the choice of a firm's international strategy. Though the literature provides some guidance for considering incremental investment decisions to enter a new country, it provides at best a partial view of how to characterize a firm's overall international strategy and how such strategy should be selected. Put another way, the literature focuses more on the problem of becoming a multinational than on strategies for established multinationals. Although the distinction between domestic firms and multinationals is seminal in a

literature focused on the problems of doing business abroad, the fact that a firm is multinational says little if anything about its international strategy except that it operates in several countries.

Broadly stated, my research has been seeking to answer the question: what does international competition mean for competitive strategy? In particular, what are the distinctive questions for competitive strategy that are raised by international as opposed to domestic competition? Many of the strategy issues for a company competing internationally are very much the same as for one competing domestically. A firm must still analyze its industry structure and competitors, understand its buyer and the sources of buyer value, diagnose its relative cost position, and seek to establish a sustainable competitive advantage within some competitive scope, whether it be across-the-board or in an industry segment. These are subjects I have written about extensively.⁵ But there are some questions for strategy that are peculiar to international competition, and that add to rather than replace those listed earlier. These questions all revolve, in one way or another, around how a firm's activities in one country affect or are affected by what is going on in other countries—the connectedness among country competition. It is this connectedness that is the focus of this article and of a broader stream of research recently conducted under the auspices of the Harvard Business School.⁶

Patterns of International Competition

The appropriate unit of analysis in setting international strategy is the industry, because the industry is the arena in which competitive advantage is won or lost. The starting point for understanding international competition is the observation that its pattern differs markedly from industry to industry. At one end of the spectrum are industries that I call *multidomestic*, in which competition in each country (or small group of countries) is essentially independent of competition in other countries. A multidomestic industry is one that is present in many countries (e.g., there is a consumer banking industry in Sri Lanka, one in France, and one in the U.S.), but in which competition occurs on a country-by-country basis. In a multidomestic industry, a multinational firm may enjoy a competitive advantage from the one-time transfer of know-how from its home base to foreign countries. However, the firm modifies and adapts its intangible assets to employ them in each country and the outcome is determined by conditions in each country. The competitive advantages of the firm, then, are largely specific to each country. The international industry becomes a collection of essentially domestic industries—hence the term “multidomestic.” Industries where competition has traditionally exhibited this pattern include retailing, consumer packaged goods, distribution, insurance, consumer finance, and caustic chemicals.

At the other end of the spectrum are what I term *global* industries. The term global—like the word “strategy”—has become overused and perhaps under-understood. The definition of a global industry employed here is an industry in which a firm’s competitive position in one country is significantly influenced by its position in other countries.⁷ Therefore, the international industry is not merely a collection of domestic industries but a series of linked domestic industries in which the rivals compete against each other on a truly worldwide basis. Industries exhibiting the global pattern today include commercial aircraft, TV sets, semiconductors, copiers, automobiles, and watches.

The implications for strategy of the distinction between multidomestic and global industries are quite profound. In a multidomestic industry, a firm can and should manage its international activities like a portfolio. Its subsidiaries or other operations around the world should each control all the important activities necessary to do business in the industry and should enjoy a high degree of autonomy. The firm’s strategy in a country should be determined largely by the circumstances in that country; the firm’s international strategy is then what I term a “country-centered strategy.”

In a multidomestic industry, competing internationally is discretionary. A firm can choose to remain domestic or can expand internationally if it has some advantage that allows it to overcome the extra costs of entering and competing in foreign markets. The important competitors in multidomestic industries will either be domestic companies or multinationals with stand-alone operations abroad—this is the situation in each of the multidomestic industries listed earlier. In a multidomestic industry, then, international strategy collapses to a series of domestic strategies. The issues that are uniquely international revolve around how to do business abroad, how to select good countries in which to compete (or assess country risk), and mechanisms to achieve the one-time transfer of know-how. These are questions that are relatively well developed in the literature.

In a global industry, however, managing international activities like a portfolio will undermine the possibility of achieving competitive advantage. In a global industry, a firm must in some way integrate its activities on a worldwide basis to capture the linkages among countries. This will require more than transferring intangible assets among countries, though it will include it. A firm may choose to compete with a country-centered strategy, focusing on specific market segments or countries when it can carve out a niche by responding to whatever local country differences are present. However, it does so at some considerable risk from competitors with global strategies. All the important competitors in the global industries listed earlier compete worldwide with coordinated strategies.

In international competition, a firm always has to perform some functions in each of the countries in which it competes. Even though a global competitor must view its international activities as an overall system, it has

still to maintain some country perspective. It is the balancing of these two perspectives that becomes one of the essential questions in global strategy.⁸

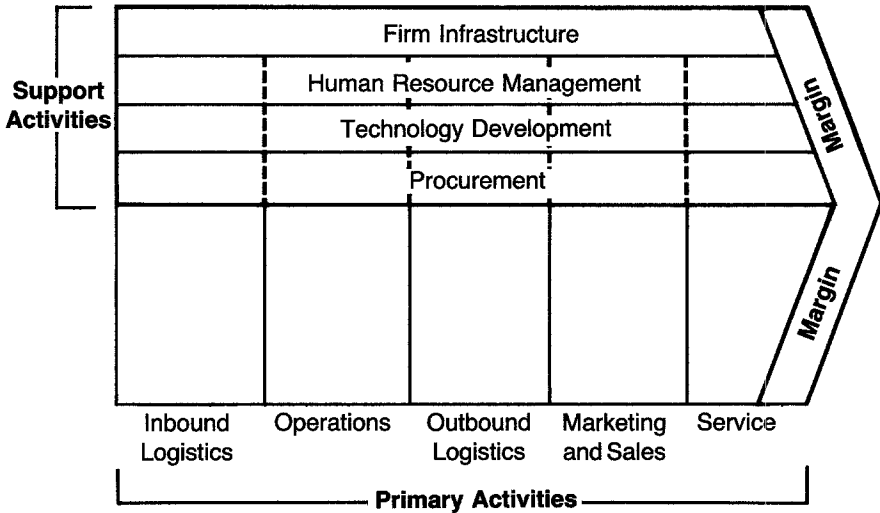
Causes of Globalization

If we accept the distinction between multidomestic and global industries as an important taxonomy of patterns of international competition, a number of crucial questions arise. When does an industry globalize? What exactly do we mean by a global strategy, and is there more than one kind? What determines the type of international strategy to select in a particular industry?

An industry is global if there is some competitive advantage to integrating activities on a worldwide basis. To make this statement operational, however, we must be very precise about what we mean by “activities” and also what we mean by “integrating.” To diagnose the sources of competitive advantage in any context, whether it be domestic or international, it is necessary to adopt a disaggregated view of the firm. In my newest book, *Competitive Advantage*, I have developed a framework for doing so, called the value chain.⁹ Every firm is a collection of discrete activities performed to do business that occur within the scope of the firm—I call them value activities. The activities performed by a firm include such things as salespeople selling the product, service technicians performing repairs, scientists in the laboratory designing process techniques, and accountants keeping the books. Such activities are technologically and in most cases physically distinct. It is only at the level of discrete activities, rather than the firm as a whole, that competitive advantage can be truly understood.

A firm may possess two types of competitive advantage: low relative cost or differentiation—its ability to perform the activities in its value chain either at lower cost or in a unique way relative to its competitors. The ultimate value a firm creates is what buyers are willing to pay for what the firm provides, which includes the physical product as well as any ancillary services or benefits. Profit results if the value created through performing the required activities exceeds the collective cost of performing them. Competitive advantage is a function of either providing comparable buyer value to competitors but performing activities efficiently (low cost), or of performing activities at comparable cost but in unique ways that create greater buyer value than competitors and, hence, command a premium price (differentiation).

The value chain, shown in Figure 1, provides a systematic means of displaying and categorizing activities. The activities performed by a firm in any industry can be grouped into the nine generic categories shown. The labels may differ based on industry convention, but every firm performs these basic categories of activities in some way or another. Within each category of activities, a firm typically performs a number of discrete activities which are particular to the industry and to the firm’s strategy. In

Figure 1. The Value Chain

service, for example, firms typically perform such discrete activities as installation, repair, parts distribution, and upgrading.

The generic categories of activities can be grouped into two broad types. Along the bottom are what I call *primary* activities, which are those involved in the physical creation of the product or service, its delivery and marketing to the buyer, and its support after sale. Across the top are what I call *support* activities, which provide inputs or infrastructure that allow the primary activities to take place on an ongoing basis.

Procurement is the obtaining of purchased inputs, whether they be raw materials, purchased services, machinery, or so on. Procurement stretches across the entire value chain because it supports every activity—every activity uses purchased inputs of some kind. There are typically many different discrete procurement activities within a firm, often performed by different people. Technology development encompasses the activities involved in designing the product as well as in creating and improving the way the various activities in the value chain are performed. We tend to think of technology in terms of the product or manufacturing process. In fact, every activity a firm performs involves a technology or technologies which may be mundane or sophisticated, and a firm has a stock of know-how about how to perform each activity. Technology development typically involves a variety of different discrete activities, some performed outside the R&D department.

Human resource management is the recruiting, training, and development of personnel. Every activity involves human resources, and thus

human resource management activities cut across the entire chain. Finally, firm infrastructure includes activities such as general management, accounting, legal, finance, strategic planning, and all the other activities decoupled from specific primary or support activities but that are essential to enable the entire chain's operation.

Activities in a firm's value chain are not independent, but are connected through what I call linkages. The way one activity is performed frequently affects the cost or effectiveness of other activities. If more is spent on the purchase of a raw material, for example, a firm may lower its cost of fabrication or assembly. There are many linkages that connect activities, not only within the firm but also with the activities of its suppliers, channels, and ultimately its buyers. The firm's value chain resides in a larger stream of activities that I term the value system. Suppliers have value chains that provide the purchased inputs to the firm's chain; channels have value chains through which the firm's product or service passes; buyers have value chains in which the firm's product or service is employed. The connections among activities in this vertical system also become essential to competitive advantage.

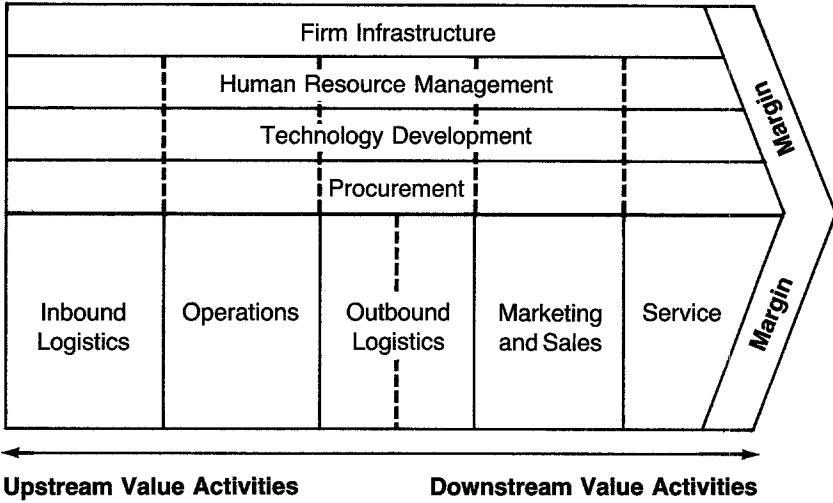
A final important building block in value chain theory, necessary for our purposes here, is the notion of *competitive scope*. Competitive scope is the breadth of activities the firm employs together in competing in an industry. There are four basic dimensions of competitive scope:

- *segment* scope, or the range of segments the firm serves (e.g., product varieties, customer types);
- *industry* scope, or the range of industries the firm competes in with a coordinated strategy;
- *vertical* scope, or what activities are performed by the firm versus suppliers and channels; and
- *geographic* scope, or the geographic regions the firm operates in with a coordinated strategy.

Competitive scope is vital to competitive advantage because it shapes the configuration of the value chain, how activities are performed, and whether activities are shared among units. International strategy is an issue of geographic scope, and can be analyzed quite similarly to the question of whether and how a firm should compete locally, regionally, or nationally within a country. In the international context, government tends to have a greater involvement in competition and there are more significant variations among geographic regions in buyer needs, although these differences are matters of degree.

International Configuration and Coordination of Activities—A firm that competes internationally must decide how to spread the activities in the value chain among countries. A distinction immediately arises between the activities labeled downstream on Figure 2, and those labeled

Figure 2. Upstream and Downstream Activities



upstream activities and support activities. The location of downstream activities, those more related to the buyer, is usually tied to where the buyer is located. If a firm is going to sell in Japan, for example, it usually must provide service in Japan and it must have salespeople stationed in Japan. In some industries it is possible to have a single sales force that travels to the buyer's country and back again; some other specific downstream activities such as the production of advertising copy can also sometimes be done centrally. More typically, however, the firm must locate the capability to perform downstream activities in each of the countries in which it operates. Upstream activities and support activities, conversely, can at least conceptually be decoupled from where the buyer is located.

This distinction carries some interesting implications. The first is that downstream activities create competitive advantages that are largely country-specific: a firm's reputation, brand name, and service network in a country grow out of a firm's activities in that country and create entry/mobility barriers largely in that country alone. Competitive advantage in upstream and support activities often grows more out of the entire system of countries in which a firm competes than from its position in any one country, however.

A second implication is that in industries where downstream activities or buyer-tied activities are vital to competitive advantage, there tends to be a more multidomestic pattern of international competition. In industries where upstream and support activities (such as technology development and operations) are crucial to competitive advantage, global competition

is more common. In global competition, the location and scale of these potentially footloose activities is optimized from a worldwide perspective.¹⁰

The distinctive issues in international, as contrasted to domestic, strategy can be summarized in two key dimensions of how a firm competes internationally. The first is what I term the *configuration* of a firm's activities worldwide, or where in the world each activity in the value chain is performed, including in how many places. The second dimension is what I term *coordination*, which refers to how like activities performed in different countries are coordinated with each other. If, for example, there are three plants—one in Germany, one in Japan, and one in the U.S.—how do the activities in those plants relate to each other?

A firm faces an array of options in both configuration and coordination for each activity. Configuration options range from concentrated (performing an activity in one location and serving the world from it—e.g., one R&D lab, one large plant) to dispersed (performing every activity in each country). In the latter case, each country would have a complete value chain. Coordination options range from none to very high. For example, if a firm produces its product in three plants, it could, at one extreme, allow each plant to operate with full autonomy—e.g., different product standards and features, different steps in the production process, different raw materials, different part numbers. At the other extreme, the plants could be tightly coordinated by employing the same information system, the same production process, the same parts, and so forth. Options for coordination in an activity are typically more numerous than the configuration options because there are many possible levels of coordination and many different facets of the way the activity is performed.

Figure 3 lists some of the configuration issues and coordination issues for several important categories of value activities. In technology development, for example, the configuration issue is where R&D is performed: one location? two locations? and in what countries? The coordination issues have to do with such things as the extent of interchange among R&D centers and the location and sequence of product introduction around the world. There are configuration issues and coordination issues for every activity.

Figure 4 is a way of summarizing these basic choices in international strategy on a single diagram, with coordination of activities on the vertical axis and configuration of activities on the horizontal axis. The firm has to make a set of choices for each activity. If a firm employs a very dispersed configuration—placing an entire value chain in every country (or small group of contiguous countries) in which it operates, coordinating little or not at all among them—then the firm is competing with a country-centered strategy. The domestic firm that only operates in one country is the extreme case of a firm with a country-centered strategy. As we move from the lower left-hand corner of the diagram up or to the right, we have strategies that are increasingly global.

Figure 3. Configuration and Coordination Issues by Category of Activity

Value Activity	Configuration Issues	Coordination Issues
Operations	<ul style="list-style-type: none"> • Location of production facilities for components and end products 	<ul style="list-style-type: none"> • Networking of international plants • Transferring process technology and production know-how among plants
Marketing and Sales	<ul style="list-style-type: none"> • Product line selection • Country (market) selection 	<ul style="list-style-type: none"> • Commonality of brand name worldwide • Coordination of sales to multinational accounts • Similarity of channels and product positioning worldwide • Coordination of pricing in different countries
Service	<ul style="list-style-type: none"> • Location of service organization 	<ul style="list-style-type: none"> • Similarity of service standards and procedures worldwide
Technology Development	<ul style="list-style-type: none"> • Number and location of R&D centers 	<ul style="list-style-type: none"> • Interchange among dispersed R&D centers • Developing products responsive to market needs in many countries • Sequence of product introductions around the world
Procurement	<ul style="list-style-type: none"> • Location of the purchasing function 	<ul style="list-style-type: none"> • Managing suppliers located in different countries • Transferring market knowledge • Coordinating purchases of common items

Figure 5 illustrates some of the possible variations in international strategy. The purest global strategy is to concentrate as many activities as possible in one country, serve the world from this home base, and tightly coordinate those activities that must inherently be performed near the buyer. This is the pattern adopted by many Japanese firms in the 1960s and 1970s, such as Toyota. However, Figures 4 and 5 make it clear that there is no such thing as one global strategy. There are many different kinds of global strategies, depending on a firm’s choices about configuration and coordination throughout the value chain. In copiers, for example, Xerox has until recently concentrated R&D in the U.S. but dispersed other

Figure 4. The Dimensions of International Strategy

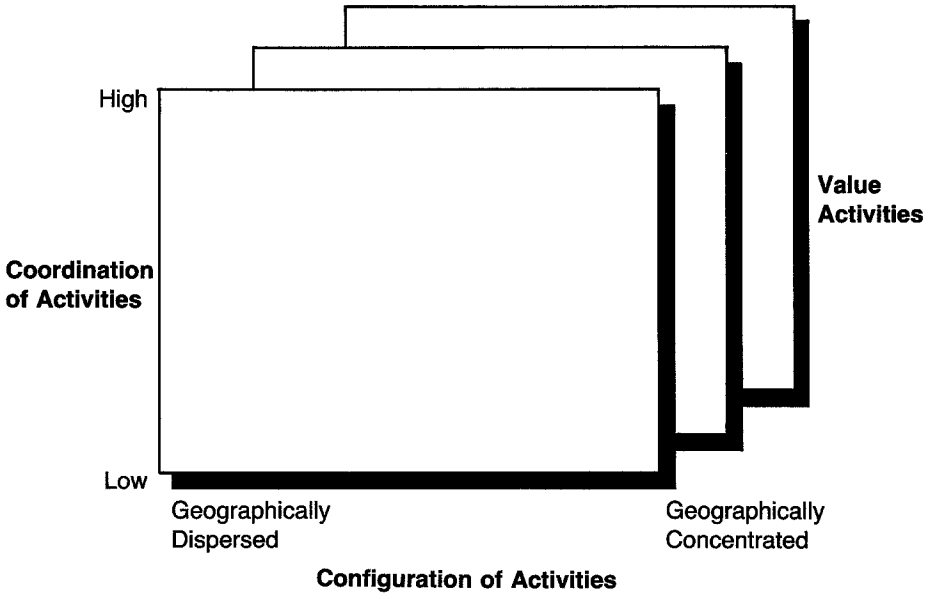
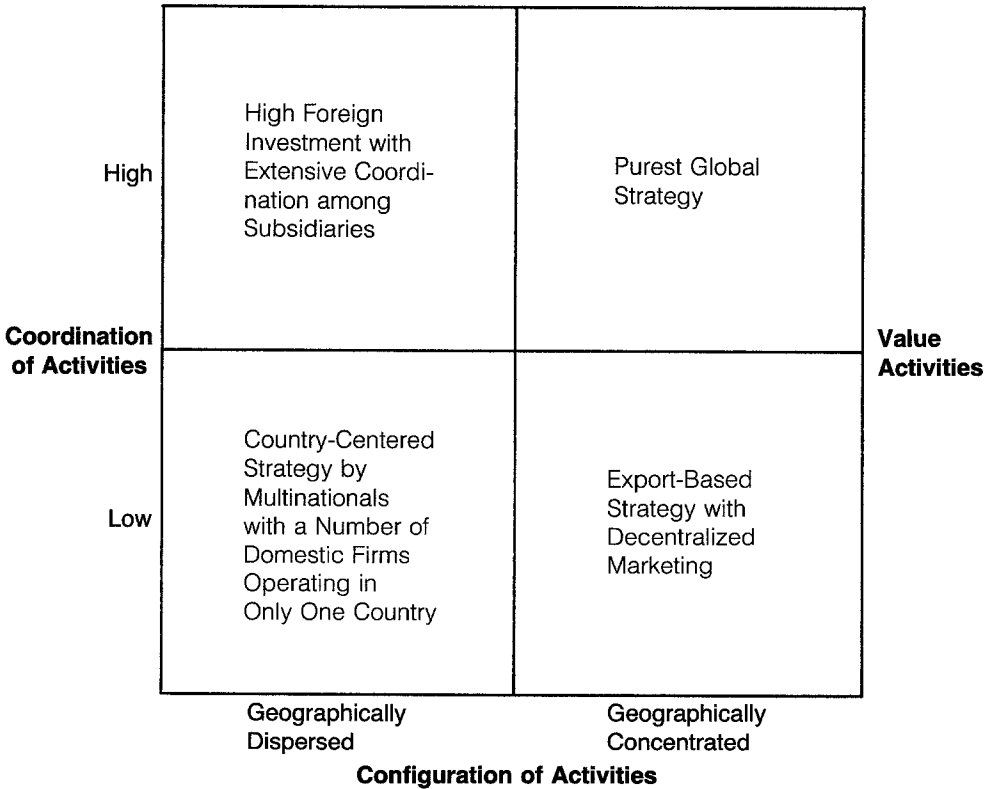


Figure 5. Types of International Strategy



activities, in some cases using joint-venture partners to perform them. On dispersed activities, however, coordination has been quite high. The Xerox brand, marketing approach, and servicing procedures have been quite standardized worldwide. Canon, on the other hand, has had a much more concentrated configuration of activities and somewhat less coordination of dispersed activities. The vast majority of support activities and manufacturing of copiers have been performed in Japan. Aside from using the Canon brand, however, local marketing subsidiaries have been given quite a bit of latitude in each region of the world.

A global strategy can now be defined more precisely as one in which a firm seeks to gain competitive advantage from its international presence through either concentrating configuration, coordination among dispersed activities, or both. Measuring the presence of a global industry empirically must reflect both dimensions and not just one. Market presence in many countries and some export and import of components and end products are characteristic of most global industries. High levels of foreign investment or the mere presence of multinational firms are not reliable measures, however, because firms may be managing foreign units like a portfolio.

Configuration/Coordination and Competitive Advantage—Understanding the competitive advantages of a global strategy and, in turn, the causes of industry globalization requires specifying the conditions in which concentrating activities globally and coordinating dispersed activities leads to either cost advantage or differentiation. In each case, there are structural characteristics of an industry that work for and against globalization.

The factors that favor concentrating an activity in one or a few locations to serve the world are as follows:

- economies of scale in the activity;
- a proprietary learning curve in the activity;
- comparative advantage in where the activity is performed; and
- coordination advantages of co-locating linked activities such as R&D and production.

The first two factors relate to *how many* sites an activity is performed at, while the last two relate to *where* these sites are. Comparative advantage can apply to any activity, not just production. For example, there may be some locations in the world that are better places than others to do research on medical technology or to perform software development. Government can promote the concentration of activities by providing subsidies or other incentives to use a particular country as an export base, in effect altering comparative advantage—a role many governments are playing today.

There are also structural characteristics that favor dispersion of an activity to many countries, which represent concentration costs. Local product needs may differ, nullifying the advantages of scale or learning from one-site operation of an activity. Locating a range of activities in a

country may facilitate marketing in that country by signaling commitment to local buyers and/or providing greater responsiveness. Transport, communication, and storage costs may make it inefficient to concentrate the activity in one location. Government is also frequently a powerful force for dispersing activities. Governments typically want firms to locate the entire value chain in their country, because this creates benefits and spillovers to the country that often go beyond local content. Dispersion is also encouraged by the risks of performing an activity in one place: exchange-rate risks, political risks, and so on. The balance between the advantages of concentrating and dispersing an activity normally differ for each activity (and industry). The best configuration for R&D is different from that for component fabrication, and this is different from that for assembly, installation, advertising, and procurement.¹¹

The desirability of coordinating like activities that are dispersed involves a similar balance of structural factors. Coordination potentially allows the sharing of know-how among dispersed activities. If a firm learns how to operate the production process better in Germany, transferring that learning may make the process run better in plants in the United States and Japan. Differing countries, with their inevitably differing conditions, provide a fertile basis for comparison as well as opportunities for arbitraging knowledge, obtained in different places about different aspects of the business. Coordination among dispersed activities also potentially improves the ability to reap economies of scale in activities if subtasks are allocated among locations to allow some specialization—e.g., each R&D center has a different area of focus. While there is a fine line between such forms of coordination and what I have termed configuration, it does illustrate how the way a network of foreign locations is managed can have a great influence on the ability to reap the benefits of any given configuration of activities. Viewed another way, close coordination is frequently a partial offset to dispersing an activity.

Coordination may also allow a firm to respond to shifting comparative advantage, where shifts in exchange rates and factor costs are hard to forecast. Incrementally increasing the production volume at the location currently enjoying favorable exchange rates, for example, can lower overall costs. Coordination can reinforce a firm's brand reputation with buyers (and hence lead to differentiation) through ensuring a consistent image and approach to doing business on a worldwide basis. This is particularly likely if buyers are mobile or information about the industry flows freely around the world. Coordination may also differentiate the firm with multinational buyers if it allows the firm to serve them anywhere and in a consistent way. Coordination (and a global approach to configuration) enhances leverage with local governments if the firm is able to grow or shrink activities in one country at the expense of others. Finally, coordination yields flexibility in responding to competitors, by allowing the firm to differentially

respond across countries and to respond in one country to a challenge in another.

Coordination of dispersed activities usually involves costs that differ by form of coordination and industry. Local conditions may vary in ways that may make a common approach across countries suboptimal. If every plant in the world is required to use the same raw material, for example, the firm pays a penalty in countries where the raw material is expensive relative to satisfactory substitutes. Business practices, marketing systems, raw material sources, local infrastructures, and a variety of other factors may differ across countries as well, often in ways that may mitigate the advantages of a common approach or of the sharing of learning. Governments may restrain the flow of information required for coordination or may impose other barriers to it. The transaction costs of coordination, which have recently received increased attention in domestic competition, are vitally important in international strategy.¹² International coordination involves long distances, language problems, and cultural barriers to communication. In some industries, these factors may mean that coordination is not optimal. They also suggest that forms of coordination which involve relatively infrequent decisions will enjoy advantages over forms of coordination involving on-going interchange.

There are also substantial organizational difficulties involved in achieving cooperation among subsidiaries, which are due to the difficulty in aligning subsidiary managers' interests with those of the firm as a whole. The Germans do not necessarily want to tell the Americans about their latest breakthroughs on the production line because it may make it harder for them to outdo the Americans in the annual comparison of operating efficiency among plants. These vexing organizational problems mean that country subsidiaries often view each other more as competitors than collaborators.¹³ As with configuration, a firm must make an activity-by-activity choice about where there is net competitive advantage from coordinating in various ways.

Coordination in some activities may be necessary to reap the advantages of configuration in others. The use of common raw materials in each plant, for example, allows worldwide purchasing. Moreover, tailoring some activities to countries may allow concentration and standardization of other activities. For example, tailored marketing in each country may allow the same product to be positioned differently and hence sold successfully in many countries, unlocking possibilities for reaping economies of scale in production and R&D. Thus coordination and configuration interact.

Configuration/Coordination and the Pattern of International Competition—When benefits of configuring and/or coordinating globally exceed the costs, an industry will globalize in a way that reflects the net benefits by value activity. The activities in which global competitors gain competitive advantage will differ correspondingly. Configuration/coordina-

tion determines the ongoing competitive advantages of a global strategy which are additive to competitive advantages a firm derives/possesses from its domestic market positions. An initial transfer of knowledge from the home base to subsidiaries is one, but by no means the most important, advantage of a global competitor.¹⁴

An industry such as commercial aircraft represents an extreme case of a global industry (in the upper right-hand corner of Figure 4). The three major competitors in this industry—Boeing, McDonnell Douglas, and Airbus—all have global strategies. In activities important to cost and differentiation in the industry, there are compelling net advantages to concentrating most activities and coordinating the dispersed activities extensively.¹⁵ In R&D, there is a large fixed cost of developing an aircraft model (\$1 billion or more) which requires worldwide sales to amortize. There are significant economies of scale in production, a steep learning curve in assembly (the learning curve was born out of research in this industry), and apparently significant advantages of locating R&D and production together. Sales of commercial aircraft are infrequent (via a highly skilled sales force), so that even the sales force can be partially concentrated in the home country and travel to buyers.

The costs of a concentrated configuration are relatively low in commercial aircraft. Product needs are homogenous, and there are the low transport costs of delivering the product to the buyer. Finally, worldwide coordination of the one dispersed activity, service, is very important—obviously standardized parts and repair advice have to be available wherever the plane lands.

As in every industry, there are structural features which work against a global strategy in commercial aircraft. These are all related to government, a not atypical circumstance. Government has a particular interest in commercial aircraft because of its large trade potential, the technological sophistication of the industry, its spillover effects to other industries, and its implications for national defense. Government also has an unusual degree of leverage in the industry: in many instances, it is the buyer. Many airlines are government owned, and a government official or appointee is head of the airline.

The competitive advantages of a global strategy are so great that all the successful aircraft producers have sought to achieve and preserve them. In addition, the power of government to intervene has been mitigated by the fact there are few viable worldwide competitors and that there are the enormous barriers to entry created in part by the advantages of a global strategy. The result has been that firms have sought to assuage government through procurement. Boeing, for example, is very careful about where it buys components. In countries that are large potential customers, Boeing seeks to develop suppliers. This requires a great deal of extra effort by Boeing both to transfer technology and to work with

suppliers to assure that they meet its standards. Boeing realizes that this is preferable to compromising the competitive advantage of its strongly integrated worldwide strategy. It is willing to employ one value activity (procurement) where the advantages of concentration are modest to help preserve the benefits of concentration in other activities. Recently, commercial aircraft competitors have entered into joint ventures and other coalition arrangements with foreign suppliers to achieve the same effect, as well as to spread the risk of huge development costs.

The extent and location of advantages from a global strategy vary among industries. In some industries, the competitive advantage from a global strategy comes in technology development, although firms gain little advantage in the primary activities so that these are dispersed around the world to minimize concentration costs. In other industries such as cameras or videocassette recorders, a firm cannot succeed without concentrating production to achieve economies of scale, but instead it gives subsidiaries much local autonomy in sales and marketing. In some industries, there is no net advantage to a global strategy and country-centered strategies dominate—the industry is multidomestic.

Segments or stages of an industry frequently vary in their pattern of globalization. In aluminum, the upstream (alumina and ingot) stages of the industry are global businesses. The downstream stage, semifabrication, is a group of multidomestic businesses because product needs vary by country, transport costs are high, and intensive local customer service is required. Scale economies in the value chain are modest. In lubricants, automotive oil tends to be a country-centered business while marine motor oil is a global business. In automotive oil, countries have varying driving standards, weather conditions, and local laws. Production involves blending various kinds of crude oils and additives, and is subject to few economies of scale but high shipping costs. Country-centered competitors such as Castrol and Quaker State are leaders in most countries. In the marine segment, conversely, ships move freely around the world and require the same oil everywhere. Successful competitors are global.

The ultimate leaders in global industries are often first movers—the first firms to perceive the possibilities for a global strategy. Boeing was the first global competitor in aircraft, for example, as was Honda in motorcycles, and Becton Dickinson in disposable syringes. First movers gain scale and learning advantages which are difficult to overcome. First mover effects are particularly important in global industries because of the association between globalization and economies of scale and learning achieved through worldwide configuration/coordination. Global leadership shifts if industry structural change provides opportunities for leapfrogging to new products or new technologies that nullify past leaders' scale and learning—again, the first mover to the new generation/technology often wins.

Global leaders often begin with some advantage at home, whether it be

low labor cost or a product or marketing advantage. They use this as a lever to enter foreign markets. Once there, however, the global competitor converts the initial home advantage into competitive advantages that grow out of its overall worldwide system, such as production scale or ability to amortize R&D costs. While the initial advantage may have been hard to sustain, the global strategy creates new advantages which can be much more durable.

International strategy has often been characterized as a choice between worldwide standardization and local tailoring, or as the tension between the economic imperative (large-scale efficient facilities) and the political imperative (local content, local production). It should be clear from the discussion so far that neither characterization captures the richness of a firm's international strategy choices. A firm's choice of international strategy involves a search for competitive advantage from configuration/coordination throughout the value chain. A firm may standardize (concentrate) some activities and tailor (disperse) others. It may also be able to standardize and tailor at the same time through the coordination of dispersed activities, or use local tailoring of some activities (e.g., different product positioning in each country) to allow standardization of others (e.g., production). Similarly, the economic imperative is not always for a global strategy—in some industries a country-centered strategy is the economic imperative. Conversely, the political imperative is to concentrate activities in some industries where governments provide strong export incentives and locational subsidies.

Global Strategy vs. Comparative Advantage—Given the importance of trade theory to the study of international competition, it is useful to pause and reflect on the relationship to the framework I have presented to the notion of comparative advantage. Is there a difference? The traditional concept of comparative advantage is that factor-cost or factor-quality differences among countries lead to production of products in countries with an advantage which export them elsewhere in the world. Competitive advantage in this view, then, grows out of *where* a firm performs activities. The location of activities is clearly one source of potential advantage in a global firm. The global competitor can locate activities wherever comparative advantage lies, decoupling comparative advantage from its home base or country of ownership.

Indeed, the framework presented here suggests that the comparative advantage story is richer than typically told, because it not only involves production activities (the usual focus of discussions) but also applies to other activities in the value chain such as R&D, processing orders, or designing advertisements. Comparative advantage is specific to the *activity* and not the location of the value chain as a whole.¹⁶ One of the potential advantages of the global firm is that it can spread activities among locations to reflect different preferred locations for different activities, something a

domestic or country-centered competitor does not do. Thus components can be made in Taiwan, software written in India and basic R&D performed in Silicon Valley, for example. This international specialization of activities within the firm is made possible by the growing ability to coordinate and configure globally.

At the same time as our framework suggests a richer view of comparative advantage, however, it also suggests that many forms of competitive advantage for the global competitor derive less from *where* the firm performs activities than from *how* it performs them on a worldwide basis; economies of scale, proprietary learning, and differentiation with multinational buyers are not tied to countries but to the configuration and coordination of the firm's worldwide system. Traditional sources of comparative advantage can be very elusive and slippery sources of competitive advantage for an international competitor today, because comparative advantage frequently shifts. A country with the lowest labor cost is overtaken within a few years by some other country—facilities located in the first country then face a disadvantage. Moreover, falling direct labor as a percentage of total costs, increasing global markets for raw materials and other inputs, and freer flowing technology have diminished the role of traditional sources of comparative advantage.

My research on a broad cross-section of industries suggests that the achievement of sustainable world market leadership follows a more complex pattern than the exploitation of comparative advantage per se. A competitor often starts with a comparative advantage-related edge that provides the basis for penetrating foreign markets, but this edge is rapidly translated into a broader array of advantages that arise from a global approach to configuration and coordination as described earlier. Japanese firms, for example, have done a masterful job of converting temporary labor-cost advantages into durable systemwide advantages due to scale and proprietary know-how. Ultimately, the systemwide advantages are further reinforced with country-specific advantages such as brand identity as well as distribution channel access. Many Japanese firms were fortunate enough to make their transitions from country-based comparative advantage to global competitive advantage at a time when nobody paid much attention to them and there was a buoyant world economy. European and American competitors were willing to cede market share in “less desirable” segments such as the low end of the producer line, or so they thought. The Japanese translated these beachheads into world leadership by broadening their lines and reaping advantages in scale and proprietary technology. The Koreans and Taiwanese, the latest low labor cost entrants to a number of industries, may have a hard time replicating Japan's success, given slower growth, standardized products, and now alert competitors.

Global Platforms—The interaction of the home-country conditions and competitive advantages from a global strategy that transcend the country suggest a more complex role of the country in firm success than implied

by the theory of comparative advantage. To understand this more complex role of the country, I define the concept of a *global platform*. A country is a desirable global platform in an industry if it provides an environment yielding firms domiciled in that country an advantage in competing globally in that particular industry.¹⁷ An essential element of this definition is that it hinges on success *outside* the country, and not merely country conditions which allow firms to successfully master domestic competition. In global competition, a country must be viewed as a platform and not as the place where all a firm's activities are performed.

There are two determinants of a good global platform in an industry, which I have explored in more detail elsewhere.¹⁸ The first is comparative advantage, or the factor endowment of the country as a site to perform particular activities in the industry. Today, simple factors such as low-cost unskilled labor and natural resources are increasingly less important to global competition compared to complex factors such as skilled scientific and technical personnel and advanced infrastructure. Direct labor is a minor proportion of cost in many manufactured goods and automation of non-production activities is shrinking it further, while markets for resources are increasingly global, and technology has widened the number of sources of many resources. A country's factor endowment is partly exogenous and partly the result of attention and investment in the country.

The second determinant of the attractiveness of a country as a global platform in an industry are the characteristics of a country's demand. A country's demand conditions include the size and timing of its demand in an industry, factors recognized as important by authors such as Linder and Vernon.¹⁹ They also include the sophistication and power of buyers and channels and the product features and attributes demanded. Local demand conditions provide two potentially powerful sources of competitive advantage to a global competitor based in that country. The first is *first-mover advantages* in perceiving and implementing the appropriate global strategy. Pressing local needs, particularly peculiar ones, lead firms to embark early to solve local problems and gain proprietary know-how. This is then translated into scale and learning advantages as firms move early to compete globally. The other potential benefit of local demand conditions is a baseload of demand for product varieties that will be sought after in international markets. These two roles of the country in the success of a global firm reflect the interaction between conditions of local supply, the composition and timing of country demand, and economies of scale and learning in shaping international success.

The two determinants interact in important and sometimes counterintuitive ways. Local demand and needs frequently influence private and social investment in endogenous factors of production. A nation with oceans as borders and dependence on sea trade, for example, is more prone to have universities and scientific centers dedicated to oceanographic education and research. Similarly, factor endowment seems to influence local demand.

The per capita consumption of wine is highest in wine-growing regions, for example.

Comparative disadvantage in some factors of production can be an advantage in global competition when combined with pressing local demand. Poor growing conditions have led Israeli farmers to innovate in irrigation and cultivation techniques, for example. The shrinking role in competition of simple factors of production relative to complex factors such as technical personnel seem to be enhancing the frequency and importance of such circumstances. What is important today is unleashing innovation in the proper direction, instead of passive exploitation of static cost advantages in a country which can shift rapidly and be overcome. International success today is a dynamic process resulting from continued development of products and processes. The forces which guide firms to undertake such activity thus become central to international competition.

A good example of the interplay among these factors is the television set industry. In the U.S., early demand was in large screen console sets because television sets were initially luxury items kept in the living room. As buyers began to purchase second and third sets, sets became smaller and more portable. They were used increasingly in the bedroom, the kitchen, the car, and elsewhere. As the television set industry matured, table model and portable sets became the universal product variety. Japanese firms, because of the small size of Japanese homes, cut their teeth on small sets. They dedicated most of their R&D to developing small picture tubes and to making sets more compact. In the process of naturally serving the needs of their home market, then, Japanese firms gained early experience and scale in segments of the industry that came to dominate world demand. U.S. firms, conversely, cut their teeth on large-screen console sets with fine furniture cabinets. As the industry matured, the experience base of U.S. firms was in a segment that was small and isolated to a few countries, notably the U.S. Japanese firms were able to penetrate world markets in a segment that was both uninteresting to foreign firms and in which they had initial scale, learning, and labor cost advantages. Ultimately the low-cost advantage disappeared as production was automated, but global scale and learning economies took over as the Japanese advanced product and process technology at a rapid pace.

The two broad determinants of a good global platform rest on the interaction between country characteristics and firms' strategies. The literature on comparative advantage, through focusing on country factor endowments, ignoring the demand side, and suppressing the individual firm, is most appropriate in industries where there are few economies of scale, little proprietary technology or technological change, or few possibilities for product differentiation.²⁰ While these industry characteristics are those of many traditionally traded goods, they describe few of today's important global industries.

The Evolution of International Competition

Having established a framework for understanding the globalization of industries, we are now in a position to view the phenomenon in historical perspective. If one goes back far enough, relatively few industries were global. Around 1880, most industries were local or regional in scope.²¹ The reasons are rather self-evident in the context of our framework. There were few economies of scale in production until fuel-powered machines and assembly-line techniques emerged. There were heterogeneous product needs among regions within countries, much less among countries. There were few if any national media—the *Saturday Evening Post* was the first important national magazine in the U.S. and developed in the teens and twenties. Communicating between regions was difficult before the telegraph and telephone, and transportation was slow until the railroad system became well developed.

These structural conditions created little impetus for the widespread globalization of industry. Those industries that were global reflected classic comparative advantage considerations—goods were simply unavailable in some countries (who then imported them from others) or differences in the availability of land, resources, or skilled labor made some countries desirable suppliers to others. Export of local production was the form of global strategy adapted. There was little role or need for widespread government barriers to international trade during this period, although trade barriers were quite high in some countries for some commodities.

Around the 1880s, however, were the beginnings of what today has blossomed into the globalization of many industries. The first wave of modern global competitors grew up in the late 1800s and early 1900s. Many industries went from local (or regional) to national in scope, and some began globalizing. Firms such as Ford, Singer, Gillette, National Cash Register, Otis, and Western Electric had commanding world market shares by the teens, and operated with integrated worldwide strategies. Early global competitors were principally American and European companies.

Driving this first wave of modern globalization were rising production scale economies due to advancements in technology that outpaced the growth of the world economy. Product needs also became more homogenized in different countries as knowledge and industrialization diffused. Transport improved, first through the railroad and steamships and later in trucking. Communication became easier with the telegraph then the telephone. At the same time, trade barriers were either modest or overwhelmed by the advantages of the new large-scale firms.

The burst of globalization soon slowed, however. Most of the few industries that were global moved increasingly towards a multidomestic pattern—multinationals remained, but between the 1920s and 1950 they often evolved towards federations of autonomous subsidiaries. The principal

reason was a strong wave of nationalism and resulting high tariff barriers, partly caused by the world economic crisis and world wars. Another barrier to global strategies, chronicled by Chandler,²² was a growing web of cartels and other interfirm contractual agreements. These limited the geographic spread of firms.

The early global competitors began rapidly dispersing their value chains. The situation of Ford Motor Company was no exception. While in 1925 Ford had almost no production outside the U.S., by World War II its overseas production had risen sharply. Firms that became multinationals during the interwar period tended to adopt country-centered strategies. European multinationals, operating in a setting where there were many sovereign countries within a relatively small geographical area, were quick to establish self-contained and quite autonomous subsidiaries in many countries. A more tolerant regulatory environment also encouraged European firms to form cartels and other cooperative agreements among themselves, which limited their foreign market entry.

Between the 1950s and the late 1970s, however, there was a strong reversal of the interwar trends. As Exhibit 1 illustrated, there have been very strong underlying forces driving the globalization of industries. The important reasons can be understood using the configuration/coordination dichotomy. The competitive advantage of competing worldwide from concentrated activities rose sharply, while concentration costs fell. There was a renewed rise in scale economies in many activities due to advancing technology. The minimum efficient scale of an auto assembly plant more than tripled between 1960 and 1975, for example, while the average cost of developing a new drug more than quadrupled.²³ The pace of technological change has increased, creating more incentive to amortize R&D costs against worldwide sales.

Product needs have continued to homogenize among countries, as income differences have narrowed, information and communication has flowed more freely around the world, and travel has increased.²⁴ Growing similarities in business practices and marketing systems (e.g., chain stores) in different countries have also been a facilitating factor in homogenizing needs. Within countries there has been a parallel trend towards greater market segmentation, which some observers see as contradictory to the view that product needs in different countries are becoming similar. However, segments today seem based less on country differences and more on buyer differences that transcend country boundaries, such as demographic, user industry, or income groups. Many firms successfully employ global focus strategies in which they serve a narrow segment of an industry worldwide, as do Daimler-Benz and Rolex.

Another driver of post-World War II globalization has been a sharp reduction in the real costs of transportation. This has occurred through innovations in transportation technology including increasingly large bulk

carriers, container ships, and larger, more efficient aircraft. At the same time, government impediments to global configuration/coordination have been falling in the postwar period. Tariff barriers have gone down, international cartels and patent-sharing agreements have disappeared, and regional economic pacts such as the European Community have emerged to facilitate trade and investment, albeit imperfectly.

The ability to coordinate globally has also risen markedly in the postwar period. Perhaps the most striking reason is falling communication costs (in voice and data) and reduced travel time for individuals. The ability to coordinate activities in different countries has also been facilitated by growing similarities among countries in marketing systems, business practices, and infrastructure—country after country has developed supermarkets and mass distributors, television advertising, and so on. Greater international mobility of buyers and information has raised the payout to coordinating how a firm does business around the world. The increasing number of firms who are multinational has created growing possibilities for differentiation by suppliers who are global.

The forces underlying globalization have been self-reinforcing. The globalization of firms' strategies has contributed to the homogenization of buyer needs and business practices. Early global competitors must frequently stimulate the demand for uniform global varieties; for example, as Becton Dickinson did in disposable syringes and Honda did in motorcycles. Similarly, globalization of industries begets globalization of supplier industries—the increasing globalization of automotive component suppliers is a good example. Pioneering global competitors also stimulate the development and growth of international telecommunication infrastructure as well as the creation of global advertising media—e.g., *The Economist* and *The Wall Street Journal*.

Strategic Implications of Globalization

When the pattern of international competition shifts from multidomestic to global, there are many implications for the strategy of international firms. While a full treatment is beyond the scope of this paper, I will sketch some of the implications here.²⁵

At the broadest level, globalization casts new light on many issues that have long been of interest to students of international business. In areas such as international finance, marketing, and business-government relations, the emphasis in the literature has been on the unique problems of adapting to local conditions and ways of doing business in a foreign country in a foreign currency. In a global industry, these concerns must be supplemented with an overriding focus on the ways and means of international configuration and coordination. In government relations, for example, the focus must shift from stand-alone negotiations with host countries (appropriate in multidomestic competition) to a recognition that negotiations

in one country will both affect other countries and be shaped by possibilities for performing activities in other countries. In finance, measuring the performance of subsidiaries must be modified to reflect the contribution of one subsidiary to another's cost position or differentiation in a global strategy, instead of viewing each subsidiary as a stand-alone unit. In battling with global competitors, it may be appropriate in some countries to accept low profits indefinitely—in multidomestic competition this would be unjustified.²⁶ In global industries, the overall system matters as much or more than the country.

Of the many other implications of globalization for the firm, there are two of such significance that they deserve some treatment here. The first is the role of *coalitions* in global strategy. A coalition is a long-term agreement linking firms but falling short of merger. I use the term coalition to encompass a whole variety of arrangements that include joint ventures, licenses, supply agreements, and many other kinds of interfirm relationships. Such interfirm agreements have been receiving more attention in the academic literature, although each form of agreement has been looked at separately and the focus has been largely domestic.²⁷ International coalitions, linking firms in the same industry based in different countries, have become an even more important part of international strategy in the past decade.

International coalitions are a way of configuring activities in the value chain on a worldwide basis jointly with a partner. International coalitions are proliferating rapidly and are present in many industries.²⁸ There is a particularly high incidence in automobiles, aircraft, aircraft engines, robotics, consumer electronics, semiconductors and pharmaceuticals. While international coalitions have long been present, their character has been changing. Historically, a firm from a developed country formed a coalition with a firm in a lesser-developed country to perform marketing activities in that country. Today, we observe more and more coalitions in which two firms from developed countries are teaming up to serve the world, as well as coalitions that extend beyond marketing activities to encompass activities throughout the value chain.²⁹ Production and R&D coalitions are very common, for example.

Coalitions are a natural consequence of globalization and the need for an integrated worldwide strategy. The same forces that lead to globalization will prompt the formation of coalitions as firms confront the barriers to establishing a global strategy of their own. The difficulties of gaining access to foreign markets and in surmounting scale and learning thresholds in production, technology development, and other activities have led many firms to team up with others. In many industries, coalitions can be a transitional state in the adjustment of firms to globalization, reflecting the need of firms to catch up in technology, cure short-term imbalances between their global production networks and exchange rates, and accelerate

the process of foreign market entry. Many coalitions are likely to persist in some form, however.

There are benefits and costs of coalitions as well as difficult implementation problems in making them succeed (which I have discussed elsewhere). How to choose and manage coalitions is among the most interesting questions in international strategy today. When one speaks to managers about coalitions, almost all have tales of disaster which vividly illustrate that coalitions often do not succeed. Also, there is the added burden of coordinating global strategy with a coalition partner because the partner often wants to do things its own way. Yet, in the face of copious corporate experience that coalitions do not work and a growing economics literature on transaction costs and contractual failures, we see a proliferation of coalitions today of the most difficult kind—those between companies in different countries.³⁰ There is a great need for researching in both the academic community and in the corporate world about coalitions and how to manage them. They are increasingly being forced on firms today by new competitive circumstances.

A second area where globalization carries particular importance is in *organizational structure*. The need to configure and coordinate globally in complex ways creates some obvious organizational challenges.³¹ Any organization structure for competing internationally has to balance two dimensions; there has to be a *country* dimension (because some activities are inherently performed in the country) and there has to be a *global* dimension (because the advantages of global configuration/coordination must be achieved). In a global industry, the ultimate authority must represent the global dimension if a global strategy is to prevail. However, within any international firm, once it disperses any activities there are tremendous pressures to disperse more. Moreover, forces are unleashed which lead subsidiaries to seek growing autonomy. Local country managers will have a natural tendency to emphasize how different their country is and the consequent need for local tailoring and control over more activities in the value chain. Country managers will be loath to give up control over activities or how they are performed to outside forces. They will also frequently paint an ominous picture of host government concerns about local content and requirements for local presence. Corporate incentive systems frequently encourage such behavior by linking incentives narrowly to subsidiary results.

In successful global competitors, an environment is created in which the local managers seek to exploit similarities across countries rather than emphasize differences. They view the firms's global presence as an advantage to be tapped for their local gain. Adept global competitors often go to great lengths to devise ways of circumventing or adapting to local differences while preserving the advantages of the similarities. A good example is Canon's personal copier. In Japan, the typical paper size is

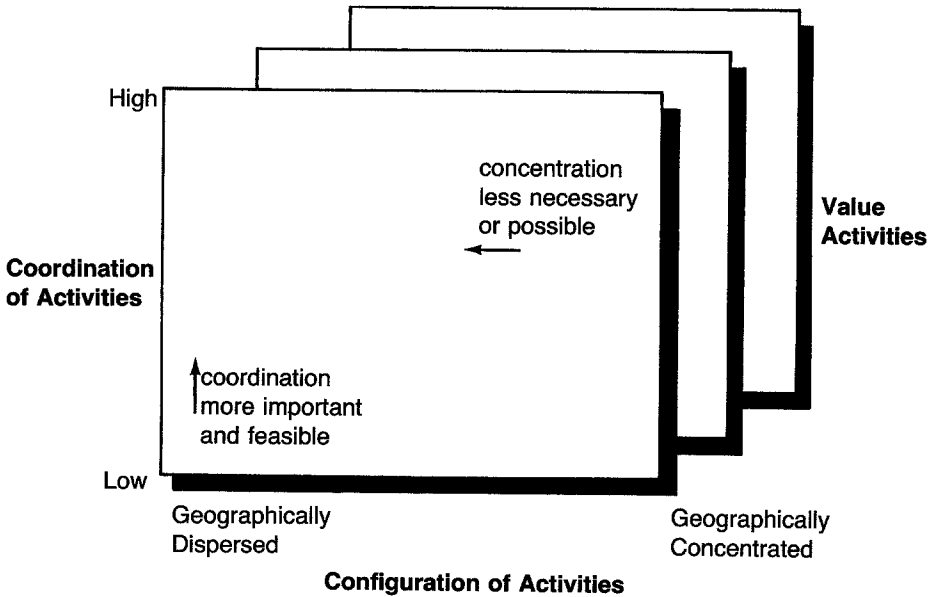
bigger than American legal size and the standard European size. Canon's personal copier will not handle this size—a Japanese company introduced a product that did not meet its home market needs in the world's largest market for small copiers! Canon gathered its marketing managers from around the world and cataloged market needs in each country. They found that capacity to copy the large Japanese paper was only needed in Japan. In consultation with design and manufacturing engineers, it was determined that building this feature into the personal copier would significantly increase its complexity and cost. The decision was made to omit the feature because the price elasticity of demand for the personal copier was judged to be high. But this was not the end of the deliberations. Canon's management then set out to find a way to make the personal copier saleable in Japan. The answer that emerged was to add another feature to the copier—the ability to copy business cards—which both added little cost and was particularly valuable in Japan. This case illustrates the principle of looking for the similarities in needs among countries and in finding ways of creating similarities, not emphasizing the differences.

Such a change in orientation is something that typically occurs only grudgingly in a multinational company, particularly if it has historically operated in a country-centered mode (as has been the case with early U.S. and European multinationals). Achieving such a reorientation requires first that managers recognize that competitive success demands exploiting the advantages of a global strategy. Regular contact and discussion among subsidiary managers seems to be a prerequisite, as are information systems that allow operations in different countries to be compared.³² This can be followed by programs for exchanging information and sharing know-how and then by more complex forms of coordination. Ultimately, the reconfiguring of activities globally may then be accepted, even though subsidiaries may have to give up control over some activities in the process.

The Future of International Competition

Since the late 1970s, there have been some gradual but significant changes in the pattern of international competition which carry important implications for international strategy. Our framework provides a template with which we can examine these changes and probe their significance. The factors shaping the global configuration of activities by firms are developing in ways which contrast with the trends of the previous thirty years. Homogenization of product needs among countries appears to be continuing, though segmentation within countries is as well. As a result, consumer packaged goods are becoming increasingly prone toward globalization, though they have long been characterized by multidomestic competition. There are also signs of globalization in some service industries as the introduction of information technology creates scale economies in support activities and facilitates coordination in primary activities. Global service

Figure 6. Future Trends in International Competition



firms are reaping advantages in hardware and software development as well as procurement.

In many industries, however, limits have been reached in the scale economies that have been driving the concentration of activities. These limits grow out of classic diseconomies of scale that arise in very large facilities, as well as out of new, more flexible technology in manufacturing and other activities that is often not as scale sensitive as previous methods. At the same time, though, flexible manufacturing allows the production of multiple varieties (to serve different countries) in a single plant. This may encourage new movement towards globalization in industries in which product differences among countries have remained significant and have blocked globalization in the past.

There also appear to be some limits to further decline in transport costs, as innovations such as containerization, bulk ships, and larger aircraft have run their course. However, a parallel trend toward smaller, lighter products and components may keep some downward pressure on transport costs. The biggest change in the benefits and costs of concentrated configuration has been the sharp rise in protectionism in recent years and the resulting rise in nontariff barriers, harkening back to the 1920s. As a group, these factors point to less need and less opportunity for highly concentrated configurations of activities.

When we examine the coordination dimension, the picture looks starkly different. Communication and coordination costs are dropping sharply, driven by breathtaking advances in information systems and telecommunication technology. We have just seen the beginning of developments in this area, which are spreading throughout the value chain.³³ Boeing, for example, is employing computer-aided design technology to jointly design components on-line with foreign suppliers. Engineers in different countries are communicating via computer screens. Marketing systems and business practices continue to homogenize, facilitating the coordination of activities in different countries. The mobility of buyers and information is also growing rapidly, greasing the international spread of brand reputations and enhancing the importance of consistency in the way activities are performed worldwide. Increasing numbers of multinational and global firms are betting globalization by their suppliers. There is also a sharp rise in the computerization of manufacturing as well as other activities throughout the value chain, which greatly facilitates coordination among dispersed sites.

The imperative of global strategy is shifting, then, in ways that will require a rebalancing of configuration and coordination. Concentrating activities is less necessary in economic terms, and less possible as governments force more dispersion. At the same time, the ability to coordinate globally throughout the value chain is increasing dramatically through modern technology. The need to coordinate is also rising to offset greater dispersion and to respond to buyer needs.

Thus, today's game of global strategy seems increasingly to be a game of coordination—getting more and more dispersed production facilities, R&D laboratories, and marketing activities to truly work together. Yet, widespread coordination is the exception rather than the rule today in many multinationals, as I have noted. The imperative for coordination raises many questions for organizational structure, and is complicated even more when the firm has built its global system using coalitions with independent firms.

Japan has clearly been the winner in the postwar globalization of competition. Japan's firms not only had an initial labor cost advantage but the orientation and skills to translate this into more durable competitive advantages such as scale and proprietary technology. The Japanese context also offered an excellent platform for globalization in many industries, given postwar environmental and technological trends. With home market conditions favoring compactness, a lead in coping with high energy costs, and a national conviction to raise quality, Japan has proved a fertile incubator of global leaders. Japanese multinationals had the advantage of embarking on international strategies in the 1950s and 1960s when the imperatives for a global approach to strategy were beginning to accelerate, but without the legacy of past international investments and modes of behavior.³⁴

Japanese firms also had an orientation towards highly concentrated activities that fit the strategic imperative of the time. Most European and American multinationals, conversely, were well established internationally before the war. They had legacies of local subsidiary autonomy that reflected the interwar environment. As Japanese firms spread internationally, they dispersed activities only grudgingly and engaged in extensive global coordination. European and country-centered American companies struggled to rationalize overly dispersed configurations of activities and to boost the level of global coordination among foreign units. They found their decentralized organization structures—so fashionable in the 1960s and 1970s—to be a hindrance to doing so.

As today's international firms contemplate the future, Japanese firms are rapidly dispersing activities, due largely to protectionist pressures but also because of the changing economic factors I have described. They will have to learn the lessons of managing overseas activities that many European and American firms learned long ago. However, Japanese firms enjoy an organizational style that is supportive of coordination and a strong commitment to introducing new technologies such as information systems that facilitate it. European firms must still overcome their country-centered heritage. Many still do not compete with truly global strategies and lack modern technology. Moreover, the large number of coalitions formed by European firms must overcome the barriers to coordination if they are not to prove ultimately limiting. The European advantage may well be in exploiting an acute and well-developed sensitivity to local market conditions as well as a superior ability to work with host governments. By using modern flexible manufacturing technology and computerizing elsewhere in the value chain, European firms may be able to serve global segments and better differentiate products.

Many American firms tend to fall somewhere in between the European and Japanese situations. Their awareness of international competition has risen dramatically in recent years, and efforts at creating global strategies are more widespread. The American challenge is to catch the Japanese in a variety of technologies, as well as to learn how to gain the benefits of coordinating among dispersed units instead of becoming trapped by the myths of decentralization. The changing pattern of international competition is creating an environment in which no competitor can afford to allow country parochialism to impede its ability to turn a worldwide position into a competitive edge.

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12. See, for example, Oliver Williamson, *Markets and Hierarchies* (New York, NY: The Free Press, 1975). For an international application, see Mark C. Casson, "Transaction Costs and the Theory of the Multinational Enterprise," in Alan Rugman, ed., *New Theories of the Multinational Enterprise* (London: Croom Helm, 1982); David J. Teece, "Transaction Cost Economics and the Multinational Enterprise: An Assessment," *Journal of Economic Behavior and Organization* (forthcoming, 1986).
13. The difficulties in coordinating are internationally parallel to those in coordinating across business units competing in different industries with the diversified firm. See Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (New York, NY: The Free Press, 1985), Chapter 11.
14. Empirical research has found a strong correlation between R&D and advertising intensity and the extent of foreign direct investment (for a survey, see Caves, 1982, op cit.). Both these factors have a place in our model of the determinants of globalization, but for quite different reasons. R&D intensity suggests scale advantages for the global competitor in developing products or processes that are manufactured abroad either due to low production scale economies or government pressures, or which require investments in service infrastructure. Advertising intensity, however, is much closer to the classic transfer of marketing knowledge to foreign subsidiaries. High advertising industries are also frequently those where local tastes differ and manufacturing scale economies are modest, both reasons to disperse many activities.
15. For an interesting description of the industry, see the paper by Michael Yoshino in Porter, ed., op. cit., (forthcoming).
16. It has been recognized that comparative advantage in different stages in a vertically integrated industry sector such as aluminum can reside in different countries. Bauxite mining will take place in resource-rich countries, for example, while smelting will take place in countries with low electrical power cost. See R.E. Caves and Ronald W. Jones, op. cit. The argument here extends this thinking *within* the value chain of any stage and suggests that the optimal location for performing individual activities may vary as well.
17. The firm need not necessarily be owned by investors in the country, but the country is its home base for competing in a particular country.
18. See Porter, *Competitive Advantage*, op. cit.
19. See S. Linder, *An Essay on Trade and Transformation* (New York, NY: John Wiley, 1961); Vernon, op. cit., (1966); W. Gruber, D. Mehta, and R. Vernon, "R&D Factor in International Trade and International Investment of United States Industries," *Journal of Political Economics*, 76/1 (1967):20-37.
20. Where it does recognize scale economies, trade theory views them narrowly as arising from production in one country.
21. See Alfred Chandler in Porter, ed., op. cit., (forthcoming) for a penetrating history of the origins of the large industrial firm and its expansion abroad, which is consistent with the discussion here.
22. Ibid.
23. For data on auto assembly, see "Note on the World Auto Industry in Transition," Harvard Business School Case Services (#9-382-122).
24. For a supporting view, see Theodore Levitt, "The Globalization of Markets," *Harvard Business Review* (May/June 1983), pp. 92-102.
25. The implications of the shift from multidomestic to global competition were the theme of a series of papers on each functional area of the firm prepared for the Harvard Business School Colloquium on Competition in Global Industries. See Porter, ed., op. cit., (forthcoming).

26. For a discussion, see Hout, Porter, and Rudden, *op. cit.* For a recent treatment, see Gary Hamel and C.K. Prahalad, "Do You Really Have a Global Strategy," *Harvard Business Review* (July/August 1985), pp. 139-148.
27. David J. Teece, "Firm Boundaries, Technological Innovation, and Strategic Planning," in L.G. Thomas, ed., *Economics of Strategic Planning* (Lexington, MA: Lexington Books, 1985).
28. For a treatment of coalitions from this perspective, see Porter, Fuller, and Rawlinson, in Porter, ed., *op. cit.*, (forthcoming).
29. Hladik's recent study of international joint ventures provides supporting evidence. See K. Hladik, "International Joint Ventures: An Empirical Investigation into the Characteristics of Recent U.S.-Foreign Joint Venture Partnerships," unpublished Doctoral dissertation, Business Economics Program, Harvard University, 1984.
30. For the seminal work on contractual failures, see Williamson, *op. cit.*
31. For a thorough and sophisticated treatment, see Christopher A. Bartlett's paper in Porter, ed., *op. cit.*, (forthcoming).
32. For a good discussion of the mechanisms for facilitating international coordination in operations and technology development, see M.T. Flaherty in Porter, ed., *op. cit.*, (forthcoming). Flaherty stresses the importance of information systems and the many dimensions that valuable coordination can take.
33. For a discussion, see Michael E. Porter and Victor Millar, "How Information Gives You Competitive Advantage," *Harvard Business Review* (July/August 1985), pp. 149-160.
34. Prewar international sales enjoyed by Japanese firms were handled largely through trading companies. See Chandler, *op. cit.*