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Global strategic analyses: Frameworks and approaches

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Executive Overview

Geographic, economic, cognitive, and social forces can influence the ways in which the inimitable resources of firms and their competitors are defined and evaluated in a globally competitive environment. We trace how academic research on strategy has attempted to address how firms identify their core competencies and competitive resource advantages at both the firm and national level. We then discuss the ways in which managers can attempt to identify a competitive reference group as a benchmark for evaluating their company's relative strengths and weaknesses. Finally, we develop an integrated conceptual framework that can be used to inform managerial strategic analysis and decision making in a globally competitive environment.

A basic question executives face when charting the strategic direction of their companies is, "With whom and how does our company compete?" The additional questions this basic question spawns, and how these questions are framed, shape the way organizational leaders formulate and implement a firm's competitive strategy. These tasks have traditionally been accomplished by benchmarking the firm's capabilities and performance relative to those of others who compete in the national markets where the company sells its goods or services.[1] During the last fifty years, however, technological advances in transportation and communications, coupled with the steady erosion of governmentally imposed tariffs and trade barriers, have vastly broadened the scope of most companies' competitive environments. Global communication networks allow commerce to take place with trading partners around the world 24 hours a day, seven days a week. Knowledge and ideas are rapidly diffused throughout the world and incorporated into competitors' products. Products today may be designed in one country, fabricated in a second, assembled in a third, and sold throughout the world. A competitive threat can come just as easily from a company on another continent as it can from a company in the same country. The compression of distance and time intensifies competition by presenting new business opportunities to competitors through access to world markets and by enabling the rapid learning of competitors' technologies, thereby reducing barriers to entry. The competitive challenge for managers as we move into the 21st century will be to develop processes for identifying their global competitors, and adapting to the increasing complexity and rapid rate of change in this dynamic competitive environment.

The Globally Competitive Environment

Figure 1 illustrates today's competitive environment.[2] Managers in the past were able to focus primarily on factors in the internal environment (i.e., organizational configuration and culture, firm competencies, and process advantages) and the local national environment (i.e., local labor markets, customer/supplier relationships, direct competition, and local competitor innovations) in determining their competitive stance. Managers today must also identify and take into consideration competitive advantages associated with their nation of origin.[3] National sources of competitive advantage can include the natural resources and cultural advantages available to firms located in different countries; the lax regulatory environments in many developing nations, which allow firms in these countries to produce products less expensively; direct entry by foreign competitors in local markets; and the introduction of new products by foreign competitors in other markets that may serve as direct product substitutes. Finally,

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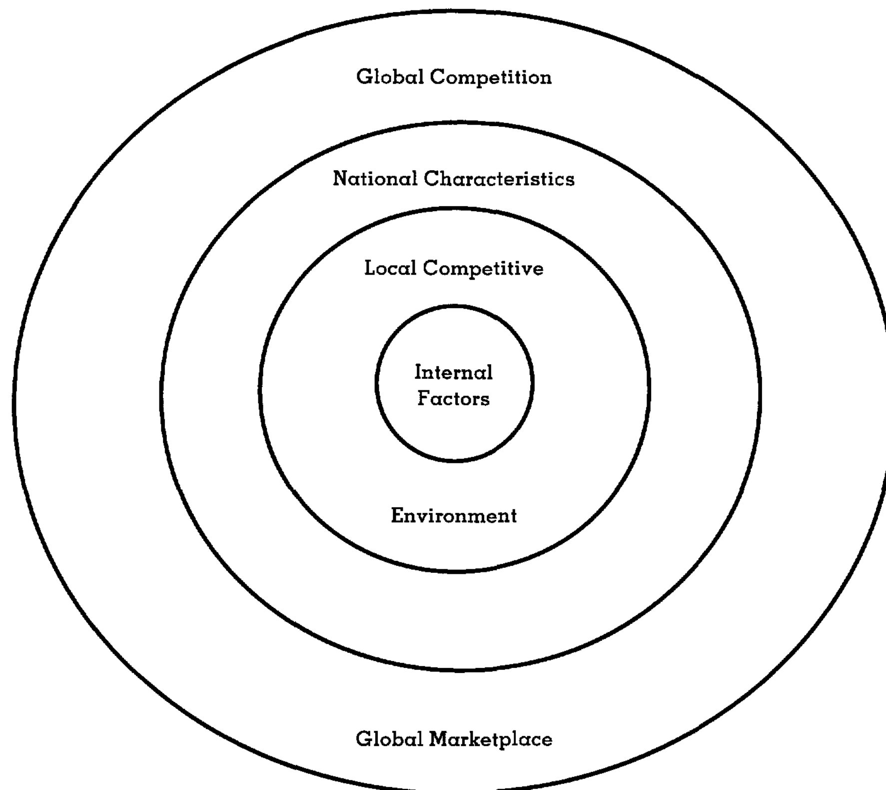

FIGURE 1
Strategic Decision Making in a Globally Competitive Environment

the uncertainty and rapid pace of the globally competitive marketplace provides unprecedented opportunities for firms with well developed visions to shape their markets and define those characteristics and resources that can lead to sustained competitive advantage. Firms must be cognizant of and manage all four of these levels if they wish to achieve and maintain a competitive position in the global marketplace.

Developing tools and heuristics for identifying a firm's competitors and potential alliance partners, and determining how a firm's resource base and core competencies compare with those of the competition have become increasingly important management activities. In order to conduct a comprehensive strategic analysis, managers must evaluate their competencies and competition at the firm, industry, and national levels. In addition, managers must expand their conception of what constitutes the scope and nature of firm capabilities and industry membership to include factors consistent with competing in a globally competitive environment.

In this article, we analyze seven theories from the strategy literature and discuss the strengths and limitations of each. Our interpretations are summarized in Table 1.

Inside the Firm: The Resource-Based View and Competence-Based Competition

The resource-based view of the firm traces its roots back to Edith Penrose's classic, *The Theory of the Growth of the Firm.*[4] The resource-based view is a conceptual framework for understanding firm-level growth using resources as the basic building blocks. These resources may be financial, human, intangible, physical, organizational, or technological. The rate and direction of a firm's growth is influenced by how management conceptualizes the firm's resource base. These frameworks, in turn, shape what management considers to be the firm's feasible expansion paths and the growth strategies they choose to pursue. C. K. Prahalad and Richard Bettis termed these strategic conceptual frameworks the "dominant logic" of management.[5] They define the dominant logic as the way in which managers conceptualize their business and make critical resource allocation decisions. These internal choices and resources interact with the competitive environment to determine the firm's economic performance. Prahalad and Bettis suggest that managerial dominant logics are based in large part on what has worked for the firm. If the structure or competitive requirements of

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Table 1
Strengths and Weaknesses of the Theoretical Perspectives

Theory	Concept	Strengths	Weaknesses
Resource Based View	Firms possess inimitable resources that can be the source of sustained competitive advantage	Focus on the firm level and manager identified sources of competitive advantage relative to competitors	Does not provide guidelines for determining what these resources are, and whether or not they are truly unique
Core Competence	Firms possess certain skills or competencies that are difficult to immitate and can be a source of sustained competitive advantage	Focus on the firm level and manager identified sources of competitive advantage relative to competitors	Does not provide guidelines for determining what these competencies are, and whether or not they are truly unique Top Down
Competitive Advantage of Nations	The characteristics, culture and resources of different nations provide native companies in particular industries with competitive advantages in the global marketplace	Identifies characteristics that influence competitive dynamics within industries that more traditional economic approaches fail to consider	Creates potential to overgeneralize regarding the competitive nature of industries and nations Focus is still at a very broad level of abstraction
Strategic Groups (I–O Economics)	Firms with similar asset configurations will pursue the same strategies with similar performance results within a group, but with different results between groups	More intuitive and less abstract than spatial competition Introduced concept of mobility barriers between groups w/in an industry Empirically tractable	How firms come to share same resource space and asset configurations not considered Assumptions regarding performance variations between but not w/in groups equivocal Doesn't examine whether managers share same mental models Top Down Boundaries of industry are often fuzzy
Cognitive Communities	Competitive groups within an industry are socially constructed from the shared mental models of managers in different firms in the industry	Begins at firm level and moves up to industry level Uses mental models to identify firms whose managers share similar conceptions of the structure of the industry and rivalries that exist therein	Difficult to identify and measure the mental models
Network Approaches	Uses network analytic techniques to identify relationships between organizations that underly competitive dynamics within the industry	Allow the study of collaboration, as well as competition Focuses on patterns of interaction between firms, rather than assuming they exist based on demographic similarities	Structural approach to markets strips away much of the richness of understanding about the network and the nature of the links Relationships can be difficult to identify and measure
Competing for the Future	Those firms that will be most successful in the future will compete for the opportunity to define the structure of industries that do not yet exist	Encourages future-oriented focus on strategic opportunities that can have enormous payoffs	Heavy orientation on the future, and the attendant time lags, shifts attention away from competing in markets that exist today

the environment change, or if the firm adds a new line of business, management must learn and adapt its dominant logic to the new industry conditions it faces. If management misperceives the firm's resources and thus pursues a strategy inconsistent with the firm's resource base, or if it fails to recognize a resource which the firm possesses, then the firm will chronically underperform or fail.

Another theoretical perspective closely related to the resource-based view and the theory of dominant logic is that of competence-based competition.[6] C. K. Prahalad and Gary Hamel introduced

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the idea of identifying and leveraging the core competencies of a firm in their 1990 *Harvard Business Review* article.[7] According to Prahalad and Hamel, core competencies are the outcome of collective learning in the organization, which is communicated across boundaries within the organization to coordinate production skills and integrate multiple technologies. They suggest that firms that successfully identify and cultivate their core competencies can use them to obtain a sustainable competitive advantage against their rivals.

Prahalad and Hamel identify core competencies within a company: 1) A core competence provides potential access to a wide variety of markets, 2) it should make a significant contribution to the perceived customer benefits of the end product, and 3) it should be difficult to imitate. A core competence is therefore a knowledge base or set of skills that is general enough to be applied in variety of settings, results in a clearly defined benefit to the consumer, and is difficult, if not impossible, for other firms to replicate. Simply outspending your competitors in R&D or cutting overhead by sharing facilities or shifting a larger percentage of the work force to telecommuting is not a core competence.

Core competencies develop over time, and continue to grow, rather than diminish with repeated use. Honda's ability to develop small, powerful, and fuel efficient engines, for example, has allowed it to establish leadership positions in both the compact car and motorcycle markets around the world. The reputation of a firm can also be an important resource that can lead to competitive advantage in markets where the product or service being provided is relatively undifferentiated. In the U.S. investment banking industry, where conducting an equity or debt offering requires essentially the same steps regardless of which investment bank is managing the offering, bank reputations are viewed as important differentiating factors, and can act as barriers to entry in particular types of transactions and markets.[8]

Core competencies can be found in areas unrelated to product characteristics or design, but still meet Prahalad and Hamel's criteria. Although it is the leading provider of operating systems, spreadsheets, and word processing programs on the planet, Microsoft's core competence is not in programming.

Its programs—especially early versions—often lack desirable features that comparable programs possess, are late to market, and are filled with bugs. Microsoft's ability to dominate the software industry lies in its marketing and distribution capabilities and their relentless competitiveness. Bill Gates negotiated some wonderful contractual relationships with IBM, Compaq, and other PC manufacturers that made its operating system the de facto standard in the industry. Soon every IBM-compatible PC shipped in America included MS-

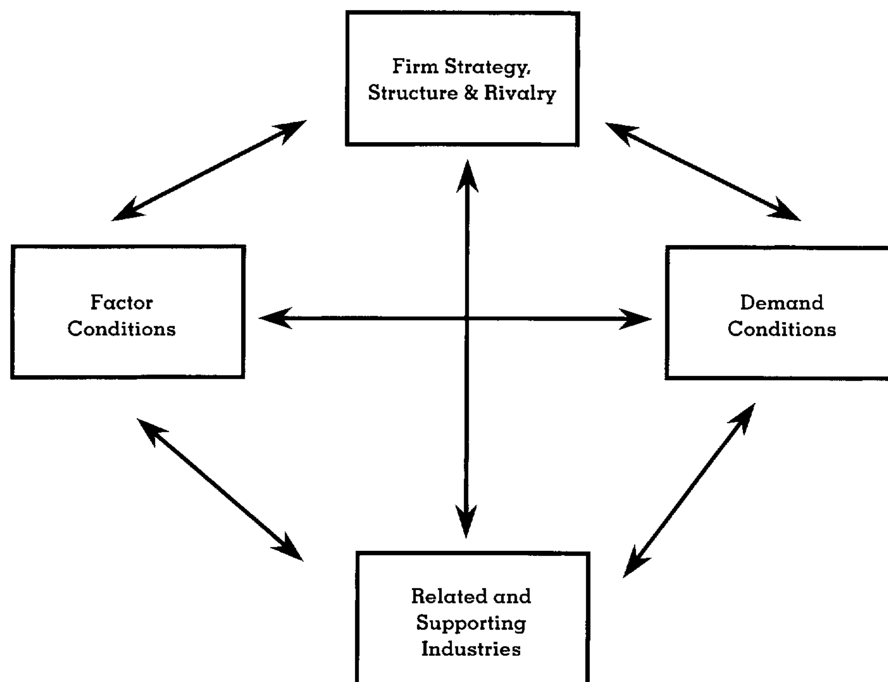

FIGURE 2
Determinants of National Advantage

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DOS, and later Windows, as its standard operating system. The familiarity of the Microsoft name made users more likely to adopt its products when they expanded into spreadsheets and word processing programs. In order to establish market share for its application programs, Microsoft used the same distribution technique it used with its operating systems. It designed contractual arrangements requiring PC makers to pre-install Microsoft applications software, the now familiar Microsoft Office suite, with every new PC shipped. Microsoft developed and identified a distinctive competence that could be applied to multiple product markets. This provided a distinctive benefit to the end user, including familiarity and ease of adoption, which other software manufacturers could not replicate.

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The resource-based view and competence-based competition begin at the firm level and focus on its distinctive capabilities relative to its competitors. Their weakness is that they do not provide clear guidelines for identifying the core competencies and inimitable resources of the firm and how they compare to the resources and competencies of others competing in the same market. A common method used by firms to identify their core competencies is brainstorming. When EDS decided to identify its core competencies, it sent dozens of its employees on a retreat where they first mapped out the activities in which the firm engages, and then the activities which the firm does well. Next, they identified the activities that EDS does well but that its competitors do not. Finally, the identified those activities they believed were likely to ensure success relative to competitors in the future. One potential weakness of this process is a lack of external validation that those resources are, in fact, unique. What managers view as a competitive advantage of the firm may be a resource or competence common to many competing firms. A second weakness is the lack of a systematic process for identifying the companies used as the competitive reference group. Finally, when competing in a global marketplace, managers also need to consider the advantages associated with their country of origin.

Home Court and the Competitive Advantage of Nations

Although not directly controlled by a single company, the characteristics and indigenous resources of different nations can be a source of competitive advantage in the global marketplace. Michael Porter, in his book, *Competitive Advantage of Nations*, notes that it is not necessary for all elements of the value chain to be performed within the boundaries of a specific nation in order for that nation to provide a competitive advantage.[9] What matters is whether or not a country is a desirable home base for firms in a particular industry. The home base is where strategy is set, core product and process development takes place, and the essential skills of the firm reside. The competencies and resources controlled by the parent firm in the home country can influence how firms attempt to enter and compete in foreign markets.[10] Porter identifies four general determinants of national advantage, presented in Figure 2.[11] They are factor conditions; demand conditions; related and supporting industries; and firm strategy, structure, and rivalry. Porter argues that these four elements function as a dynamic system, mutually enabling and constraining one another.

Factor conditions are the relative endowments of a nation with the factors of production or input resources necessary for effectively competing in a particular industry. Factor conditions include basic factors such as human resources (e.g., quantity, skills, and cost of personnel, typical working hours, and employee work ethic) and physical resources (e.g., natural resources, geographic location, and size), and advanced factors such as knowledge resources (e.g., scientific, technical, and marketing knowledge), capital resources, and infrastructure (e.g., roads, telecommunications systems, mail service, health care).

Porter notes that just as competitive advantages can arise from an abundance of factor conditions, advantages can also grow out of disadvantages in some factors. Abundant resources often lead to inefficient resource deployment. Geographic and climatic disadvantages, high production costs, labor shortages, and a lack of natural resources can all force firms to innovate in ways that can lead to competitive advantages in a changing global environment.

Labor shortages and a lack of storage and production space led Japanese auto manufacturers to automate their production processes earlier than their counterparts in other nations, and to develop space-saving, lean production techniques such as just-in-time inventory management systems.[12]

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Demand conditions refer to a strong demand for a particular product or service in a firm's home country. Porter argues that the benefit of strong home demand derives not so much from the economies of scale that high demand might encourage, but from the way it increases the rate and quality of innovation by local firms. Porter identifies three characteristics of strong home demand that can lead firms to develop competitive advantages. First, if the demand for products in a particular market segment is greater in the home country than in other countries, firms will be more likely to develop skills and products that will allow them to compete more effectively in nations where the focus on that particular market segment is less intense. Second, domestic firms can benefit from the presence of sophisticated and demanding customers. Such customers put pressure on local firms to meet high standards in terms of product quality, features, and service. Finally, a firm can gain competitive advantage if the needs of domestic buyers anticipate the needs of buyers in other nations. Early market intelligence provides domestic firms with a head start in incorporating new features into their products.

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Examples of these effects can be observed in the Japanese consumer electronics industry. Because of its highly concentrated urban centers and the relative lack of land available for expansion, the Japanese have been forced earlier than other nations to focus upon miniaturization and the efficient use of space. The Japanese are also highly sophisticated and knowledgeable purchasers of consumer electronics, as audio equipment is considered a status item in Japan. Japanese consumers conduct considerable research before making their purchases, and are among the first consumers to identify and demand the next generation of product features. All of these demand characteristics provide Japanese consumer electronics manufacturers with the impetus and information necessary to provide the most efficient products with cutting-edge features and designs.

The third determinant that can lead to national advantage is the presence of internationally competitive related and supporting industries. Although the presence of suppliers of key inputs can produce cost benefits for producers, the primary benefits to producers arise from the ability of local suppliers and producers to coordinate their activities and engage in joint problem identification and problem solving.[13] Through their ongoing relationships, suppliers help producers perceive new methods and ways to apply new technology, provide them with quick access to new information, and can act as test sites for new products and innovations.

Related industries are those in which firms can coordinate or share in certain activities within the value chain, or which have complementary products. Because of national competencies in organic chemistry research developed in the dyestuffs and fine chemicals industries during the 19th century, firms in Switzerland and Germany have become leaders in the pharmaceutical industry.[14] Firms in related industries may also take advantage of similar distribution channels, creating efficiencies in getting their products to market.

The final set of national characteristics that can lead to competitive advantage are the strategies, structure, and rivalries among firms in the home country. Although a variety of strategies and organizational structures can exist within a given country, certain general tendencies are often readily apparent to the outside observer. Home firms benefit if these tendencies coincide with those strategies and structures that provide competitive advantage in their particular industry. At the corporate level such factors as the governance structure of the organization, the nature of stock ownership, characteristics of the capital markets, the motivations and time horizons of holders of corporate debt, the incentive processes that shape the motivations of senior management, and government regulations can all shape firm structure and strategy. In Germany and Switzerland, banks are not prohibited from owning equity stakes in the companies to which they make loans. These institutional investors also rarely trade their shares of stock and are relatively unconcerned with day-to-day movements in stock prices. Bank representatives often sit on the boards of directors and influence corporate activities. In contrast, although institutional investors hold a majority of publicly traded stocks in the United States, they play a much less direct role in corporate governance activities, and daily stock price movements are of much greater concern. Institutional investors in the U.S. place much greater focus on short-term movements in stock price and short-term measures of

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performance. These differences in governance affect both the risk-taking propensity of firms in the respective countries, as well as the investment time horizon they are willing to tolerate.

Porter suggests that strong domestic competition can lead to the development of national competitive advantage within an industry. Strong domestic rivals push each other to continually innovate and improve the quality and characteristics of their products and services in ways that upgrade the competitive advantages of domestic firms.

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In addition, domestic competition forces firms to expand into foreign markets if they wish to continue to grow and reap any scale advantages that may accompany increases in size. Firms in these industries are also frequently able to lobby their governments to take actions that benefit the entire industry rather than just one or two of its members. Examples of such actions include exerting political pressure to open up foreign markets, and governmental subsidies or direct investment involved in creating specialized factors of production.

By taking industry analysis to the global level, Porter is able to identify additional characteristics that influence the competitive dynamics within industries that more traditional approaches to industry analysis fail to consider. The primary weaknesses of his approach are that it creates the potential to over-generalize regarding the competitive nature of industries and nations, and that its focus is at a very broad level of abstraction. The usefulness of this approach for managers in identifying rivals and developing firm level strategies for competing is still somewhat limited.

Part of the problem is the firm's search for its distinctiveness as it views other firms, the industry, and the national and global environments. The search for distinctiveness requires managers to answer the question, "distinctive relative to whom?"

Who Competes With Whom: Strategic Groups and the View from Without

At its most basic level, strategic groups theory argues that firms within an industry with similar sets of resources will pursue similar competitive strategies with similar performance results. Firms may therefore be clustered together into groups based on their similarities in resource configuration. Although performance within a strategic group is expected to be similar, different strategic groups are expected to experience different levels of performance.

Michael Hunt coined the term strategic groups in his 1972 doctoral dissertation.[15] He identified three sources of asymmetry between firms in the major home appliance industry—extent of vertical integration, degree of product diversification, and differences in product differentiation—and used these asymmetries to distinguish among four different strategic groups—full-line national manufacturers' brand producers, part-line national manufacturers' brand producers, private brand producers, and national retailers—and the barriers to entry in each of these groups. Around this same time, several other individuals, including Michael Porter, were also attempting to use the same general principles and apply a modified version of the structure-conduct-performance paradigm of industrial-organizational economics to strategic groups.[16]

The traditional approach to industry analysis suggested that the structure of the industry influences the strategic behaviors of firms, which in turn influences their performance. The strategic groups approach argued that the strategic behaviors of firms influence both the structure of the industry through the formation of strategic groups, and the performance of the industry. Porter and others examined how entry barriers, such as capital requirements and regulatory barriers, shaped industry membership and competition. Caves and Porter, and later Porter in his book *Competitive Strategy,* also argued that just as entry barriers for an industry existed, "mobility barriers" between groups within an industry also existed.[17] Caves and Porter argued that mobility barriers inhibited the ability of firms already in the industry to change from one strategic group to another. It was therefore in the interests of high performing strategic groups to erect substantial mobility barriers, so as to prevent other firms from changing strategies and entering their group.

The worldwide automotive industry provides a good example of how an industry can be divided into strategic groups. In a study by Norhia and Garcia-Pont,[18] Six factors—relative size; relative market share in the U.S., European, and Japanese auto markets; breadth of product line; relative technological sophistication in manufacturing, relative organizational capability; and relative labor

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costs—were used to classify 35 auto manufacturers from around the world into 11 strategic groups. The groups included such categories as the major U.S. producers (GM and Ford), the secondary U.S. producers (AMC and Chrysler), major Japanese producers (Nissan and Toyota), secondary Japanese producers (Honda, Mazda, and Mitsubishi), small Japanese producers with little presence in the U.S. and European markets (Fuji, Suzuki, Daihatsu, and Isuzu), small car producers with limited market shares (Hyundai, KIA, Daewoo, Seat, Alfa, and Rover), and high performance sports cars with small production runs (Lambor-ghini, Ferrari, Maserati, and Lotus). Although many of the groups developed along national or continental lines, some groups, such as the small car producers with limited market shares, clearly cross national boundaries. Several of these strategic groups, such as the U.S. and Japanese medium and large firms, compete aggressively with each other in some geographic markets but not others. Other firms, such as the producers of high performance sports cars, have carved out profitable niches for themselves, and face little direct competition from outside their strategic group. Strategic groups can be useful as benchmarks for determining relative performance and the appropriateness of a firm's strategy.

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The data sources and methods used by academics to identify strategic groups within an industry are also relatively accessible to managers. Because of the wide variety of dimensions, however, selecting the right factors to arrive at a meaningful grouping of the market can be a difficult process. In this economically oriented research tradition, strategic groups have generally been defined by the analyst, using various sets of financial and strategic variables gleaned from financial statements and other public sources of information to classify companies into various strategic groups. Firms with similar financial profiles and sets of resources have been expected to compete more with each other and to be more subject to the same environmental forces than other firms in the industry that occupied somewhat different "resource spaces."[19] Given these similarities, firms within a strategic group have also been expected to pursue the same competitive strategies. Performance was assumed to be relatively homogeneous within these groups, with greater heterogeneity occurring between the various strategic groups. How groups of firms came to share the same resource space and asset configurations was not considered.

Economic research in strategic groups has also failed to determine whether or not the strategic decision makers in companies sharing similar sets of resources also share similar mental models of the competitive landscape within their industry, and whether or not they actually chose similar strategic paths. The boundaries of what constitute an industry can be extremely fuzzy.[20] With the globalization of competitive markets and the participation of firms in multiple markets, reliance upon simple product-based definitions such as SIC code classifications for defining a company's industry may significantly misrepresent the competitive dynamics the company actually faces. Managers may need to identify strategic groups that cut across industry designations and focus on the similarity of environmental conditions the firms face, and the strategies they use to cope with these conditions.

Competitor Identifying—Cognitive Communities and the View from Within

A second approach to identifying competitive reference groups is rooted in psychology and focuses on the cognitive processes of managers, and how managerial perceptions regarding the composition and capabilities of firms within an industry could be used to identify clusters of firms, or "cognitive communities," within an industry.

Managers are motivated to evaluate the strengths and weaknesses of their firms and how they can be used to take advantage of opportunities and avoid threats that may exist in their competitive environments. Managers develop these mental maps of their firm's position in the competitive environment through trial and error, through observing the activities and outcomes of others, and through trade publications, formal instruction, and interactions with others in the industry. This process results in an experientially based, and possibly idiosyncratic, understanding of the structure of the industry and what it takes to compete. Sharing a common set of beliefs about the competitive nature of the industry by managers from a number of different firms results in a "cognitive community." These consensual sets of beliefs make up the norms, or "recipes," for doing business and competing within an industry.[21] Shared beliefs establish the identity of individual firms and help to create a stable transactional network

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in which the actions of rivals are at least somewhat predictable.[22]

The Scottish knitwear industry illustrates how cognitive communities develop.[23] The production of wool has been an important part of the Scottish economy for over 800 years. The Scottish border towns of Galashiels and Hawick were centers of the wool trade for hundreds of years, and later, especially during the industrial revolution, became centers of knitwear manufacturing. Knitwear producers in this region specialize in high quality, fully fashioned sweaters, where yarns of different colors are combined on the knitting machines to produce the garments. This production process contrasts with the cut-and-sew or piece dying production techniques used by other knitwear manufacturers which, although less costly, produce lower quality garments. The yarns used in production, and the skilled labor force that makes the garments, are acquired locally. The major characteristics along which products vary are size, shape, color, and knitting design. Although a few of the larger firms have small in-house design staffs, they all hire outside design consultants. Finished product is distributed throughout the world through independent agents who work with the firms on a commission basis. It is largely these agents who provide the Scottish knitwear producers with information regarding market demands for their products.

Competitors in the Scottish knitwear industry can be grouped using a variety of factors. Geographically, they are almost all clustered in different regions within a relatively small area in Scotland. Some of the top managers of competing firms live within walking distance of each other. The firms in the Scottish knitwear industry could also be grouped according to the financial and economic assets they possess, such as size, debt load, public or private status, fixed assets, and volume of output. Using this lens allows the observer to find a bit more differentiation within the industry. Finally, firms could be grouped based upon their networks of relationships with other firms. This perspective would allow for groupings not only in terms of rivalry networks, but also in terms of a firm's relationship with particular suppliers, agents, the manufacturers of other products that the agent represents, and the social networks to which a firm's managers belong. Each of these perspectives could provide a slightly different, yet overlapping, view of the competitive and strategic dynamics within the Scottish knitwear industry.

Through extensive interviews and surveys, Joe Porac and his colleagues derived a six-category industry model based upon attributes such as firm size, production technology, product style, and geographic location. These categories are high-fashion handframe, handknitters, traditional handframe, upmarket, midmarket niche, and mass-market contract. Porac and his colleagues were able to show that this categorization scheme was widely shared among managers at different firms within the rivalry network, and that this shared perception of the structure of the industry helped to shape the way firms competed. The academic literature has referred to this process of categorization as "competitive sensemaking," wherein managers develop a sense of self, and a sense of others, in the context of the competitive environment.[24]

The strategic groups literature begins at the industry level and works downward, clustering firms that appear similar using some externally defined set of criteria. In contrast, the cognitive approach to identifying industry groups begins at the firm level and moves upwards, using managers' mental models to identify firms whose managers share similar conceptions regarding the structure of the industry and the rivalries that exist. The biggest challenge is how to identify and measure these shared frameworks, or recipes. One of the primary methods used by researchers has been face-to-face interviews with managers. Various analytical methods, including repertory grid technique, causal mapping, and multidimensional scaling have been used to structure the interviews and guide the analysis. Researchers have the time and the status as independent third parties which make this data collection process feasible. Managers are unlikely to be able to sit down for hours with their competitors and interrogate them regarding their views on the competitive dynamics of the market.

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The typical manager also does not possess the statistical skills necessary to systematically aggregate mental models across managers and firms. However, managers should attempt to illicit such information from others when the opportunities arise. Board meetings, conferences, and trade association meetings can provide opportunities to discuss some of these issues with others in their

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industry, so that they may get a sense of the cognitive communities that exist.

The Role of Interorganizational Networks in Cooperation and Competition

In an increasingly dynamic, competitive environment, it is extremely difficult for a single firm to develop internally all of the skills and knowledge necessary to compete effectively. This is especially true when a firm is trying to enter a foreign market. As a result, globally competitive firms have increasingly become involved in alliances and cooperative joint ventures with current and potential competitors. Through these collaborative interorganizational relationships firms hope to gain the knowledge and skills necessary to compete more effectively.[25] Managers may therefore miss important clues about the nature of competition in their industry if they focus solely on the resources of other firms and fail to consider the nature of the relationships, or networks, that exist among them. Network approaches to studying who competes with whom, and how, are a relatively recent phenomenon. By identifying and focusing on the relationships between organizations, managers can begin to develop a more accurate picture of the competitive dynamics at play within an industry. Network approaches have also opened up a new area of inquiry into the ways in which firms within an industry may also collaborate with one another.

Competition and collaboration have been viewed from a network perspective in a variety of industries, including the knitwear, auto, movie, and biotechnology industries.[26] Firms use networks strategically by forming alliances, joint ventures, equity sharing agreements, collaborative research pacts, research consortia, and reciprocity deals or satellite organizations that allow them to develop new skills, leverage current skills, or to compensate for current weaknesses. Walter Powell suggests that:

> Firms pursue cooperative agreements in order to gain fast access to new technologies or new markets, to benefit from economies of scale in joint research and/or production, to tap into sources of know-how located outside the boundaries of the firm, and to share the risks for activities that are beyond the scope or capability of a single organization.[27]

Firms may form these strategic networks with competitors, suppliers, and customers, sharing knowledge and resources in some arenas, while keeping other resources separate and secret. Powell uses the auto industry as an example, where American and Japanese auto makers own significant equity stakes in foreign counterparts, and/or forge formal alliances (e.g., Chrysler and Mitsubishi; Ford and Mazda; GM, Isuzu, and Suzuki). These firms frequently share parts, product designs and/or production facilities for some models (e.g., the Mitsubishi Eclipse and the Plymouth Laser, which for a time were built at the same production facility), yet still compete with each other in other markets (e.g., the competition between the Dodge Viper and the Mitsubishi 3000GT in the high performance sports car market).

The relationship between major pharmaceutical firms and biotech start-ups is another example of mutually beneficial network relationships.[28] Biotech firms gain access to the capital, production, and distribution capabilities of major pharmaceutical manufacturers such as Merck, Glaxo, and Ceiba-Geigy, while the major manufacturers gain access to the new technologies and innovative capabilities of the smaller, more nimble biotech start-ups.

Large pharmaceutical firms with different competencies have also formed beneficial alliances. One example is the introduction of Pepcid to the over-the-counter (OTC) market by Merck and Johnson & Johnson. Over the last 20 years, Merck has been one of the most successful pharmaceutical firms in the U.S. in introducing new drugs in the prescription drug market, but it had little expertise in the OTC market. Johnson & Johnson, although somewhat weaker than Merck in R&D capabilities, is a powerhouse in the OTC market, with the marketing, packaging, and distribution know-how to successfully introduce new OTC products. Pepcid, a stomach acid reducer developed by Merck, continually trailed market leaders, Tagamet and Zantac, in the prescription drug market. By allying with a firm that possesses complementary capabilities, however, Merck has carved out a much stronger position in the OTC market for Pepcid than existed when it competed with Tagamet and Zantac in the prescription drug market.

Although networks of relationships with other firms can offer a number of advantages, they also possess some limitations. Networks open up opportunities for interaction, but they also constrain the options and behaviors of network members. If the organization's environment were to suddenly change, the restrictions of a firm's current network might not allow it to adapt along with the changing environment. Networks can also result in significant costs associated with establishing the relationship and attempting to guarantee that one partner is not able to take advantage of the other.

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The benefits of developing and participating in the network, however, should more than outweigh these costs. If the nature of the transactions are routine and the assets being transferred are mundane commodities, then less complex arrangements, such as licensing agreements, may be a more effective and less costly way of organizing the transaction.

Identifying the networks of relationships that exist among firms is perhaps an easier task for managers than some of the other data-gathering approaches discussed in this article. The business press, television news reports, trade journals, and the firms themselves all regularly report the formation and dissolution of alliances and joint ventures between firms. Combining this information with knowledge regarding the capabilities and resources of the alliance partners can provide managers with important clues regarding the strategic intent of their competitors, the skills they are attempting to acquire, and the way they attempt to grow. Competitors' growth strategies may include expansion within already existing markets, or the creation of new markets. Interorganizational relationships therefore are an important factor to consider when identifying a reference group for benchmarking purposes. Different patterns of relationships may make firms less comparable than they might first appear.

Expanding the View—Strategic Vision and Competing in the Future

In their book *Competing for the Future,* Hamel and Prahalad suggest that rather than behaving reactively and trying to figure out how to compete within the structure of existing industries and product markets, those firms that will be most successful in the future compete for the opportunity to define the structure of industries that do not yet exist.[29] In nascent markets, firms competing for the future must compete for opportunity share rather than market share.

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A firm must compete to maximize the number of future opportunities it can access given its current competencies. If the firm does not possess the competencies necessary to capture opportunity share, it must figure out how to develop them. Competition in new industries will be at the corporate, rather than the product or business unit level. It will be the task of management to identify and coordinate the firm's competencies, even if they are spread across several business units. Hamel and Prahalad suggest that it is unlikely that a single firm will possess all the resources to compete for the future, and thus coalitions and joint ventures with other organizations will become an increasingly important component of effective competition. The rate at which these new industries will develop, at least at their outset, will be much slower than in existing industries. Hamel and Prahalad indicate that in all of the examples they considered, leadership in new industries takes at least ten to fifteen years to develop. A clear vision of the future, desire, and the commitment to persevere for many years are required if a firm wishes to obtain a leadership position in an emerging industry. Industries that emerge in the future will be unstructured, and the rules of competition have not yet been written. Firms must therefore be willing and able to deal with nebulous market conditions, and to actively attempt to define the boundaries of the new industry.

Competition in new markets can be expected to progress through three stages. In the first stage, what Hamel and Prahalad call competition for industry foresight and intellectual leadership, firms will compete to develop a greater understanding of the technological, demographic, and lifestyle trends that can be used to shape industry boundaries and create a new competitive space. The competition at this stage is to identify the opportunities available to the firm. In the second stage, firms will engage in competition to foreshorten migration paths. In this stage, firms compete to shape the direction of industry development by accumulating necessary competencies, testing out alternative product and service configurations, and attracting coalition partners with the necessary complementary resources and skills. In the final stage, firms will engage in competition for market position and market share. Questions of technological platforms, rival product and service concepts, and distribution channels have largely been resolved. Competition will occur along more traditional and familiar attributes, such as price, quality, cost, and performance.

The primary strength of this approach is also one of its primary weaknesses. While the authors' discussion and proscriptions for establishing competitive positions in future markets are useful, they also tend to shift attention away from the exigencies of competing in existing markets today. While the payoff for winning the battle to shape and

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dominate a new market can be enormous, the time lags involved in doing so are such that a firm must be cautious not to spend so much time looking far down the road that it misses what is going on at its feet and stumbles into an unexpected pothole.

Tying It All Together

Although they have many strengths, each of the theoretical perspectives we have presented possesses certain limitations. As Table 1 indicates, some overlap exists among each of these perspectives.[30] Each perspective contains elements of the other, and all must be considered in order to respond effectively to the demands of the globally competitive environment presented in Figure 1.

The question "With whom, and how, do firms compete?" has been at the center of much scholarly research for seventy years.[32] This question becomes even more complex in the context of the dynamic global competitive environment. Academic theory can be of use to managers as they struggle to plot a course for their firms in the global marketplace. Multiple lenses must be used to view competitive market characteristics and activities at different levels of abstraction. Examining the market from a variety of perspectives will help managers position their firms to compete both in existing markets and in markets that can only be imagined. This process for developing a globally competitive corporate strategy will also continue to increase managers' understandings of the ways companies cooperate and compete for sustained advantage.

Endnotes

[1] A. Fiegenbaum and H. Thomas, Strategic Groups as Reference Groups: Theory, Modeling and Empirical Examination of Industry and Competitive Strategy, *Strategic Management Journal*, 16, 1995, 461–476.

[2] These elements of the internal, local and competitive environments are drawn from the model of client business risk presented in T. Bell, F. Marrs, I. Solomon, and H. Thomas *Auditing Organizations Through a Strategic Systems Lens*, KPMG Peat Marwick LLP Monograph, 1997, p. 25–30.

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[4] E. Penrose, *The Theory of the Growth of the Firm*, 1959, London: Oxford University Press.

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[6] See R. Sanchez, A. Heene & H. Thomas, eds., *Dynamics of Competence Based Competition*, 1996, Oxford: Elsevier, for an in depth exploration of competence based approaches to strategy.

[7] C. K. Prahalad and G. Hamel, The Core Competence of the Corporation, *Harvard Business Review*, May–June, 1990, 79–91.

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[9] The discussion and examples used in this section are drawn primarily from M. E. Porter, *Competitive Advantage of Nations*, 1990, New York: The Free Press.

[10] See W. Bogner, H. Thomas and J. McGee, A Longitudinal Study of the Competitive Positions and Entry Paths of European Firms in the U.S. Pharmaceutical Market, *Strategic Management Journal*, 17, 1996, 85–107, for a greater discussion of this issue in the context of the pharmaceutical industry.

[11] Figure 2 is taken from Porter (1990), p. 72.

[12] See J. Womack, D. Jones, and D. Roos, *The Machine That Changed the World*, 1990, New York: MacMillan for a more in-depth discussion of Japanese management systems.

[13] Although Porter does not discuss this determinant in these terms, other researchers have argued that embedded networks of relationships that exist among buyers and sellers provide the mechanisms through which these activities occur. For more information on how embedded social networks shape economic activities see M. Granovetter, Economic Action and Social Structure: The Problem of Embeddedness, *American Journal of Sociology*, 91, 1985, 481–510; A. Larson, Network Dyads in Entrepreneurial Settings: A Study of Governance and Exchange Relationships, *Administrative Science Quarterly*, 37, 1992, 76–104; B. Uzzi, Embeddedness and Economic Performance: The Network Effect, *American Sociological Review*, 61(4), 1996, 674–698; T. G. Pollock, *Risk*, Reputation and Interdependence in the Market for Initial Public Offerings: Embedded Networks and the Construction of Organization Value, unpublished doctoral dissertation, University of Illinois at Urbana-Champaign, 1998.

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[16] See J. McGee & H. Thomas, Strategic Groups: Theory, Research and Taxonomy, *Strategic Management Journal*, 7, 1986, 141–160, for a more complete discussion and review of the strategic groups literature.

[17] R. E. Caves & M. E. Porter, From Entry Barriers to Mobility Barriers, *Quarterly Journal of Economics*, 91, 1977, 241–246. M. E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, 1980, New York: Free Press.

[18] See N. Nohria and C. Garcia-Pont, Global Strategic Linkages and Industry Structure, *Strategic Management Journal*, 12, 1991, 105–124, for a more detailed discussion of this example.

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[23] This example is drawn from J. Porac, H. Thomas and C. Baden-Fuller, Competitive Groups as Cognitive Communities: The Case of Scottish Knitwear Manufacturers, *Journal of Management Studies,* 26, 1989, 397–416; and J. Porac, H. Thomas, F. Wilson, D. Paton & A. Kanfer, Rivalry and the Industry Model of Scottish Knitwear Producers, *Administrative Science Quarterly,* 40, 1995, 203–227.

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[25] G. Hamel, Competition for Competence and Interpartner Learning within International Strategic Alliances, *Strategic Management Journal,* 12, 1991, 83–103.

[26] Powell summarizes and provides citations for a number of these examples in W. Powell, Neither Market Nor Hierarchy: Network Forms of Organization, in L. L. Cummings and B. Staw, eds., *Research in Organizational Behavior,* 12, 1990, 295–336, Greenwich, CT: JAI Press, 295–336. See also N. Nohria and B. Eccles, *Networks and Organizations,* 1992, Boston, MA: Harvard Business School Press, and Porac, et al. (1995).

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[30] See H. Thomas and C. Carroll, Theoretical and Empirical Links Between Strategic Groups, Cognitive Communities, and Networks of Interacting Firms, in H. Daems and H. Thomas eds., *Strategic Groups, Strategic Moves, and Performance,* 1994, New York: Elsevier, 7–29 for a more in-depth discussion of the relationships among the economic, cognitive and network approaches to competition. For a discussion of methodological approaches to integrating these three perspectives see T. Gruca, D. Nath and H. Thomas, Identifying and Comparing Strategic Groups Using Alternative Methods: Method Validation and Group Convergence in a Single Mature Industry, in M. Ghertman, J. Obadia and J. Arregle, eds., *Statistical Models for Strategic Management,* Boston: Kluwer, 55–85.

[31] See M. J. Tang & H. Thomas, The Concept of Strategic Groups: Theoretical Construct or Analytical Convenience, *Managerial and Decision Economics,* 13, 1992, 323–329, Thomas and Carroll, 1994 op. cit. for more discussion of the linkages among these perspectives.

[32] Discussion of competitive strategies within a product space were introduced in H. Hotelling, Stability in Competition, Economic Journal, 39, 1929, 41–57. See also Tang and Thomas, 1992 op. cit. for a more complete summary of this theoretical approach.

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